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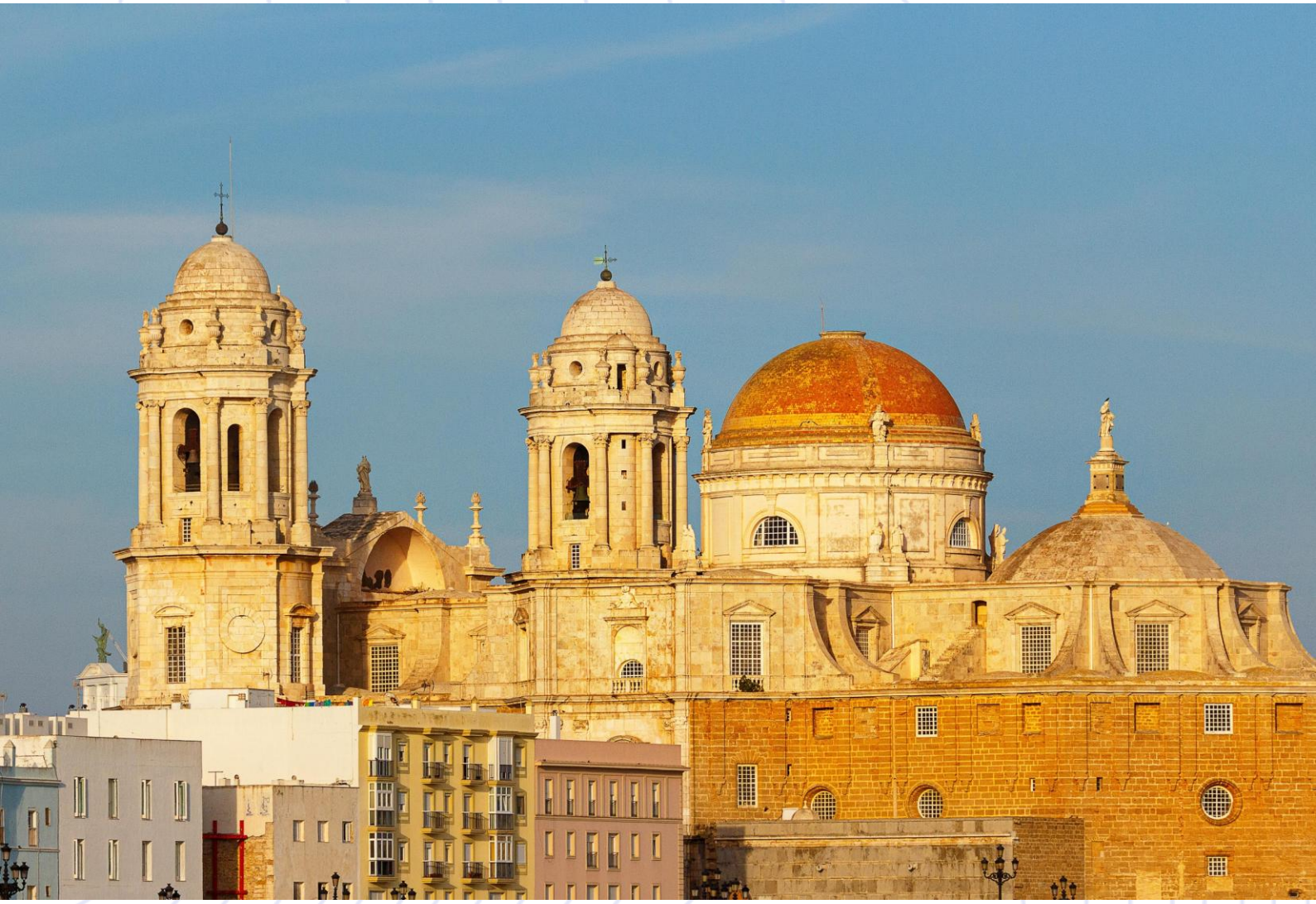

CADIZ - SPAIN

22-24/OCT/2025

BOOK OF ABSTRACTS

Co-funded by the European Union

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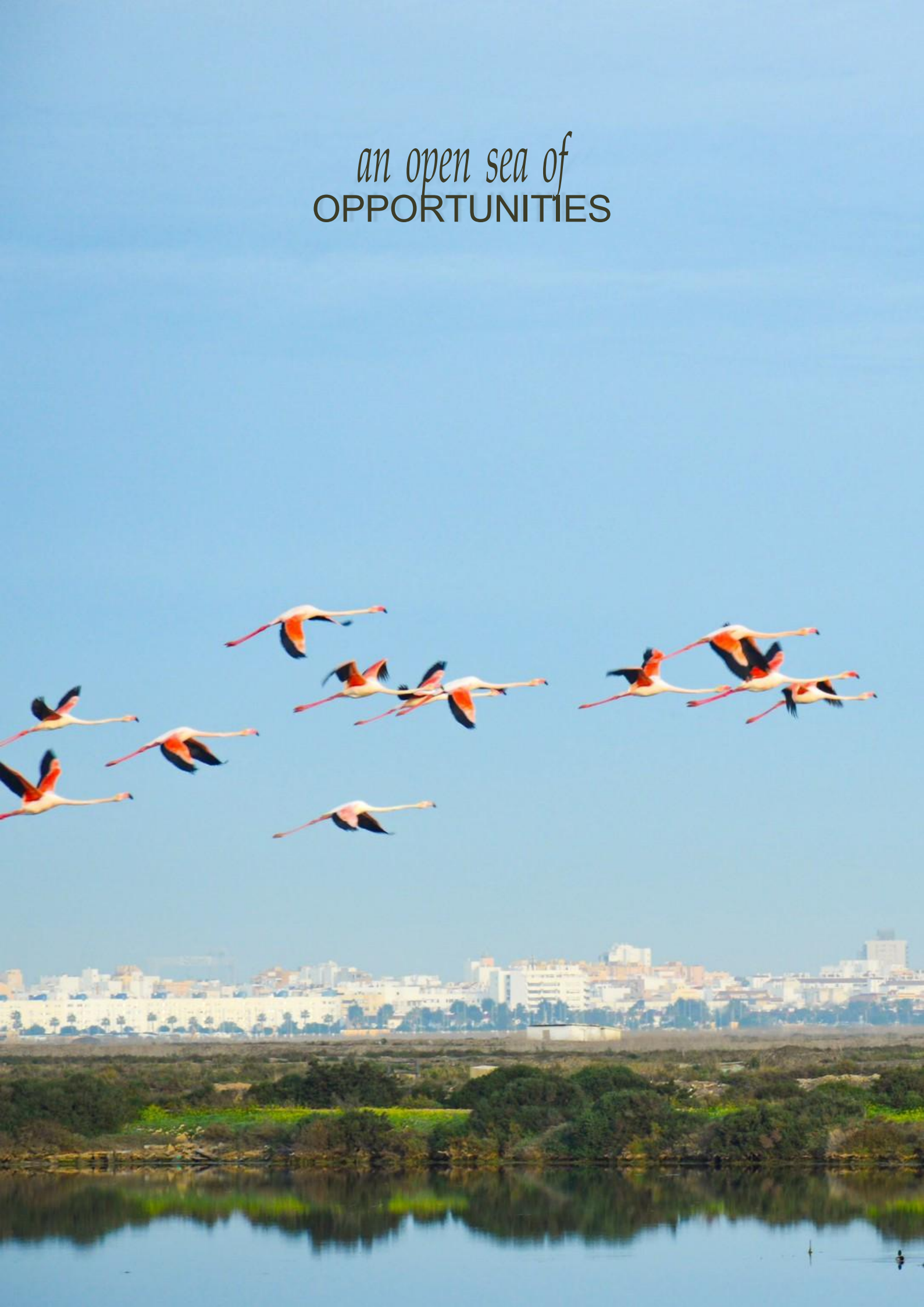
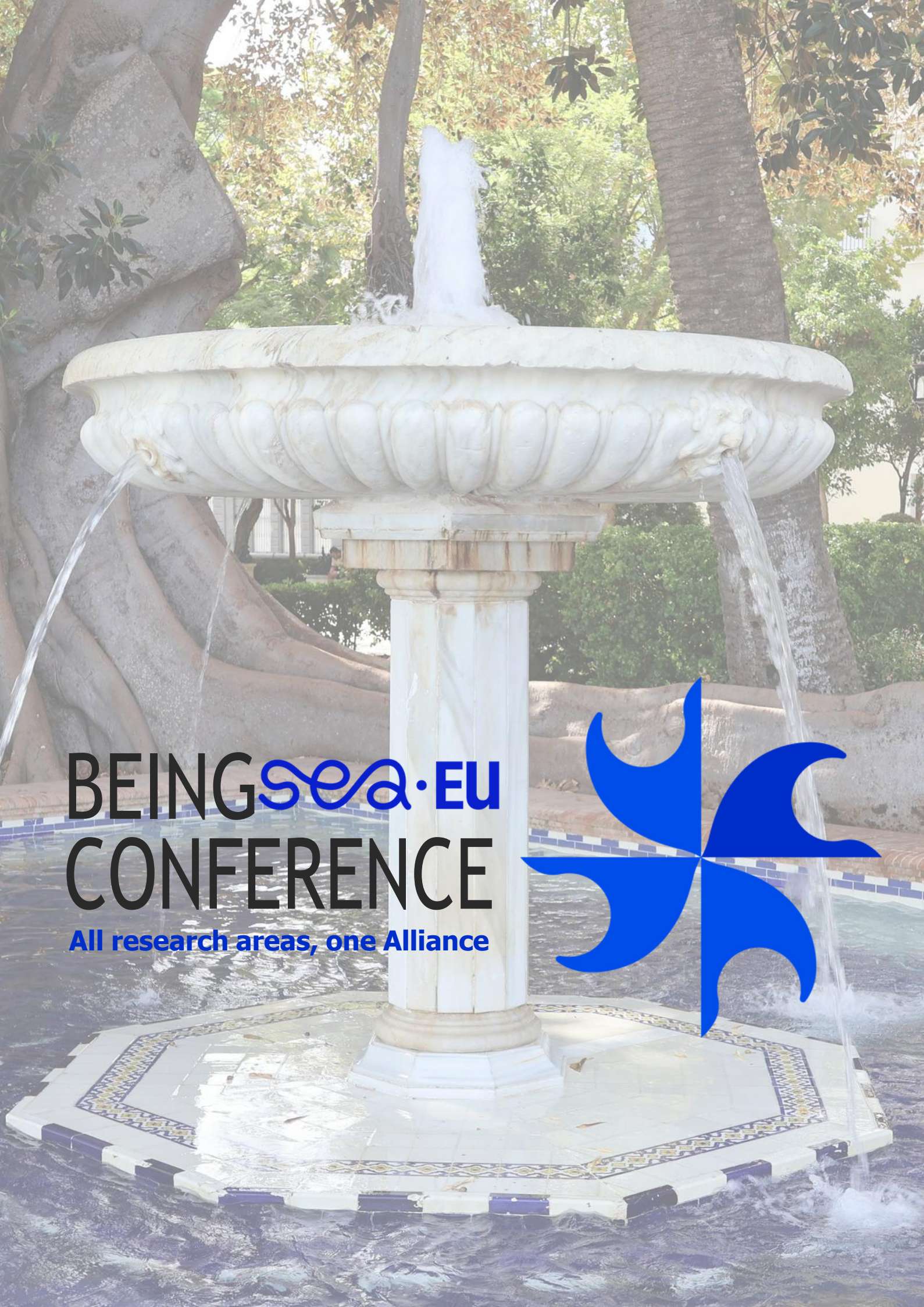
SECOND EDITION

Cádiz (Spain) 22, 23 and 24 October 2025

an open sea of
OPPORTUNITIES





BEING SEA-EU CONFERENCE

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AKNOWLEDGEMENTS

The organisers of the *Being SEA-EU Conference 2025* wish to express their deepest gratitude to all those who have made this second edition possible. This conference is the result of a collective effort that spans universities, institutions, teams, and individuals, all united by the common goal of strengthening our Alliance and celebrating the richness of our academic community.

In particular, we would like to acknowledge:

- The **SEA-EU Alliance Coordination Team at the University of Cádiz**, for their leadership and tireless dedication.
- The **Rectorate of the University of Cádiz**, for their support and commitment to hosting this event.
- The **Rectorate of the University of Malta**, whose initiative in 2024 set the foundations for this ongoing tradition.
- The **BEING SEA-EU Conference Organising Committee** and the **Scientific Committee members**, for shaping the programme and ensuring its quality.
- The **reviewers of all abstracts** and the **session chairs**, for guaranteeing the excellence of the contributions and the smooth flow of the sessions.
- The **authors and co-authors of the abstracts** collected in this booklet, for enriching the conference with their work.
- The **eight SEA-EU offices across Europe**, for their close collaboration and constant commitment.
- The **technical, administrative, and logistics teams of the University of Cádiz**, whose behind-the-scenes work has been essential.
- The **volunteers**, for their enthusiasm, kindness, and dedication in welcoming participants and ensuring the smooth running of the event.
- The **cafeterias and catering services of the University of Cádiz**, for keeping our community fuelled and connected throughout the days of the conference.
- The **City Council of Cádiz**, for generously providing the venues outside the University and for their continued support to our Alliance.
- The **contributors of the parallel activities** – from training sessions to cultural and networking events – for enriching the programme and making this conference a truly holistic experience.
- The **designers and editors** of this booklet, whose creativity has given form to the research presented here.

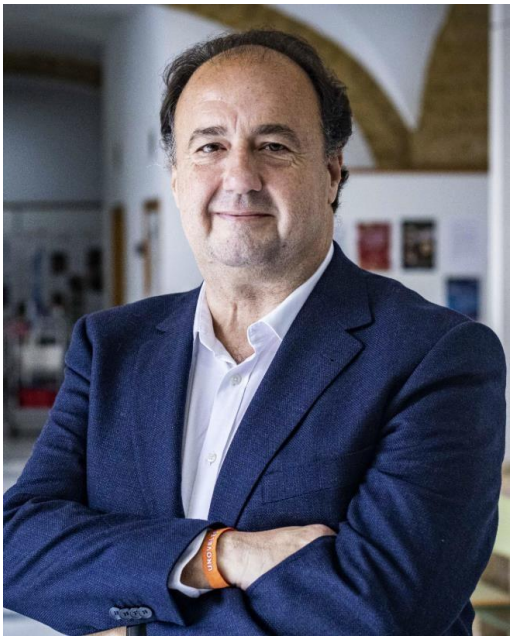
Finally, we wish to extend our thanks to every participant, both on-site and online, for embodying the spirit of SEA-EU through dialogue, cooperation, and shared vision. This conference is yours, and it is stronger because of each one of you.

As we say in spanish…

¡Muchas gracias!

Opening Note – Casimiro Mantell

Rector of the University of Cádiz



It is for me an immense honour to welcome you all to Cádiz for the second edition of the Being SEA-EU Conference. Hosting this event at the University of Cádiz is a privilege, not only because it allows us to showcase our city and our university, but above all because it reaffirms our commitment to a collective endeavour that is shaping the future of European higher education. Following in the footsteps of the successful first edition organised with excellence by the University of Malta, this conference represents the continuity of a shared vision that has grown stronger, deeper, and more ambitious with every step.

Since its creation in 2019, SEA-EU has become much more than a pioneering initiative. It is today a living proof that cooperation across borders is not only possible, but necessary. In a world facing complex global challenges, our Alliance demonstrates that universities can lead by example: nine coastal institutions working together as one, developing joint programmes, advancing common governance, and nurturing a community that transcends national boundaries. This conference is a testimony to that spirit. The creativity and dedication of our students, researchers and staff, reflected in the hundreds of abstracts submitted, illustrate how knowledge becomes richer and more impactful when it is shared across cultures and perspectives.

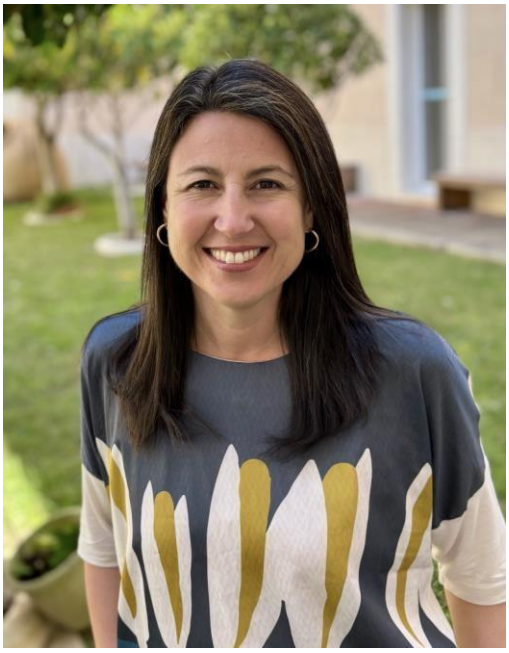
I am deeply grateful to all the people whose work has made this gathering possible. Their efforts embody the true essence of SEA-EU: collaboration, solidarity, and shared purpose. As Rector of the University of Cádiz, I am proud that this city, deeply marked by its maritime tradition and its centuries-old openness to the world, serves as the stage for this new milestone in our journey.

I am convinced that the bonds we are building today will endure well beyond the timeframe of the European Commission's initiative. SEA-EU is not just a project: it is the beginning of a long-lasting reality, a European University of the Seas that will continue to grow, to innovate, and to inspire future generations.

May this Being SEA-EU Conference 2025 remind us all that cooperation is not only our greatest strength but also our most urgent responsibility, and may it inspire us to keep working together to build a more connected, resilient, and visionary Europe.

Opening Note – Marcela Iglesias

General Coordinator of the SEA-EU Alliance



It is with great pleasure that I welcome you to the second edition of the *Being SEA-EU Conference*, hosted this year by the University of Cádiz. Building on the great success of our first meeting in Malta in 2024, this event continues to grow and evolve as a key moment in the annual life of our Alliance.

This year, *Being SEA-EU* brings together more than **400 participants on site**, a remarkable number that reflects the vitality and engagement of our nine universities. The programme is equally impressive: **119 oral presentations** distributed across nine thematic sessions, **93 posters**, and **29 scientific capsules**, offering a rich panorama of the research being carried out across our Alliance.

One of the strengths of *Being SEA-EU* lies in its capacity to innovate. This edition introduces several new features: dynamic networking sessions to foster collaboration across disciplines and borders; interactive screens showcasing research capsules and information about our research groups; and parallel activities such as the COIL training course, which is especially relevant in the context of a conference dedicated to internationalisation and interdisciplinarity.

I would like to thank the organising committees, reviewers, and colleagues from across our Alliance for their invaluable contributions. Their dedication is a true expression of the collaborative spirit of SEA-EU.

Finally, I extend my gratitude to all participants. Whether presenting, attending, or engaging in discussions, for making this conference a lively space of dialogue and inspiration. May this *Being SEA-EU Conference 2025* not only reflect the excellence of our academic community, but also inspire us to continue building together a sustainable, inclusive, and innovative European University by the Sea.

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ARTS AND HUMANITIES

ORAL COMMUNICATIONS

O_Arts_01. Exploring How Future Self-Guides and L2 Anxiety Shape L2 Motivation in Norwegian ESL Learners.

Saeed Karimi Aghdam, Nora Kristine Pettersen, Linn Renate Have

Faculty of Teacher Education & Arts, Nord University

Presentation format: ORAL (ON SITE)

Abstract

The Second Language Motivational Self System (L2MSS) has been widely used to examine L2 motivation in language learning across various educational settings. However, no study has yet explored the role of L2 motivation among English learners in the Norwegian secondary school context. This study addresses that gap by investigating: (a) the relationship between L2 motivation and English language anxiety among Norwegian ESL learners, and (b) which types of L2 motivation predict this anxiety. A modified Norwegian version of a questionnaire developed by Papi and Khajavy (2021) was administered to 447 ESL learners from 5th to 10th grade. The survey assessed variables related to L2MSS, language anxiety, enjoyment, and strategic learning inclinations, using a 6-point Likert scale. Two versions of the questionnaire were used to suit different grade levels (i.e., 5th to 7th and 8th to 10th). The analysis focused on the relationship between future self-guides and L2 anxiety, employing descriptive statistics, Spearman's correlation, and binomial logistic regression. Results show that Norwegian ESL learners are predominantly motivated by their ideal L2 self, which is not strongly linked to anxiety. In contrast, L2 motivation driven by the ought-to L2 self-particularly when rooted in external expectations (ought-to/other) or internal obligations (ought-to/own)-is associated with higher levels of L2 anxiety. Conversely, high ideal/own motivation appears to buffer against L2 anxiety. These findings highlight distinct motivational profiles among Norwegian ESL learners and suggest that the type and source of motivation significantly influence L2 anxiety. Implications and directions for future research on L2 motivation are discussed.

O_Arts_02. Visualising multilingualism: creating multilingual artefacts for linguistic wellbeing in primary classrooms.

Vikki Augestad

Nord University

Presentation format: ORAL (ON SITE)

Abstract

This session aims to explore the benefits of including tangible language artefacts in teacher education and subsequently in young learner classrooms for engaging both teachers and learners with their multilingual identity in the English classroom. Underpinning this session is the theoretical concept of the Dominant Language Constellation (DLC). The DLC captures the complexity and multidimensionality of language practices and has been employed in researching individual, institutional and societal contexts. It has used both visual, digital and tangible artefactual methods (Ibrahim, 2022) of representation for cognition, identity development and language learning. These multimodal approaches to engaging multilingualism in increasingly diverse classrooms disrupt the monolingual bias. They afford individuals deeper, more personal connections with their language repertoires, thus enhancing their awareness of multilingualism as a concept, and of themselves as plurilingual individuals.

In this session, we will present initial findings of a project in a school in southern Norway, where 60 children across 4 classrooms (grades 1, 4 and 5) created their DLC artefact, following the 4-stage pedagogical framework for using DLCs as a strategy for increasing plurilingual approaches in schools. This visual and tangible approach underscores the affordances of the materiality of the DLC to uncover learners' multilingualism, gives children a creative voice in reflecting on their multilingual identities, and enhances teacher-student relationships.

O_Arts_03. Women's accounts of the world of fishing before the 1960s turning point: long-term seafaring experiences of Odette du Puigaudeau and Anita Conti.

Véronique Leonard Roques

Département de Lettres Modernes (Department of French Literature)

Faculté des Lettres et Sciences Humaines (Faculty of Arts and Humanities)

Centre de Recherche Bretonne et Celtique (UAR CRBC)

Presentation format: ORAL (ON SITE)

Abstract

In the Western world, the realm of the sea and deep-sea fishing have long been regarded as traditionally male domains, from which women—destined to remain on land—were largely excluded. Female-authored travel narratives focused on maritime journeys appeared relatively late, emerging at the end of the 18th century and into the early decades of the 19th century (M. Wollstonecraft, R. de Freycinet, L. d'Aunet, F. Tristan, C. Dard…), and remained far fewer in number than those written by male travelers.

This presentation aims to explore the narratives of two pioneers who boarded fishing vessels to observe, document, and share the lives of fishermen during extended fishing campaigns. Both scientists and journalists, the ethnologist Odette du Puigaudeau and the oceanographer Anita Conti were passionate about vast spaces and constant movement. They reported on the living and working conditions aboard tuna boats off the coast of Brittany, lobster vessels off Mauritania, and trawlers on the Grand Banks of Newfoundland, prior to the industrialization of fishing techniques in the 1960s. As observers and at times even active participants, they conveyed the harshness and dangers inherent in maritime labor (Puigaudeau : Pieds nus à travers la Mauritanie, 1936 and Grandeur des îles, 1946; Conti : Râcleurs d'océans, 1953 and Géants des mers chaudes, 1957).

This study will examine how their interest in the maritime world—its codes and resources—is expressed. It will also consider how the issue of gender is addressed in their work, given the unique and often exceptional nature of their experiences as the only women on board. Finally, we will analyze the ways in which they pay tribute to those who practiced age-old fishing traditions on the brink of transformative change.

O_Arts_04. Testing English speaking proficiency: comparing AI and human assessments.

David Levey, Candela Contero Urgal, Cristina Heras Ramírez, Salim Abderrazak, José Miguel Campuzano Díaz, Francisco José Coto Lobato, Víctor Ramírez Rivas

Department of French and English Studies, Faculty of Human Sciences, 11003, Cadiz University

Presentation format: ORAL (ON SITE)

Abstract

Artificial Intelligence (AI) has quickly become a game-changer for academia, redefining its teaching and research. In foreign language education, it has become indispensable for e-learning (Heegaard, 2025) or speaking practice (Du & Daniel, 2024), offering personalised learning experiences and instant feedback. However, assessing speaking proficiency with AI seems to be far less developed. Thus, our aim was to test whether AI was a reliable tool for testing English speaking proficiency by comparing human ratings with those provided by three different chatbots– ChatGPT, Gemini and DeepSeek. To achieve this goal, 40 speaking performances of students enrolled in the English Studies degree programme at the University of Cadiz (Spain) were recorded in pairs and graded by three experienced examiners according to the Common European Framework of Reference for Languages (CEFR). For the purpose of this study, four variables were taken into account: interaction, fluency, grammar and lexical accuracy, and discourse management. The audio files were then converted to text and passed through the chatbots to assess the students' oral performance. Findings show significant variations among AI tools' assessments across intermediate levels and more consistency in their ratings of upper intermediate levels. It was interesting to note, however, that a significant number of candidates considered C1 by human examiners were marked lower by AI programmes. In conclusion, while AI tools undoubtedly have a huge potential when it comes to examining the speaking proficiency of test-takers, they are still in their infancy and further development as well as collaboration is required.

O_Arts_05. Drawing Europe: Representations of the Old Continent in Carl Barks's Comics (1942–1966).

Agata Konczal

Doctoral School at the Faculty of History, Wita Stwosza 55, 80-308, Gdansk University

Presentation format: ORAL (ON SITE)

Abstract

Between 1942 and 1966, Carl Barks wrote and illustrated dozens of Disney comics, and he is recognised as the most influential and widely read author of stories set in the Duck universe. Often considered apolitical or purely entertaining, Barks's comics are in fact rich in detail and contain deeper layers of meaning beneath their humorous surface. His works reflect the realities of mid-20th-century American society, capturing its aspirations, values, and anxieties with remarkable subtlety. This study focuses on Barks's portrayals of Europe and Europeans in stories where the Duck family travels abroad. It examines how the European countries, regions, nationalities and identities were communicated to American readers through visual and narrative elements, and to what extent these representations reflect American perceptions of the Old Continent at the time. Even though Barks had not travelled outside the United States at that time, his stories contain surprisingly vivid depictions of foreign places and peoples. Among the most notable examples are "A Duck's-eye View of Europe" (1963), in which the Duck family embarks on a European tour filled with cultural landmarks, and "Dangerous Disguise" (1950), where a vacation on the French Riviera turns into a spy intrigue. By treating comics as primary sources, the project contributes to the growing academic recognition of comic books as a legitimate historical source and examines their role in shaping geographical imagination and underlying cultural assumptions. The research is part of a broader doctoral project on how Barks's comics reflect American society in the 1940s–60s.

O_Arts_06. The Power of Movement: Learning, Social Connection, and Engagement in the Classroom.

Joanna Tenerowicz Kudla

Foreign Languages Centre, University of Gdansk

Presentation format: ORAL (ON SITE)

Abstract

Traditional classroom environments restrict physical movement, limiting students' engagement, collaboration and overall well-being. This workshop demonstrates how integrating movement-based strategies can significantly impact cognitive and social development, *creating* a dynamic and inclusive learning space.

Key approaches include physical activity breaks that boost concentration, flexible classroom layouts inspired by Scandinavian models and interactive methods that reduce the affective filter—the emotional barrier that inhibits learning under stress. These strategies generate magical outcomes, including elevated creativity, improved communication and stronger problem-solving skills.

In academic settings, movement plays a crucial role in emotional regulation and social integration. Activities such as structured networking, interactive group challenges and kinesthetic learning experiences help students develop self-awareness, strengthen relationships and build resilience in high-stress situations like exams and public speaking. Additionally, multisensory engagement through Brain Gym and movement-based activities supports memory retention and diverse learning styles, reducing anxiety and giving a sense of belonging.

The social impact of these strategies is profound: increased student motivation, stronger peer connections and a more inclusive learning environment. By rethinking the role of movement in education, we can transform classrooms into stimulating spaces where students thrive academically, socially and emotionally. This workshop will provide research-based insights and practical strategies for educators seeking to integrate movement into their teaching practices.

O_Arts_07. A Comparative Review of Reactions to Online Articles on the Environment and Sustainability by Members of the General Public in Malta and France.

Anne Marie Bezzina Busuttil

Department of French, Faculty of Arts, University of Malta

Presentation format: ORAL (ON SITE)

Abstract

This study evaluates whether the perspectives expressed by members of the general public in Malta and France, in reaction to online journalistic articles on environmental issues, reflect localised cultural frameworks or universal ecological understandings. The discourse analysis focuses on argumentative structures, vocabulary, syntax, style, and modality—specifically, how authors express their stance toward their own statements. It examines how texts from the two national contexts relate to one another, with particular attention paid to the jargon employed, as environment-related language often conveys ecological agendas, values, and belief systems.

These linguistic features are analysed through the lens of ecosophy—a normative ecological philosophy—as articulated by Naess (1995a), Stibbe (2021), and Virdis (2022). Using Stibbe's (2021) framework, the discourses are categorised as beneficial (genuinely pro-environment), ambivalent (partially supportive of environmental protection), or destructive (promoting environmental degradation). The analysis aims to construct a profile of public mentalities in Malta and France regarding environmental challenges and to assess the degree to which sustainable development is a meaningful concern for these publics. Ultimately, the findings aim to inform discussions on the cultural and cognitive shifts necessary to promote sustainable ways of living.

O_Arts_08. Research lines and scientific-technical capabilities of the Institute of Applied Linguistics at the University of Cadiz.

Miguel Casas Gómez, Carmen Varo Varo, Víctor Rodríguez Montaño, Tatiana Denisenko, Alba Macías Couso, Reyes Gago Sosa, Paula Pruaño Fuentes, Francisco Bernal Ortiz, Yolanda Alcedo Lillo, Olga Popova, Rocío Pérez Vargas, Amparo García Cabello de Alba, Isabel Moyano Moreno

Instituto De Lingüística Aplicada De La Universidad De Cádiz

Presentation format: ORAL (ON SITE)

Abstract

The Institute of Applied Linguistics (ILA) at the University of Cadiz is a multidisciplinary research centre dedicated to applied linguistics, combining research, training, and knowledge transfer with a broad offering of language-related services. The main areas of research and professional activity include Language Industries, covering terminology, lexicography, neology, and corpus linguistics; Forensic Linguistics, focusing on interpretative analysis, authorship and speaker identification, plagiarism detection, and expert linguistic reporting; Language Consultancy, which offers linguistic and intercultural mediation and expertise in communicative strategies; and Clinical Linguistics, addressing language acquisition and processing, voice analysis and diagnosis, and the evaluation of speech and language disorders in both adults and children. These areas reflect the Institute's commitment to advancing communication studies, forensic and clinical linguistics, and language technologies, while supporting public and private entities through specialised services. The Institute is equipped with advanced scientific and technical infrastructure. Its Experimental Linguistics Laboratory includes electroencephalography equipment for recording cortical responses to visual and auditory stimuli, and a high-speed 1200 Hz eye-tracking system for precise gaze data collection. Phonetics and Acoustic Engineering Laboratory features a semi-anechoic chamber certified under UNE-EN ISO 3745:2012/A1:2017, a reverberation chamber, and instruments for detailed acoustic analysis. Computational and Digital Linguistics Laboratory facilitates the design, processing, and application of linguistic corpora, with a view to integrating them into natural language processing systems. Current research projects explore areas such as terminological networks, computational linguistics, neology and phraseology, language development in premature infants, communication in dementia and movement disorders, and specialised translation.

O_Arts_10. Urban Green Infrastructures to restore ecological and social connectivity. A case study in Arroio da Ronda, in Ponta Grossa (PR, Brazil).

Melissa Zanferrari Godoy, Inês Marques Duarte, Miguel Reimão

Faculty of Sciences and Technology, University of Algarve, Portugal

Presentation format: ORAL (ON SITE)

Abstract

Green infrastructure has been recognised as an essential approach to sustainable urban planning, as it integrates ecological functions into the urban structure and increases resilience to climate change. In Brazil, however, this approach is still emerging in land-use planning instruments. This research focuses on the urban area of Ponta Grossa municipality – PR, Brazil, aiming to propose urban green infrastructure guidelines that articulate the remaining vegetation and Permanent Preservation Areas (PPAs), providing the city with a resilient ecological structure. Inserted in a context of growing urbanisation and socio-environmental pressures, the sub-basin Arroio da Ronda, has irregular occupations in risk areas and a scarcity of qualified green areas. Although the 2022 revision of Municipal Master Plan (PDM) update urban planning regulations, it still lacks effective propositional environmental strategies. Through documentary, cartographic and regulatory analysis, combined with the use of geotechnologies, we developed a characterization of physical, ecological and socio-spatial aspects of the sub-basin and identified opportunities for connecting urban forest fragments with PPAs. The results reveal significant potential to establish a multifunctional green network, capable of enhancing ecological connectivity, improving resilience to climate change, environmental quality and urban well-being, while integrating and connecting collective-use spaces and facilities. The proposal includes linear parks, ecological corridors and infiltration and protection zones, all designed to guide land-use planning based on nature-based solutions This work thus provides technical support for the development of more sustainable and resilient urban policies, highlighting the environmental function of the urban landscape in the planning and management of municipal territories.

O_Arts_12. How to be a language teacher and not die trying?

Eugénie Romon

IUT de Quimper - UBO- Quimper, Brest University

Presentation format: ORAL (ON SITE)

Abstract

Reflections and analyses on foreign language teaching in the age of GPT chat and high-performance translators. It is no longer possible to ask learners to work on expression at home, since access to a dictionary is more complicated than access to a translator. We'll start by asking how these tools, which make life easier for most people, hinder language teaching. The ease of access to these online resources means that teachers have to take a different approach to preparing lessons, even if it means accepting the use of these facilitating technologies. However, they must have a good knowledge of the existing tools to ensure that learners only have access to them in circumstances that they have anticipated, so that the exercises proposed are not diverted from their initial purpose and the learning strategy put in place can be completed in the conditions envisaged. We will be asking ourselves what adaptations are necessary for language teachers who can no longer teach in the same way, having to adapt their practice to an all-connected environment in which foreign languages are now accessible without making any effort to learn.

O_Arts_13. A LINGUISTIC JOURNEY INTO EMOTION: EFL AND DIGITAL LEARNING MEDIA.

Ganna Zakharova García

Filología Francesa e Inglesa , Cadiz University

Presentation format: ORAL (ON SITE)

Abstract

This study explores the intersection of emotion, language learning, and digital media, emphasizing how emotionally engaging features in English as a Foreign Language (EFL) e-textbooks enhance language acquisition. Emotions, as powerful motivators, are shown to influence attention, memory, and motivation—key elements for effective learning. Drawing on some theories, and neuroscientific insights, the research highlights the value of positive emotions like curiosity and joy in sustaining learner engagement.

Using discourse analysis, the study investigates digital English textbooks that employ multimodal designs, applying frameworks by Pauwels (2012), Kress and van Leeuwen (2006), and Dimitrova et al. (2002) to examine textual, visual, audio, and video elements. Classroom observations further ground the findings in pedagogical practice.

Results reveal that e-textbooks may effectively combine verbal and non-verbal resources to create emotionally resonant materials. Visuals, colour schemes, typography, and structured layouts foster positive emotional responses and minimize stress. Interactive features such as storytelling, games, role-play, and music deepen engagement and improve retention. Design choices enhance cognitive and emotional connections, supporting learners across different proficiency levels.

The study concludes that emotionally enriched digital materials not only foster enjoyment and motivation but also significantly enhance language retention and communicative competence. These findings underscore the importance of integrating emotional engagement into the design of digital learning tools to create more inclusive, effective, and meaningful language education experiences.

O_Arts_14. Aesthetic study of the body and the sea in Maria Adela Diaz's performances on migration.

Nathalie Narvaez

Département LLCER Espagnol, FLSH, UBO, 20 rue Duquesne, 29200, University of Brest

Presentation format ORAL (ON SITE)

Abstract

I will present some aesthetic reflections on the representation of the body and the sea in Maria Adela Diaz's performances : "BORDERLINE" Video performance, California 2005 and "Foreign bodies" California 2020. This study will attempt to understand the place given to the body and the sea in these performances, as well as their various meanings within her artistic work.

O_Arts_15. Rethinking Polish Architecture of the 1970s: A Study of Public Buildings in Political and Social Contexts.

Weronika Stasińska

Doctoral School at the Faculty of History - Wita Stwosza 55, 80-308, *University of Gdansk*

Presentation format: ORAL (ON SITE)

Abstract

When many Polish people think of architecture from the 1970s, they often imagine endless rows of grey apartment blocks. But is this view really fair? Did architecture from that time have nothing else to offer? This paper challenges these common stereotypes. It shows the richness of the architectural landscape, highlights the creativity and skill of Polish architects, and presents some of the most notable buildings from Poland in the 1970s.

An important part of this research is the political background. To understand the architecture of this period, we need to look at how it was funded and supported, mainly by the communist government. Authorities in the 1970s promoted a policy of growth and prosperity. They aimed to present Poland as a modern and advanced country. This idea was tied not only to economics but also to visual symbols. Architecture had to reflect the state's ambitions. As a result, architects were given more freedom to design boldly.

Public buildings best show the character of the architecture from this period. Their representative function allowed for both freedom in shaping forms and the use of larger financial outlays. The paper looks at examples from different architectural styles, such as Brutalism, High-Tech, Postmodernism and Socmodernism.

This study will analyze the most compelling examples of public architecture from 1970s Poland and demonstrate that architecture does not emerge in a vacuum. Its forms are shaped not only by the imagination of its creators but also by broader social and political influences.

O_Arts_16. For an embodied and sensitive approach of the land-sea continuum.

Isabelle Elizéon

UBO / HCTI / ZABrI 29200, University of Brest

Presentation format: ORAL (ON SITE)

Abstract

Through a field-based approach, workshops, on-site video productions, and a series of water pictures, the aim is to present and promote a sensitive and aesthetic approach to “existential territories” for a new understanding of the land-sea continuum, biodiversity preservation, and multi-stakeholder consultation in Brittany (Molène Island) and Veneto (Piave river and Venice Lagoon - Italy).

O_Arts_17. Between fundamental opposition and constructive engagement? The Schleswig-Holstein deputies in the decision-making process of the Reichstag of the North German Confederation between 1867-1870.

Alexander Lauterbach

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Presentation format: ORAL (ON SITE)

Abstract

The Reichstag elections of 1867 were a disaster for the prussian government in the newly annexed province of Schleswig-Holstein. Ironically, it was the opposition candidates of the liberal so-called "Central Electoral Committee of Neumünster" and its successor, the "Schleswig-Holstein Liberal Party," who won convincingly in seven—and later eight—of the nine Schleswig-Holstein constituencies. But were the Schleswig-Holstein deputies who identified as liberals in fact staunch legitimists and particularists—that is, unwavering supporters of Frederick of Augustenburg's hereditary claims and vocal opponents of Schleswig-Holstein's incorporation into Prussia? And did they act accordingly in the Reichstag? In order to answer these central questions, it is necessary to examine the demands outlined in liberal candidate platforms, party programmes, and parliamentary group agendas in greater detail, and to compare them with actual parliamentary practice—particularly voting behaviour and the tabling or support of motions. The aim is to identify continuities and discontinuities, as well as potential contradictions, in the evolution of the Schleswig-Holstein Liberal Party within the Reichstag of the North German Confederation. This includes assessing the party's position between the particularist objective of revising the balance of power in Schleswig-Holstein and its parliamentary engagement with the emerging German nation-state.

O_Arts_18. Sea Narratives: Topographies of Crisis and Renewal in Contemporary European Literature.

Anna Wardak

Institute of Polish Philology Faculty of Philology, University of Gdańsk

Presentation format: ORAL (ON SITE)

Abstract

The sea in European literature has long functioned not merely as a geographical setting but as a liminal space at the intersection of memory, existence, and community. Its imagery oscillates between loss and renewal, reflecting the dynamic topographies of crisis and processes of collective transition. This paper offers an analysis of literary sea narratives as spaces where representations of catastrophe — historical, existential, and ecological — are crystallized.

Through a selection of works ranging from Defoe's Robinson Crusoe to contemporary migration and climate narratives, the research interprets the sea as a medium for negotiating identity, boundaries, and communal projects of the future. The study adopts an interdisciplinary perspective, drawing on literary theory, memory studies, and ecocriticism, to illuminate how literature actively participates in shaping cultural responses to collective trauma and socio-ecological challenges.

The aim is to demonstrate that literature does not merely reflect societal crises but engages in the construction of hope, resilience, and the reimagination of communal solidarity. In this sense, literary sea narratives offer critical frameworks for understanding Europe's evolving identity in times of uncertainty and transformation.

By analyzing the symbolic and narrative functions of the sea, the paper contributes to broader debates on cultural memory, migration, and sustainable development, aligning with SEA-EU's mission to foster international dialogue, innovation, and societal impact.

O_Arts_19. The Figure of Ephebus and Hermaphrodite in the Literary Discourse on Non-Heteronormative Love and the Beauty of (Non-) Masculinity.

Barbara Zwolińska

Department of the History of Polish Literature, Institute of Polish Philology, Faculty of Philology, University of Gdańsk

Presentation format: ORAL (ON SITE)

Abstract

The subject of my research are selected literary works, treated as representations of the discourse on non-heteronormative love and the ideal of (non)masculine beauty. I compare works of diverse genres and time, such as: Symposium (Feast), or a preserved fragment of Efebos (1919) by Karol Szymanowski, Death in Venice (1912) by Thomas Mann, Death in Old Decorations (1970) by Tadeusz Różewicz, Japanese Fan (2004) by Joanna Bator and the Song of Achilles (2021) by Madeline Miller and Achilleis (1903) by Stanisław Wyspiański. Among the works of ancient art referring to the interdisciplinary approach to the issue, I cite Ephebe Kritios and Ephebe of Marathon, Spinaria (Boy with a Thorn, also known as Boy Pulling a Thorn Out of His Leg) and Sleeping Hermaphrodite.

I conduct a comparative analysis of literary works in terms of the motif of youthful beauty that appears in them, the origins of which can be linked to the figure of the ephebe, present in ancient art, mythology and literature. The figures of Narcissus and Dionysus are also important in mythological references (here, among others, the sources are Euripides' Bacchae and Ovid's Metamorphoses). The discourse emerging from this comparison concerns not only the canon of (non-)masculine beauty, but also non-heteronormative eroticism and crossing the gender binary. The authors, referring to, among others, the works of Plato (The Symposium, Phaedrus) or the Homeric story of the fate of Achilles and Patroclus from the Iliad, revise and transform ancient patterns, inscribing them in contemporary realities and historical-literary contexts. Thus, these readings refer to important social topics related to tolerance of diversity, the right to love, self-fulfilment and freedom of choice.

O_Arts_20. Between Sea and Land. Students' hypotheses and reflections for an appreciation of the landscape and its heritage.

Paula Gomes da Silva, Inês Marques Duarte

Universidade do Algarve - DCTMA / LEAF - U. Lisboa

Presentation format: ORAL (ON SITE)

Abstract

This presentation shows the results of a landscape architecture study carried out in collaboration with the future 'Landscape and Heritage Interpretation Centre' (LHIC) in Fuseta, Algarve. This project, funded by the municipality, is being developed at the University of Algarve, which is responsible for the architectural restoration project and exhibition concept. Students were invited to submit ideas for exhibitions to be held in the landscape outside the LHIC.

The area is located between two villages, 7 km apart. Near the Sea, the fishing village Fuseta, with an old maritime rescue building, to be converted into the LHIC, salines and marshes. Inland, the a rural village Moncarapacho and large hill with a viewpoint over the countryside and the ocean.

One of the most significant transformations that the landscape has undergone over the centuries was the disappearance of the paleo estuary of a stream that still exists between the villages. The area surrounding the paleo estuary has been densely populated since Roman times, as evidenced by numerous archaeological findings. The most recent heritage are agriculture buildings and hydraulic structures, now partially abandoned, and watchtowers built to defend the coast.

To bring this landscape closer to the public and raise awareness of it, routes have been designed that encourage visitors to leave the LHIC in search of contact with the surrounding place. The routes are simultaneously evocative of history, knowledge of natural and cultural heritage and multisensory experiences, weaving connections between Sea and Land trough an experience of contact, exposure and immersion.

O_Arts_21. Bridging language, art and society in academic teaching: how contemporary art inspires critical and multilingual skills.

Natalia Jażdżewska

Doctoral School at the Faculty of Philology, Faculty of Philology, PL GDANSK01, 80-308

Department of Iberian Studies, Institute of Romance Studies, Faculty of Philologhy, PL GDANSK01, 80-308

Presentation format: ORAL (ON SITE)

Abstract

This presentation proposes an interdisciplinary model for developing language proficiency and critical sociolinguistic awareness through the analysis of socially engaged conceptual art, particularly in Spanish and English. Drawing on ongoing doctoral research into the role of language in conceptual art, the talk explores how text-based installations (by artists such as Dora García and Jenny Holzer, for example) function as platforms for discourse, inviting reflection on issues of power, memory, identity, and public use of language.

Case studies illustrate how artworks that combine text, spatial arrangements, and materiality engage students across linguistic, visual, and ideological registers. García's Frases de Oro subverts authoritative discourse through aphorisms in gold lettering, while Holzer's Inflammatory Essays and Truisms disrupt public spaces with ambiguous, ideologically charged statements. These works serve as entry points for critical discourse analysis and pragmatic inquiry, allowing learners to examine how meaning is shaped by context and intention.

The pedagogical framework draws from sociolinguistics and multimodal discourse analysis, including the work of Ruth Wodak, Teun A. van Dijk, Norman Fairclough, and Gunther Kress, among others. It emphasizes dialogic learning, multilingual literacy, and student agency in interpreting complex communicative acts across modalities.

Integrating conceptual art into language instruction not only enhances linguistic competence but also deepens students' critical understanding of discourse in civic life. This approach prepares learners to navigate today's diverse and media-saturated world with thoughtfulness and insight.

ARTS AND HUMANITIES

POSTERS

P_Arts_01. The Creative Turn: Academic Libraries as Spaces for Art, Reflection, and Transformation — The ART Connect Initiative at the University of Malta Library.

Ryan Scicluna

University of Malta Library - Library Services, University of Malta

Presentation format: POSTER

Abstract

The ART Connect initiative at the University of Malta Library reimagines academic libraries as creative and cognitive hubs by integrating student artwork into the campus environment. This initiative supports student well-being, fosters engagement, and strengthens community-building. Through a mixed-methods research design, combining structured surveys, statistical analysis, and thematic coding of qualitative feedback, this study investigates ART Connect's impact on mental health, creativity, and the overall academic experience.

Grounded in interdisciplinary theories highlighting the cognitive and emotional benefits of artistic expression, ART Connect aligns with a growing body of research that positions academic libraries as dynamic cultural and social spaces. Preliminary findings reveal high levels of student participation and positive perceptions, with many reporting increased feelings of empowerment, confidence, and belonging. These outcomes suggest that showcasing student creativity within library spaces contributes to a more inclusive, reflective, and vibrant academic environment.

While ART Connect has demonstrated a significant impact, the initiative faces visibility and long-term sustainability challenges. Proposed strategies include enhanced marketing efforts, cross-disciplinary events, and digital engagement to broaden reach and deepen involvement. Future plans involve launching an online gallery, fostering international partnerships, and developing themed collaborative projects.

Overall, ART Connect serves as a scalable model for academic libraries seeking to integrate art, mental wellness, and interdisciplinary collaboration. It underscores the evolving role of libraries in higher education as spaces that nurture resilience, creativity, and cultural enrichment.

P_Arts_02. Power and endogamy: British family networks in the south peninsular from a relational perspective.

Maribel Serrano Macías, Javier Álvarez Gálvez

University Institute for Sustainable Social Development (INDESS), Cadiz University

Presentation format: POSTER

Abstract

Since the sixteenth century, southern Spain has been the destination of a notable migratory flow of Britons who settled in the provinces of Huelva, Seville and Cádiz. Factors such as the Protestant Reformation, commercial ties between the British Isles and Spain, the rise of the wine trade, and industrial activity in the area favoured the establishment of British colonies, which were characterised by marked endogamy aimed at preserving their economic and cultural interests.

To date, existing studies have approached these communities in isolation, focusing primarily on demographic or economic aspects without considering their relational dimension. This study proposes a multidisciplinary approach based on social network analysis to explore family relationships and socio-economic connections between British families and local Anglophile elites. By using centrality metrics (Degree, Closeness, Betweenness, and PageRank), the research identifies key actors who played fundamental roles in mediation, influence, and articulation within these family networks with shared economic interests.

The results reveal the existence of strategic lineages that acted as connecting nodes between different family branches, structuring cohesive and hierarchical networks around relationships and commercial interests. This methodological approach, grounded in social network analysis, not only enriches the historical understanding of these communities but also demonstrates the potential of network analysis tools applied to the Humanities, opening new avenues for the study of complex social structures and dynamics through historical sources.

P_Arts_03. Unlocking Regional Memory: The Archival Collections of the University of Gdańsk as a Tool for European Collaboration and Societal Engagement.

Anna Siekierska

University of Gdańsk Archives, Jana Bażyńskiego 8 st., 80-309 Gdańsk

Presentation format: POSTER

Abstract

The archival collections of the University of Gdańsk are a rich resource of historical, cultural, and academic significance that serve as a bridge between past and present in the Baltic Sea region. This presentation will explore how these archives—comprising institutional documents, personal collections, visual materials, and academic legacies—contribute not only to scholarly research but also to public understanding and cross-border dialogue within Europe. By showcasing selected examples from the collections, we will demonstrate their potential to foster transnational academic collaboration, support educational initiatives, and engage local communities in preserving and interpreting shared heritage. The University of Gdańsk Archive actively participates in digitization and accessibility projects, aligning with the values of open science and societal impact. In the context of SEA-EU's mission, these archival resources represent a vital tool for integrating regional memory into broader European narratives and strengthening partnerships among coastal universities. This presentation invites a discussion on how university archives can evolve into dynamic platforms for innovation, inclusion, and intercultural exchange.

P_Arts_04. New horizons on the sustainability of cultural heritage through collaborative research. The case of the Convent of Lagoa (Algarve).

Catarina Almeida Marado, Maria del Castillo Garcia, Lorena Sancho Querol, Andreia Fidalgo, Gabriela Vieira, Tiago Sobral.

CES-UC/ FCHS-UALG

Presentation format: POSTER

Abstract

The CONVENTUS Project was born with the aim of addressing the study of the former convent of Säo José in Lagoa (Algarve, Portugal), through a renewed perspective that integrates the analysis of material assets with the social and cultural dimension that, in multiple ways, has shaped the religious establishment throughout its history.

Based on the work of an interdisciplinary and international team from different institutions, the project's completion is revealing new insights into the history of the site, the building's architecture, and its varied uses, given the contingency of this architectural typology, particularly beginning in the 19th century with the disentailment movements that would affect the entire peninsula.

In this sense, the local community is emerging as one of the key agents involved in the methodological reactivation of the site's memory. The meanings and values that the former convent projected onto the city constitute a fundamental part of the establishment's history, as they allow us to understand how the boundaries, a priori defined between the concepts of heritage, culture, and society, are blurred, generating a relationship between the former religious building through both ongoing and emerging cultural activity.

Under this premise, CONVENTUS's objectives ultimately focus on creating a network of shared resources with other similar institutions, ultimately leading to the definition of a collaborative museological plan for this cultural center, supported by the results of the action-research project itself.

P_Arts_05. Did we confuse ChatGPT with Samantha ("Her")? The impact of science fiction depictions on human expectations towards AI technologies.

Katarzyna Białołęcka

Faculty of Social Sciences - Institute of Philosophy University of Gdańsk - 80-309 Gdańsk

Presentation format: POSTER

Abstract

Upon the development of large language models (LLM) such as ChatGPT, which are capable of understanding and generating natural language, society declared that artificial intelligence has arrived and therefore decided to treat LLMs as such. This lead to the rise of numerous concerns, e.g. certain professions going extinct, unethical use in original work. Inevitably, questions about nature of artificial intelligence and its possible consciousness emerged as well. However, companies responsible for these technologies have not used extensive marketing to achieve these reactions, usually presenting their products by demonstrating possible use, rather than purposefully and openly trying to market them as artificially intelligent. The reason behind this dissonance can be found in the fictional portrayals of AI, which shaped human expectations of such technologies. Media has always depicted artificial general intelligence (AGI, also called „strong AI"), which is supposed to possess intelligence and self-awareness equal to those of a human, but it lacks illustrations of so called „weak", task-oriented AI. Examples range from historical ones like "Metropolis" (1927) to contemporary – "Blade Runner" (1982) and "Her" (2013). Due to this, there is no common theoretical framework to conceptualize large language models as the sort of technology that they are, leading to people assuming that ChatGPT could take over the world.

P_Arts_06. Neuro-Linguistic Programming in Sonatrach Company.

Maria Jose Foncubierta Rodriguez, Jésus Barrena Martinez

8218 Business Management and Economic Environment, Cadiz University

Presentation format: POSTER

Abstract

This study investigates how Sonatrach, a sizable state-owned company in the energy industry in Algeria, can benefit from the use of Neuro-Linguistic Programming (NLP) to support organizational development. Analyzing the effects of NLP on organizational climate, leadership abilities, and workplace communication is the goal. Likert-based measures derived from well-established, reliable instruments were used in the survey research for the study. The Communication Climate Inventory by Gibb (1961), the Leadership Practices Inventory by Kouzes and Posner (2003), and the Work Environment Scale by Moos (2008) were the pre-existing instruments from which the items were modified. These metrics focused on subjective work atmosphere, leadership style, and open communication. A 5-point Likert scale was used to rate each item. Additional measures assessed employees' knowledge of NLP, their perception of its use, and their receptivity to NLP-based training. Data collection took place in Sonatrach during April and May of 2024. Workers from several departments were represented in the sample. The corporation employs more than 100,000 people worldwide and works in the oil and gas industry. Regarding the application of NLP in an organization, this work advances both theoretical research and practical application. Because it encourages the use of NLP as a framework for constructive communication and enhanced interpersonal relationships inside a company, it is also consistent with SDGs 3 (Good Health and Well-Being) and 8 (Decent Work and Economic Growth).

Keywords: [Neuro Linguistic Programming; Communication; Human resource management; sustainable development goals.]

ARTS AND HUMANITIES

CAPSULES

C_Arts_01. Building resilience in the European tourism industry: Evidence from COVID-19.

Carina Ramos Jesus, Luís Miguel Serra Coelho, Célia Maria Quitério Ramos

CinTurs - Research Center for Tourism Sustainability and Well-being and Faculdade de Economia da Universidade do Algarve

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The tourism sector faces unprecedented challenges from compounding crises - from COVID-19 to geopolitical tensions and emerging commercial tensions. Such sector is particularly interesting, given its contribution to global GDP and employment (World Travel & Tourism Council, 2024) and its severe vulnerability to external events (Prayag et al., 2020). This study investigates how firm-level characteristics influence tourism firms' ability to navigate such disruptions, with particular attention to European companies. Using binary logistic regression models and a novel resilience index, we analyze data from ten European countries to identify key determinants of firm resilience.

Our findings reveal that human capital reductions, firm size, and profitability negatively impact resilience, while leverage and capital intensity enhance it. Notably, Swedish firms demonstrate superior resilience, suggesting valuable lessons for other European nations. We also uncover significant differences between Eurosystem and non-Eurosystem companies, highlighting important implications for monetary policy within the EU.

This research presents important academic practical implications. For academics, we advance the resource-based view and dynamic capabilities literature by demonstrating how specific organizational resources contribute to resilience during crises. For practitioners and policymakers, we provide evidence-based guidance for building organizational resilience, particularly relevant to Europe's tourism-dependent economies.

Our findings have direct societal impact by urging the need to protect human capital and employment in the tourism sector, enhancing economic resilience, and providing policymakers with insights for developing more effective support mechanisms for vulnerable industries, further exemplifying the value of cross-European collaboration in addressing shared challenges and developing solutions that benefit the European community.

C_Arts_02. Gender, Creation and Intellectuality: The Role of Women as Cultural Agents in the Cádiz Region (19th-20th Centuries).

María del Castillo García Romero

Group of Research HUM-726: City, Image and Heritage/ Research Institute in Studies of the Hispanic World

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The main objective of this proposal is to analyze and interpret, from a gender perspective, the realities that (re)signify the role of women in the spheres linked to the development of artistic work in the Cádiz region as a frontier space: as a hub of inter-territorial communication and a site of extensive cultural exchanges, particularly between the 19th and 20th centuries, in order to its dissemination.

Despite the invisibility to which women have historically been subjected, they operated as agents in the arts system from multiple perspectives. They worked in various artistic fields, from patronage to promotion, management and administration of assets to artistic practice. In this sense, they acquired the rudiments of the various arts in a broad training process that, in many cases, included transversal learning such as literacy, artistic education, or participation in socialization and activism circles —which shaped the ideologies driving the professionalization of women— all as avenues for vindicating equality.

All of this arose as a result of the gradual impact of creative, active, and intellectual circles, which fostered the development of ideas and material objects that shaped the cultural and artistic scene during this period. With particular interest in the Cadiz region, we approach it as a pioneering and open context, due to its sociocultural and institutional complexity — particularly during the period of transition from the Enlightenment and the liberal movements to contemporarity.

C_Arts_03. Act of Resistance: From Fiction to Media Attacks on Shafak's "The Bastard of Istanbul".

Jelena Saraga Ljoka, Matea Plazonić

Faculty of Humanities and Social Sciences, Split University

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

Elif Shafak is often considered a controversial author for her novels, which raise numerous delicate questions about identity, history, and politics. Through this study, we explore how The Bastard of Istanbul tells a story of resistance against patriarchal norms and official historical discourses and its reception in the media.

Topics mentioned in the novel, such as sexual abuse, Armenian genocide, and patriarchal family dynamics, are considered taboo in Turkish society. These topics caused a significant media backlash when the novel was published. Even though it was longlisted for the Orange Prize for Fiction (London, 2008), Shafak faced a lawsuit from nationalist lawyer Kemal Kerinçiz, who accused the writer of "insulting Turkishness".

Using media framing theory and feminist literary criticism, this study examines the media's impact on shaping public opinion about Shafak after the novel's release and the model of double silencing. Study shows how female authors who write openly about patriarchal oppression and violence against women often become targets of that same violence themselves. Additionally, paper argues how The Bastard of Istanbul not only opened the discussion about female characters from the novel who were pressured and silenced by society, but revealed that the same pattern occurs in a reality to those who dare to speak about it.

C_Arts_04. Albert Camus in America (1946) : from rejection of "new man" to creation of "Le premier homme".

Benoît Quinquis

Univ Brest, Héritage et Construction dans le Texte et l'Image, F-29200, Brest, France

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

In 1946, Albert Camus (1913-1960), travelled to North America in order to give conferences : during this trip, he took notes which were published in 1978 in a book entitled “Journaux de voyage” (Travel diaries). Few readers have noticed filiation between his discovery of New York and his last novel “Le premier homme” (The first man) which remained unfinished and was published in 1994, thirty-four years after author’s death. Nevertheless, there is an obvious link : in his travel diary, Camus clearly rejected American way of life which was, in his view, based on excessive cleanliness, discipline and, as a consequence, artificiality. On the contrary, “Le premier homme” described his youth in Algeria as characterized by dirtiness, disorder and, finally, authenticity. Many commentators have depicted “Le premier homme” as a response to Algerian troubles and confusion these events caused to the writer since 1954, but this posthumous novel might be also, and above all, seen as a reply to the birth of a new era where American way of life already began to become universal standard in at least half the World and where Camus did not find his place.

ENGINEERING

ORAL COMMUNICATIONS

O_ENG_01. Ports in transition: the shaping force of a data-driven vision

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Presentation format: ORAL (ON SITE)

Abstract

In a global landscape shaped by major challenges such as climate change, circular justice, and digital transformation, ports are emerging as vital hubs for sustainable innovation. By conducting a case study of an Italian port ecosystem, this paper aims to examine how port administrators respond to institutional complexity and promote the strategic deployment of digital technologies. Specifically, this research investigates how fostering institutional learning and adopting data-driven solutions, particularly Business Intelligence (BI), can support ports in navigating the twin transition toward sustainability and digitalization. Serving as a catalyst for proactive planning, integrated performance assessment, and stakeholder alignment, BI both shapes and is shaped by port governance. Thus, rather than serving solely as operational aids, these digital technologies are reframed as cognitive infrastructures that augment the perception, decision-making, and action-taking capabilities of port ecosystems in unexpected circumstances. The findings reveal that leadership grounded in strategic foresight and collaborative sensemaking can enable a shift from a compliance-oriented sustainability model to innovation-driven and collaborative sensemaking. This study contributes the existing body of literature on smart and green ports by redefining the role of visionary leadership as a key enabler of transformative change, even within highly path-dependent port systems.

O_ENG_02. Gamification as a Key Approach for Enhancing Student Engagement and Performance in Higher Education: An Application in Software Testing Education.

Alejandro Calderón, Mercedes Ruiz

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Presentation format: ORAL (ON SITE)

Abstract

Gamification is a potential approach to foster motivation and engagement, improving knowledge retention, and promoting positive behavioral change in different contexts which popularity in recent years has encouraged its application in a diversity of domains, including health, education, business, society, or tourism. Its growing interest and benefits have also attracted the attention of practitioners and researchers in the field of software engineering where it is a particularly suitable approach since software engineering activities are strongly human-centered. In software engineering, software testing is a critical area where engineers evaluate that a software product meets requirements, and is free from defects, yet students often find it less engaging than design or programming. This study examines whether gamification can enhance student motivation and performance in this context. Using a quasi-experimental design, we conducted a controlled study comparing the engagement and performance of two cohorts from an undergraduate software testing course: 135 students in a gamified version and 100 in a non-gamified version. The results indicate that gamification effectively enhances both engagement and performance in software testing students. However, sustained motivation depends on careful experience design; engagement declined slightly in some students once they perceived no further rewards. The findings contribute to the scope of gamification in higher education by providing empirical evidence that long-term gamification can increase participation and improve performance, as well as offering valuable insights for enhancing software testing education and better preparing students for industry. Students in the gamified course showed higher participation and outperformed those in the non-gamified setting.

O_ENG_03. Multi-Approach Assessment of Compound Floods in Low Elevation Coastal Zones.

Jorge M.G.P. Isidoro, Davide M. G. dos Santos, João L.M.P. de Lima

University of Algarve / CIMA

Presentation format: ORAL (ON SITE)

Abstract

Compound floods threaten coastal cities where nearly 900 million people already reside in low-elevation coastal zones, a figure projected to rise to about 1200 million by mid-century under current socioeconomic pathways. Climate change, through sea-level rise, more intense storm surges, and heavier rainfall, will only deepen this challenge. A multimethod, interdisciplinary framework is fundamental for comprehensively assessing the complex drivers and impacts of compound floods. In this ongoing study, we are developing four complementary approaches: 1) estimating the joint likelihood of extreme rainfall and tidal excursions using probabilistic modelling; 2) simulating flood dynamics under tidal influence using a two-dimensional hydrodynamic model to estimate inundation areas and flow characteristics; 3) conducting laboratory experiments to investigate flow transitions and pressure dynamics in stormwater pipes under backwater conditions; and 4) employing a distributed solute transport model to assess how floods mobilise nonpoint source pollutants across urban surfaces. Our aim is to provide clear and accessible insights into this field of knowledge, for engineers and policymakers to strengthen urban resilience in an increasingly challenging climate.

O_ENG_04. Leveraging a Monitoring Software Platform to Minimize the Environmental Impact of SEA-EU Ports

Guadalupe Ortiz, Juan Boubeta Puig, Alfonso Garcia de Prado

Department oc Computer Science and Engineering, School of Engineering, 11500 Puerto Real, Spain | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Over the past few years, there has been a concerning trend of environmental degradation characterized by an increasing concentration of greenhouse gases, unsustainable consumption patterns, and numerous other pressures on the Earth's resource capacity. Within this context of growth and globalization, the transportation sector in general, and ports in particular, play a significant role due to the substantial environmental impact of their operations. To address this issue effectively, we propose the design and implementation of a software platform for monitoring, analyzing, and early warning of environmental and operational events within the port environment. The purpose of this platform is to provide real-time alerts for identified situations of interest and to facilitate informed decision-making within the port authority to minimize damage to the environment, the adjacent urban areas, and their socioeconomic context. This solution is anticipated to have a considerable scientific and technological impact, as well as a significant social impact by tackling problems aligned with the Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda. Specifically, it will facilitate the monitoring of pollution in marine environments (SDG 14), the preservation and protection of biodiversity (SDG 15), the safeguarding of the environment (SDG 13) and citizens, and it will be applicable across multiple SEA-EU ports or regions with similar characteristics.

O_ENG_05. Using Multi-Source Data to Improve Daily Life in SEA-EU Smart Cities

Adrian Bazan Muñoz, Guadalupe Ortiz, Alfonso Garcia de Prado

Computer Engineering - Escuela Superior de Ingenieria - Av. Universidad de Cádiz, 10, 11519 Puerto Real, Cádiz | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The exponential growth of the urban population worldwide is placing increasing pressure on critical city infrastructures, such as transport, housing, water, electricity and utilities. This trend has led to major challenges related to the Sustainable Development Goals (SDGs), such as energy consumption, waste, pollution and traffic. In order to improve quality of life in urban environments, smart cities seek to utilise technology and improve the management of urban resources. In this context, the Internet of Things (IoT) enables different smart devices to monitor information in real time, automate decisions and reduce costs, thereby improving the services offered in smart cities. However, most current applications only use information from a single data source, disregarding inputs from other, seemingly unrelated sources that could make services more useful and personalized. To address this issue, we propose a software application for monitoring, analysis, and early warning that integrates heterogeneous data sources to generate real-time alerts, support decision-making in urban areas, and enhance quality of life. For instance, combining data from home sensors with street lighting information could help detect when a person leaves their home and advise them to avoid poorly lit areas, preventing potential accidents or unsafe situations. This proposal is expected to address issues related to the SDGs by monitoring different urban areas, improving their sustainability (SDG 11) and environmental conditions (SDG 13), thereby improving citizens' health (SDG 3), and it is applicable to all areas of smart cities in general, and SEA-EU cities in particular.

O_ENG_06. Validation of a Microplastic Identification and Quantification Method to Assess Removal Efficiency in Diverse Drinking Water Treatment Plant Technologies.

Karol Herrera, Agata Egea, Dolores Coello, Jose Maria Quiroga, Rocio Rodriguez

Departamento de Tecnologías del Medio Ambiente. Campus de Puerto Real, Universidad de Cádiz | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Growing public health concerns surround unintentional human exposure to microplastics (MPs) due to their potential adverse effects. Although the potential impacts on human health warrant further investigation, several studies have indicated the presence of MPs in drinking water. Therefore, understanding the transport of MPs through technologies used in drinking water treatment plants (DWTPs) is a significant area of research. In response to these concerns, the EU Drinking Water Directive (2020/2184) included MPs on a watchlist. Following this, EU Decision 2024/1441 establishes a method for measuring MPs in drinking water.

The identification of MPs presents challenges due to their heterogeneous and diverse compositions, shapes, and sizes. This underscores the importance of validating methodologies under specific laboratory conditions, in accordance with EU 2024/1441. This study validated three pre-treatment methods to remove organic material from samples: 1. Wet Peroxide Oxidation (WPO) followed by density separation with NaCl; 2. WPO plus density separation with ZnCl2; and 3. density separation with ZnCl2. Subsequently, two analytical processes were compared: 1. Enumeration of particulates by visual microscopy, with verification of composition using micro-Fourier Transform Infrared Spectroscopy (μ-FTIR); and 2. μ-FTIR with analysis using SiMPLE software

Finally, the validated method with the highest MPs recovery rate was applied to two DWTPs in southern Spain. Two technologies were evaluated: a conventional (coagulation, flocculation, filtration, and disinfection) and a desalination plant employing reverse osmosis. Preliminary results indicate the presence of MPs in the influent water of both treatment plants; however, they both achieve a high percentage of MPs retention in drinking water.

O_ENG_07. Direct numerical simulations of ventilation in a room.

Gabriel Agustin Tarditti

Mechanical Engineering and Industrial Design - Escuela Superior de Ingenieria – 11510

Presentation format: ORAL (ON SITE)

Abstract

Understanding airflow patterns within buildings is important to maintain indoor environmental quality and occupant comfort. Traditionally, the research of ventilation systems has relied on experimental investigations and computational fluid dynamics (CFD) simulations using Reynolds-Averaged Navier-Stokes (RANS) models. However, advancements in computational resources now enable the application of high-fidelity simulation techniques, such as Direct Numerical Simulation (DNS). DNS allows for the explicit resolution of all relevant turbulent scales, providing a detailed representation of buoyant plumes generated by heat sources and the resulting airflow. In this work, we used DNS to simulate ventilation within a simplified single-room geometry containing one or two heat-emitting bodies. We evaluated ventilation performance by analyzing metrics such as local air age and temperature distribution, which allowed us to identify potential areas of poor air exchange or stagnation. Furthermore, we investigated the influence of varying inlet air velocities to assess the relative contributions of natural buoyancy-driven (stack) and forced ventilation mechanisms. This study demonstrates that advanced simulation techniques can lead to more efficient and effective ventilation solutions in buildings.

O_ENG_08. Industrial Symbiosis for Sustainable Green Ecosystems: Exploring Network Configurations and Adaptability.

Stefano Abbate, Piera Centobelli, Maria Di Gregorio, Roberto Cerchione

Department of Industrial Engineering - University of Naples Federico II - P.le Tecchio 80, 80125 Naples, Italy | University of Naples Federico II

Presentation format: ORAL (ON SITE)

Abstract

Industrial Symbiosis (IS) is a valuable approach for advancing the transition towards circular and sustainable economic models by facilitating the exchange of resources, energy, and by-products among businesses. Eco-Industrial Parks (EIPs) represent a successful application of IS principles, enhancing the sustainability and efficiency of resource flows within industrial ecosystems. However, current literature offers limited insights into how different network configurations within these systems impact long-term resilience and sustainability. Building upon the complex adaptive systems theory, this study proposes a theoretical framework to identify and characterise multiple potential network structures, ranging from internal reuse and bilateral exchanges to more distributed and hybrid configurations. In particular, this research explores how such frameworks could be extended to port ecosystems, considering the strategic role ports can play as catalysts for industrial symbiosis by connecting diverse maritime and coastal industries. By examining how network design influences adaptability, response to external shocks, and the creation of collective benefits, the study provides new perspectives on the self-organisation mechanisms underpinning IS. Ultimately, the findings offer actionable insights for designing more resilient and adaptive Eco-Industrial Parks and port-based industrial networks, supporting the broader goals of circular economy policies and sustainable coastal development.

O_ENG_09. Effect of Annealing on the Mechanical Behavior of 3D-Printed Graphene-Reinforced Polylactide Composites.

Ihab Eddine Houalef, Luis Segovia Guerrero, Blanca Silva, Med Yassin Mazzari Nuria Baladés, David L Sales

Algeciras School of Engineering and Technology, Universidad de Cádiz, INNANOMAT, IMEYMAT, Ramón Puyol Ave., 11202, Algeciras, Spain. | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Fused filament fabrication (FFF) is a material extrusion additive manufacturing (AM) process with a primary objective of creating three-dimensional (3D) objects in a time and cost-effective manner. However, 3D printed parts are generally limited by their relatively low mechanical strength, particularly under stress or strain. To address this issue, this research aims to compare the mechanical behavior of graphene-reinforced polylactide (PLA) composites with that of pure PLA under the influence of annealing. Graphene-reinforced PLA composites combine the advantageous properties of both PLA and graphene, resulting in enhanced performance compared to pure PLA and making them suitable for different advanced applications. Flexural tests were conducted in accordance with the UNE-EN-ISO-178 standard using rectangular specimens, while the UNE-EN-ISO-527 standard governs the tensile test procedures on both annealed and non-annealed specimens to evaluate mechanical properties such as tensile strength, Young's modulus, and elongation at break. In parallel, Differential Scanning Calorimetry (DSC) was used to analyze thermal transitions, including glass transition temperature (Tg), crystallization behavior, and melting temperature (Tm), providing insight into the structural changes induced by annealing and graphene reinforcement. This research delves into the impact of annealing heat treatment on a composite of PLA reinforced with graphene. The annealing process was conducted at temperatures of 100, 120, and 140 ◦ C for durations of 60 and 120 min. The results showed that thermal annealing did not modify the functional groups of either graphene-reinforced PLA or natural PLA; however, it significantly increased their crystallinity. This treatment improved thermal stability and mechanical performance.

O_ENG_10. Collaboration between the University of Cadiz and Brest University in the Design of a Software Testing Course.

Valérie Anne Nicolas, Pedro Delgado Pérez, Kevin J Valle Gómez, Inmaculada Medina Bulo.

Department of Computer Science and Engineering - Escuela Superior de Ingeniería - 11519 | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Software Testing is a crucial activity in the development and maintenance of software systems. With the increasing complexity of software projects, the industry requires incorporating graduates with adequate testing skills and preparation in this field. A challenge in the education of software testing is to make students perceive the benefits of writing test cases and assess their quality with advanced testing techniques. To address this challenge, the University of Cádiz and the University of Brest have collaborated in the design of a specific software testing course. In this course, we use both mutation testing and peer testing, two of the most commonly used techniques for that purpose. First, students design a manually written test suite for a given C++ program. Then, these two techniques allow students to analyze how good their test suites are, thanks to an objective measure of test quality (the mutation coverage) and the review and assessment of a peer's test suite (peer testing). Students often cover basic operations but overlook more advanced features. Also, the opportunity to review a peer's tests helps them estimate the relative quality of two comparable test suites. The opinion surveys carried out during three academic years with students of the University of Cádiz confirmed that the use of mutation testing had an impact on their perception of software testing and that they mostly supported paying greater attention to testing concepts in software engineering degree plans.

ENGINEERING

POSTERS

P_ENG_01. Biotechnological production of caproic acid and other bio-based products from agri-food by-products.

Carlos José Álvarez Gallego, Ana Blandino Garrido, Ana Belén Díaz Sánchez, Manuel Jesús Díaz Villanueva, Luis Alberto Fernández Güelfo, Luis Isidoro Romero García

Chemical Engineering and Food Technology Department. Faculty of Sciences. Campus de Puerto Real. 11510 - Puerto Real (Cádiz)

Presentation format: POSTER

Abstract

The study aims to assess the technical feasibility of a biorefinery process to obtain maximum productivity of caproic acid from sugar industry by-products, while simultaneously producing other bio-products of interest, such as polyhydroxyalkanoates (PHAs), biohydrogen and solid biofuel.

Caproic acid is produced by the reverse beta-oxidation process (chain elongation) from short chain volatile fatty acids (SCFAs), which are produced in the dark fermentation process, and ethanol, which acts as an electron donor. The ethanol required for the process could be produced by enzymatic hydrolysis and alcoholic fermentation of the solid residue from the dark fermentation. The initial feedstocks to be used are the two main by-products of the sugar industry: exhausted sugar beet pulp (ESBP) and molasses. This bioprocess is therefore clearly in line with the principles of the circular economy and the use of secondary biomass in the agri-food sector.

In addition to the production of caproic acid, which is a high-value product with multiple industrial applications, the process aims to obtain other bioproducts of interest. In order to maximise the use of the short chain volatile fatty acids (SCFAs) produced, the production of PHAs from them is being considered. PHAs are biodegradable bioplastic precursors with significant industrial and environmental relevance. In addition, bio-hydrogen is produced in the dark fermentation process and a solid bio-fuel is produced as a residue from the alcoholic fermentation. All these aspects contribute to the sustainability of the proposed bioprocess, which is in line with waste minimisation criteria and aims at a "zero waste" process.

P_ENG_02. Development of Biodegradable Polymeric Oxygen Scavengers for Active Food Packaging via Supercritical CO_2 Impregnation.

Diego Valor, Ignacio García Casas, Ludisbel León, Antonio Montes, Clara Pereyra

Department of Chemical Engineering and Food Technology, Faculty of Sciences, University of Cadiz, International Excellence Agrifood Campus (CeiA3), Campus Universitario Río San Pedro, 11510 Puerto Real, Cadiz, Spain

Presentation format: POSTER

Abstract

This work focused on the development of a biodegradable polymeric device designed to function as an oxygen scavenger within food packaging systems. Instead of modifying the entire packaging material, a small insert was engineered and introduced into the package to reduce internal oxygen levels and delay oxidative spoilage. The active compounds—iron and zinc oxide nanoparticles—were impregnated into a polyhydroxyalkanoate (PHA) matrix using supercritical carbon dioxide ($scCO_2$), enabling solvent-free, uniform loading.

P_ENG_03. Inactivation of phytoplankton using ultraviolet light emitting diodes (UV-LED) for ballast water treatment.

Leonardo Romero Martínez, Jasna Arapov, Sanda Skejić, Danijela Šantić, Gorana Jelić Mrčelić, Roko Glavinović, Javier Moreno Andrés, Enrique Nebot.

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Presentation format: POSTER

Abstract

The introduction of exogenous species in the marine ecosystems via ballast water is currently one of the major threats for the aquatic biodiversity. In this context, the Ballast Water Convention, adopted by the IMO, states that the ballast water must be treated in order to fulfill a series of standards regarding the concentration of viable organisms. The ultraviolet irradiation is a common technology used for ballast water treatment. Traditionally, the ultraviolet light sources in the germicidal range C (UV-C) have been the mercury vapor lamps; however, in the recent times, light emitting diodes in the UV-C range (UV-LEDs) have been developed, but not used commercially yet. This study is framed in the Project LASTRELED (Plan Propio of the University of Cadiz), and developed under collaboration between the University of Cadiz (UCA) and the University of Split (UNIST), both members of the SEA-EU, and the Institute of Oceanography and Fisheries of Split (IOR). The objective is determining the UV-C treatment efficacy for phytoplankton inactivation, using seawater collected from the Split Cargo Port as target, and LEDs emitting at 275 nm as UV light source. Four experiments have been carried out between March and April of 2024, in which different UV-C doses were applied to the target water. The results indicated that the UV-LED treatment was able to achieve moderate with relatively low UV doses; however, there was a lack of further inactivating effect at high UV doses, which difficult obtaining high inactivation levels with the current status of the technology.

P_ENG_04. Sustainable Manufacturing of Steel Components: A Comparative Life Cycle Assessment and Cost Analysis of Additive and Substractive Routes.

Luis Segovia Guerrero, Nuria Baladés, Juan J. Gallardo Galán, Antonio J. Gil Mena, David L. Sales

INNANOMAT Group, Department of Industrial Engineering and Civil Engineering, IMEYMAT, Algeciras School of Engineering and Technology, University of Cádiz, Ramón Puyol Ave., 11202 Algeciras, Cádiz, Spain

Presentation format: POSTER

Abstract

The steel industry faces growing pressure to align production practices with European sustainability goals and circular economy principles. This study presents a comparative Life Cycle Assessment (LCA) and Life Cycle Costing (LCC) of two manufacturing routes for a stainless steel spare part used in steel mills: a conventional subtractive approach (CNC machining) and a hybrid method combining Plasma Arc-Wire Arc Additive Manufacturing (PA-WAAM) with CNC finishing. Both methods were assessed from cradle to gate using the ReCiPe 2016 methodology in SimaPro and an adapted cost model.

Results show that the hybrid PA-WAAM + CNC route reduced environmental impacts by an average of 49% across 18 midpoint categories, achieving significant improvements in material efficiency, particularly a 70% reduction in steel consumption. Although unit production costs were 3.5 times higher due to equipment investment, the hybrid route lowered operational expenses—including labor, material, and consumables— by 66%, 28%, and 45%, respectively.

The environmental and economic outcomes support hybrid manufacturing as a viable and forward-looking alternative that complements Industry 5.0 ambitions, fostering both ecological and technological resilience. The findings are particularly relevant for EU industries seeking to decarbonize operations while maintaining high-performance standards.

P_ENG_05. Digital Tools for Seismic Resilience: From Hazard Assessment to Post-Earthquake Damage Evaluation Using AI.

João M. C. Estêvão

ISE - University of Algarve (UAlg), Campus da Penha, 8005-139 Faro, Portugal,

CIMA - Centre for Marine and Environmental Research, ARNET - Infrastructure Network in Aquatic Research, UAlg, Campus de Gambelas, 8005-139 Faro, Portugal

Presentation format: POSTER

Abstract

This study presents the development of advanced digital tools aimed at enhancing seismic resilience, focusing on both pre-event hazard assessment and post-event damage evaluation.

For seismic hazard assessment, a novel software application is introduced to perform Probabilistic Seismic Hazard Analysis (PSHA) using an innovative integration method. This approach improves the estimation of ground motion parameters for specific return periods. The tool employs a distributed seismicity model and accounts for multiple random variables, including the variability of Ground Motion Prediction Equations (GMPEs), focal depth, rupture azimuth, fault dip angle, and the hypocenter's relative position along the fault plane. This multi-variable framework enhances the realism and reliability of hazard estimations, offering more robust inputs for seismic design.

In the post-earthquake context, a complementary tool is presented, leveraging multimodal generative artificial intelligence (GAI). Using the OpenAI API, this tool enables the automatic identification and classification of structural damage from visual data. While still in preliminary stages, the results demonstrate significant potential for rapid, automated damage assessment.

These two complementary components (PSHA modeling and AI-driven damage assessment) represent two sides of the same coin in the pursuit of seismic resilience. Together, they offer digital solutions with significant potential for civil protection authorities, supporting both the prevention phase (through hazard studies that inform updated seismic codes) and the emergency response phase, by enabling rapid and automated post-earthquake damage evaluations.

P_ENG_06 Valorization of Polymeric Municipal Solid Waste for Thermal Insulation Applications in Building Construction.

Blanca Gema Silva Garcia, Juan M. Terrones Saeta, David L.Sales

INNANOMAT Group, Department of Materials Science, Metallurgical Engineering and Inorganic Chemistry - IMEYMAT - Algeciras School of Engineering and Technology, Universidad de Cádiz, Ramón Puyol ave., Algeciras, 11202, Spain

Presentation format: POSTER

Abstract

This research evaluates the feasibility of converting polymeric urban solid waste (USW) into thermal insulation material for buildings. Specifically, low-density polyethylene (LDPE) from municipal waste streams and high-density polyethylene (HDPE) from discarded lubricants and oil containers were integrated into a polyurethane (PU) matrix. Characterization included differential scanning calorimetry (DSC) and Fourier-transform infrared (FTIR) spectroscopy to analyze thermal transitions and chemical composition. Panels were produced by molding without external heat or pressure, ensuring uniform dispersion of plastic particulates.

Physical and thermal evaluations included apparent density, leachate production for environmental impact, and thermal conductivity, a key parameter for assessing insulation efficiency.

The Granta EduPack software aided in optimizing material selection for both the polymeric matrix and the hybrid composites.

The comparison of thermal conductivity and R-value at different mean temperatures shows that incorporating LDPE effectively reduces thermal conductivity while maintaining structural integrity, bolstered by a preserved porous matrix that enhances insulation capabilities. In scientific terms, R-value is a measure of a material's thermal resistance, typically expressed as $(m^2 \cdot K)/W$ or $(ft^2 \cdot °F \cdot h)/BTU$, indicating the material's capacity to impede heat flow.

In contrast, HDPE at high concentrations increases density and creates heat pathways through the polymer particles, raising thermal conductivity and thereby decreasing insulation performance.

Overall, this study underscores the technical viability of repurposing plastic waste in construction materials, supporting a circular economy, and reducing environmental impact. The outcomes also highlight lower carbon emissions by diverting these plastics from incineration or landfilling. Such valorization strategies directly address sustainability targets, contributing to resource efficiency and compliance with global waste-reduction goals.

P_ENG_07. Aeroacoustics and hydrodynamics of flue-like wind instruments.

Ammara Tassawar, Rodolfo Ostilla Monico, Miguel Fosas de Pando

Mechanical Engineering and Industrial Design | CADIZ

Presentation format: POSTER

Abstract

In woodwind instruments, sound is produced by an oscillator typically a jet of air that impinges on a sharp edge. The relationship between the dynamical behavior of this system, sound quality and playability remains poorly understood. In this work we consider simplified numerical simulations to investigate this relationship. A parametric study is then proposed to characterize the effect of flow and geometric parameters into sustained oscillations. The implications of these results will be discussed.

ENGINEERING

CAPSULES

C_ENG_01. Production of potable water through evaporative processes.

Eusébio Conceição.

FCT, Universidade do Algarve, 8005-139 Faro, Portugal

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The development of new techniques and methodologies for converting non-potable water into potable water through evaporative principles, using renewable energy, represents an alternative to overcome the problem of water shortages associated with climate change. The production of potable water, through an evaporative process using solar radiation, presents an economical methodology, because it uses methods based on renewable energies.

The study presented in this work, of a numerical nature, presents a methodology based on a set of energy and mass balance integral equations. The numerical model considers incident, transmitted, absorbed and reflected solar radiation on transparent and opaque surfaces, heat conduction through transparent and opaque surfaces, heat convection on transparent and opaque surfaces, evaporation of non-potable water and potable water condensation on transparent surfaces. The numerical model is used to developed water evaporative dispositive used in the production of potable water.

C_ENG_02. Energy production in buildings using an internal solar greenhouse.

Eusébio Conceição.

Faculdade de Ciências e Tecnologia, Universidade do Algarve, 8005-139 Faro, Portugal

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The production of energy in buildings, using internal solar greenhouses, in moderate environments, aims to improve the thermal comfort conditions to which occupants are subject, using renewable energies, contributing to energy sustainability in buildings. The numerical study is made in occupied buildings located in Mediterranean environment. This work, developed in winter conditions, uses a solar greenhouse and a ventilation system. The greenhouse, as a heat source, is built with a group of glasses located in the roof and on the walls building, and the ventilation system, as heat transport, built with a group of ducts. This simulation uses a numerical model developed by the author that simulates the building thermal response and evaluates the building's internal environment variables, building body temperatures, and comfort conditions. The study evaluates the internal temperature and thermal comfort to which the occupants are exposed, in transient conditions, throughout the day. Without the greenhouse system, in spaces with windows south-facing, the thermal comfort is uncomfortable by positive PMV (Predicted Mean Vote) index values, while in spaces with windows north-facing, the thermal comfort is uncomfortable due to negative PMV index values. Using the greenhouse and the ventilation strategies, all spaces during the occupation are, in general, thermal comfortable.

C_ENG_03. Evaluation of indoor air quality using a section of passenger transport vehicles.

Eusébio Conceição

FCT, Universidade do Algarve, 8005-139 Faro, Portuga

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The promotion of the indoor air quality in occupied spaces using efficient ventilation systems improves occupant well-being and promotes health conditions. This work uses a virtual chamber, which simulates a session in a passenger transport vehicle, to evaluate the performance of different ventilation systems on the air quality to which passengers are subjected. In this numerical study, a set of three numerical models are used: simulation of the internal flow and around the occupants, CFD, thermal response of the human body and human thermophysiology, and thermal response of the passenger compartment section. This study considers 16 occupants seated in four rows (8 on the left side and eight on the right side) and a ventilation system consisting of an inlet jet insufflation system and an extraction system placed on the ceiling of the passenger compartment. According to the results obtained, due to the downward flow in the rear-breathing zone of the passengers, the descending air transports the contaminants inhaled by the passengers to a lower zone and, subsequently, due to the upward flow in the surroundings of the occupants, the ascending air transports the contaminants inhaled by the passengers to the exhaust. This ventilation system promote acceptable indoor air quality, that the occupants are subjected.

HEALTH

ORAL COMMUNICATIONS

O_Hea_01. Unlocking the secrets of Arthritis: New proteomic insights for better diagnosis and treatment.

Wenjie Yi He, Ricardo Fernandez, Sussel Picallo Díaz, Álvaro Guerrero Lores, Juan Manuel Aragón González, Alb Pérez Linaza, Isabel Serrano García, Salma AL Fazazi, Francisco García Cózar, Cecilia Fernandez Ponce

Department of Biomedicine, Biotechnology and Public Health, School of Medicine. University of Cadiz. Cadiz, Spain. Institute of Biomedical Research Cadiz (INIBICA). Cadiz, Spain. | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Arthritis is a widespread, chronic condition that causes joint inflammation and pain, often leading to disability and affecting millions worldwide. It comes in different forms, some caused by the immune system attacking the joints (autoimmune arthritis), and others resulting from tissue degeneration or crystal buildup (non-autoimmune arthritis). Beyond physical discomfort, arthritis significantly impacts quality of life and imposes a heavy socio-economic burden. If not properly treated, it can also lead to mental health issues like anxiety and depression, as well as other health problems such as heart disease.

Several research has focused on discovering new ways to diagnose and treat arthritis more effectively. A promising approach involves studying the proteins present in synovial fluid,the lubricating liquid in our joints, which reflects the disease's underlying processes. Using advanced techniques, we analyzed samples from patients with different types of arthritis, including gout, psoriatic, rheumatoid, and mechanical arthritis. The results revealed distinct protein patterns and biological pathways involved in each condition, especially highlighting the immune system's role, notably the complement system, in driving inflammation.

Importantly, this research identified new biological indicators, that could lead to earlier diagnosis and more targeted therapies. These findings pave the way for future clinical studies aimed at reducing joint inflammation and improving patient outcomes. By deepening our understanding of arthritis at the molecular level, we move closer to personalized treatments that can transform the lives of millions affected by this challenging disease.

O_Hea_02. Redefining Universal CAR-T Cell Therapies: A Modular Approach Against Hematologic Malignancies Based on the CARtein System.

Noelia Moares, Pablo Gonzalez, Juan P.Muñoz Miranda, Antonio Gabucio, Rosa Luna Espejo, Javier Ocaña Cuesta, Ricardo Fernandez Cisnal, Wenjie Yi He, Cecilia M. Fernandez Ponce, Francisco Garcia

Department of Biotechnology, Biomedicine and Public Health - University of Cadiz-Plaza de Fragela 9, 11003 Cádiz, Spain | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Chimeric antigen receptor (CAR) T-cell therapy has shown remarkable efficacy against multiple myeloma (MM). Despite these advances, several barriers continue to limit the overall effectiveness of this approach, including high production costs, long manufacturing timelines, safety concerns, and the risk of tumor antigen escape due to selective therapeutic pressure. In order to overcome these challenges, universal and modular CAR-T cell platforms are being developed.

CAR T-cells directed against BCMA and SLAMF7 antigens have elicited strong and robust antitumor responses in MM therapy. Hence, we designed a novel modular CAR platform, named CARtein, directed against BCMA and SLAMF7. This CARtein system enhances the versatility and precision in CAR-T cell therapies by leveraging split intein-mediated protein splicing, which will enable the formation of specific covalent peptide bonds between CAR modules while preserving structural integrity. We show that cells carrying the mature CARtein construct, optimized with AlphaFold based protein structure prediction software, target BCMA and SLAMF7 proteins either individually or simultaneously. CARtein expressing cells trigger strong and specific T-cell activation against MM cells, suggesting that the CARtein platform may serve as a promising, versatile, and highly specific tool for the modular design and engineering of CARs.

Moreover, as current CAR therapies also attack normal cells, we propose to integrate the CARtein platform with a method developed in our laboratory, to expedite detection of VNAR sequences exclusive of cartilaginous fishes (Scyliorhinus canicula), that function in the context of CAR constructs to specifically recognize antigens expressed in tumors, thereby preserving normal cells.

O_Hea_03. Mapping the Evidence: The Potential Role of Microorganisms in Glioma Pathogenesis.

M. Dulce Estêvão, Iván Perez Neri, Mónica Teotónio Fernandes

Escola Superior de Saúde, Universidade do Algarve, 8005-139 Faro | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Gliomas, particularly the highly aggressive glioblastoma subtype, represent a major challenge in oncology due to their prevalence, lethality, and the limited understanding of their underlying causes. This work explores the emerging and controversial hypothesis that microorganisms within the brain microenvironment may play a role in tumor development and/or progression. We are conducting a systematic scoping review designed to comprehensively map the current state of knowledge on the glioma-microbiome connection to identify: (1) which microbial species have been reported to associate with human gliomas; (2) the proposed biological mechanisms through which these microorganisms might contribute to oncogenesis; and (3) the spectrum of analytical techniques used to investigate this relationship in patient samples or models. Following a pre-defined protocol, we searched several databases for original research studies meeting specific inclusion criteria related to microbial detection in diagnosed gliomas and associated pathogenetic mechanisms. From the initial 3766 articles, 1701 were duplicates. A pilot test with 50 articles was performed with 92% agreement rate between three reviewers, which supports the accuracy and consistency of the evaluation criteria used. This work provides the first comprehensive synthesis of this rapidly evolving research area. The resulting map of the current evidence base is anticipated to be highly valuable for the broader scientific community, fostering targeted, hypothesis-driven research. Ultimately, clarifying the potential role of microorganisms in glioma pathogenesis could unlock entirely new avenues for risk assessment, early detection strategies, and innovative therapeutic interventions, offering new hope against these devastating brain tumors and addressing a significant societal health challenge.

O_Hea_04. Biological Basis of Well-Being Centre.

Jurand Sobiecki, Martyna Szyperska, Wiktoria Manowska, Natalia Wichrowska, Martyna Malcher, Julia Kwoczek, Iva Kralj, Paula Gehrs, Weronika Matwiejuk, Katarzyna Michta

Social Sciences - Psychology - Bazynskiego 4, 80-952 Gdansk | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

The Biological Basis of Well-Being Centre (BBWC) brings together two funded projects that enhance our understanding and promotion of holistic health. The first, awarded by SEA-EU in a students and doctoral projects contest for social entrepreneurship, is the Stress Relief Initiative. Implemented at the University of Gdańsk and partnered by Kiel University, it offers massage chairs, guided relaxation sessions, and group cycling activities in green spaces. We would love to present the results of the SEA-EU funded project at the SEA-EU Conference. In parallel, the Champions of Collaboration project, funded at the FarU, examines psychosomatic health through two avenues. A PRISMA-based systematic review explores the association between inflammatory markers and depression, shedding light on potential biomarkers for early intervention. Concurrently, a large-scale survey investigates gut microbiome-related habits and symptoms, looking for links between them and psychosocial functioning. By uniting these complementary efforts under one centre, BBWC fosters evidence-driven interventions and encourages interdisciplinary dialogue among students, researchers, and practitioners. Furthermore, BBWC leverages the synergy of social innovation and rigorous science, offering a multifaceted approach that can be integrated into diverse educational frameworks across Europe. This presentation will share key results, outline insights gained from cross-campus collaboration, and propose strategies for scaling well-being interventions across all SEA-EU universities. BBWC translates cutting-edge psychosomatic research into everyday practices, making health education accessible to academic communities and beyond. This synergy addresses modern mental health challenges, equips individuals with practical stress-management tools, and advances understanding of the gut-brain axis—paving the way for better well-being across society.

O_Hea_05. Optimizing Well-Being in Men via Integrative Lifestyle Interventions: A 30-Month Case Study.

Martyna Szyperska, Jurand Sobiecki

Institute of Psychology – University of Gdansk – 80-309 Gdansk | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

This project examines the impact of targeted lifestyle modifications on well-being in a healthy adult man, emphasizing the gut–brain axis. Over a 30-month period—encompassing a 24-month pilot phase and a subsequent 6-month controlled trial—a single-case design is employed to evaluate the effects of intermittent fasting, synbiotic supplementation, and structured exercise.

During the pilot phase, the intervention components are alternated in 3-month cycles to determine the contribution of each element and refine the combined protocol. Data collection includes daily mood logs, validated cognitive tests, and regular body composition assessments. Neurophysiological monitoring using EEG–fNIRS during sleep, serial stool analyses for gut microbiota profiling, and blood tests for inflammatory and metabolic markers provide a comprehensive dataset.

The study aims to uncover biological and psychological pathways linking microbial changes with emotional regulation and cognitive function in men. Particular attention is given to testosterone-mediated physiological responses and gender-specific metabolic processes that may interact with microbial diversity.

Longitudinal data analysis will integrate behavioral, neurophysiological, and biochemical measurements to map the intervention's effects. By optimizing the protocol during the pilot phase, the controlled phase will compare the refined intervention against a placebo condition to yield preliminary evidence of effectiveness.

Expected outcomes will contribute valuable insights into personalized, gender-focused strategies for promoting mental and physical health and advance understanding of the gut–brain axis in men.

O_Hea_06. Evidence-Based Interventions for Minimally and Non-Speaking Individuals with Autism Spectrum Disorder Aged 5 and Older - A Systematic Review and Call to Action.

Julia Pardo, Ana Villafuerte Díaz, Rosa María, Cándida, Inmaculada Menacho, Rosario Carreras

Departamento de Psicología - Facultad de Ciencias de la Educación, Universidad de Cádiz - C/ República Saharaui, 12, 11519, Puerto Real, Cádiz | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Background: Despite increased autism spectrum disorder (ASD) research, focus remains on preschoolers and verbal children, neglecting the minimally/non-speaking (around 30%). This lack of knowledge is problematic because of the negative impact of limited oral language on socialization, academics, independence, and employment. The rising prevalence of autism necessitates effective services. Systematic analysis of intervention practices for minimally verbal individuals is crucial for subsequently translating research into practical professional guidance.
Aim: This study aims to review intervention practices with clear empirical evidence of positive outcomes across any developmental domain for non- and minimally speaking individuals with (ASD) aged 5 and older.
Methods: A literature search spanning 1990-2024 was conducted across PsycArticle, ERIC, PsycInfo, PubMed, Web of Science, Psychology Database (ProQuest), and Academic Search Ultimate (EBSCO). Coding reliability was examined, and concordance was above 88%.
Results: A search yielded 2,053 articles, with screening identifying 33 peer-reviewed studies for inclusion. Inclusion criteria: (1) minimally/non-speaking ASD participants over 5 years; (2) intervention effectiveness evaluation; (3) systematic, experimentally controlled designs (RCTs, quasi-experimental, single case); and (4) behavioural, developmental, or mental health outcomes. These studies reported 21 intervention practices with empirical evidence of effectiveness.
Conclusions: Limited research exists on the most effective interventions for minimally/non-speaking ASD individuals. Inconsistent measures, ages, and intervention descriptions hinder cross-study comparisons. However, some limited evidence supports interventions in natural settings with parent/peer involvement, as well as JASPER combined with PECS/EMT/SGD, and music-based interventions like MMM/AMMT.

Keywords: Autism, Non-speaking, Minimally speaking, Evidence-based intervention practices, Review.

O_Hea_07. Synbiotic Intervention for Better Relaxation and Cognitive Performance.

Natalia Wichrowska, Wiktoria Manowska, Oliwia Kosecka, Zofia Kujawińska, Marianna Szczepańska, Jurand Sobiecki

University of Gdańsk - Institute of Psychology - 80-309 Gdańsk, Poland | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Recent advances in gut–brain axis research highlight the gut microbiome as a key factor influencing mental well-being, emotional regulation, and social functioning. This interdisciplinary project builds on previous initiatives conducted within the initiative called Biological Basis of Well-Being Centre, extending the scope of prior SEA-EU and Fahrenheit Universities-funded collaborations. The planned study investigates the effects of a 7-week synbiotic intervention—combining selected probiotic strains with prebiotics—on cognitive performance, relaxation, body composition, and self-reported well-being. Using a placebo-controlled design, the study integrates neurophysiological, cognitive, and physical (body composition analysis) measurements. Relaxation is assessed during massage chair sessions, while cognitive engagement is tested through tasks requiring sustained attention and rapid decision-making. The project aims to
determine whether daily synbiotic supplementation enhances neurocognitive functioning and physiological recovery more effectively than a placebo. This integrative approach captures multidimensional outcomes across neural, cognitive, and somatic domains, offering novel insights into the psychophysiological benefits of gut microbiota modulation. In the long term, findings may inform the development of scalable, evidence-based interventions to support mental and physical health.

O_Hea_09. Student participation in emergency preparedness exercises.

Maria Strandås

Nord university, Faculty of Nursing and Health Sciences | NORD

Presentation format: ORAL (ON SITE)

Abstract

Full-scale emergency preparedness exercises are essential in equipping healthcare students with the necessary skills and mindset to respond effectively in high-stress, real-world crisis situations. Exercise Nord is Scandinavia's largest interprofessional full-scale emergency preparedness exercise, held annually in Northern Norway. The exercise is held under the leadership of Nord university. This unique training initiative gathers students from various disciplines, including nursing, specialized nursing, journalism, paramedicine, police and medicine, to simulate complex emergency scenarios such as mass casualty incidents, fire disasters, terror attacks or public transport accidents. The immersive nature of Exercise Nord allows students to experience the dynamics of crisis management, interprofessional collaboration, and rapid decision-making in a controlled but realistic environment.
Participating students report increased confidence, enhanced teamwork abilities, and a greater understanding of emergency protocols and communication strategies. Exercise Nord fosters a safe learning atmosphere where mistakes become powerful learning opportunities, promoting critical reflection and resilience. Moreover, Exercise Nord helps bridge the gap between theoretical knowledge and practical application, which help students become more adaptable and prepared for the unpredictability of real emergencies. The interprofessional setting mirrors real-world healthcare teams, encouraging respect for different roles and improving collaboration under pressure.
In conclusion, full-scale exercises like Exercise Nord are invaluable in healthcare education. They provide experiential learning opportunities that traditional classroom settings cannot replicate, ultimately contributing to producing more competent, confident, and collaborative healthcare professionals ready to face future challenges in their careers.

O_Hea_10. Optimizing Home-Based Healthcare Workforce: AI-Driven Solutions for Full-Time Culture and Competence Utilization.

Kari Ingstad, Trude Hartviksen, Maria Strandås, Mojtaba Vaismoradi

Faculty of Nursing and Health Sciences, Campus Levanger, Nord University | NORD

Presentation format: ORAL (ON SITE)

Abstract

Optimizing Home-Based Healthcare Workforce: AI-Driven Solutions for Full-Time Culture and Competence Utilization (OptiCare-AI) addresses the growing shortage of healthcare personnel in Norway, particularly in municipal home-based care. Despite a high nurse-to-population ratio, the sector struggles with recruitment and staffing due to a prevalent part-time work culture and outdated organizational models. This project aims to develop and test AI-based scheduling tools to optimize workforce planning, support the transition to a full-time employment culture, and ensure effective utilization of healthcare professionals' competencies.

Through four integrated work packages, the project explores what constitutes sustainable workforce structures, how competence is allocated, and how digital and AI-driven scheduling can streamline operations. Comparative analysis between Norway and Finland—where full-time employment is more widespread—will provide insights into effective organizational models.

An action research methodology will guide the iterative development, implementation, and evaluation of AI-based scheduling in three municipalities. This includes mapping existing literature, comparing workforce structures, developing national consensus on full-time culture, and testing AI interventions. The project also investigates how AI influences workforce efficiency, competence distribution, overtime, temporary staffing, and leadership workload.

By actively involving municipal stakeholders throughout all research stages, OptiCare-AI seeks to produce practical, evidence-based solutions to increase full-time positions, improve care quality, and build a more sustainable home-based healthcare workforce model in response to demographic and workforce pressures.

O_Hea_11. Maritime Evacuation and Emergency Healthcare: Analysis of an Epigastric Pain Case and the Challenges of Remote Diagnosis.

Emilio, José Carlos, Juan, Gracia Romero, Manuel Ángel

Dpto. Ciencias y Técnicas de la Navegación
Dpto. Anatomía y Embriología Humana
Dpto. Medicina y Cirugía | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

This presentation examines a case of maritime evacuation prompted by acute epigastric pain in a Filipino crew member. We analyze the sequence from initial radio-medical consultation through evacuation to hospital discharge, illustrating a common dilemma: when does a nonspecific symptom justify a costly evacuation?

Remote assessment presents significant challenges without physical examinations or diagnostic tests. This analysis addresses a gap in literature regarding decision-making factors for maritime evacuations with inconclusive symptoms.

We detail the coordination between maritime authorities, medical services, and rescue teams that facilitated the patient's transfer to Jerez Hospital, where the condition was ultimately deemed non-emergent. This contrast between conservative diagnosis at sea and hospital evaluation demonstrates the complexity of these decisions, especially considering that air evacuations typically cost €15,000-€30,000 (CruiseDiscover, 2024).

Our improvement proposals identify key areas needing enhancement to reduce unnecessary evacuations:
- Need for better decision frameworks for assessing epigastric pain remotely
- Gaps in current diagnostic tools for radio-medical consultations
- Lack of structured evaluation approaches integrating clinical and economic factors
- Insufficient systems for reviewing past evacuation decisions.

O_Hea_12. Self-Compassion as a Psychological Resource in Chronic Illness: A Mixed-Methods Study on Body Image and Quality of Life in Women with Thyroid Disease.

Małgorzata Treppner

Institute of Psychology, Faculty of Social Sciences, University of Gdańsk, 80-309 Gdańsk, Poland | GDANSK

Presentation format: ORAL (ON SITE).

Abstract

Hypothyroidism, a chronic condition affecting millions of women worldwide, often disrupts emotional well-being, self-perception, and quality of life. This study explores the relationships between body image, self-compassion, and quality of life among women of reproductive age living with hypothyroidism. Psychological resources such as self-compassion remain underexplored in this population, yet it offers a therapeutic framework that fosters emotional resilience and self-acceptance, particularly in chronic illness contexts.

A mixed-methods approach was used. The quantitative phase (n=500) included standardized measures: the Body Image Questionnaire (KWCO), the Self-Compassion Scale (SCS-PL), and the ThyPROpl (Polish adaptation of the Thyroid-related Quality of Life Questionnaire). Correlational, mediation, and moderation analyses were conducted. The qualitative phase involved thematic analysis of interviews with 16 women. Emerging categories were aligned with questionnaire subscales, enhancing the understanding of body image, self-compassion, and quality of life. Key themes included the diagnostic journey, daily life with illness, social dimension of body image, self-kindness vs. self-judgment, emotional and physical functioning, and hopes for the future.

Self-compassion emerges as a protective psychological factor in women with hypothyroidism, offering both clinical and research implications. It is especially beneficial in group therapy processes, providing a supportive framework for those with chronic illnesses. As a relatively new concept in therapeutic work, it suggests a promising direction for psychosocial interventions, particularly in settings with limited psychological support. The mixed-methods design underscores the value of integrating qualitative data into health psychology.

O_Hea_13. SWIM-360: An AI-Driven, Human-Centred System for Transparent Performance and Injury Risk Analysis in Competitive Swimming.

Vanessa Camilleri, Reno Yuri Camilleri, Mark Fialovsky, Dylan Seychell, Matthew Montebello

Department of AI, Faculty of ICT, University of Malta | MALTA

Presentation format: ORAL (ON SITE)

Abstract

SWIM-360 is an interdisciplinary research project that applies advances in artificial intelligence, wearable sensing, and sports science to optimise performance and injury prevention in competitive swimming. Traditional methods in swim coaching rely heavily on either manual video analysis or isolated physiological data, limiting real-time insight and impeding training scalability.

To address this gap, SWIM-360 integrates multimodal data streams—combining underwater video with real-time physiological metrics such as muscle oxygenation and motion data—into a unified, AI-driven analytics framework. A defining feature of the system is its use of Explainable AI (XAI) techniques, which provide transparent and interpretable feedback that athletes and coaches can trust and act upon.

Currently at Technology Readiness Level 3 (TRL 3), the system is being piloted in partnership with national-level sports organisations and is designed for further deployment across elite and developmental sport settings. In addition to improving stroke efficiency and injury detection, SWIM-360 contributes to emerging models of human-AI collaboration, empowering coaches through ethically aligned, user-centred technology.

This work exemplifies how digital technologies can promote sustainable, high-performance sport environments across Europe—supporting wellbeing, inclusivity, and innovation in health-focused engineering. The project is funded by XJENZA Malta and the Malta Digital Innovation Authority (MDIA) through their joint Thematic Programme.

O_Hea_14. Hyperbaric Oxygen Therapy and Health.

Karolina Reysowska, Jurand Sobiecki , Weronika Matwiejuk, Katarzyna Żamojda

University of Gdańsk - Institute of Psychology - 80-309 Gdańsk, Poland | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Hyperbaric oxygen therapy (HBOT) is gaining recognition for its wide-ranging biological and psychological effects. Originally developed to treat decompression sickness, HBOT is now being explored as a novel therapeutic intervention for a variety of health conditions—from wound healing and inflammation reduction to potential enhancements in cognitive and mental health. This presentation explores the emerging evidence surrounding HBOT and its relevance to holistic health care. It highlights the biological mechanisms through which oxygen-enriched environments modulate inflammation, stimulate neurogenesis, and enhance mitochondrial function—key processes involved in recovery, resilience, and mental well-being. Drawing on recent studies and data on changes in the atmosphere throughout human evolution, we will discuss how HBOT influences the gut-brain axis and biomarkers such as oxidative stress and pro-inflammatory cytokines, positioning it as a promising complementary therapy in psychosomatic medicine. Informed by current advancements in health studies, neurobiology, and integrative medicine, this talk aims to (1) provide an overview of the physiological impact of hyperbaric oxygen on the human body, (2) present clinical findings on its efficacy for mental health outcomes such as anxiety or depression and (3) discuss the feasibility of integrating HBOT into public health and wellness strategies. The potential integration of HBOT into sustainable healthcare models aligns with the United Nations Sustainable Development Goals 3 and 9, promoting good health and well-being, fostering medical innovation, and reducing inequalities in access to advanced treatments. The presentation will also present our planned experiments.

O_Hea_15. Epigenetic control of meiotic recombination and hybrid sterility in mice and humans.

Rajalekhmi Narayana Sarma, Linda Odenthal Hesse

Mathematical and Natural sciences Faculty / Max Planck Institute for Evolutionary Biology | KIEL

Presentation format: ORAL (ON SITE)

Abstract

Humans have 23 pairs of chromosomes. Since both our mother and father also have 23 pairs, why don't we end up with 46 pairs, or double the amount? The answer lies in the process of meiosis, which reduces the number of chromosomes in egg and sperm cells by half. As a result, we inherit one chromosome from each parent in every pair, maintaining the normal 23 pairs.

But why aren't we exact half-copies of our parents or identical to our siblings? This is due to meiotic recombination, a process where chromosomes exchange genetic material before halving. This "shuffling" ensures each egg or sperm is unique, contributing to individual variation. Recombination is not just important for diversity, it is also crucial for fertility and for preventing chromosomal disorders like Down syndrome.

In species like humans and mice, recombination doesn't occur randomly. A protein called PRDM9 directs where on the chromosomes this exchange takes place. However, when PRDM9 from each parent differs significantly, recombination sites may misalign in the child, potentially leading to infertility. This makes PRDM9 a key factor in the sterility often seen in hybrids from genetically distant parents.

Recent studies suggest another player: a microRNA cluster that may also regulate recombination. However, its role remains unclear. In our study, we analyzed this cluster across sixteen genetically diverse mouse strains. We discovered that the microRNA locus is highly dynamic and rapidly evolving. Our findings provide new insight into its role in meiosis and fertility, with possible applications in microRNA-based contraception.

O_Hea_16. Tracking Liver Health After Bariatric Surgery: Insights from Non-Invasive Steatosis and Fibrosis Scores.

Ana Luísa De Sousa Coelho, Carolina Lopes, Miguel Monteiro

Universidade do Algarve, Escola Superior de Saúde, 8005 Faro, Portugal | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Obesity is a known risk factor for excessive fat accumulation in the liver, which can progress from simple steatosis, steatohepatitis, and hepatic fibrosis. This study aimed to assess changes in non-invasive hepatic scores for steatosis and fibrosis following obesity treatment through bariatric metabolic surgery (BMS), and to evaluate their usefulness for monitoring liver health after weight loss.

A systematized literature search was conducted using a strategy that included scores incorporating body mass index (BMI), namely FLI, NFS, HSI, and BARD, as well as those that do not (APRI and FIB-4). Studies were included if these scores were assessed before and at least once after BMS in patients with obesity.

Among 29 studies with extractable score values, the following score usage was found: NFS in 16, FIB-4 in 12, HSI in 8, APRI in 6, and both FLI and BARD in 5 studies each. Most studies (n = 19) evaluated more than one score, though only 6 also performed a liver biopsy. Follow-up (FU) times for score evaluations varied widely, ranging from early FU (1 to 6 months), to 12 months (the most common), and extended periods beyond 18 months (up to 12 years).

Due to the variability in FU durations, several sub-analyses will be performed to enable more accurate comparisons of outcomes across studies. We anticipate that scores incorporating BMI will show more significant changes post-BMS, which are those that relate to steatosis risk. In contrast, fibrosis risk scores, which do not include BMI, may remain relatively stable after surgery.

O_Hea_17. A microRNA-based approach to evaluating aortic stenosis in elderly patients.

Rocio Toro, Alipio Mangas A, Maribel Quezada Feijoo, Monica Ramos, Calos Perez Perez, Jesus Garcia Palomeque

MEDICINE&SURGERY DEPARTMENT. MEDICINE SCHOOL. | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Introduction. Aortic stenosis (AS) is the most prevalent valvulopathy as the elderly population increases. Elderly with severe AS are hard to diagnose due to comorbidities and sedentarism. Despite well-established surgical criteria, there is no biomarker available for decision-making in elderly patients. Our objective is to develop a multiparametric score, using plasmatic microRNAs (miRNA), for the identification of asymptomatic elderly population with severe aortic stenosis.

Methods: This prospective case-control study that comprised 87 patients , aged ≥75 years (control = 29; severe AS=58). A data collection process included clinical, demographic and transthoracic echocardiogram assessment based on guidelines protocols. Plasma miRNAs sequencing was performed. The analysis of differentially expressed miRNAs was performed using RNfuzzyApp software.

Results: The mean age of patients with AS was significantly higher than the control group (84.2 ± 8.8 vs. 74.7 ± 6.4, p<0.001). No significant differences were observed in cardiovascular risk factors but NTproBNP levels and diuretic use (p<0.001, respectively) were significantly higher in the AS group. The analysis of the various echocardiographic parameters as discriminators of AS using ROC curves yielded an overall longitudinal strain of 0.799 (0.696-0.903) with a sensitivity of 72.2% and a specificity of 76.92% (p<0.001). The combination of two overexpressed miRNAs, miR-143-3p and miR-452-5p, with echocardiographic variables resulted in a multiparametric model with high discriminatory capability, (AUC= 0.954; 95% confidence interval: 0.896-1; p<0.001).

Conclusions: This multiparametric score, encompassing transcriptomic biomarkers and cardiac imaging variables, exhibits a high degree of discriminatory capacity in elderly patients with severe AS.

O_Hea_18. Middle managers' perspectives on the tech champions role in technology implementation process in municipal health care services- a Norwegian study.

Sissel Pettersen, Hilde Eide, Anita Berg

Nord university, Faculty of Nursing and Health Science | NORD

Presentation format: ORAL (ON SITE)

Abstract

The use of technology in healthcare has been evolving at a rapid pace. Health technology is highlighted as a key part of the solution to the demographic challenges of an ageing population in Europe, in addressing the increasingly complex health challenges of patients and, not least, to address the growing shortage of health personnel. In order to benefit from technological advances to increase capacity, quality and sustainability, health services must have sufficient competence to adopt technological solutions. This presentation will describe the findings from a qualitative study of the experiences of ten middle managers in Norwegian municipal healthcare services holding tech champions in their departments. The individual interviews are analysed using a thematic analysis. The results show that middle managers have clear expectations for the role, even though tech champions do not have a job description, extra pay or a dedicated job share for the task. Tech champions are expected to fulfill several tasks in their overall mission to support health personnel's technology adoption. The tech champion needed to hold several competences as technological and pedagogical competences as well as being personally engaged in order to spread enthusiasm and hold loyalty to the management. The presentation will discuss the implications of the findings in the context of technology implementation processes and the future role and technological competencies of health personnel

O_Hea_19. Investigation of Drug-Induced Pruritus Using Data from the Global Pharmacovigilance Database, Vigibase®.

Lucie Kondor, Giuseppe Cicala, Francesco Salvo, Caroline Clabecq, Laurent Misery, Emilie Brenaut, Greta Gourier, Raphaele Le Garrec

Laboratoire Interactions Epithélium Neurones, UR4685 - Université de Bretagne Occidentale, Faculté de médecine - 29200, Brest (France) | BREST

Presentation format: ORAL (ON SITE)

Abstract

Drug-induced pruritus sine materia (PSM) is defined as pruritus induced by a medication without visible skin lesions. While many drugs have been implicated, evidence of causality is limited, and most data are derived from case reports. Identifying responsible drugs is challenging due to limited causality evidence. This study is a cross-sectional pharmacovigilance analysis aimed to identify drugs associated with pruritus using the WHO global pharmacovigilance database, VigiBase®. We extracted individual case safety reports (ICSRs) from VigiBase®, selecting those mentioning PSM. Cases linked to allergic, dermatological, or renal conditions were excluded. Only systemically administered drugs with a single suspect agent were analyzed using Power BI and R Studio. Data spanned from the database inception to March 30, 2024.

Among 268,799 cases, most patients were women (61.4%), aged 45–64 years (30.7%). The most frequently implicated drug classes were antibacterials (17.4%), vaccines (9.0%), and immunosuppressants (8.6%). A subset of 3,847 positive rechallenge cases reinforced causality, particularly for antibiotics, opioids, NSAIDs and has led to the emergence of new classes of drugs linked to PSM, such as statins and antacids.

This study provides a comprehensive list of drugs linked to pruritus to support clinicians and pharmacovigilance experts. While well-established pruritus-inducing drug classes were confirmed, the discovery of previously unrecognized agents highlights the importance of ongoing monitoring and updated drug safety assessments. Further research into mechanisms of drug-induced pruritus may inform preventive strategies and tailored treatments.

O_Hea_20. Towards Improved Predictive Power of Polygenic Scores: a Simulation Study of Disease Subtypes and Genetic Pleiotropy.

Tanishka Saha, Sebastian Sendel, Ozvan Bocher, Michael Nothnagel, Amke Caliebe, Anthony Herzig

Institute of Medical Informatics and Statistics, Univ Kiel, Kiel, Germany | KIEL

Presentation format: ORAL (ON SITE)

Abstract

Complex diseases such as stroke, cancer, and Alzheimer's disease often encompass multiple subtypes with distinct etiologies. These subtypes can be influenced by different sets of genetic factors, with some potential overlap between them; a phenomenon known as pleiotropy. Polygenic scores (PGS) aim to summarize the cumulative effect of many genetic variants to quantify an individual's inherited disease risk. However, the predictive performance of PGS in real-world applications remains modest. One key reason could be that many PGS are derived from large, heterogeneous datasets that ignore underlying disease subtypes and their specific genetic architectures.

In this project, we explore how accounting for disease subtypes can improve the accuracy of PGS-based prediction. Using a large-scale simulation framework involving one million simulated individuals with realistic genetic ancestries, we model phenotypes corresponding to disease subtypes of different genetic architectures with varying degrees of pleiotropy. This allows us to systematically assess how the resolution of subtype-specific genetic architectures impacts the performance of subtype-informed PGS.

By addressing the role of disease heterogeneity in predictive genetics, this work contributes to a more precise understanding of disease mechanisms and supports the development of targeted interventions.

HEALTH

POSTERS

P_Hea_01. How does bariatric surgery affect the monounsaturated fatty acid profile?

Oliwia Lang Andrzejewska, Agata Janczy, Michal Szymanski, Maciej Wilczynski, Monika Proczko Stepaniak, Tomasz Sledzinski, Adriana Mika

Department of Environmental Analysis, Faculty of Chemistry, University of Gdansk. Jana Bażyńskiego 8, 80-309 Gdańsk, Poland

Presentation format: POSTER

Abstract

Background

Bariatric surgery is known for its effectiveness in inducing weight loss and improving metabolic health, but its influence on lipid metabolism, especially monounsaturated fatty acids (MUFAs), is not fully understood. MUFAs, such as oleic acid (C18:1) and palmitoleic acid (C16:1), play key roles in lipid regulation and are associated with metabolic processes like de novo lipogenesis and insulin sensitivity.

Aim: To evaluate the effects of laparoscopic sleeve gastrectomy (LSG) on serum MUFA profiles over a one-year postoperative period.

Methods: Thirty-five female patients qualified for LSG at the Centre for Obesity and Metabolic Diseases (Medical University of Gdansk) were enrolled. Serum samples were collected at six time points: the first appointment, the day of surgery, and at 3, 6, 9, and 12 months postoperatively. Lipids were extracted and analyzed using gas chromatography–mass spectrometry (GC-MS) to determine the concentration of individual and total MUFAs.

Results: A significant decrease in total serum MUFA levels was observed at 6, 9, and 12 months following surgery ($p=0.038$, $p=0.037$, $p=0.034$, respectively). At the same time, a decrease in individual MUFAs was observed. These changes occurred alongside marked weight loss and improvements in fasting glucose, insulin levels, and lipid profiles. The results suggest reduced de novo lipogenesis and improved fatty acid metabolism post-surgery.

Conclusion: LSG induces sustained changes in MUFA profiles, reflecting metabolic improvements beyond weight loss. Tracking MUFAs may serve as a valuable tool for monitoring recovery and metabolic adaptation following bariatric surgery.

P_Hea_02. Improving work ability and return-to-work rates in breast cancer survivors: PRODIE-WA randomized controlled clinical trial.

Rocío Guil Bozal, José Manuel Baena Cañada, Paloma Gil Olarte Marquez, Lucía Morales Sánchez, Paula Ruiz González, Rocío Gómez Molinero, Lorenzo Rodríguez Riesco, MªPaz Baena Guil, Tânia Brandão, Anne Marie Costalat Founeau, Juan Jesús Fernández Alba, Javier Jaen Olasolo, Encarnación Jiménez Orozco, Diego Alejandro Utor Fernández

Psicología, University of Cadiz

Presentation format: POSTER

Abstract

Breast cancer (BC) is the most common neoplasia worldwide, representing 16% of all female cancers. However, despite its high incidence, the risk of BC mortality has been reduced to 38% in recent decades, mainly due to advances in treatments and early detection programs. Despite improved survival rates, many survivors face long-term challenges when returning to work. Physical, cognitive, and emotional side effects often reduce their ability to rejoin the workforce and affect their overall quality of life.

The PRODIE-WA project addresses this issue by promoting strategies to improve work ability and return to work rates in breast cancer survivors. From a multidisciplinary perspective, the project examines key clinical and psychological factors that influence survivors' employment outcomes after treatment.

A key component of the project is the use of 'Junto a ti', a specially designed digital application to support psychological assessment and monitoring. This tool allows participants to complete self-assessments in a safe and accessible way, enabling more personalised follow-up and a better understanding of their emotional state.

In addition, the project will implement PRODIE-WA, a group-based emotional skills intervention to increase survivors' psychological resources and work-related confidence. Its implementation will allow us to advance our understanding of how clinical and psychological variables influence employability and provide a novel solution to the low rates of return to work in this vulnerable group. In this non-pharmacological randomized clinical trial will compare outcomes with a control group while investigating predictors of successful reintegration into the workplace.

P_Hea_03. Post-COVID Symptoms and Conspiracy Thinking.

Esther Ortega Martin, Jesús Carretero Bravo, María Camacho García, Judit Pérez Mejía, Javier Álvarez Gálvez

Cadiz University

Presentation format: POSTER

Abstract

he COVID-19 pandemic was a major global health threat, and an accelerator of conspiracism. Given these circumstances, this study explores whether suffering symptoms after having acute COVID-19, i.e. post-COVID symptoms may be related to an increased propensity for conspiracy beliefs. Using data from a nationally representative sample and regression models, we examine the evaluation of trust in political and health authorities by individuals with and without post-COVID symptoms to see whether their experience with health potentially influenced their trust.

The research reveals that, apart from well-known predictors such as education or ideology, post-COVID symptoms have a strong positive relationship with belief in conspiracy theories. Conversely, having received more doses of vaccines is associated with lower levels of these beliefs. These results highlight the psychological and social implications of having chronic health problems and draw attention to the potential susceptibility of this population to misinformation.

This study enriches the understanding of the social impact of post-COVID symptoms and highlights the need to incorporate health and science communication into post-pandemic reconstruction. This study enriches the understanding of the social repercussions of post-COVID symptoms and underscores the need to incorporate health and science communication into post-pandemic reconstruction. It also has wider implications for policymakers and educators working to address misinformation and regain public trust. The authors hope that providing accessible and actionable scientific results will lead to more informed and resilient societies.

P_Hea_04. App-Based Early Detection of Autism Spectrum Disorder: A Systematic Review.

Rosa María Ruiz Ortiz, Inmaculada Menacho, Cándida Delgado Casas, Julia Pardo, Ana Villafuerte Díaz, Rosario Carreras

Departamento de Psicología - Facultad Ciencias de la Educación, Universidad de Cádiz - C/ República Saharaui, 12, 11519 Puerto Real, Cádiz

Presentation format: POSTER

Abstract

Background: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder characterized by impairments in communication skills, social interactions, and repetitive or restricted behaviors and interests. The prevalence of ASD continues to grow, reaching between 1-2%. Although diagnosis is recommended at 1 to 1.5 years of age, in most cases, diagnoses are made at the end of childhood. Therefore, this highlights the need to develop other screening tools that allow for early and accurate detection of ASD. In this sense, technological tools such as apps, could be used for early detection of ASD.

Aim: This study presents a preliminary systematic review that explores the applications available for the early detection of Autism Spectrum Disorder (ASD) in children between 9 and 36 months of age.

Methods: A literature search spanning 2014-2024 was conducted across PsycInfo,PsycArticle, Scopus, Science Direct, Web of Science, ERIC and PubMed. Coding reliability was examined and concordance was above 90%.

Results: From 1058 references, 35 duplicates were removed. Abstract screening excluded 993, leaving 30 articles for full analysis. Inclusion criteria: English/Spanish, 2014-2024 publication, 9-36 month participants, app design/validation for ASD detection, scientific/governmental/pilot/experimental peer-reviewed studies.

Conclusions:

The existing literature on the design or validation of apps for the early detection of ASD is limited. The majority of studies have focused on the use of traditional screening tools and mostly do not concentrate on early ages prior to 18 months, highlighting the need for more research in this developmental stage.

P_Hea_05. ITGA8 and VANGL2 as Potential Biomarkers in CAKUT Pathogenesis.

Nikola Pavlović, Nela Kelam, Anita Racetin, Natalija Filipović, Katarina Vukojević

Department of Anatomy, Histology and Embryology, School of Medicine University of Split, Croatia

Presentation format: POSTE

Abstract

Congenital anomalies of the kidney and urinary tract (CAKUT), often accompanied by cardiac defects, are among the most common birth disorders and a leading cause of kidney failure in infants. CAKUT encompasses a broad spectrum of malformations, including cystic kidney dysplasia, hypoplasia, duplex kidneys, and vesicoureteral reflux, which can occur independently or as part of syndromic conditions. Given the crucial roles of alpha-8 integrin (ITGA8) and Van Gogh-like 2 (VANGL2) in nephrogenesis, this study aimed to investigate their expression patterns in fetal kidney tissues using immunohistochemistry and immunofluorescence.

Our findings indicate significant alterations in ITGA8 and VANGL2 expression under CAKUT conditions. ITGA8, a key player in ureteric bud development and nephron differentiation, exhibited reduced expression in duplex and dysplastic kidneys compared to healthy controls. In contrast, VANGL2, a core component of the planar cell polarity signaling pathway, showed stable expression throughout fetal aging but was significantly upregulated in dysplastic kidneys while being poorly expressed in hypoplastic kidneys. These differential expression patterns suggest that ITGA8 and VANGL2 could serve as potential biomarkers for CAKUT-related malformations.

Further investigation into the molecular mechanisms regulating ITGA8 and VANGL2 expression may provide insights into CAKUT pathogenesis, paving the way for targeted therapeutic strategies. Understanding these gene expression dynamics could enhance precision medicine approaches for early diagnosis and intervention in CAKUT-affected infants.

P_Hea_06. Nurses' experiences on Interventions for Prevention of Surgical Site Infections; a qualitative study.

Ivana Radman, Malgorzata Bala, Petra Ognjenović, Tina Poklepović Peričić

University of Split, School of Medicine, Translational Research in Medicine, 21000 Split

Presentation format: POSTER

Abstract

Background:

Surgical treatments are essential for saving lives and improving patient outcomes. However, surgical site infections (SSIs) remain a significant complication, affecting 0.5% to 3% of patients despite existing guidelines. Nurses play a crucial role in SSI prevention through the application of evidence-based practices; however, discrepancies may exist between guidelines and clinical practice.

Objective:

This study aims to explore nurses' knowledge, attitudes, and current practices regarding the prevention of SSIs based on clinical practice guidelines. It also seeks to develop an assessment tool to identify educational needs related to SSI prevention.

Methods:

This qualitative study will be conducted across four University Hospital Centers in Croatia. Semi-structured, web-based interviews will be held with nurses working in surgical wards and surgical intensive care units. Interviews will be audio-recorded, transcribed, and pseudonymized. Data will be analyzed thematically using NVivo software. Sampling will be purposive and snowball-based to ensure diverse perspectives.

Expected Results:

Findings are expected to reveal variations in guideline awareness and adherence, as well as barriers such as lack of time, training, and standardized protocols. Insights will help inform the development of targeted educational programs and institutional strategies for SSI prevention.

Conclusion:

This study will contribute to improving the quality and safety of surgical care by identifying gaps in nursing practice and informing guideline implementation. The results may guide hospital policy and educational initiatives, ultimately reducing the incidence of SSIs and enhancing patient outcomes.

P_Hea_07. Perceptions of healthcare professionals and family members of people with type 1 diabetes: a qualitative study.

María Borrego Conde, María Luisa Perez Torné, Belén Gutierrez Baena, María José Carranza Naval, Carmen Segundo Iglesias, Carmen Romero Grimaldi, Mónica Schwarz Rodríguez

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Presentation format: POSTER

Abstract

In recent years, a marked increase in the number of cases of type 1 diabetes has been detected.
Healthcare professionals and family members play a key role in this process, as it is a critical time for the patient and the surrounding environment.
The therapeutic education provided by healthcare professionals is vital for the life of the person diagnosed with type 1 diabetes and is an important source of confidence to consult doubts related to this condition. Lack of information leads to a need for caregivers and patients to quickly acquire knowledge and skills to manage the disease, resulting in discomfort.
On the other hand, family members are the people who are with them on a daily basis, being their main support.
In this sense, it is considered very important to know the perception of both groups of people: professionals and relatives. In this way, it will be possible in the future to make comprehensive health plans that address the socio-health environment of the patient, taking into account the perception and feelings of these people who live so closely the debut of the diabetic patient.
From this point of view, the present qualitative study is based on semi-structured interviews with healthcare professionals and family members of people with type 1 diabetes.

P_Hea_08. The effects of solvent extracts of seaweeds of the antioxidant and antibacterial activities.

Jaya Raju Nandikola

International European University, Malta Campus, Edgar Bernard Street, Gzira, Gzr1707, Malta

Presentation format: POSTER

Abstract

"Objective: The effects of extracting solvents on the antioxidant and antibacterial activity of crude extracts of seaweeds from Malta coast.

Methods: Ulva intestinalis and Enteromorpha were extracted with solvents having polarities like methanol, ethanol, chloroform and water and screened for total phenol, total carbohydrate, total protein and DPPH with standard procedure. Antibacterial activity were performed by agar well diffusion method.

Results: Ulva intestinalis showed the maximum number of active constituents in the methanol extract. moreover Ulva have shown the superior quantity of protein and carbohydrate. Enteromorpha showed active compounds in ethanol extract. The scavenging activity of methanol extracts at 5mg/ml concentration of U. intestinalis shows 17.8% and Enteromorpha possess 17.3%. Methanol extract of U. intestinalis and ethanol extract of Enteromorpha showed potential inhibitory activity against P. aeruginosa compared to other pathogens.

Conclusion: The results of the study indicated that seaweeds showed comparatively better antioxidant and antibacterial activity. "

P_Hea_09. Food Insecurity in Higher Education Students.

Aline de Paula, Beatriz Carneiro, Inês Mendes, Mariana Pacheco, Marta Gonçalves, Ezequiel Pinto, María Palma Mateus

Escola Superior de Saúde - Algarve Biomedical Center Research Institute – ABC-RI

Presentation format: POSTER

Abstract

Introduction: Food insecurity (FI) indicates a state where someone does not have regular access to food in satisfactory quantity, sanitary and nutritional quality. The literature indicates that it is a growing public health problem in college students, with the potential for adverse effects on physical and mental health.
Objective: To characterize FI in students from Portuguese higher education institutions.
Methodology: A cross-sectional descriptive study was carried out in a non-random sample of higher education students, with an online questionnaire composed of sociodemographic questions and the Portuguese version of the FI scale. Information about the study and call for participation were sent to the official contacts of all public higher education institutions, and dissemination was also made through social networks and discussion forums aimed at students. This study was approved by the Health Ethics Committee of the Algarve Biomedical Center.
Results: There were 200 valid questionnaires, mostly from female students (79%) and from the University of Algarve (62%). Of the participants, 27.5% (n=55) were classified as having some degree of FI. Participants with FI reported fewer visits to the family home ($p=0.024$) and less financial capacity available for course-related expenses ($p<0.001$).
Conclusions: Considering that the participants are mostly students of the University of Algarve, it is considered that the results have limited external validity. However, there is a prevalence of FI that indicates that interventions in this area are needed, which indicates that interventions are needed in this area, given that this problem may have an impact on dropout rates.

P_Hea_10. Antioxidant capacity and therapeutic potential of extracts of mushrooms with high gastronomic value.

Elena Ortega Caneda, Estrella Espada Bellido, Rosa M. Mateos, Ceferino Carrera, Nuria Chinchilla, Gerardo F. Barbero, Miguel Palma

Department of Analytical Chemistry, University of Cadiz

Presentation format: POSTER

Abstract

Mushrooms are macrofungi that have been part of our diet for millions of years, valued not only for their flavour and versatility in cooking, but also for their nutritional and medicinal benefits. Among the edible species are the mushrooms of the genus Morchella, of high gastronomic and commercial value. These mushrooms are very difficult to obtain and have been used as traditional medicine in China for thousands of years. They have numerous therapeutic applications, being notable for their antibacterial, antioxidant, anti-inflammatory and anti-diabetic properties, among others. All these properties of mushrooms are due to their valuable nutritional profile and the presence of bioactive compounds such as tryptophan, which is characterised by its involvement in biological processes such as neurotransmission and its antioxidant capacity.

For this reason, the concentration of tryptophan in a total of twelve samples of mushrooms of the genus Morchella collected in different locations in Andalusia was determined. For this purpose, the extraction of the bioactive compound was optimised by ultrasound-assisted extraction (UAE) using a Box-Behnken design of experiment (BBD). The quantification of tryptophan concentration was performed by ultra high performance liquid chromatography (UHPLC).

On the other hand, the antioxidant capacity of Morchella extracts was evaluated by DPPH and ABTS spectrophotometric methods, as well as two bioassays to determine the acetylcholinesterase (AChE) enzyme inhibitory activity and tyrosinase inhibitory activity. Good results were obtained for both antioxidant capacity and acetylcholinesterase and tyrosinase inhibitory activity, related to the concentration of tryptophan in the mushrooms.

On the other hand, the antioxidant activity "in vivo" of Morchella extract concentrated in tryptophan has been studied against stress caused by hyperglycaemia in a human fibroblast cell model, in order to verify the beneficial potential of these mushrooms at the cellular level.

P_Hea_12. Proteomic Insights Into CAR-T Cell Transduction Resistance.

Ricardo Fernández Cisnal, Belén Sierro Martínez, Estefanía García Guerrero, Eduardo Chicano Gálvez, Ángela Peralbo Molina, Pablo González García, Juan P. Muñoz Miranda, Noelia Moares, José A. Pérez Simón, Francisco García Cózar

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Presentation format: POSTER

Abstract

Chimeric Antigen Receptor (CAR) T-cell therapy has transformed cancer immunotherapy, achieving high remission rates in patients with advanced hematologic malignancies. A key step in generating CAR-T cells is the use of VSV-G pseudotyped lentiviral vectors (LVs) for stable gene transfer. However, a portion of T cells remains resistant to transduction, and the underlying mechanisms are not fully understood.

In this study, we performed a proteomic comparison between transduced (CAR-T^+) and non-transduced (CAR-T^-) human T cells exposed to a BCMA-targeted CAR lentiviral vector. Peripheral blood mononuclear cells (PBMCs) were isolated from healthy donors, and $CD3^+$ T cells were transduced and sorted by FACS based on EGFRt expression. Proteins from three independent donors were analyzed using a label-free, direct-DIA mass spectrometry approach.

A total of 4,932 proteins were identified and quantified. Differential abundance analysis revealed a significant upregulation of restriction factors in CAR-T^- cells, suggesting a protective mechanism against lentiviral transduction. Functional pathway analysis using STRING and IPA indicated enhanced activity in antiviral innate immune responses, particularly pathways involving ubiquitination, sumoylation, and ISGylation.

These findings suggest that non-transduced T cells exhibit a pre-existing antiviral defense state that may hinder efficient gene transfer. Understanding these mechanisms could improve transduction efficiency and the development of next-generation CAR-T cell therapies.

P_Hea_13. Role of Gastrin in Metabolic Regulation After Sleeve Gastrectomy in Type 2 Diabetes.

JC García Ortíz, AL Diaz Gómez, JM Visiedo García, JM Pacheco García, JA Prada Oliveira, GM Pérez Arana

Department of Human Anatomy and Embryology, Faculty of Medicine – University of Cádiz 11009

Presentation format: POSTE

Abstract

Background
Sleeve gastrectomy (SG) is a therapeutic tool against obesity and diabetes, but also a model to study the pathophysiology of type 2 diabetes (T2DM). The stomach secretes several substances related to carbohydrate metabolism, including gastrin. Instances of hypergastrinemia have been reported after SG. Gastrin stimulates gastric HCl secretion, but also induces insulin release in isolated pancreatic islets via CCK2-R activation on delta cells, limiting intra-islet somatostatin release. Moreover, high levels of gastrin have been associated with improvements in carbohydrate metabolism in rodents.
Aims
The aim of this work is to confirm, in our diabetic patients undergoing SG, the relationship between high levels of gastrin expression and plasma gastrin, and the improvement in carbohydrate metabolism.
Methods
Eighteen men and women living with obesity were included in the study. Three groups were formed: N = 6 non-diabetic (ND); N = 6 previously treated with oral antidiabetic drugs (metformin); and N = 6 treated with insulin (insulin group). Glycemia, insulin, glycated hemoglobin (HbA1c), C-peptide plasma levels, and gastric gastrin-producing cell expression were measured before and six months after SG.
Results
Gastric gastrin-producing cell expression and plasma gastrin levels were lower in diabetic patients than in controls. SG tends to restore plasma gastrin levels to normal six months after surgery. Plasma gastrin levels are inversely related to glucose, HbA1c, and insulin resistance.
Conclusions
We conclude that our patients show a loss of gastrin expression and secretion, which is restored after SG. In these patients, plasma gastrin levels are inversely related to indicators of improved carbohydrate metabolism.

P_Hea_14. Wearable Resistance Training on Jump Performance and Kinematics of Female Volleyball Players.

Milosz Mielniczek, Roland van den Tillaar

Nord University, Sport Science, FLU

Presentation format: POSTER

Abstract

This study examined the effects of an eight-week wearable resistance training program on jump performance and movement kinematics in experienced senior female volleyball players. We hypothesized that adding wearable resistance would improve vertical jump height and influence movement patterns.

Sixteen female players (mean age: 23.5 ± 3.2 years) were randomly assigned to either a control group (n=8) or an intervention group (n=8) that wore calf-mounted resistance during training. The intervention group trained twice per week for eight weeks, completing a total of 16 supervised sessions.

Vertical jump height was measured using an infrared contact mat (MuscleLab, Ergotest, Norway), and movement kinematics were assessed with a full-body motion capture system (Xsens Link, Netherlands). The intervention group showed a significant improvement in jump height, around 10% ($p = 0.039$), while no major changes were found in their movement patterns. Interestingly, the control group showed an increase in T8–pelvis flexion during the countermovement jump, indicating more forward trunk lean.

These results suggest that wearable resistance training can improve jump performance, likely through neuromuscular adaptations rather than visible changes in joint angles. This approach may be useful for enhancing explosive performance in volleyball without altering technique.

Future research should explore optimal loading, test performance transfer to actual gameplay, and include comparisons across sexes and age groups to better understand the broader application of wearable resistance in volleyball training.

P_Hea_15. The self-perceived role of tech champions in municipal healthcare services—A descriptive qualitative study.

Sissel Pettersen, Hilde Eide, Anita Berg

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Presentation format: POSTER

Abstract

Background
Health professionals performing tech champion roles have been identified as key personnel for successful technology adaptation. Studies of tech champions' roles in small organizations and from their own perspective are limited. This study explores how health professionals perform tech champions roles in municipal healthcare services.
Methods
This study is based on eight semi-structured interviews with health professionals holding tech champion roles. Purposeful sampling from five locations in three Norwegian municipalities was conducted to ensure diversity in technologies and contexts. Reflexive thematic analysis guided the data analysis.
Results
We found that tech champions hold an undefined role, holding neither predefined job descriptions nor assigned clear-cut dedicated tasks. Performance of the tech champion role appears to be highly contextual. Tech champions must be able to perform a set of sub-roles simultaneously and customize their role performance to the respective stages of the implementation processes, specific technologies, and the implementation contexts. Their enthusiasm, professional and technological competencies, and organizational know-how provided them with credibility and influence to fulfill their perceived mission of promoting, adopting, and supporting the use of technologies.
Conclusion
The tech champion's role is undefined by management, but the champions themselves hold a clear understanding of their tasks and sub-roles. Tech champions need to hold several professional, technological, and personal competencies, as well as organizational know-how, to fulfill their perceived mission. The findings indicate that while it is important who holds the tech champion role, tech champions are not strategically integrated into municipal health technology implementation processes.

P_Hea_16. Enhancing Well-Being in Women through Targeted Lifestyle Interventions: A 30-Month Case Study.

Wiktoria Manowska, Jurand Sobiecki

Institute of Psychology - University of Gdansk - 80-309 Gdansk

Presentation format: POSTER

Abstract

This project investigates the efficacy of combined lifestyle interventions targeting the gut–brain axis to improve well-being in a healthy adult woman. Over a total period of 30 months—comprising a 24-month pilot phase followed by a 6-month controlled trial—the study employs a single-case design to assess the impact of intermittent fasting, synbiotic supplementation, and structured exercise. During the pilot phase, the intervention protocol is systematically rotated in 3-month blocks to isolate the effects of individual components and optimize the overall regimen. Comprehensive measurements include daily mood diaries, standardized cognitive assessments, and periodic body composition analyses. Neurophysiological evaluation is conducted using EEG–fNIRS during sleep sessions, while gut microbiome changes are monitored through serial stool samples and blood work tracks inflammatory and metabolic markers.

This multidisciplinary approach seeks to elucidate pathways linking microbial dynamics with emotional regulation, cognitive performance, and physical health. Special emphasis is placed on hormone-related effects and gender-specific responses, acknowledging the influence of estrogen on microbiota and metabolism. Advanced statistical analyses will integrate data from behavioral, physiological, and biochemical domains, enabling a detailed exploration of intervention outcomes. By refining the protocol during the pilot phase, the subsequent controlled phase will test efficacy against a placebo condition, establishing preliminary evidence for the intervention's benefits.

P_Hea_17. Unfiltered: Summarizing the Health Effects of UV Filter Exposure and Evaluating Public Awareness in Poland.

Marta Jaskulak, Marlena Cinkusz, Karina Franchuk, Katarzyna Zorena

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Presentation format: POSTER

Abstract

Organic ultraviolet (UV) filters are commonly used in cosmetic products, where they protect the skin from solar radiation. At the same time, their expanding use and evidence of health and environmental effects, has raised concerns regarding their long-term safety.

A review of 75 studies from 2014–2024 was conducted following PRISMA guidelines to assess endocrine and reproductive effects of internal exposure to organic UV filters.

The findings indicate that exposure to benzophenone derivatives is linked to hormonal disruptions. In women, benzophenones may raise testosterone and alter thyroid hormones; in adolescent boys, they may reduce both. They also affect reproductive outcomes, including delayed puberty in boys, earlier menarche in girls, and decreased sperm quality in adult men. Exposure to multiple UV filters simultaneously may potentially increase hormonal disruptions.

In addition, a survey was conducted to evaluate public knowledge in the Polish population regarding the use of UV filters. The aim was to determine the frequency and methods of their use, to explore consumer preferences and awareness of health risks, and to collect data enabling a better estimation of population exposure.

Preliminary results show that among 114 respondents, 33% reported daily use of sunscreens, yet 57% were unaware that UV filters require two-step cleansing, which may increase absorption during prolonged skin contact. Moreover, 65.8% did not recognize that organic UV filters are classified as endocrine-disrupting substances.

These results highlight the need to educate the public about both the benefits and potential risks of UV filter exposure, including awareness of possible endocrine effects.

HEALTH

CAPSULES

C_Hea_01. Living in plastamination: from an environmental problem to a public health risk.

Antonietta Santoro,Raffaella D'Auria, Marta Anna Szychlinska, Federica Scalia, Alberto Contri, Massimo Venditti, Martina Lombardi, Marianna Marino, Erwin Pavel Lamparelli, Giovanna Della Porta, Andrea Viggiano, Francesco Cappello, Rosaria Meccariello

Department of Medical, Human Movement and Well-being Sciences, University of Naples Parthenope

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The increasing demand of plastic-goods and the accumulation of plastic-waste in the environment make plastic contamination (PLASTAMINATION) one of the main troubles of XXI century. Recently, attention has been focused on microplastics (MPs, 5mm-1µm) and nanoplastics (NPs, <1µm) that can be intentionally produced or originate from the degradation of larger plastic-waste in marine and terrestrial environments.
Experimental evidence revealed the ability of MNPs to enter the food chain, bypass the biological barriers, enter cells exerting toxic/inflammatory effects. The presence of MNPs has been demonstrated in the tissues of aquatic and terrestrial organisms, included human, and also in biological fluids like blood, breastmilk, follicular fluid, and semen. Recent studies linked MNPs exposure to higher rate of chronic diseases like high blood pressure, diabetes, myocardial infarction, stroke, neurodegeneration, dementia, miscarriage, poor semen production. Although the connection isn't yet proven to be causal, experts urge reducing plastic use and improving disposal practices.
Several biodegradable polymers have been introduced in the market, but their biodegradability does not guarantee they are safe for health. For example, in our PLASTAMINATION project we demonstrated that polylactic acid (PLA)-NPs enter cells (i.e., C6, HT29, Caco-2, hPBMCs and bovine spermatozoa) and zebrafish embryo, affecting cell function and developmental process.
In conclusion, ecotoxicological and health risks of PLASTAMINATION warrant consideration. The development of strategies to mitigate PLASTAMINATION and further studies on the health risk of biodegradable plastics are recommended.

Funding: MUR, PRIN-PNRR2022, CODE: P2022AA47Y- CUP I53D23007130001, Project title: Poly(Lactic Acid) plastics contamination (PLASTAMINATION): organ injuries and underlying molecular mechanisms.

C_Hea_02. Unveiling the Impact of Plastic Contamination (Plastamination) in the Brain.

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The worldwide spread of environmental plastic contamination (plastamination) from non-biodegradable and biodegradable waste is becoming a significant public health concern. Microplastics and nanoplastics originate from both primary and secondary sources (i.e., intentionally manufactured at a small scale or originated from the degradation of larger plastic items), and their widespread presence in aquatic and terrestrial environments means they are routinely ingested or inhaled by humans, accumulating in vital organs. Recent studies indicate a connection between exposure to plastics and neurodegenerative diseases, such as Alzheimer's, Parkinson's, and amyotrophic lateral sclerosis. Notably, evidence shows that these inhaled particles can contact the olfactory bulb, cross the blood-brain barrier, accumulate in brain tissue, and trigger neuroinflammation and neuronal damage. Beyond their physical toxicity, they also serve as carriers for chemicals (e.g., bisphenol A), which can disrupt neurotransmission, alter synaptic plasticity, and impair mitochondrial function, potentially accelerating neuronal degeneration. Furthermore, emerging evidence hints that plastamination may disrupt the immune microenvironment of the central nervous system, leading to neuroimmune dysregulation and cognitive decline. The long-term social implications could be severe: an increase in neurodegenerative diseases may exert tremendous strain on healthcare systems, increase medical costs, diminish quality of life, and disproportionately impact mainly vulnerable populations. Despite the growing threat posed by plastamination, the biological mechanisms underlying plastic-induced neural degeneration remain largely unknown. Understanding these mechanisms is crucial for evaluating the health impacts of plastamination and for developing effective preventive measures and therapeutic strategies for neurodegenerative disorders.

C_Hea_03. The Power of Small: Smart Nanoparticles, a Ray of Hope in the Fight Against Cancer.

Nieves Iglesias Blanco, Elsa Galbis, Manuel Jesús Díaz Blanco, María Violante de Paz, Juan Antonio Galbis

Enfermería y Fisioterapia, University of Cadiz

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This study focuses on optimizing the loading of the labile anticancer drug Camptothecin (CPT) into pH-responsive nanoparticles derived from poly(2-hydroxymethyl methacrylate) (pHEMA), comparing core cross-linked and non-cross-linked nanoparticles. Using a Box–Behnken experimental design, the influence of CPT/polymer ratio, sonication, temperature, and loading time on encapsulation efficiency and drug retention capacity was evaluated. Optimal loading (58%) and encapsulation efficiency (>92%) were achieved with the core cross-linked nanoparticles using a high CPT/polymer ratio (1.5:1), 14 minutes of sonication, and 2 hours at 32°C. Stability studies demonstrated excellent CPT retention (>90% over 15 days) by the core cross-linked nanoparticles under various ionic strength conditions, while non-cross-linked ones were more stable at physiological ionic strength. The optimized systems represent a significant step forward for encapsulating and retaining CPT, making them promising devices for controlled drug delivery in the acidic environment of solid tumors.

SCIENCES

ORAL

O_Sci_01. First Evidence of Tire Wear Contaminants in Poland: Environmental Occurrence and Ecological Risks.

Klaudia Godlewska, Anna Białk Bielińska, Paweł Rostkowski, Monika Paszkiewicz

Department of Environmental Analysis, Faculty of Chemistry, University of Gdansk, 80-308 Gdansk, Poland | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Tire wear contaminants (TWCs) are released into the environment during vehicle operation due to friction between tires and road surfaces. Recent studies have shown that chemicals from tires, in particular the antioxidant 6PPD (N-(1,3-dimethylbutyl)-N′-phenyl-p-phenylenediamine) and its transformation product 6PPD-quinone (6PPD-Q), pose a serious threat to the environment and public health. Notably, 6PPD-Q has been identified as the direct cause of mass mortality in coho salmon (Oncorhynchus kisutch) in the Pacific Northwest and has been detected across various environmental media and in human biological samples. Although TWCs are widespread, there is still limited knowledge about their presence and impacts in many regions of Europe. In this study, we investigated the occurrence of 16 selected TWCs, including tire additives and their transformation products, in water and soil samples collected from various locations in northern Poland, such as expressways, city streets, and rural areas.

Ten TWCs were detected in soil, with benzothiazole (BTH) reaching the highest concentration. All studied TWCs were detected in water, and 6PPD-Q was present in every sample at concentrations that posed a significant ecological risk.

This study presents the first environmental occurrence data of TWCs in Poland and underlines the importance of further monitoring and international cooperation in tackling emerging pollutants, especially in the context of sustainable development and shared European environmental goals.

O_Sci_02. "Art & Science across Italy": a journey between Science and Art in high schools.

Yuri Cotroneo, Naples Parthenope

Dipartimento di Ingegneria - Centro Direzionale is.C4 | NAPLES PARTHENOPE

Presentation format: ORAL (ON SITE)

Abstract

Creativity and vision are essential across disciplines, shaping both artistic and scientific endeavors. "Art & Science across Italy", a project led by the Italian National Institute for Nuclear Physics (INFN) in collaboration with CERN, cultivates a broad perspective in high-school students to disseminate scientific knowledge. Embracing the STEAM field, it integrates STEM and arts without privileging one over the other. Throughout the project, high school students attend scientific seminars and subsequently, drawing inspiration from science, create their own artworks. These artworks are then showcased in local and national art exhibitions. In the fourth edition (2022-2024), more than 7000 students produced 1000 artworks showcased in 20 exhibitions. This paper outlines the project, methodology, and key results

O_Sci_03. Combining Classification and Spectral Subtraction to Improve Situational Awareness in Water Quality Monitoring, a case study off Sagres in the south of Portugal.

Cristiano Ciccarelli, Mohammed Ajaoud

Science and Technologies - Parthenope University of Naples - Centro Direzionale, isola C4 - 80143 Napoli, Italy | NAPLES PARTHENOPE

Presentation format: ORAL (ON SITE)

Abstract

Monitoring aquatic ecosystems is crucial for detecting and contrasting environmental risks such as Harmful Algal Blooms, which can have severe ecological impacts. As ocean colour remote sensing advances, the combination of in situ and satellite data can develop into an effective approach to track water quality.

The study here presented focuses on the coastal and oceanic waters in southwestern Portugal. It uses in situ and MEdium Resolution Imaging Spectrometer (MERIS) water-leaving reflectance data, water constituents data derived from water samples and phytoplankton counts to understand the dynamics in these waters. All datasets were acquired under a funded ESA project for the 'Technical Assistance for the Validation of MERIS Marine Products at Portuguese oceanic and coastal sites' (between October 2008 and March 2012), hence they are spatially and temporally matched.

This study explores the application of water classification and spectral subtraction techniques, with in situ and satellite data, to identify the dominant water constituents, understand their dynamics and assess their potential use in water quality monitoring. The classification is used to simplify optical complexity of aquatic environments through dominant constituents-based grouping, then the spectral subtraction aims to isolate specific constituents related to the main water cases, exploiting reference and mixed spectra.

Rather than replacing complex unsupervised algorithms, this methodology offers an accessible tool for interpreting reflectance data across remote sensing platforms, optimal for presenting fast, interpretable outputs. Its flexibility makes it especially suited for hierarchical water quality monitoring systems, supporting timely decision-making and enhancing situational awareness in coastal management contexts.

O_Sci_04. Emerging contaminants in groundwater - enhancing analytical methods for effective monitoring.

Anna Rojewska, Magda Caban, Klaudia Godlewska, Paweł Rostkowski, Anna Białk Bielińska

Faculty of Chemistry, University of Gdańsk, 80-308 | GDANS

Presentation format: ORAL (ON SITE)

Abstract

Groundwater is a crucial source of drinking water in European countries. While often considered safe and well-protected, groundwater is increasingly vulnerable to contamination by emerging pollutants – chemicals that are not routinely monitored but can have significant adverse effects on human health and the environment. Identifying and managing these pollutants is essential for improving public health, protecting natural resources, and developing sustainable water management strategies that address global environmental and health issues. The main aim of this research was to develop an analytical method capable of detecting a wide range of emerging pollutants in groundwater. The efficiency of traditional solid-phase extraction (SPE) methods using Oasis HLB sorbents was compared with more advanced sorbents, which combine hydrophobic, hydrophilic, and ion-exchange properties. These new sorbents enable the efficient capture of a wider variety of compounds with diverse physicochemical characteristics, allowing for a more comprehensive analysis. All analytical procedures were evaluated using the AGREEprep tool, a quantitative and visual method for assessing the alignment of laboratory techniques with the principles of green chemistry. This evaluation allowed for the identification of the most effective and environmentally sustainable analytical approach. The developed method was subsequently applied to a preliminary assessment of groundwater quality from selected monitoring sites. Both targeted analyses, focusing on specific groups of compounds, and non-targeted analyses, capable of detecting previously unrecognized substances, were conducted. This dual approach not only provided a more thorough chemical profile of the samples but also led to recommendations for expanding environmental monitoring to detect new categories of pollutants.

O_Sci_05. Development of a Method for Detecting Concurrent Infectious Respiratory Diseases in a Selected Human Population Using Nanopore Sequencing.

Weronika Wojdacz

GDANSK University

Presentation format: ORAL (ON SITE)

Abstract

The World Health Organisation (WHO) predicts a much more dangerous viral outbreak in the future than the COVID-19 pandemic, which will kill more than 50 million people worldwide. The research problem presented in this work was addressed, because there is a need to develop a diagnostic method for the rapid, accurate and efficient detection of different viral variants co-occuring in the human population.

The aim of this work is to develop a diagnostic method based on nanopore sequencing to detect, in less than five hours, the co-occurence of viruses (SARS-CoV-2, influenza A and B, RSV, parainfluenza) responsible for causing infectious respiratory diseases in humans.

First, it is planned to compile an internal database containing only the genetic sequences of the viruses analysed and to create a system for matching individual sequences to the viral species for which they are characteristic. The next step will be to develop PCR primers specific to the virus species. It will then be possible to perform sequencing on a nanopore platform. Finally, the reads of the sequencing will be able to be compared with the sequences contained in the database created at the outset. The effectiveness of the developed method will be able to be tested on clinical samples used in routine SARS-CoV-2 testing. To summarise, the use of the above-mentioned method will enable the detection of specific viral variants present in a patient sample in a faster, more accurate and more efficient manner than the approaches previously used.

O_Sci_06. Loss of natural capital stocks due to the removal of Posidonia oceanica banquettes: A multimethodological approach .

Ilaria Dentamare, Umberto Grande, Evelina Carmen Sabatella, Lauria Valentina, Calabrò Monica, Buonocore Elvira, Pier Paolo Franzese, Giovanni Fulvio Russo

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Presentation format: ORAL (ON SITE)

Abstract

Seagrass meadows are among the most productive ecosystems in coastal regions. In the Mediterranean Sea, the endemic seagrass Posidonia oceanica is crucial for maintaining coastal ecosystem health. This seagrass influences coastal dynamics through the formation of natural accumulations of dead leaves, known as banquette. Despite offering a wide range of essential ecosystem services, these formations are frequently removed in tourist areas as they are perceived as a nuisance and sent to landfills. In this context, the present study proposes an integrated methodological framework to assess the ecological and socio-economic implications of different banquette management practices. Field surveys were carried out to collect georeferenced data on banquette dimensions across different seasons, specifically thickness, length, and width, along the Sicilian shore (Southern Italy). Fresh samples of P. oceanica banquettes were collected along the Sicilian coastline to estimate their biomass and the associated concentrations of nutrients and other chemical elements. In Spring, banquette deposits accounted for a total volume of 45,334 m^3 and a surface area of 109,464 m^2. In Fall, the total volume was 181,890 m^3 and the surface area was 237,749 m^2. Chemical analyses allowed to quantify biomass and carbon stock of P. oceanica banquettes and, therefore, their potential loss due to banquette removal. Furthermore, cost-benefit analyses were conducted to evaluate multiple management scenarios, including landfill disposal, in situ maintenance, and reintroduction into the marine environment. In conclusion, this study highlights the urgent need for informed sustainable management strategies of P. oceanica banquettes, based on ecological and socio-economic indicators.

O_Sci_07. Geographical Origin Classification of Olive Oil Using Vis-NIRS and Machine Learning: Spectral Fingerprinting for the Authenticity of Food.

María José Aliaño González, María SuanoMorón, Ceferino, Marta Barea Sepúlveda, Miguel Palma Lovillo, Nuria Chinchilla

Analytical Chemistry (IVAGRO) - University of Cádiz (Puerto Real, 11510, Spain) | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The authentication of olive oil based on its geographical origin is a critical factor for quality assurance, traceability, and the prevention of food fraud. The present study explores the integration of visible and near-infrared spectroscopy (vis-NIRS) with machine learning techniques to classify olive oil samples according to their provenance. A comprehensive methodological framework was applied, starting with unsupervised learning methods—Hierarchical Cluster Analysis and Principal Component Analysis —to explore data structure and variability.

Subsequently, supervised classification algorithms were employed in conjunction with various spectral preprocessing techniques, including maximum normalization, Savitzky–Golay filtering, first and second derivatives, Standard Normal Variate, and Multiplicative Scatter Correction. The validation of the models was undertaken using a train: test split ratio of 70%:30%. The optimized pipeline demonstrated a 100% classification accuracy, effectively discriminating olive oil samples based on their geographical origin (Morocco, Spain, Italy or Portugal).

Furthermore, specific wavelengths contributing most significantly to the classification process were identified, enabling the construction of a spectral fingerprint characteristic of each origin. These findings underscore the potential of integrating vis-NIRS with machine learning to facilitate rapid, non-destructive, and cost-effective authentication of food frauds.

O_Sci_08. Unlocking a New Understanding of Micro- and Nanoplastics with Machine Learning.

Kinga Nimz, Wita Stwosza, Agnieszka Gajewicz Skrętna

Laboratory of Environmental Chemoinformatics, Faculty of Chemistry, University of Gdansk, Wita Stwosza 63, 80-308 Gdansk, Poland. | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Micro- and nanoplastics are found nearly everywhere in the environment nowadays, and they have very serious concerns about their effects on the health of various organisms from fish, reptiles, birds, mammals, and to endangered species. The aim of this study was to forecast their potential cytotoxic effect on mammalian cell lines using a variety of machine learning methods, i.e., K-nearest neighbors (K-NN), support vector machines (SVM), decision tree, random forest, and neural networks. We began with a careful critique of the available scientific literature (up to September 2024) and tried out standard classification models. We quickly saw that data imbalance heavily affected their performance. To counteract this, we used the Synthetic Minority Over-sampling Technique (SMOTE) to balance the dataset and improve results. At the same time, we also explored quantitative model techniques, which gave another insight into the problem—typically more resistant to the pitfalls of classification. Having this two-approach method allowed us to compare the two methodologies and have a better understanding of their weakness and limitations. During the analysis, four variables—particle size, concentration, polymer type, and exposure time—were very significant to precise predictions. Our results suggest that although SMOTE helps to improve classification in unbalanced datasets, quantitative models add additional value through increased understanding of the patterns of toxicity. In the future, growing dataset sizes and further elucidation of the effect that some physical and chemical properties have on cytotoxicity may help to develop more robust predictive tools to support environmental health research and policy-making.

O_Sci_10. Smart Sensing for Arson Detection: A Portable eNose and Machine Learning Approach.

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Presentation format: ORAL (ON SITE)

Abstract

Detecting ignitable liquid residues (ILRs) in fire debris is essential in forensic investigations, as it can help determine whether a fire was intentional. Traditional methods, such as gas chromatography–mass spectrometry (GC-MS), are standardized (ASTM E1618) but have limitations. They are slow, require expert operators, and are not suitable for on-site analysis. This study proposes a low-cost and portable alternative using a homemade electronic nose (eNose) equipped with electrochemical sensors. The sensor responses were analyzed using machine learning (ML) models for automatic ILR detection and classification, even in challenging matrices like petroleum-derived substrates. After signal preprocessing and variable selection, several classification models were trained. Random Forest and Support Vector Machine (SVM) models achieved 100% accuracy in detecting the presence or absence of ILRs. For identifying the type of ILR, the best model (SVM) reached 97.2% accuracy. The proposed method offers several advantages over conventional techniques. It eliminates the need for chromatographic separation or sample preparation, provides results in under five minutes, and allows in-field application because of its portability. In addition, a user-friendly web application was developed, allowing users and forensic professionals to access the trained models and obtain predictions without the need to build their own reference database. These results demonstrate the potential of combining sensor technology with ML to provide fast, accurate, and accessible fire debris analysis for forensic purposes.

O_Sci_11. Leveraging AutoML for Optimal Model Selection in Complex Environmental Phenomena: Enhancing Decision-Making through Improved Situational Awareness for Environment.

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Presentation format: ORAL (ON SITE)

Abstract

This research explores the application of Automated Machine Learning (AutoML) as a methodological framework for identifying optimal predictive models that characterize critical environmental phenomena in complex scenarios. By leveraging AutoML's capabilities, we aim to support decision-makers in achieving improved situational awareness through more accurate environmental modeling and forecasting. Our methodology employs AutoML to systematically compare various modeling approaches, including regression models, gradient boosting techniques, and random forest implementations. Unlike traditional approaches that rely on predefined modeling techniques, our AutoML-driven framework offers an objective comparison across model families, contributing to the selection of the best predictive model based on specific environmental contexts and available data. This research establishes a methodological foundation that can be adapted to various environmental monitoring and forecasting challenges. As one of our first case studies, we have applied this approach to the analysis of wildfire prediction, with a particular focus on events in California. For this application, the framework processes historical fire data, meteorological records, and Fire Weather Index (FWI) components to identify the most effective predictive models. Our results demonstrate the superiority of tree-based ensemble methods, with ExtraTreesGini achieving the highest F1 score (0.783), followed closely by LightGBM (0.781) and XGBoost (0.776). These models maintained high accuracy (86-88%). Through automated threshold optimization, we further improved model performance by optimizing the precision-recall trade-off, enhancing F1 scores from 0.77 to 0.80 on validation data. These findings establish a robust foundation for operational fire risk assessment systems with real-world applicability.

O_Sci_12. Assessment of drug consumption in SW Spain through wastewater-based epidemiology.

Ruben Rios Quintero, Sergio Santana Viera, Nieves R Colás Ruíz, Eduardo González Mazo, Pablo A Lara Martin

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Presentation format: ORAL (ON SITE)

Abstract

Urban wastewater is increasingly recognized as a valuable source for estimating community drug consumption patterns through wastewater-based epidemiology (WBE). In this study, we monitored the presence of illicit drugs over four years of four wastewater treatment plants (WWTPs) located in the province of Cádiz (SW Spain), a region with high population density and significant exposure to drug trafficking routes.

We aimed to assess spatial and temporal variations in drug use, including the influence of COVID-19 and local festive events between 2018 and 2023. Samples were analysed using liquid chromatography coupled with mass spectrometry (LC-MS/MS), targeting several illicit drugs and their metabolites. Our results showed consistent detection of cocaine and its main metabolites, among other substances, confirming sustained community-level consumption. Temporal trends revealed increased drug loads during festive periods and after the relaxation of COVID-19 restrictions, highlighting a strong association between local festivities and substance use. Notably, cocaine consumption increased by an average of 30.78% during festive periods compared to regular weeks. In addition, methadone use showed a increase of 17.52% on weekends relative to weekdays.

Removal efficiency across WWTPs was variable. The highest average removal of illicit drugs was observed at Jerez de la Frontera WWTP, reaching 80.42%, while some compounds, such as benzoylecgonine, persisted in treated effluents, raising concerns about environmental risks. An environmental risk assessment based on risk quotients indicated moderate to high ecological risks for aquatic organisms. This is the first WBE study conducted in this geographical area, offering baseline data for future monitoring and environmental protection strategies.

O_Sci_13. Surviving in a Warmer Marine World: A Study on the Impact of Thermal Effluent on Posidonia oceanica Meadows and Associated Fish Assemblages in the Maltese Islands.

Alessio Marrone, Alessandro Rinaldi, Valeria Montalto, Adam Gauci, Francesca Ape, Henri Ringeard, Marco Spoto, Marco Martinez, Emanuela Claudia La Marca, Simone Mirto, Alan Deidun

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Presentation format: ORAL (ON SITE)

Abstract

Ocean warming threatens coastal ecosystems and habitats, particularly seagrass meadows. This study examines the impact of thermal effluents from power plants—used as proxies for climate-driven temperature increases—on Posidonia oceanica meadows and their associated fish communities. Using a gradient-based approach, we assessed environmental variables, seagrass indicators, fish assemblages, and functional group (FG) dynamics across a thermal gradient from the effluent outfall. Temperature emerged as the primary factor influencing P. oceanica, with reduced leaf length, shoot density, and rhizome weight observed near the effluent source. Although some compensatory mechanisms were present, overall photosynthetic biomass and resilience declined under thermal stress. Fish communities near the effluent exhibited lower species richness and biodiversity, with a rise in opportunistic and thermophilic species. FG analysis showed altered seasonal patterns, trophic shifts, and functional compensation, indicating potential ecological imbalance. Transient predators increased near the effluent, while sedentary and temperate species declined. These findings highlight the cascading effects of localized warming on P. oceanica meadows and their communities, emphasizing the need for urgent conservation strategies. By identifying ecological thresholds and adaptive responses, this study offers key insights into the broader implications of thermal stress on coastal biodiversity and ecosystem services.

O_Sci_14. Effect of fungal infection on the cuticular lipid composition of Xysticus ulmi females.

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Presentation format: ORAL (ON SITE)

Abstract

Cuticular (surface) lipids are chemical compounds located in the outermost layer of the arthropod epicuticle and can be extracted using organic solvents. These lipids serve essential physiological functions, primarily by forming a hydrophobic barrier that minimizes water loss and protects the organism from harmful environmental agents. Additionally, some cuticular lipids exhibit antimicrobial properties, inhibiting the growth of pathogenic fungi and bacteria and thus contributing to the organism's defense against infection.

The composition of surface lipids is highly variable and influenced by numerous factors, including species, sex, developmental stage, environmental conditions, and pathogen exposure. Previous studies investigating the impact of pathogenic fungal infections on cuticle composition, that used advanced analytical techniques, have identified lipid compounds with antimicrobial properties. However, such research has only focused on select insect species. In contrast, spiders have received no attention, despite the fact that their cuticle, while sharing many similarities with that of insects, may possess greater chemical complexity. Exploring lipid composition in spiders is particularly valuable in the search for natural antifungal and antimicrobial substances with potential applications in developing novel biofungicides or pharmaceuticals.

This study investigates changes in the cuticular lipid profile of Xysticus ulmi females following infection with the entomopathogenic fungus Beauveria bassiana and Metarhizium brunneum. Lipids were extracted using dichloromethane and analyzed by gas chromatography–mass spectrometry (GC-MS). Quantitative analysis was performed using 19-methylarachidic acid as an internal standard. Compound identification was based on characteristic ion patterns, comparison with NIST11 and NIST11b mass spectral libraries, and reference standard solutions.

O_Sci_16. Doughnut Economics in the Island Context: a global situation snapshot.

Carlos Guitart, Andrew L Fanning, Andrés Cozar

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Presentation format: ORAL (ON SITE)

Abstract

The global changes and the increasing scale of ecological overshoot continue to expose the harmful effects of the growth-based economic system at planetary level, undermining the Earth-system stability upon which human wellbeing and security fundamentally depend. Previous ecological economics research has largely focused on continental nations, but the social and ecological status of island territories (i.e. island and archipelagic states and nation's overseas territories), which are home to almost 0.9 billion people and show an extraordinary nature needs to be better understood. Here, we investigate the socio-ecological systems performance of islands by applying the doughnut-shaped Safe and Just Space (SJS) framework to analyse selected 84 island territories based on social, economic and ecological indicators. The results reveal three group average profiles according to their socio-economic development with a worrying ecological degradation toll among the world's large, medium and small islands, yet none is in a sustainable socio-ecological status. We examined by ocean basins and seas the individual cases and discuss them considering their colonial past, trade relationships, cultural and demographic traits and within the international frameworks for islands development (e.g. UN SIDS – Small Islands Developing States). We concluded that for almost all the sovereign island states and overseas territories the current development is far from a durable steady-state development. Globally, the sustainable pathways require boosting ecological policies (ca. law) and demographic debates (ca. island's growth rates, migration and touristification).

O_Sci_17. Understanding Protein Evolution Across Life to Advance Science and Society.

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Presentation format: ORAL (ON SITE)

Abstract

Proteins are the molecular machines that drive every biological process in our bodies and in all living organisms. My research focuses on how protein sequences evolve over time across the vast diversity of life -from bacteria to humans. By studying changes in protein sequences, we can better understand how proteins adapt, interact, and sometimes fail, leading to disease. One key aspect of this work is exploring how protein evolution is not uniform -it changes tempo and direction in different species and over time. Another important part of my research looks at how different parts of a protein evolve together, often compensating for one another, like gears in a clock. These perspectives can help us understand how mutations affect function, which has important implications in health, drug design, and biotechnology. Using sequence data from thousands of species, I build large-scale evolutionary trees and protein alignments to track these complex patterns of evolutionary genetics. This not only deepens our understanding of life's history but also improves the tools scientists use in fields like evolutionary biology, medicine, and synthetic biology. Ultimately, by decoding the rules of protein evolution, this research can help us design better drugs, understand genetic diseases, improve agriculture, and even engineer new proteins for technology and industry.

O_Sci_18. Valorization of Marine Algae for Bioactive Compounds Algae.

Hind Achahbar, Abdelmalek Essaadi, Ignacio Hernandez Carrero, Remedios Castro Mejias, Noureddine El Mtili, Abderrahmane Debdoubi, Enrique Duran Guerrero

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Presentation format: ORAL (ON SITE)

Abstract

The marine environment is a unique ecosystem, rich in biodiversity. Algae, used for millennia by coastal populations for their high nutritional value, have become a focal point for economic development due to the bioactive compounds extracted from them. These compounds offer advantages across industries, including food, pharmaceuticals, and cosmetics. Algae's abundance and availability further enhance their potential as valuable resources.

Despite extensive research on algae for energy conversion and dietary supplements, there remains a gap in studies focusing on their bioactive compounds and associated industrial applications. Additionally, the accumulation of seaweed on beaches presents environmental challenges, particularly for tourism and local economies. This issue, however, can be mitigated by valorizing high-quality seaweed as a biological feedstock, thereby addressing coastal accumulation while unlocking its potential as a renewable industrial resource. Such an approach contributes to sustainable development by transforming an ecological burden into an economic and industrial asset.

The present study examines the bioactive compounds in algae harvested from both the Mediterranean Sea and the Atlantic Ocean. Samples were collected from three distinct algal families across two seasons, providing a broader understanding of seasonal and taxonomic variations. The findings revealed a diverse array of bioactive metabolites, including volatile compounds with strong potential in the food, fragrance, and pharmaceutical industries, as well as polyphenolic content with promise for applications in food, skincare, and health supplements.

Our findings highlight the potential of algae as a valuable source of bioactive compounds, offering new opportunities in sustainable, bio-based product development.

O_Sci_19. Extreme climatic events: effects of heatwaves on the coastal ecosystem of southern Spain.

Marika Mecca, Sandra Rizzo, Valle Perez Rodriguez, Maria Borrallo Solis, Maria Dolores Jimenez Lopez, Silvia Rayo Mato, Alfonso Corzo, Emilio Garcia Robledo

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Presentation format: ORAL (ON SITE)

Abstract

Climate models indicate that heatwaves, defined as long periods of 3-5 days with temperatures of 3-5°C higher than average, are expected to become more frequent and intense, causing various risk to coastal ecosystems. Coastal wetlands are very sensitive to extreme climatic events, and the sediment surface of intertidal zones is typically dominated by benthic microalgae (microphytobenthos, MPB). MPB plays an important role as they are primary producers but are vulnerable to temperature variations due to exposure to environmental changes. Here, we investigate how the productivity and abundance of MPB is affected by heatwaves in shallow coastal environment. Microsensor measurement of O2 profiles and light reflectance were made and the community was exposed to different temperatures simulating heatwave.

Current observations demonstrate an initial increase in MPB productivity during heatwaves conditions, followed by a decline in metabolic activity after prolonged exposure to higher temperatures. A similar trend was observed in the migration patterns of MPB. The microalgal community was positively affected increasing its presence on the sediment surface despite elevated temperature, and then over the sequence of a few days MPB remained in deeper layers and avoided the sediment surface. This study underlined the negative effects of global warning and the potential impact of extreme events on the entire ecosystem, although initially stimulatory effect of heatwaves on ecosystem functioning. Extended periods of heatwaves damage the coastal system both ecologically and economically by altering primary production, community structure, and climate regulation with potentially cascading effects to higher trophic levels of economic importance.

O_Sci_20. Role of Acyltransferase Involved in Phospholipid Metabolism in Adaptation to Temperature Stress Conditions.

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Presentation format: ORAL (ON SITE)

Abstract

Phospholipids, as a major components of plant cell membranes, play a key role in maintaining cell integrity, fluidity, molecular transport, and signalling. Alteration in their content and composition can disrupt membrane homeostasis, ultimately affecting plant development and adaptation – critical concerns in the context of ongoing climate change.

Our research focuses on key enzymes involved in the metabolism of phosphatidylcholine and phosphatidylethanolamine, two major membrane phospholipids. We investigate physiological role of acyl-CoA:lysophosphatidylethanolamine/lysophosphatidylcholine (LPEAT and LPCAT, respectively) and phospholipid:diacyglycerol (PDAT) acyltransferases, which participate in phospholipid remodelling by modifying their fatty acids composition – a mechanism emerging as crucial for plant temperature adaptation. To examine the significance of these enzymes, we study both the model plant Arabidopsis thaliana and the oilseed crop Camelina sativa, using T-DNA insertion lines, CRISPR-Cas9-generated mutants, and overexpression lines. We analyse their roles under standard, heat and cold conditions, focusing on morphological traits, lipid content, and composition, intensity of phospholipid remodelling, and carbohydrate and protein levels – particularly those associated with autophagy, a key intracellular process that removes damaged or unnecessary cellular components. Importantly, we also assess seed productivity, which is influenced by both the developmental stage at which stress occurs and its duration.

Our results demonstrate that intensified lipid remodelling enhances plant fitness and stress tolerance, also positively affecting seed yield. This findings highlight the pivotal role of acyltransferases involved in phospholipid metabolism and contribute to understanding how plants cope with climate-related challenges, offering promising direction for crop improvement strategies.

" *Acknowledgements: This research was funded in part by National Science Centre, Poland, project no. UMO- 2017/25/B/NZ3/00721 and UMO-2023/51/B/NZ3/00253.*"

O_Sci_21. Use of Olive Varietal Biodiversity to Innovate and Improve the Competitiveness of Traditional Olive Groves in the Sierra de Cádiz (Spain).

Manuel Rueda Martínez, Juan Manuel Pérez González, María del Carmen Rodríguez Dodero, Antonio Amores Arrocha, Pau Sancho Galán, Ana Concepción Jiménez Cantizan.

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Presentation format: ORAL (ON SITE).

Abstract

Olive growing is one of the main agricultural and economic activities in the province of Cádiz (Spain). This crop is predominant in mountainous areas, typically characterized by sloping terrain and rainfed conditions. In recent years, olive cultivation has expanded into the lowland countryside, incorporating new super-intensive and monovarietal systems, which poses a threat to the competitiveness and genetic diversity of traditional olive groves.

In this context, identifying, locating, and characterizing ancient olive varieties is of particular interest, especially with regard to their potential for producing high-quality extra virgin olive oils with distinctive compositional profiles and high oxidative stability. These characteristics are key to maintaining oil diversification and supporting the economic sustainability of rural areas in the province.

This work presents the results of the genetic identification of local olive varieties conserved in ancient groves of the Sierra de Cádiz, along with the characterization of their oils based on bioactive compounds and quality parameters.

These results were obtained within the framework of the BIOLIVO Operational Group project. The BIOLIVO Operational Group is funded through the European Agricultural Fund for Rural Development (EAFRD) and co-financed by the Consejería de Agricultura, Pesca, Agua y Desarrollo Rural of the Junta de Andalucía under the 2022 call for the Implementation of Regional Operational Groups of the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI).

O_Sci_22. Unravelling the current status of marine pollution in European seas through SEA-EU sampling campaigns.

Rubén Ríos Quintero, Lillie Freemantle, Guia Burbui, Daniel González Fernández, Marina G Pintado Herrera, Chara Pablo A Lara Martín

Department of Physical Chemistry | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Thousands of chemical substances enter the marine environment through various pathways, including runoff from agricultural and industrial sources, atmospheric deposition, and water discharge. Many of them may pose a risk towards marine ecosystems due to their persistence, bioaccumulation potential, and/or toxicity. In order to assess the occurrence and distribution of chemical contaminants in the European marine environment, sediment and water samples were collected from two sampling campaigns conducted onboard the R/V Oceanograf, the first from Gdansk (Poland) to Cadiz (Spain) (26th May – 17th June 2022) and the second from Gdansk to Bodo (Norway) (3rd June – 19th June 2024). Over 100 sediment samples and water samples from different depths and locations were collected and analyzed for determination of persistent organic pollutants (POPs), including polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides and industrial chemicals (OCPs), and perfluoroalkyl and polyfluoroalkyl substances (PFAS). Analysis of sediment samples revealed PAH concentrations ranging from < 100 to 43,000 ng/g, whereas OPCs ranged from <1 to 250 ng/g, with the highest values measured at Mecklenburg (Germany) and Brest (France) bays. Regarding water samples, total concentrations of PFAS were from 300 to 5000 pg/L, with the highest values detected in surface waters from the Baltic Sea, suggesting a net export of these chemicals towards the Arctic Ocean. The results presented here reflect strong spatial variability and provide a baseline for current concentrations of POPs in the European marine environment.

O_Sci_23. Aerobic and Anaerobic Metabolism, and redox-state related adaptation of Patella spp. (Mollusca: Gastropoda) to Ocean Acidification at CO_2 Vents, Ischia Island (Italy).

Gaetana Napolitano, Maria Teresa Muscari Tomajoli, Gianluca Fasciolo, Adriana Petito, Eugenio Geremia, Paola Venditti, Giovanni Fulvio Russo, Maria Cristina Gambi, Luigia Donnarumma

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Presentation format: ORAL (ON SITE)

Abstract

Anthropogenic Ocean Acidification (OA) generates harsh conditions for marine animals, and the survival mechanisms underlying metabolic and redox-related adaptive strategies remain poorly understood. Natural CO2 vents, such as those of the Castello at Ischia Island, represent natural laboratories to study OA effects on benthic biota. In this study, limpets (Patella spp.) from two Castello vents areas (S3 and N3, pH 7.0-7.7, respectively) were sampled and compared to limpets from two control areas (SP and CS, pH 8.0-8.1, respectively). We studied aerobic [electron transport chain functionality (ETC); cytochrome oxidase activity (COX)], and anaerobic metabolism [lactate content, lactate dehydrogenase activity (LDH)]. Redox state-related biomarkers, such as reactive oxygen species (ROS), lipids (HPs) and proteins (CO) oxidation, oxidants susceptibility (ΔHPs), and total antioxidant capacity (TAC), were also analyzed.

ETC activity, particularly Complex I, was lowest in vents sites' limpets and highest at CS, though COX activity remained stable across sites, suggesting that low pH affects aerobic metabolism. LDH was highest in CS, suggesting an increased anaerobic metabolism to face a stress condition. However, the lowest lactate accumulation in CS indicated its utilization for energy production through increased ETC. S3 limpets showed the lowest LDH and highest lactate content, suggesting an overall metabolic reduction. Limpets from all sites showed the same ROS content. HPs and CO showed the highest values in both N3 and S3, but N3 limpets had higher TAC and lower ΔHPs than S3, indicating a more effective antioxidant response compared to S3. Finally, ΔHPs and TAC were higher and lower, respectively, in SC than in SP, indicating a possible interaction of SC limpets with acidified sites.

O_Sci_24. Inhibition of Botrytis cinerea by VOCs from Pichia kluyveri and Pichia kudriavzevii: Impact of 2-PE and 2-PEA.

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Presentation format: ORAL (ON SITE)

Abstract

Fungal pathogens like Botrytis cinerea represent a major threat to global agriculture, especially for high-value crops such as grapes, where gray mold causes severe field and postharvest losses. With increasing restrictions on synthetic fungicides, microbial volatile organic compounds (VOCs) have gained attention as sustainable alternatives.

In this study, we investigated the antifungal activity of VOCs emitted by Pichia kudriavzevii and Pichia kluyveri strains isolated from wild Vitis vinifera ssp. sylvestris. SPME-GC-MS analysis revealed that 2-phenylethanol (2-PE) and 2-phenylethyl acetate (2-PEA) were the dominant volatiles. Both the yeast-produced VOCs and the pure compounds were tested against B. cinerea strain B05.10.

In vitro assays demonstrated a significant inhibition of mycelial growth, spore germination, and viability. Spores exposed to VOCs failed to recover when transferred to fresh medium, as confirmed by resazurin-based viability assays, indicating a lethal, rather than fungistatic, effect. Scanning electron microscopy revealed marked ultrastructural damage in treated spores, suggesting membrane disruption and cytoplasmic leakage.

These results underscore the potential of wild grape yeasts as a source of bioactive volatiles with strong antifungal properties. The dual action of 2-PE and 2-PEA in inhibiting both growth and viability positions them as promising candidates for the development of next-generation biocontrol tools. This work contributes to the advancement of sustainable viticulture and highlights the untapped potential of native microbial biodiversity.

O_Sci_25. Volatile and Phenolic Profiles of 'Pedro Ximénez' Sweet Wines and Mistelas Under Oxidative Conditions.

Pablo Andreu García, Ana Jiménez Cantizano, Pau Sancho Galán, Antonio Amores Arrocha, Enrique Durán Guerrero, Remedios Castro Mejías

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Presentation format: ORAL (ON SITE)

Abstract

This study research the effects of oxidative aging on the volatile and phenolic composition of sweet wines and mistelas produced from sun-dried grapes of 'Pedro Ximénez' variety. The experimental design evaluated three main factors: oxidative storage time, type of winemaking (Natural Sweet Wine, Naturally Sweet Wine and Mistela), and the presence or absence of grape skins during alcoholic fermentation. The results indicated that grape skin contact had a limited impact on the concentration of low molecular weight phenolic compounds and furfurals. In contrast, storage time and elaboration method were the most influential variables. Phenolic compounds generally decreased due to oxidative phenomena, while furfurals concentrations increased, as a result of sugar degradation. Volatile compounds profiles were significantly affected by elaboration type, with mistelas exhibiting lower levels overall, and, to lesser extent, by grape skin contact. The absence of grapes skins resulted in higher levels of certain volatiles, particularly acids and ethyl esters, which suggests its formation was modulated by the skin presence during fermentation. Furthermore, the effect of aging time on volatiles varied depending on the type of elaboration, with mistelas showing noticeable declines over time, and sweet wines remained stable or increased in certain volatile compounds. These findings provide valuable information on the chemical evolution of traditionally produced sweet wines under oxidative conditions.

O_Sci_26. Persistent, mobile and toxic substances in an Estuarine River System: A Case Study from Southern Spain.

Lillie Jeal Elizabeth Freemantle, Rubén Ríos Quintero, Eduardo González Mazo, Marina G.Pintado Herrera, Pablo A.Lara Martín

Physical ChemistryDepartment, Faculty of Marine and Environmental Sciences | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Identifying and monitoring chemical contaminants in complex aquatic systems is essential for environmental protection and water safety. Among emerging contaminants, persistent, mobile, and toxic (PMT) substances are particularly concerning due to their high transport potential and persistence in the environment. These properties allow them to bypass standard treatment processes and reach downstream environments, including drinking water sources. In estuarine and urban-influenced rivers, such as the Guadalquivir in southern Spain, PMTs may exhibit unique distribution patterns influenced by salinity gradients and human activities. This study aims to provide baseline data on PMT occurrence in such environments. A dual-season sampling campaign was conducted at eight sites along the Guadalquivir River, capturing both summer (July 3 and 30, 2024) and winter (January 25 and February 28, 2025) conditions. At each location, water samples were collected from the microlayer, surface, and bottom layers. Solid Phase Extraction (SPE) followed by Liquid Chromatography–High-Resolution Mass Spectrometry (LC-HRMS) enabled suspect screening based on the German Environment Agency's 2023 PMT priority list of 259 substances.

From this screening, 78 compounds were selected for target identification and quantification. After sample preparation via SPE and analysis using LC-HRMS, nine compounds were confirmed at confidence Level 1 through comparison with analytical standards. Among them, tetraglyme, benzotriazole, methyl-1H-benzotriazole, and phenazone were present in all samples, with concentrations up to 286 ng/L. Microlayer samples consistently showed higher levels of the confirmed compounds. Seasonal data provides insights into temporal variations in PMT inputs to aquatic systems, providing a more comprehensive understanding of their dynamics throughout the year.

O_Sci_27. Assessing Fishing Impacts on Coralligenous Habitats in the Tremiti Islands Marine Protected Area (Southern Italy).

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Department of Science and Technology, Parthenope University of Naples | NAPLES PARTHENOPE

Presentation format: ORAL (ON SITE)

Abstract

Coralligenous habitat is one of the most important marine biodiversity hotspots in the Mediterranean Sea, formed by a complex structure of calcareous encrusting algae and various marine species. This habitat supports numerous vulnerable species, and has a critical role in maintaining biodiversity and providing ecosystem services including coastal protection and carbon sequestration. However, human activities, especially fishing, are increasingly threatening this vulnerable habitat.

This study aimed at assessing natural capital loss associated to coralligenous habitat due to the impacts generated by fishing activities in the Tremiti Islands Marine Protected Area (MPA), Southern Italy.

Firstly, the biophysical and economic value of natural capital stocks of the coralligenous habitat was assessed by implementing an environmental accounting model. Subsequently, structured questionnaires collected from divers and tourists were used to determine sites and impacts of fishing gears. Additionally, fieldwork involved underwater surveys and imagery analysis to assess the extent of physical damage caused by the abandoned gears. Lastly, spatial data were integrated into a GIS environment to create thematic maps showing the distribution of fishing pressure, crucial to assess the natural capital loss and determining ecologically vulnerable areas. Our findings revealed a loss of 15% of the coralligenous natural capital, corresponding to a disvalue of 840,000€.

In conclusion, this study provides an interdisciplinary approach that can support decision-makers for targeted conservation actions and sustainable management strategies of the coralligenous habitat. The model is replicable and can be used for assessing the impacts of fishing activities on vulnerable habitats in the Mediterranean Sea.

O_Sci_28. VALORIZATION OF SEAWEED WASTE FOR COMPOSITE MATERIALS IN ADDITIVE MANUFACTURING.

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Presentation format: ORAL (ON SITE)

Abstract

Seaweed deposits, known as “arribazones,” are accumulations of organic matter—mainly algae and marine plants—that are transported to beaches by the action of waves, currents, and tides. In the municipality of Puerto Real, these deposits are periodically removed to maintain the cleanliness of the beaches and are typically classified as waste. In most cases, this “waste” is incinerated for disposal.

In the framework of the ARRIBAMAT Project, funded by CEI-MAR and led by the University of Cádiz in collaboration with the company Grupo Energético de Puerto Real, the valorization of this waste has been achieved through two complementary approaches: one) the extraction of cellulose, aiming to obtain higher value-added compounds, and two) its incorporation into polymers to develop sustainable composite materials for additive manufacturing processes. Cellulose fibers have been successfully extracted from these seaweeds through sustainable extraction processes. Additionally, composites containing up to 15 wt.% seaweed have been developed, demonstrating their processability in large-format additive manufacturing processes using fused granular fabrication (FGF), enabling the production of functional prototypes.

O_Sci_29. Ocean deoxygenation: microbial adaptations to oxygen loss.

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Microbial Ecology and Biogeochemistry Laboratory, Department of Biology - University of Cadiz, Puerto Real, Spain | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Ocean deoxygenation is one of the most important changes occurring in marine ecosystems, as the oceans have lost about 2% of their oxygen inventory over the last 50 years. This oxygen loss drives to the formation of oxygen minimum zones (OMZs), where the oxygen concentration is very low (< 60 µmol O2/L). Although the OMZs occupy large regions of the open ocean, the number of hypoxic and anoxic coastal zones are also increasing. Then, microorganisms inhabiting these environments must adapt to survive under such low-oxygen conditions. Terminal oxidases are enzymes that play a key role during aerobic respiration for the efficient production of energy. Based on the oxygen affinity, terminal oxidases are classified as high-affinity terminal oxidases (HATO), with a half-saturation constant or Km of 3-8 nmol O2/L and low-affinity terminal oxidases (LATO, with a Km of ~200 nmol O2/L. While Eukaryotes only have HATO, prokaryotes have both HATO and LATO, allowing them to modulate the use of oxygen. The study of aerobic respiratory kinetics through the kinetic parameters maximum respiration rate (Vmax) and Km can be used to evaluate the impact of decreasing oxygen conditions in the metabolic activity of marine communities. Our kinetic studies at coastal hypoxic zones and OMZs revealed the adaptation of the microbial communities by decreasing the Km from oxic waters to oxygen-depleted depths. These adaptations not only highlight the adaptative potential of microorganisms, but also the importance of microbial responses in shaping biogeochemical processes in a deoxygenating ocean.

O_Sci_30. Land Surface Temperature Patterns in the Maltese Islands.

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Presentation format: ORAL (ON SITE)

Abstract

Keywords:
Land Surface Temperature (LST); Urban Heat Island (UHI); Satellite remote sensing; In-situ measurements; Maltese Islands.

This study analyses Land Surface Temperature (LST) variations across the Maltese Islands using satellite data from Landsat 8, MODIS (Terra and Aqua) and Sentinel-3, compared with in-situ ground measurements. The primary goal is to evaluate the accuracy and spatial variability of LST, particularly how rural and urban land types influence Urban Heat Island (UHI) effects. Over six months, monthly ground observations were taken to assess diurnal temperature changes and relate meteorological factors (humidity and wind) to satellite-in-situ LST discrepancies. Strong correlations were found between satellite-derived and in-situ LST measurements. Landsat 9 showed a slight positive bias (+1.04°C) in the morning, while MODIS and Sentinel-3 exhibited an underestimation (-3.82°C and -1.89°C, respectively). Night time observations revealed significant negative biases for MODIS (-6.91°C) and Sentinel-3 (-6.89°C), but after corrections, the residuals decreased, and accuracy improved (r = 0.87 for MODIS, r = 0.75 for Sentinel-3). Thermal patterns varied between urban and rural areas, with a notable night time UHI effect where urban regions retained more heat. During the hotter months, rural areas became warmer than urban due to less vegetation and more exposed soil. This study highlights the significance of land cover and solar geometry in determining local temperature patterns.

O_Sci_31. Forensic Science: Challenges, Innovations, and Integrated Approaches.

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Presentation format: ORAL (ON SITE)

Abstract

Molecular spectroscopy is emerging as a transformative tool in modern forensic science, enabling non-destructive, highly sensitive, and selective trace evidence analysis. Our research integrates spectroscopy, molecular biology, and materials science to develop interdisciplinary approaches that maximize DNA recovery and analysis from minimal biological traces. Special emphasis is placed on touch DNA and fluorescence-based detection methods, which work synergistically to improve sensitivity, reduce reagent toxicity, and maintain the integrity of genetic material. Fluorescent dyes are employed both to visualize biological traces and facilitate DNA detection, with careful selection to ensure compatibility with downstream genetic profiling. By combining optical biosensors and molecular tools, our approach enhances forensic protocols, making them more precise, efficient, and informative. This interdisciplinary strategy contributes to the development of modern, integrated forensic methodologies with improved evidentiary reliability.

SCIENCES

POSTERS

P_Sci_01. Effect of polyphenolic extracts from of Mediterranean plants on enzymes involved in the oxidative stress, and neurodegeneration useful as adjuvants in cancer treatment.

Rosarita Nasso, Antonio D'Errico, Rosaria Arcone, Mariorosario Masullo, Rosario Rullo, Emmanuele De Vendittis

Department of Medical, Human Movement and Well-Being Sciences, University of Naples "Parthenope", Naples, Italy

Presentation format: POSTER

Abstract

In this investigation, we report the ability of polyphenolic extracts from Mediterranean plants to affect the activity of key enzymes involved in the inflammation and neurodegeneration. The polyphenol extracts used in this report were obtained from either Mediterranean forage crops, and from flesh and peels of Mediterranean fruits, such as apple and lemon. The effect of the polyphenol extracts was tested on catalase, xanthine oxidase, acetyl- cholinesterase, butyryl-cholinesterase, monoamine oxidase A, and monoamine oxidase B, determining the concentration of the extract required to get 50% inhibition. In addition, the kinetic analysis of the enzyme activity inhibition, allowed the identification of the inhibition mechanism and the determination of the inhibition constant. Furthermore, the cytotoxic effect exerted by the polyphenolic extracts was tested on human cancer cell lines. In particular, the effect on cell viability was checked on the gastric cancer cell lines MKN-28 and AGS and the neuroblastoma cell line SH-SY5Y. The results obtained suggest a putative use of some of the tested polyphenol extract as adjuvants in the anticancer treatments.

P_Sci_02. Influence of the storage conditions of bioactive food films produced by supercritical impregnation for the maintainance of their preservative properties.

Cristina Cejudo Bastante, Chadi Dkhissi, Noelia Daiana Machado, Lidia Verano Naranjo, Casimiro Mantell Serrano, Lourdes Casas Cardoso

Chemical Engineering and Food Technology Department, Faculty of Science, Wine and Agrifood Research Institute (IVAGRO), University of Cadiz, 11510 Puerto Real, Spain

Presentation format: POSTER

Abstract

Food packaging is essential for protecting food, ensuring its safety and quality, and extending shelf life. A key innovation in this area is incorporating bioactive compounds into packaging materials, turning passive barriers into active ones with antioxidant and antimicrobial properties. This enhances food preservation and supports sustainability by reducing waste and environmental impact. Supercritical fluid technology has emerged as a promising method for producing active packaging. This green, cost-effective process allows active compounds to diffuse into polymers without damaging heat-sensitive substances. While much research has focused on creating bioactive films using different techniques, little attention has been given to their storage conditions, which is an important factor for industrial-scale applications. When films are produced and the bioactive capacity is tested, the storage conditions are not standardized, and factors like light and temperature can degrade bioactive compounds before the development of fresh food preservation experiments, resulting in a lower protective effect on food. This study examined the storage stability of films impregnated with olive leaf extract using $scCO_2$ at 250 bar and 35 °C. These films, initially green and with a high level of antioxidant capacity, were stored in the dark at room temperature and 40 °C, and exposed to LED light and direct sunlight. Results showed that light exposure, especially sunlight, led to a significant reduction in antioxidant activity and color loss, while other conditions had no significant effect. Therefore, proper storage, avoiding direct sunlight, is crucial for maintaining the films' bioactivity in order to be further used for food preservation.

P_Sci_03. Analysis of the Reforestation Effort with Arbutus unedo and Ceratonia siliqua in a Burned Area in Algarve: Remote Sensing, Geotechnologies, and Field Measurements.

Gustavo Costa, Carlos Guerrero, Pedro Luiz

ALGARVE University

Presentation format: POSTER

Abstract

This study evaluated the reforestation effort using Arbutus unedo and Ceratonia siliqua in a fire-affected area in Sotavento Algarvio, Portugal. By employing remote sensing, geotechnologies, and field measurements, the objective was to monitor species development and assess the effectiveness of forest restoration. Data were collected using drones equipped with multispectral sensors for the analysis of the Normalized Difference Vegetation Index (NDVI) and high-precision GPS for determining the positioning of selected plants. Measurements of plant height, trunk diameter, and the number of branches/leaves were conducted, followed by statistical analysis to identify growth patterns and potential environmental influences. The results indicate that both species exhibited good resilience and potential for the recovery of degraded areas, with Arbutus unedo showing a strong capacity for resprouting after wildfires and Ceratonia siliqua demonstrating high drought resistance. However, vegetation regeneration in the area remains limited, with only 8% significant coverage. Sun exposure and terrain slope influenced plant growth, reinforcing the need for strategic planning in selecting plantation sites. This study highlights the importance of using advanced technologies for environmental monitoring, enabling a detailed analysis of forest recovery. It concludes that reforestation with native species can be a viable alternative for mitigating wildfire impacts and restoring degraded ecosystems, provided that appropriate maintenance and continuous monitoring strategies are implemented.

P_Sci_04. Astrobiology and Earth extreme environments' inhabitants: their relevance for life on our planet and beyond.

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Presentation format: POSTER

Abstract

Earth extreme environments' inhabitants, i.e. the so-called extremophiles, play a crucial role for the investigation of origin, evolution and distribution of life on our planet and in the Universe, since they are fundamental for understanding the limits of life on Earth and beyond. Extremophiles live and thrive in extreme environments on our planet that share many similarities with other planets and satellites in the Solar system, therefore they can be also relevant to the issue of "life and habitability". The search of the conditions that could sustain, or have sustained, life beyond the Earth is indeed one relevant aspect for Astrobiology, especially as new exoplanets and satellite have been discovered in habitable zones either in or out the Solar system. The identification of microbial species able to resist and adapt to spatial conditions is therefore considered among the main research topics in Astrobiology. Notably, these organisms also are of interest for their biotechnological applications for the production of energy and chemicals, useful either on Earth or for future missions and for the man's permanence in spac

P_Sci_05. A Multidisciplinary Approach to Environmental Impact Assessment of Soil Contamination Using UAV-based Remote Sensing and Bioindicators.

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Presentation format: POSTER

Abstract

Environmental preservation has become central in contemporary discourse, reflecting the increasing need to safeguard natural resources. As part of this effort, environmental impact assessments are now integral to sustainable development initiatives. A key strength of our research lies in its interdisciplinary approach, which fosters a deeper understanding of complex environmental systems. To this end, we adopt a multidisciplinary methodology that integrates diverse technologies to improve monitoring capabilities.

Our research group developed an innovative framework combining on-site surveys with proximal and remote sensing technologies, including hyperspectral, multispectral, and thermal analyses. This integrated strategy enables the collection of comprehensive environmental data, enhancing our capacity to observe, detect, and predict environmental changes across spatial and temporal scales. The approach aims to improve environmental awareness and inform sustainable land management and policy decisions.

A case study was conducted to evaluate the effects of persistent contaminants in agroecosystems. Using UAV-based hyperspectral, multispectral, and thermal imaging, alongside in situ measurements, we assessed soil contamination and its impact on maize (Zea mays L.), a recognized bioindicator species. The study, performed on bins polluted with lead (Pb), zinc (Zn), chromium (Cr), and benzo[a]pyrene, confirmed the relevance of combining advanced sensing and bioindication methods. Hyperspectral, multispectral, and thermal imaging effectively identified vegetation stress in maize plants exposed to heavy metals and organic pollutants, as confirmed by in situ measurements. This research highlights the value of integrating remote sensing and bioindication to support early detection and sustainable land management in agricultural setting

P_Sci_06. Alien Insects to the Maltese Islands: The Classification of Alien Taxa According to EICAT.

Enya Maria, David Mifsud, Simone Cutajar

Rural Sciences & Food Systems, Institute of Earth Systems, University of Malta

Presentation format: POSTER

Abstract

Europe hosts around 1,400 alien insect species, making research into their biodiversity impacts crucial for effective mitigation and prevention strategies. In Malta, however, fragmented information on alien insects limits our understanding of their distribution, spread, and potential ecological effects. The country has faced significant challenges from alien species such as the Red Palm Weevil (Rhynchophorus ferrugineus), which has devastated palm trees (Phoenix canariensis), and the Castilloa borer (Phryneta leprosa), which has severely affected black mulberry trees (Morus nigra). This study aimed to compile a comprehensive list of alien insect species in the Maltese Islands through an extensive literature review and conduct an Environmental Impact Classification for Alien Taxa (EICAT) analysis on 12 selected species.

A total of 319 alien insect species to Malta were documented in the literature, 214 of which are established. Of these, 255 had known native ranges, with the largest proportion (107) native to Asia. The EICAT analysis, based on local and international data, revealed that five species had a moderate impact, causing decline in native species populations without leading to extinction, while one species had a minor impact, affecting individual organisms but not entire populations. Five species were categorised as data deficient due to insufficient evidence, and one, the Argentine ant (Linepithema humile), was found to have a major impact, causing population extinctions of ant species.

The study also highlighted limitations of the EICAT framework, including incomplete literature vetting, language barriers, and the exclusion of socio-economic impacts, all of which affect result consistency and reliability.

P_Sci_07. Combined assessment of plastic ingestion and body condition in stranded alcids in the western Mediterranean.

Yada Trapletti, Mónica Expósito Granados, Sergio López Martínez, Miguel Torres, Marga L Rivas

Department of Biology, Institute of Marine Science INMAR, University of Cadiz, Cadiz (Spain)

Presentation format: POSTER

Abstract

Understanding the threats affecting migratory seabirds during the wintering period is critical for their conservation. In this study, we combine the analysis of plastic ingestion and body condition in two North Atlantic alcid species, Atlantic puffin (Fratercula arctica) and razorbill (Alca torda), stranded along the Andalusian coast between 2022 and 2024.

A total of 95 individuals were examined. Our results show a high frequency of plastic ingestion in Atlantic puffin (65%), primarily consisting of polyethylene microfibers, and a significantly lower incidence in razorbill (18.4%). Simultaneously, both species exhibited poor body condition, characterised by low levels of glucose and glycogen. Elevated lactate concentrations in muscle tissue suggest metabolic fatigue, consistent with prolonged energy demands, possibly associated with strenuous migration.

Most stranded individuals were juveniles, indicating increased vulnerability during early life stages. The integration of physical condition indicators with plastic ingestion patterns provides a more comprehensive understanding of mortality causes in these seabirds.

Our findings support the need for harmonised necropsy protocols and bioindicator-based monitoring strategies that consider both external and internal stressors. This study highlights the southern Iberian coastline as a key region for assessing seabird health during migration and wintering, emphasising the urgency of regional conservation efforts to mitigate marine pollution and strengthen resilience in vulnerable seabird populations.

P_Sci_08. Marine healthy products: Bioprospecting of macroalgae from the southwestern coasts of Spain.

Carolina de los Reyes, Kimberly Muñoz, Ignacio Hernández, Eva Zubía

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Presentation format: POSTER

Abstract

Overfishing is currently one of the main environmental and economic problems affecting global food security. In this context, algae might constitute a sustainable alternative to fish products, contributing to the mitigation of a wide range of nutritional, environmental and production problems. From a nutritional point of view, macroalgae can present high quality lipid profiles, including non-polar and polar lipids, which contain essential polyunsaturated fatty acids (PUFAs) with health benefits as antioxidant and anti-inflammatory agents. The growing interest in algae-derived products in the food and nutraceutical industries has encouraged the diversification of cultivable species in aquaculture, with the aim of expanding production capacity and developing new high value-added products. Cadiz Bay (southwestern coast of Spain) is a region with a high phycological richness and ideal environmental conditions for the development of algal aquaculture. The CAMACLA project focuses on the potential cultivation of the autochthonous species Cladosiphon cymodoceae. In this work, a comparative lipidomic study of the species C. cymodoceae with other five species of brown algae in the area, has been carried out. The studied macroalgal species showed differentiated lipid profiles, highlighting the presence of PUFAs, especially of the ω-3 and ω-6 series. These results support the potential of marine macroalgae from the coast of Cadiz for biotechnological applications, especially in the food, nutraceutical, and pharmaceutical sectors.

P_Sci_09. The Invisible Trace: Identifying People by Smell.

Andrés Reynals Marcangeli, Enrique Durán Guerrero, María José Aliaño González, José Luis P. Calle, Miguel Palma, Marta Ferreiro González

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Presentation format: POSTER

Abstract

Every person gives off a unique scent—a kind of invisible fingerprint made up of chemical compounds released by the body. These scents can reveal traits like sex, age, and lifestyle. For decades, trained dogs have used their remarkable sense of smell to follow human scent trails, helping in cases of missing persons or crime investigations. However, dogs can be affected by stress, fatigue, or handler bias, making their results harder to reproduce. On the other hand, conventional analytical techniques such as gas chromatography–mass spectrometry (GC-MS), while highly sensitive, are costly, complex, and require time-consuming sample preparation and data interpretation. These limitations highlight the need for more accessible, reproducible, and user-friendly alternatives for scent analysis.

In this study, an electronic nose system was optimized for the analysis of worn t-shirts to distinguish individuals based on assigned sex, age range, diet, and ethnicity. Various machine learning algorithms, including linear discriminant analysis (LDA), random forest (RF), and support vector machine (SVM), were evaluated for their classification performance. The results demonstrate the potential of the electronic nose as a green, rapid, and portable alternative to conventional analytical techniques like GC-MS. It offers a scalable, non-invasive, small sample size method for human identification, which would enhance public safety through more efficient missing person searches and faster suspect identification, backed by a robust and reproducible scientific methodology. It opens the possibility of creating an adaptive library with human scent data, which would be self-reinforcing the more data it gets added and aid in faster determinations.

P_Sci_10. Native Forest Regeneration: The Importance of a Sustainable Strategy for Post-Fire Recovery.

Catarina Brásia, Afonso do Ó, Vasco Silva, Inês Marques Duarte

Faculdade de Ciências e Tecnologia, Universidade do Algarve, Campus de Gambelas, 8005-189 Faro, Portugal

Presentation format: POSTER

Abstract

Rural wildfires represent one of the main environmental challenges in Portugal, with severe consequences for ecosystems, local communities, and the economy. The country is annually affected by hundreds of wildfire events, intensified by factors such as rural depopulation, the accumulation of forest fuel, and climate change, all of them increasing landscape's vulnerability to extreme events. As such, effective wildfire hazard management has become a national priority.

In this context, the "Plantar Água" ("Planting Water") project, promoted by WWF-Portugal, aims to restore areas affected by the 2012 wildfires in the parish of Cachopo, municipality of Tavira, in Southern Portugal. The initiative focuses on the restoration of Mediterranean ecosystems through revegetation with native species, as a strategy to minimize desertification, improving soil water retention capacity, and enhancing biodiversity, thereby fostering ecological resilience and territorial sustainability.

As part of the project, the survival rate of plants installed between 2019 and 2022 was assessed in relation to species type, slope, altitude, solar exposure, ground cover, and proximity to other plants, to understand the contribution of each factor to plant success or failure.

The methodology is based on field data collection in homogeneous plots, previously defined through spatial analysis using Geographic Information Systems. The results, based in the identification of critical survival areas and performance patterns, intend to inform technical adjustments, in alignment with the National Plan for Integrated Wildfire Management (Plano Nacional de Gestão Integrada de Fogos Rurais).

This study aims to validate the adopted ecological restoration model or suggest improvements for future interventions.

P_Sci_11. The fight for authentic honey continues: Artificial intelligence against food fraud.

Lucía Gómez García, José Luis Pérez Calle, Marta Ferreiro González, Miguel Palma Lovillo

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Presentation format: POSTER

Abstract

Honey is a natural product produced by bees, valued not only for its taste and health benefits but also for its origin. Each type of honey reflects the environment and flowers the bees visit, giving it a unique identity, both botanical and geographical, that defines its quality. For this reason, regulations have been established to guarantee its authenticity, ensuring that consumers receive a product true to its origin.

However, the growing demand and high commercial value of honey have made it a frequent target for adulteration. This fraud deceives consumers, threatens the sustainability of the beekeeping sector, and may lead to public health issues due to the unknown composition of the product.

Traditional techniques, such as chromatography, are effective in detecting some adulterations, but they are costly, invasive, and time-consuming, making them impractical for routine analysis. This highlights the need for faster, more accessible, and sustainable alternatives.

This study presents an innovative solution: the use of Vis-NIR spectroscopy combined with machine learning algorithms to authenticate honey based on its floral origin. These techniques are not only faster and more accessible than conventional methods but also enable non-destructive analysis, preserving the integrity of the honey.

The results demonstrate the great potential of this methodology, improving quality control efficiency while addressing a social demand: protecting consumers, ensuring product traceability, and safeguarding beekeepers against unfair competition. Ensuring honey's authenticity is a crucial step towards more transparent food production, protecting both bees and the environment.

P_Sci_12. A Method for Identifying and Mapping Relict Oak Woodlands through Citizen Science: A Case Study in Aljezur, in Southern Portugal.

Inês Marques Duarte, Jorge Capelo, Leónia Nunes, Udo Schwarzer

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Presentation format: POSTER

Abstract

After the glaciations period, the European continent was occupied by a new forest, adapted to the temperate climate. Among the new species that were established, oaks (Quercus spp.) played a prominent role. However, the intense use of the land and expansion during the ages of
navigation discoveries had a major impact on Portugal's forests, with more than 5 million oak trees felled for shipbuilding and maintenance. Holm oak (Quercus rotundifolia Lam.) and cork oak
(Quercus suber L.) wood was used, but their felling was later prohibited due to the importance of
these species. Despite the significant decline in oak woodlands in Portugal, there are still some relics left, although in an advanced state of degradation.
This study aimed to characterize the climacic woodland forest in the municipality of Aljezur, through phytosociological correspondence and mapping in situ. To this end, key species were identified in the literature and in site, and a dichotomous key was developed to facilitate the identification of relict native forest types, in Aljezur, in a simple and intuitive way by common citizens. Results provide a basis for developing a computer application that allows the identification and cartographic recording of primary and relict forests, first in this pilot area, and then extending to the rest of Portugual, Iberian and Europe, through the involvement and collaboration of several other institutions.

P_Sci_13. Unlocking the Potential of Cynara humilis: Green Ultrasound-Assisted Extraction of Antioxidant Compounds for Health and Food Innovation.

Ceferino Carrera, Ana Maraver, Mª de las Mercedes Vázquez, Maria José Aliaño, Gerardo F. Barbero, Miguel Palma, Nuria. Chinchilla

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Presentation format: POSTER

Abstract

Cynara humilis, a wild Mediterranean plant belonging to the Asteraceae family, is a rich but underutilized source of bioactive compounds with proven antibacterial, anti-inflammatory, and antioxidant properties. It also holds traditional importance in artisanal cheesemaking as a natural coagulant. This study aims to explore its potential as a sustainable source of health-promoting compounds by developing a green ultrasound-assisted extraction (UAE) method to recover total phenolics from various plant parts (leaves, heads, and flowers), using cultivated artichoke (Cynara scolymus) as a comparative reference.

A Box–Behnken response surface methodology was employed to optimize five key variables: ethanol concentration, temperature, extraction time, ultrasound cycle, and amplitude. Ethanol percentage emerged as the most critical factor influencing phenolic recovery, both independently and through its interactions. Analytical techniques (UHPLC-Q-ToF-MS and UHPLC-DAD) identified and quantified eight major compounds, including five caffeoylquinic acid derivatives and three flavonoids, such as luteolin and apigenin glycosides.

Phenolic content was highest in leaf extracts, which also showed the strongest antioxidant activity in both DPPH and ABTS assays. These results confirm a strong correlation between phenolic concentration and antioxidant capacity, underscoring the plant's potential in developing natural antioxidant ingredients.

This work highlights C. humilis as a promising species for the functional food, nutraceutical, and cosmetic sectors, while supporting biodiversity conservation and circular economy approaches. The use of environmentally friendly solvents and technologies reinforces the value of green chemistry in unlocking the benefits of native plants for human health and sustainable development.

P_Sci_14. Eco-Friendly Extraction Strategies for Bioactive Compounds from Wild and Cultivated Mushrooms.

Gerardo Fernández Barbero, Estrella Espada Bellido, Marta Ferreiro González, Miguel Palma Lovillo, Elena Ortega Caneda, Alejandro Ruiz López, Ceferino Carrera

University of Cadiz, analytical Chemistry, Faculty of Sciences, 11510

Presentation format: POSTER

Abstract

Mushrooms are increasingly recognized as rich sources of bioactive compounds with notable antioxidant, anti-inflammatory, and neuroprotective effects. This research explores the development and optimization of green extraction methods to recover health-promoting molecules such as tryptophan, phenolics, and alkaloids from various mushroom species. Environmentally friendly approaches, including ultrasound-assisted extraction (UAE) and microwave-assisted extraction (MAE), were employed to enhance yield and efficiency. UAE parameters were optimized via Box-Behnken design (BBD), evaluating methanol concentration, temperature, ultrasonic amplitude, cycle duration, and solvent-to-sample ratio. Total phenolic content was quantified using the Folin-Ciocalteu method, while antioxidant activity was assessed through DPPH and ABTS assays. Under optimized conditions, phenolic compounds and antioxidants were co-extracted with less than 5% variation compared to single-method extractions, confirming process reliability. Tryptophan was analyzed in 26 wild mushroom samples from the Lactarius and Boletus genera using UHPLC-DAD-FLR, revealing concentrations between 0.042 and 0.742 mg/g. Cluster analysis indicated distinct correlations between tryptophan content, species, and functional profiles. Additionally, MAE and UAE were applied to Psilocybe cubensis to extract psilocybin and psilocin, with optimal yields achieved at 50 °C, 60% methanol, and a 0.6 g:10 mL ratio in just 5 minutes. UAE showed higher extraction efficiency, though a greater conversion of psilocybin to psilocin was observed. These findings support the sustainable exploitation of mushrooms as sources of natural bioactives and demonstrate the effectiveness of eco-conscious extraction techniques for potential use in functional foods, pharmaceuticals, and cosmetics.

P_Sci_16 Encapsulating to Preserve: Strategies for Maintaining the Stability of Functional Ingredients.

María de las Mercedes Vázquez Espinosa, Ana Sofía Martínez Cigarroa, Ceferino Carrera Fernández, Lucio Abel Vázquez León, Gerardo Fernández Barbero, Miguel Ángel García Alvarado, Guadalupe del Carmen Rodríguez Jiménes

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Presentation format: POSTER

Abstract

The encapsulation of bioactive compounds by spray drying and the appropriate selection of wall materials is a key strategy to preserve their functional properties and extend their shelf life. Starch is the most widely used wall material due to its low cost and high availability; however, physical and chemical modifications are often necessary to improve its functional properties. Stability testing allows for the determination of a product's shelf life and the appropriate storage conditions needed to maintain its properties. For this reason, it is common to use extreme storage conditions—such as high temperature and humidity—to accelerate stability predictions. These variables are considered critical, as they directly influence the physicochemical reactions of the encapsulated compounds.
Based on this, the aim of this study was to evaluate the degradation rate of phenolic compounds from Moringa oleifera extract encapsulated using native and modified malanga starch. Four different wall materials were tested (native, ultrasound, crosslinked, and dual-modified), stored under various temperature and relative humidity conditions.
Crosslinking showed the best results, as the chemical modification enables inter- and intramolecular interactions with starch chains, providing greater thermal stability to the capsules. However, dual modification also showed favorable outcomes in preserving the bioactive compounds. Therefore, the choice of wall material will ultimately depend on the intended application of the capsules, since the stability of these compounds is crucial for their use in food, cosmetic, and pharmaceutical products.

P_Sci_17. Unveiling migration strategy and coastal habitat use in Kentish Plovers from Southern Europe: implications for conservation and connectivity.

Yana Korneeva, Andrés De la Cruz, Nuria Martín, Gonzalo Muñoz, Alberto Álvarez, Alejandro Pérez-Hurtado, Andrea Froján, Jose Montesinos, Macarena Castro

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Presentation format: POSTER

Abstract

Shorebird populations are declining globally due to human-driven environmental change, affecting vulnerable species like the Kentish Plover (Anarhynchus alexandrinus). Therefore, understanding how this species uses increasingly anthropogenic habitats habitats is crucial for informing conservation efforts. Despite its wide distribution, high-resolution GPS tracking studies on the Kentish Plover remain extremely scarce, and complete migratory routes have not been previously documented, highlighting the lack of detailed movement data, particularly in Western Europe. This study examines space use by different colonies of Kentish Plovers from the Bay of Cádiz (South-West Spain) using high-resolution GPS telemetry. During the spring of 2024, GPS devices were deployed on 20 breeding individuals. Our results revealed previously unknown data about a migratory leap to southwestern Mauritania (~2,500 km away), with other birds wintering in Doñana National Park (~60–80 km away), while the remaining individuals made local movements around their breeding sites (within ~10 km). This finding supports previous classifications of the Kentish Plover as a partially migratory species in Europe and further provides novel, detailed insights into the spatial behaviour and movement strategies employed during migration. Additionally, we analysed the home range and key areas utilized by each individual and colonies, identifying clear differences in habitat use between beach and saltpan environments. Our results emphasize the importance of preserving a network of complementary habitats within coastal landscapes, particularly those that support connectivity between key breeding and wintering areas and buffer the effects of human pressure during the breeding season.

P_Sci_18. Developing prediction systems for jellyfish blooms in Mediterranean waters.

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Presentation format: POSTER

Abstract

In recent years, massive proliferations of jellyfish have become especially important due to their impact on both the ecosystem and socio-economic level, with negative repercussions on aspects such as health, fishing and tourism. For this reason, recently there has been a growing interest in the development of tools to predict the appearance of these organisms on the coast. The present study, currently under development, aims to resolve the response of the dynamics of coastal proliferation of gelatinous organisms to the different physical forcings that take place in the marine environment, specifically in regions of the Mediterranean Sea. For this purpose, a detailed and continuous database has been developed that collects, from 2002 to the present, sightings of the different jellyfish species that inhabit the study area. These data, in conjunction with the historical record of several physical forcings, are being used to develop modeling techniques that, by combining hydrodynamic and bio-geochemical coupled aspects, will allow to predict species distribution, as well as detect patterns of arrival or upwelling of swarms of the different jellyfish that inhabit the Mediterranean waters. Additionally, the final objective of the present work is, through the results obtained from the developed models, to contribute to the development of tools that, once made available to national and international organisms, will facilitate decision making and management of the coastal environment.

P_Sci_19. Aquafeed: a review on ecological implications and environmental impacts.

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Dipartimento di scienze e tecnologie, Naples Parthenope Universit

Presentation format: POSTER

Abstract

Aquaculture is the fastest-growing food production sector worldwide, with a 500% increase since the late 1980s, representing 51% of global seafood supply. However, this rapid expansion raises major sustainability concerns, and particular attention is given to aquafeed production. Indeed, aquafeed production has become a key sector to sustain the growing demand for animal proteins. The sourcing of raw materials used in feed production, mainly fishmeal and fish oil, soy, corn, and other agricultural products, places significant pressure on natural capital and leads to the degradation of both marine and terrestrial ecosystem services. In this context, this review synthesises the scientific literature on the topic, highlighting major environmental impacts along the aquafeed supply chain. In marine systems, fisheries for fishmeal and fish oil production contribute to trophic web changes, biodiversity loss, and the decline of fish stocks critical to ecosystem functioning. On land, intensive cultivation of feed crops is associated with deforestation, soil erosion, nutrient pollution, and excessive water use. These impacts generate depreciation of natural capital and the loss of key ecosystem services, including climate regulation, water purification, pollination, and erosion control. The review also discusses the potential and limitations of emerging alternatives, such as insect-based proteins, algae, and agro-industrial by-products, as well as the importance of integrating ecosystem accounting and Life Cycle Assessment (LCA) tools to quantify environmental trade-offs. Finally, this study proposes an overview of the main approaches for a more sustainable aquafeed production systems that align with natural capital conservation and long-term ecosystem resilience.

P_Sci_20. Antarctic Oceanographic research: Parthenope University between tradition and innovation with autonomous underwater vehicles.

Giannetta Fusco, Pierpaolo Falco, Enrico Zambianchi Sapienza, Naomi Krauzig, Simone Di Palma, Giuseppe Aulicino, Pasquale Castagno, Yuri Cotroneo, Diana Di Luccio, Massimiliano Esposito, Antonino Ian Ferola, Laura Fortunato, Angela Garzia Sapienza, Alberto Greco, Andrea Molino, Giorgio Budillon

Department of Science and Technology, Naples Parthenope University

Presentation format: POSTER

Abstract

The polar oceans play a vital role in the global climate system yet remain under-sampled and underrepresented in models due to extreme conditions. The advent of autonomous instruments, such as underwater gliders, now enables detailed observation of these challenging environments.

Since the early 1990s, Parthenope University has conducted oceanographic research in Antarctica, traditionally relying on in situ measurements. To address data gaps and improve our understanding of polar processes, a SeaExplorer glider was deployed during early 2024 and 2025 across three sectors of the Ross Sea continental shelf, a key site for the formation of Antarctic Bottom Water (AABW). This activity took place within the PNRA projects TENORE, SIGNATURE, and GLOB.

The Ross Sea is critical to global thermohaline circulation, as it is a major source of AABW—formed primarily from High Salinity Shelf Water (HSSW), which originates in Terra Nova Bay polynya. Here, salinization of Circumpolar Deep Water (CDW), driven by sea ice formation, enhances shelf water density, initiating dense water export.

Understanding these water masses and their interactions is essential for clarifying thermohaline dynamics and their impact on global climate. Autonomous instruments like gliders and Argo floats now provide high-resolution physical and biogeochemical observations year-round, even during winter, drastically improving coverage while reducing costs and environmental footprint.

The three glider missions, combined with increasing winter-time Argo data, highlight the transformative potential of autonomous platforms and offer a foundation for future multi-instrument observational strategies in polar regions.

P_Sci_21. Evaluating the carbon storage capacity of matte in Posidonia oceanica meadows using the System of Environmental Economic Accounting – Ecosystem Accounting (SEEA-EA) framework.

Ludovica Capasso, Elvira Buonocore, Pier Paolo Franzese, Cecilia D. Tramati, Salvatrice Vizzini, Giovanni Fulvio Russo

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Presentation format: POSTER

Abstract

Given the pressing need to enhance carbon sequestration and storage to mitigate global warming, Posidonia oceanica meadows are recognized as essential contributors to the marine carbon sink. This seagrass species is notable for forming unique structures known as mattes, which are characterized by the complex intertwining of the sediment matrix, seagrass shoots and rhizomes. These bioconstructions not only stabilize the seabed but also enable the long-term accumulation of organic carbon at high densities. Despite their ecological significance, the spatial distribution and carbon storage potential of P. oceanica mattes remain insufficiently investigated. This study provides the evaluation of a P. oceanica meadow in the Gulf of Sapri (Southern Italy), with particular focus on mapping the matte system and quantifying the associated organic carbon stock. By applying the United Nations' "System of Environmental Economic Accounting – Ecosystem Accounting" (SEEA-EA) framework, we implemented an integrated environmental assessment that addresses both ecological and economic aspects related to the importance of this vital marine habitat. Our results reveal an average Corg stock of 201 ± 62 Mg ha^{-1} within the top meter of matte, representing a total estimated economic value of over € 2.5 million in the investigated area. These findings highlight the crucial role of P. oceanica mattes in climate regulation. This is among the first studies implementing the SEEA-EA framework for valuing marine ecosystems. By integrating both ecological and economic dimensions, this approach can inform policy strategies aimed at seagrass conservation and contribute to broader European climate goals, including emissions reductions and achieving climate neutrality by 2050.

P_Sci_22. Resilience and Metal Content in Morchella Mushrooms: Adaptation in Fire-affected Ecosystems.

Estrella Espada Bellido, Elena Ortega Caneda, Alejandro R. López, Damiano Monticelli, José Gerardo López Castillo, Miguel Palma, Gerardo F. Barbero

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Presentation format: POSTER

Abstract

Many studies have demonstrated that mushrooms are not only nutritious but also possess remarkable resilience, allowing them to adapt and thrive in challenging environments. This resilience is particularly evident in the genus Morchella, which can fruit abundantly even after environmental disturbances such as wildfires. These fungi exhibit a unique ability to survive and reproduce under adverse conditions, making them a fascinating subject of study.
In this work, we explore the resilience of Morchella species in fire-affected areas and investigate their peculiar metal content. Following the devastating fire in Sierra Bermeja (Malaga, Spain) in 2021, a significant fructification of Morchella mushrooms was observed, with large quantities collected and marketed without control or traceability. Since wildfires can alter soil properties and influence the mineral composition of fungi, we analyzed the levels of essential and non-essential metals in Morchella samples from both burned and unburned regions, along with their corresponding soils. Using advanced analytical techniques, we found that mushrooms from the fire-affected area exhibited higher concentrations of elements such as Fe, Mg, Al, Cr, and Ni.
Our findings highlight the remarkable resilience of Morchella in adapting to post-fire environments, but also raise concerns about potential health risks due to elevated metal levels. This study underscores the importance of understanding how environmental stressors influence fungal chemistry and the need for cautious harvesting practices to ensure food safety. The resilience of Morchella not only reflects their biological adaptability but also emphasizes the importance of sustainable management in changing ecosystems.

P_Sci_23. SUPPLY AND DEMAND OF ECOSYSTEM SERVICES IN COASTAL CITIES THROUGH AN INTEGRATED ASSESSMENT FRAMEWORK.

Bita Koushki, Fabiana Figurati, Umberto Grande, Nicolaus Copernicus, Francesco Rendina, Elvira Buonocore, Pier Paolo Franzese.

University of Napoli Parthenope, Italy

Presentation format: POSTE

Abstract

Environmental impacts due to urbanization are increasingly affecting human well-being. Urban metabolism consistently contributes to environmental pollution, and current blue and green infrastructures are often insufficient to offset these impacts through their Ecosystem Services (ES). This study proposes a novel framework integrating ES accounting and Life Cycle Assessment (LCA) to quantify the mismatch between ES supply and demand in cities. Green Infrastructures are crucial in enhancing human well-being by improving air quality, reducing water runoff, minimizing pollution from various sources, and mitigating the effects of urban heat islands, all of which have significant positive impacts on human health. The supply of these services can be quantified using the i-Tree Canopy software. This software represents an innovative tool for assessing the provisioning of a wide range of ES by Green Infrastructure. Regarding marine ecosystems, the InVEST software facilitates the quantification of a broad spectrum of ES associated with Blue Infrastructure. In particular, the InVEST software facilitates the production of spatial assessments of ES that can help identify local criticalities and hotspots for the sustainable management of coastal cities. The two approaches allow the quantification of ES in both biophysical and economic terms. Conversely, the LCA methodology enables the assessment of urban metabolism's environmental impacts, specifically its demand for ES. Combining ES assessment and LCA, this study proposes a novel approach for defining sustainability boundaries for cities. The proposed approach provides a tool for urban planning and policymakers in charge of achieving sustainability goals.

P_Sci_24. IMEYMAT: An UCA Materials Research Centre Open to new International Collaborations.

D. Araujo, O. Bomati, J.J. Calvino, L. Cervera Gontard, M. Domínguez, S. Molina, J.M. Rodríguez Izquierdo, M.J. Mosquera

IMEYMAT, Institute of Electron Microscopy and Materials, Universidad de Cádiz

Presentation format: POSTER

Abstract

IMEYMAT is a Research Centre in Electron Microscopy and Materials of the University of Cadiz joining 107 researchers, more than 50% being permanent staff.

In 2024 it developed 36 research projects with a funding of 7.1 million euros, and 58 contracts and agreements with companies and institutions funded with 1.2 million.

Its name emphasizes Electron Microscopy techniques, in which UCA is considered a top international reference getting the recognition of the National Research Plan as a Singular Facility. In addition, 11 scientific teams develop multidisciplinary studies in chemistry, physics and materials engineering.

The scientific equipment has been renewed in the last 10 years, with an investment of more than 20 million euros. Many of these research teams offer their experimental services to both external researchers and companies.

IMEYMAT staff participates in postgraduate teaching and training, both in Master's and Doctorate studies, in which graduate students can complete their scientific and technical background and skills in Materials Science and Engineering.

In the last 4 years, IMEYMAT researchers produced more than 500 scientific articles in top quality referred journals.

In 2025 IMEYMAT is redefining its strategy for the coming years, aligned with the strategic guidelines of the University of Cadiz: Internationalization, Sustainability and Digitalization. In this strategy, IMEYMAT is open to new collaborative projects with laboratories and scientists from the SEA-EU alliance and from other centres and countries around the world.

P_Sci_25. Study of the Effect of Malt Type and Fermentation Conditions on the Physicochemical Characteristics of Beer.

Joaquín Tomás Romero, Jesús Ayuso, Cristina Cejudo, Ana Belén Día

Chemical Engineering and Food Technology Department, University of Cadiz

Presentation format: POSTER

Abstract

Beer is one of the oldest fermented beverages in human history. Although its production process may vary depending on the specific beer style, it typically involves malting, mashing, fermentation, maturation, and bottling. The fermentation stage is crucial and it is usually carried out by yeasts of the genus Saccharomyces, with S. cerevisiae and S. pastorianus being commonly used for ale and lager beers, respectively. Fermentation temperature and yeast strain selection have a significant impact on the physicochemical and sensory properties of the final product. In this work, beers were produced using different malt types (pale and roasted), yeast strains (ale and lager), and fermentation temperatures (low and high). Yeast viability was monitored during fermentation, and key physicochemical parameters were analysed, with a particular focus on colour. A secondary fermentation in the bottle was performed to achieve proper carbonation and foam formation. The final beers were characterised in terms of alcohol content, turbidity, total polyphenol content, and colour. A detailed study of colour evolution was conducted throughout the alcoholic fermentation and after the second fermentation, highlighting its importance as an indicator of beer quality, as it influences both consumer perception and product identity. Colour reflects the type of malt used, fermentation conditions, and chemical reactions during brewing. Accurate colour analysis allows for objective monitoring throughout production, ensuring consistency, quality control, and alignment with sensory expectations. The results aim to establish clear correlations between fermentation conditions, malt selection, and the physicochemical traits of the resulting beers, with special emphasis on colour development.

P_Sci_26. Building Bridges Toward Sustainability Collaboration.

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Presentation format: POSTER

Abstract

Worldwide, there is an urgent need to address environmental degradation alongside the growing population facing poverty and vulnerability. To tackle these issues, the United Nations introduced the concept of Sustainable Development, which they defined as 'development that meets the needs and aspirations of the present generation without compromising the resources needed for future generations to meet their needs.' While various sustainable development frameworks, indicators, and scientific information exist, the overwhelming quantity of information and its limited translation into the general public's everyday life have become significant barriers to achieving it. The consequences are particularly evident in coastal areas with dense human populations. The Circles of Coastal Sustainability Framework was developed to address these challenges. It has two objectives: to assess the sustainability of coastal socio-ecological systems at a regional level across diverse global contexts and to make this information accessible to all individuals. The framework is structured around four domains: Environment, Economy, Social, and Governance. Each domain includes five generic categories critical to assessing sustainability in coastal settings. These categories aim to organize and integrate information using relevant and verifiable indicators, ensuring adaptability. This information is then evaluated through a proposed five-level global sustainability score system based on sustainable development principles. The final assessment is presented through a rich-format image. The primary objective of this image is to serve as a communication bridge, enabling organizations, professionals, and individuals from diverse backgrounds and roles to understand, communicate, and collaborate toward holistic solutions that promote sustainable development in their region.

P_Sci_27. Evaluation of a Computational Scheme for the Estimation of Solar Irradiance Over the Maltese Islands.

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Presentation format: POSTER

Abstract

Solar energy, a clean and renewable energy source, holds significant potential for Malta due to its abundant sunshine. Accurately modelling solar irradiance is crucial for understanding both solar energy potential and atmospheric conditions. A physics-based computational scheme, dubbed SOLAR, was designed and developed to estimate the total solar irradiance at the Earth's surface under both clear and cloudy conditions. This scheme incorporates various physical parameters, such as the solar constant, Earth's orbital characteristics and atmospheric transmissivity, and accounts for cloud cover to improve accuracy.

The scheme, which is implemented in MATLAB, includes two sub-schemes: M1 estimates cloud cover using daily solar flux, while M2 uses daily sunshine hours. The performance of SOLAR was evaluated using solar irradiance data collected from meteorological stations in Birżebbuġa and Msida, Malta, between 2011 and 2024. The results indicated that SOLAR performed well in estimating solar irradiance across varying atmospheric conditions. Both sub-schemes showed a strong correlation with observed data, with M2 performing slightly better. The highest accuracy was observed during periods of high solar irradiance, while greater deviations occurred during lower irradiance, typically in partly cloudy conditions.

Despite these challenges, the correlation coefficients (R^2) obtained — particularly in Msida (R^2 = 0.88 for M1 and R^2 = 0.89 for M2) — highlight the scheme's reliability. In conclusion, the study demonstrated that SOLAR is applicable to Malta's climate. Proper calibration with local data will significantly enhance its accuracy, making SOLAR a valuable tool for solar energy studies in Malta.

P_Sci_28. First ex situ outplanting of Cystoseira crinitophylla in the Tyrrhenian Sea (Italy): A feasible approach to restore macroalgal forests in the Mediterranean Sea.

Francesco Rendina, Filomena Cerciello, Saul Ciriaco, Marco Segarich, Pier Paolo Franzese, Elvira Buonocore, Giovanni Fulvio Russo, Annalisa Falace

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Presentation format: POSTER

Abstract

Macroalgal forests formed by Cystoseira sensu lato (s.l.) are essential coastal habitats in the Mediterranean Sea, supporting high biodiversity and providing critical ecosystem services, such as carbon sequestration. However, these habitats are undergoing a significant regression due to increasing anthropogenic pressures. Effective monitoring and assessment of Cystoseira habitat distribution and health status are crucial for guiding conservation and restoration efforts.

Despite growing international interest in marine restoration, studies on the restoration of macroalgal forests in the Mediterranean Sea remain limited, with most focused on intertidal species. In this study, conducted within the framework of the EU-LIFE "REEForest" project, we carried out the first non-destructive ex situ outplanting of the subtidal species Cystoseira crinitophylla in the Santa Maria di Castellabate Marine Protected Area (Tyrrhenian Sea, Italy) over a three-year period. Fertile apices were collected without depleting donor populations and transported to the laboratory for algal cultures. A total of 1,695 tiles were successfully deployed in the field and monitored in the following months through photographic surveys to assess algal survival, cover, and growth. This study demonstrates that the outplanting of C. crinitophylla is a viable strategy for restoration and offer strong support for scaling up restoration efforts of subtidal Cystoseira canopy-forming species in alignment with EU restoration guidelines.

P_Sci_29. Long-Term variability and trends of Mediterranean Water Outflow: new observational insights from Parthenope University.

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Presentation format: POSTER

Abstract

The Mediterranean Outflow Water (MOW) released into the Gulf of Cadiz mainly results from the mixing of Levantine Intermediate Water (LIW) and Western Mediterranean Deep Water (WMDW), with occasional contributions from other Mediterranean sources. During the 20th century, the Mediterranean basin experienced significant surface and deepwater warming. At the same time, observations in the Strait of Gibraltar since the early 2000s revealed anomalous warming and increased salinity.

Given its role as a major source of salt and heat for the eastern North Atlantic, continuous monitoring of the MOW is essential to assess its impact on Atlantic circulation and its feedback on global climate variability.

In this context, the Parthenope University of Naples (Italy) is conducting research aimed at improving the understanding of MOW long-term variability, integrating high-quality hydrographic data collected from multi-platform observations provided by the latest release of the open-access Coriolis Ocean database for ReAnalysis (CORA 5.2), including ARGO profiles.

The results confirm a long-term increasing trend, alongside pronounced seasonal, interannual, and decadal variability. Transport through the Strait, which itself exhibits multidecadal variability, plays a key role in modulating the differences between trends observed within the Mediterranean Sea and those affecting the intermediate layers of the North Atlantic. Finally, although the influence of climate change cannot be excluded, the evidence suggests that natural variability and complex physical processes within the Strait significantly contribute to the observed trends and that the relationship between these factors is more complex than previously thought, warranting further investigation.

P_Sci_30. Influence of nanoparticle type on dominance of aggregation in aquatic environments.

Szymon Swiątek Brzeziński, Tomasz Puzyn

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Presentation format: POSTER

Abstract

Engineered nanoparticles (ENPs) are increasingly released into surface waters through industrial, consumer, and agricultural applications, resulting in adverse environmental effects. In aquatic systems, ENPs can undergo various removal processes. In this study, we quantitatively determined the tendency of ENPs to be removed via aggregation with natural particles, enabling a more accurate assessment of their potential ecotoxicological impacts.

We developed an integrated modeling framework that combines Monte Carlo simulations accounting for environmental variability, DLVO theory for calculating attachment efficiency (α), and an environmental fate model to compare aggregation with other removal processes such as sedimentation, chemical transformation, and advection.

This approach allowed us to estimate the probability of aggregation dominance for different nanoforms (variants in size and zeta potential) of multiple inorganic nanoparticles. The analysis revealed significant variability in aggregation propensity, which enabled the creation of a five-tier classification system for nanoparticles based on their probability of aggregation dominance.

The new classification system helps group nanoparticles to assess their behavior in surface waters, deepening the understanding of their environmental stability and potential ecological impacts. Nanoparticles with a high probability of aggregation dominance form aggregates, reducing bioavailability and interactions with aquatic organisms, while those less prone to aggregation remain dispersed, which may increase their mobility and influence on the ecosystem.

P_Sci_31. Some computational aspects of affine semigroups.

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Presentation format: POSTER

Abstract

Some computations on affine semigroups are known to be of high computational complexity. In particular, they are NP-complete. In spite of this, the elaboration of examples that allow the establishment of hypotheses for their subsequent theoretical verification, or refutation, is part of semigroup theory. We show some theoretical results obtained from the massive construction of examples, and the computational difficulty we found.

P_Sci_32. Strategies to minimize the transfer of port pollution through ballast waters. Preventing the transference of aquatic microorganisms.

Diana Iglesias Arroyo, Pablo Gallardo Forero, Leonardo Romero Martínez, Javier Moreno Andrés, Enrique Nebot

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Presentation format: POSTER

Abstract

Harbours are over-exploited ecosystems highly influenced by anthropogenic perturbations. They are receptor bodies for various effluents (industrial or urban wastes), and are also influenced by specific water currents associated with maritime transport. Shipping is one of the major vectors of aquatic pollutants, transferring them through ballast waters. The specific regulations related to ballast waters established by the IMO are continuously updated or amended, highlighting the challenge of their implementation. Currently, ballast waters are considered one of the main causes of the introduction of aquatic invasive species, ranking as the fourth global threat to the oceans. The introduction of non-native microalgae, in particular, can trigger harmful algal blooms, alter food webs and generate significant socioeconomic impacts.

In order to comply with IMO regulations more safely, this study propose different treatment strategies as responses to prevent and minimize both biological pollution in harbours and its spreading via maritime transport. Ballasting and de-ballasting procedures imply high flow rates and necessitate the implementation of flow-through ballast water systems, which can sometimes result in insufficient disinfection. However, to enhance effectiveness, ballast water systems can be improved by incorporating intensive processes, such as those based on new UV sources (UV-C LEDs) and combining them with green reagents like H_2O_2. This could reduce treatment time as well as ensure the correct inactivation of biological indicators (harmful phytoplankton).

P_Sci_33. Effects of AgNPs obtained via green synthesis based on plant extracts against quarantine and regulated in EU bacterial pathogens.

Michał Prusiński, Agata Motyka Pomagruk, Anna Dzimitrowicz Wrocław, Piotr Jamróz Wrocław, Paweł Pohl Wrocław, Wojciech Śledź, Ewa Łojkowska

Faculty of Biotechnology UG&MUG

Presentation format: POSTER

Abstract

Quarantine and regulated non-quarantine phytopathogens, such as Ralstonia solanacearum, Clavibacter sepedonicus, Xanthomonas campestris and Erwinia amylovora, cause significant losses in agriculture and spread easily due to causing difficult to detect latent infections.
The aim of this study was to investigate the antimicrobial potential of silver nanoparticles (AgNPs) obtained via green synthesis driven by reduction of silver nitrate by aqueous extracts from common herbs, here Artemisia absinthium, Artemisia vulgaris, Echium vulgare, Glechoma hederacea, Solidago canadensis and Urtica dioica.
The synthesis of AgNPs was conducted at 100 °C in the presence of polyvinylpyrrolidone as a stabilizer.The bactericidal properties of AgNPs were revealed by determination of minimal inhibitory concentrations (MIC) and minimal bactericidal concentrations (MBC). AgNPs of the highest antimicrobial properties were synthesized using S. canadensis extract and showed the lowest MIC of 1.3 ppm against C. sepedonicus and the highest MIC of 3.7 ppm towards X. campestris. The MIC and MBC values obtained in this study were lower than these reported in the literature; e.g. Gulamnabi et al. (2020) described a MIC of 12.5 ppm against R. solanacearum.
Furthermore, we tested the effects of herein revealed AgNPs on seedlings growth and observed 85.8% increase in median shoot length of Solanum lycopersicum exposed to S. canadensis-based AgNPs.
During further research, we hope to increase the efficiency of AgNPs synthesis, and study their ecotoxicity against naturally occurring soil organisms.

Funding: Polish Ministry of Education and Science, Pearls of Science granted to MSc Michał Prusiński project no. PN/01/0050/2022.

SCIENCES

CAPSULES

C_Sci_01. Mapping and evaluating recreational services provided by coastal habitats in the Ria Formosa (Algarve, Portugal).

Maria Conceição Neves, Kristyna Salacov

DCTMA, FCT, Universidade do Algarve, Campus de Gambelas, Faro

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The Algarve region in southern Portugal is a prime destination for coastal tourism, with the Ria Formosa coastal lagoon being a hotspot for recreation and nature-based tourism. This area hosts diverse ecosystems that provide critical ecosystem services (ES), including recreational opportunities that support both local economies and societal well-being. However, increasing anthropogenic pressures and tourism intensity pose challenges to the sustainability of these services. This study presents a regional assessment of recreational services provided by coastal habitats in the Ria Formosa, integrating spatial analysis and ecosystem service modelling. Using GIS tools and the InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) and ESTIMAP models, we aim to evaluate the spatial distribution and intensity of recreational services. Model outputs are compared with available data sources, including geotagged photographs from social media platforms and national tourism databases, to derive indicators that reflect real-world usage patterns. The area selected for modelling includes coastal and lagoon habitats with known appeal to visitors, such as beaches, salt marshes, and barrier islands. This approach enables the identification of key recreational zones and potential conflicts between tourism and conservation priorities. The findings provide valuable insights for integrated coastal management, supporting decision-making processes aimed at balancing environmental protection with sustainable tourism development in the Ria Formosa.

C_Sci_02. Rescuing local varieties as a vineyard resilience strategy in warm climates.

Pérez González, Juan Manuel, Rueda Martínez, Manuel, Sancho Galán, Pau, Amores Arrocha, Antonio, Jiménez Cantizano, Ana

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The selection and cultivation of native grapevine varieties is one of the climate change adaptation strategies proposed by the International Organisation of Vine and Wine. This practice not only promotes biodiversity and vineyard resilience, but also contributes to the diversification of wine production and the preservation of viticultural heritage.

In this context, VitiLab was created — a "living laboratory" consisting of an experimental vineyard located in the historic Pago de Campano in Chiclana de la Frontera (Cádiz, Spain), within Bodegas Manuel Aragón and funded by the Provincial Council of Cádiz. This space is designed as a resource for research, technology transfer, and scientific outreach, with the aim of evaluating the performance of local grapevine varieties under the particular conditions of a warm climate region.

The vineyard has been established following an experimental design, cultivating seven native varieties from the region: Vijiriega, Uva Rey, Pedro Ximénez, Moscatel de Chiclana, Palomino Fino, Perruno, and Beba. The vines were distributed across four randomized blocks, each containing 40 vines. This layout enables comparative agronomic, physiological, and oenological studies among the different varieties under real cultivation conditions.

The results from the proposed evaluation study will generate scientific knowledge valuable for grape growers and promote sustainable agricultural practices. Furthermore, it will contribute to preserving the viticultural identity of the region and highlight the oenological potential of these varieties for diversifying the typical wines of the area.

C_Sci_03. Identification of kinases and phosphatases responsible for the regulation of BNIP3L/NIX-mediated mitophagy.

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

Mitophagy, a selective removal of unnecessary and/or damaged mitochondria, is crucial for maintaining mitochondrial quality and quantity control. One of the most studied mitophagy receptors, BNIP3L/NIX, plays a critical role in terminal differentiation of erythrocytes. It is known that the activity of BNIP3L/NIX is regulated by phosphorylation and dimerization. A potential kinase should phosphorylate the N-terminal LIR domain of the receptor BNIP3L/NIX and thereby enhance the interaction with autophagosomal proteins, and a phosphatase should dephosphorylate BNIP3L/NIX C-terminal end to allow receptor dimerization. We defined several candidate enzymes that could successfully maintain the phosphorylation status of the receptor using in silico methods. Co-immunoprecipitation and pull-down were performed to confirm the interaction to BNIP3L/NIX. Furthermore, MST analysis performed allowed us to further characterize this interactions. Localization of the enzymes to mitochondria was confirmed by immunofluorescence microscopy. Our results indicate that the defined kinase is responsible for phosphorylation of the BNIP3L/NIX LIR domain, thereby enhancing the recruitment of autophagosomes. Identified phosphatase plays a role in the dephosphorylation of serine at position 212, which consequently enables receptor dimerization necessary for the mitophagy activation. Functional assay results will determine the role of this events in more physiological conditions including erythrocyte differentiation.

C_Sci_04. Inverse DEA with integer intervals for input estimation.

Atefeh Younesi, Farhad Hosseinzadeh Lotfi, Manuel Arena Jiménez

Statistics and Operation research department, Cadiz University

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This paper present an inverse data envelopment analysis (DEA) based on the non-radial slacks-based model in the presence of integer interval data. the following question is addressed in this paper: if the output of DMUo increases from Yo to Betao, and its inefficiency score is not less than t-percent, how much should the inputs of the DMU increase? A novel non-radial slack-based model to solve inverse DEA is offered to respond to the previous question, whose interval Pareto solutions are characterized using the Pareto solution of a related multiple-objective nonlinear programming (MONLP). A functional example is presented on data to illustrate the new model and methodology, with integer interval variables.

C_Sci_05. Plastic – friend or enemy? Nanoplastic particles as a threat to unicellular green algae.

Adrian Sadowsk, Anna Aksmanni

Department of Plant Experimental Biology and Biotechnology, Faculty of Biology, University of Gdańsk, ul. Wita Stwosza 59, 80-308 Gdańsk

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

Plastic pollution has become a pervasive environmental issue, with plastic nanoparticles now detected in ecosystems worldwide. These nanoparticles are released into environment through various degradation processes, including photodegradation, thermodegradation, and mechanical breakdown of larger plastic debris. Photodegradation can also cause the plain plastic nanoparticles' surface chemical modifications, e.g. oxidation and formation of free radicals. Among the most common plastic pollutants is polystyrene, a polymer widely used in food packaging, foam products, and fishing gear. Many adsorbents and nanocomposites are made of carboxylated polystyrene, which is potentially more toxic to living organisms. Aquatic primary producers, such as phytoplankton, are among the most vulnerable organisms to nanoparticle pollution. Despite growing awareness of this issue, little is known about how nanoplastics interact with algae. In our study, we investigated the effects of carboxylated nanopolystyrene (cNP) particles on the unicellular green alga Desmodesmus armatus. We found that cNP exposure significantly inhibited algal population growth and disrupted photosynthetic processes, particularly electron transport in Photosystem II, which resulted in increasing non-photochemical energy dissipation. Interestingly, cNP exposure stimulated the production of photosynthetic pigments, possibly as a stress response mechanism.
These findings suggest that cNPs pose a real threat to microalgae and, by extension, to aquatic ecosystems. Our research emphasizes the urgency of addressing plastic pollution and highlights the importance of extensive investigations. Tackling this global problem requires close collaboration between scientists, policymakers, industrialists, and broadly understood society. Fundamental research and the dissemination of its results are essential steps toward a cleaner environment and a more sustainable future.

SOCIAL SCIENCES

ORAL COMMUNICATIONS

O_SocSci_01. To anchor oneself at sea: Crossed perspectives on a coastal territory.

Anthony Farge

Psychology. UFR Lettres, LP3C EA 1285, UBO
FRANCE | BREST

Presentation format: ORAL (ON SITE)

Abstract

This presentation, based on doctoral research in social psychology, explores the role of the sea in the social construction of reality, with a particular focus on social identity, place attachment, and social representations. The study was conducted in the Haut-Léon, a coastal region of Brittany (France), where the sea is both a physical presence and a symbolic reference. Using a mixed-methods approach combining semi-structured interviews and a questionnaire survey, the research investigates how the sea contributes to the ways in which local inhabitants define themselves and relate to their territory. Results reveal that the sea holds a central place in the collective imagination and everyday experiences of the population. It acts as a marker of belonging, a source of identity, and a key element in how the territory is perceived and represented. Far from being a mere geographical backdrop, the sea emerges as an active component in the dynamic processes of anchoring, differentiation, and appropriation of place. This work contributes to broader reflections on coastal environments as social spaces, and on the symbolic power of maritime elements in identity-making.

O_SocSci_02. Exploring Blue Management and Economy: A Quantitative Analysis of Perspectives from Students, Teachers, and Industry Stakeholders in the SeaEU Alliance.

Jesus Barrena Martinez, Jose Bocoya Maline, Miguel Angel Montañes Del Rio

Universidad de Cadiz, Business Management Department, Faculty of Business and Economics, Cadiz, Faculty of Social Sciences and Communication, Jerez | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The blue economy represents an emerging paradigm that seeks to balance economic growth, environmental sustainability, and social inclusion, specifically within maritime sectors. The SeaEU Alliance is at the forefront of this movement, bringing together academic institutions, students, teachers, and industry leaders to promote marine-related research, education, and innovation. This study aims to explore the varied perspectives of three key stakeholders—students, teachers, and companies—in relation to blue management and economy within the SeaEU framework.

Using a quantitative survey method, this study will assess the perceptions, attitudes, and expectations of these groups regarding the integration of blue economy principles into their respective fields. The survey will focus on key themes such as sustainability practices, economic opportunities, educational content, industry needs, and collaborative potential. A multi-dimensional approach will be employed to analyze the data, revealing patterns, commonalities, and discrepancies across the stakeholder groups.

The study will contribute to a deeper understanding of how blue management is perceived across sectors and identify potential gaps in education, research, and industry practice. Furthermore, it will provide insights into how cross-sectoral collaboration in the SeaEU Alliance could be strengthened to foster a more cohesive blue economy strategy.

O_SocSci_03. Are digital care platforms shaped by institutional contexts? Comparative study between Belgium and Spain.

Barrero Velázquez Isabel María, Pérez de Guzmán Padrón Sofía

General Economy Department - Faculty of Labour Sciences - 11002 (CADIZ) | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The aim of the following communication is to share the results gathered in a comparative study on digital care platforms between Belgium and Spain. These platforms offer services such as childcare and care for the elderly and/or dependents, as well as domestic work (Ustek-Uspilda et al., 2022). They are different from other types of better-known platforms, like transport or delivery platforms, for different reasons, including their high feminisation, the important role played by trust, and their long history of devaluation (Flanagan, 2019; Ticona et al., 2018).

In order to carry out this research, a qualitative methodology has been applied, based on desk study and interviews with workers in the domestic and care sector on platforms, as well as other people involved in the process, such as trade union representatives, platforms managers and clients.

It is concluded that institutional contexts and regulatory frameworks not only shape the landscape of digital platforms, but also the capacity of platforms to increase power imbalances and modulate the effects on their labour management model. Related to power inequalities, one-sided scores are the most effective disciplinary mechanism. Moreover, the platforms themselves apply monitoring mechanisms, which, together with the threats of punishments and information asymmetries, act as powerful disciplinary mechanisms (Pérez de Guzmán et al., 2024).

O_SocSci_04. Science for all: Bridging researchers and high school students in public science communication.

José Bragança

Faculty of Medicine and Biomedical Sciences, Campus de Gambelas, 8005-138, Faro - Portugal | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Researchers typically disseminate their findings through communications in specialized (inter)national journals and conferences. However, efforts to share scientific achievements with the broader public are equally essential. To this end, we launched UALGORITMO, an online, freely accessible journal in downloadable PDF format, aimed at promoting the scientific activities of the University of Algarve. Articles submitted to UALGORITMO are written in lay Portuguese by University researchers, summarizing recent peer-reviewed publications. Submitted manuscripts are then reviewed by high school students (10th–12th grade) from the Algarve region, under the guidance of their teachers, to further simplify the language and enhance the visual content. Following revisions based on reviewers' feedback and final approval by the authors, articles are edited and published online. Reviewers' contributions are acknowledged in each article with a brief description and photograph of the group. Articles also include a short biography of the authors and links to their researcher and teaching activities, enhancing the visibility of the University's academic and educational initiatives. Participation from both researchers and students has been enthusiastic and dynamic. Recently, a multilingual Special Issue of UALGORITMO was published in the context of the framework of the Sustainable Horizons project within the European Universities designing the horizons of sustainability (SHE's) involving six higher education institutions from Portugal, Spain, Germany, Finland, Czechia, and Romania. We believe that the UALGORITMO is an initiative that promotes good practices in Open Science dissemination and engaged Citizens in science. We will share our experience in developing the UALGORITMO.

O_SocSci_05. Fleinværs Vel – From the Fight Against Depopulation to Eco-Sorrow and New Creative Mobilization.

Jan Kåre Breivik

Faculty of social science | NORD

Presentation format: ORAL (ON SITE)

Abstract

Since its establishment in 1983, Fleinværs Vel, a community association in the Norwegian municipality of Gildeskål, has embodied grassroots resilience against depopulation. Initially formed to combat outmigration and preserve key local institutions, Fleinværs Vel catalyzed a socio-economic revival through initiatives such as salmon aquaculture and a renewed traditional boat fleet, earning regional recognition in 1985. Over four decades, this study examines Fleinværs Vel as an example of community-driven crisis management, focusing on its ability to foster solidarity and collective mobilization in response to demographic and ecological challenges.

Integrating concepts like green solidarity and social entrepreneurship, the paper situates the association within broader debates on self-organization in small coastal communities. It highlights the interplay between environmental vulnerabilities and social resilience, suggesting that Fleinværs Vel's eco-engagement provides a model for addressing ecological grief and fostering sustainability. Through historical analysis and participatory methods—including archival data, regional media, and ethnographic fieldwork spanning decades—the study explores the intrinsic ties between solidarity and crisis response. Insights gained from local leaders illuminate the evolution of Fleinvær's socio-cultural and ecological landscape.

Ultimately, Fleinværs Vel demonstrates how small communities can transform crises into opportunities for collective renewal and cultural innovation. This case study underscores the critical role of grassroots initiatives in countering centralization and navigating ecological challenges, offering valuable lessons for sustainable community practices in an era of environmental uncertainty.

O_SocSci_06. Networks for the touristic enhancement of underwater heritage.

Maria Ferrara, Cristina Canoro

Scuela Superiore Meridionale | Naples Parthenope

Presentation format: ORAL (ON SITE)

Abstract

The upward trend recorded in the number of visitors to the submerged sites in recent years demonstrates the enormous development potential offered by hidden heritage, which could act as a driver for the entire touristic area. This is the case of "Campi Flegrei" in Southern Italy, whose underwater cultural heritage is world-famous.
This study underlines the role of the actors involved in the process of developing the area. These actors share a common vision of sustainable development, based on a new model of cultural tourism.
Among these actors, this study explores the role of diving centres in building a network to enhance the tourism value of underwater heritage.
The aim of the paper is to analyse these networks, through an ethnographic and longitudinal methodology, revealing the evolution in the networks' organizational forms and accordingly the change in the role of diving centres over time.
The study has revealed the importance of two dimensions that characterize the different organizational forms of networks: centralization and formalization. Taking into consideration these two dimensions, the study has highlighted the evolutionary path that Campi Flegrei area has experienced and the peculiar role of the diving centres in each stage.

O_SocSci_07. The Impact of Social Media Influencer Culture on Political Communication and Citizens' Relationship with Politics.

Lucía Caro Castaño

Department of Marketing and Communication, Faculty of Social Sciences and Communication, 11406 Jerez de la Frontera (Cádiz). | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

This work estructure the impacts of social media influencers on political communication and how citizens engage with politics through these platforms. It focuses on three key figures: lifestyle influencers as ideological mediators, alternative political influencers, and the emergence of the "influencer-politician", as the evolution of the celebrity-politician figure in social media.

In a climate of growing anti-political sentiment and widespread distrust in traditional media, particularly among younger demographics, many users shift their attention to influencers on SM platforms. These individuals act as alternative sources of political information and interpretation. They present themselves as independent voices, free from institutional constraints, and are often seen as more authentic and accessible than mainstream journalists. Their ability to filter, frame and narrate political issues gives them power as gatekeepers and interpreters, affecting followers' opinions, interests and political behaviour.

Lifestyle influencers also exert ideological influence, even when they avoid overt political content. Through the promotion of aspirational lifestyles, they disseminate implicit value systems that often align with neoliberal ideals. Their content shapes emotional, aesthetic, and cultural frameworks that contribute to how political meaning is constructed on these platforms.

Simultaneously, traditional political actors have adopted influencer tactics to connect with audiences, using familiar aesthetics and communicative styles (Caro-Castaño et al., 2024). This leads to the formation of affective fan communities who relate to political figures through emotions, play, and consumption.

This paper analyses how influencer culture reshapes political perception and engagement through micropolitical dynamics, reinforcing narratives that erode traditional political discourse and foster anti-political sentiment.

O_SocSci_08. Going with the tide: community making, global ecological challenges and women's subjectivities in Southern Portugal.

Raquel Carvalheira

Faculty of Humanities and Social Sciences | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

In this paper, I examine the contradictions and tensions unfolding on Culatra Island (Southern Portugal) resulting from transformations in local livelihoods and people's relation with waterscapes. Situated between the Atlantic Ocean and the Ria Formosa, a unique sweet-salt lagoon ecosystem of mudflats and marshes, Culatra is known for its strong communitarian bonds developed in the 1980s when the protection of this exceptional ecological sanctuary took local mainland authorities to plan the demolition of houses. After years of resistance and struggle for their right to live in this protected environment, the younger generation of Culatrenses are gradually moving away from artisanal fishing and bivalve harvesting towards oyster farming, an industry increasingly tied to global consumption demands. As a part of a collective of anthropologists making a collaborative ethnographic filmmaking in Culatra, this paper reflects on the role of anthropology and social sciences to understand the often-overlooked role of women in fishing communities. Inserted in the HERA-funded (Humanities in European Research Area) project named Liminal Waterways Countrecultures (2025-2027), water and its tides are used as a metaphor to explore the conundrums of contemporary societies, between ecological adaptation and socioeconomic needs.

O_SocSci_09. Investigating the antecedents of Sustainable Development Goals disclosure via social media: Evidence from water companies.

Nicolò, Giuseppe, Cervilla Bellido, José María

Deparment of Finance and Accounting
Faculty of Economics and Business Sciencies
C/Enrique Villegas Vélez, 2. 11001 Cádiz (Cádiz) | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

This study extends academic knowledge on the sustainable development goal (SDG) disclosure practices of water companies via social media. The ultimate paper's goal is to examine the possible determinants of such disclosure practices. A manual content analysis was conducted on a sample of 64 Spanish water companies' official Twitter accounts to determine the SDG disclosure level. Based on legitimacy theory, different regression models were estimated to identify possible financial and governance explanatory factors of the level of SDG disclosure provided by Spanish water companies via Twitter. Results reveal that Spanish water companies are still slow to realise the potential of social media to increase their engagement with stakeholders and legitimise their position in society concerning their commitment to achieving SDGs. More profitable companies with less government ownership and larger boards appear more prone to disclose SDG information.

O_SocSci_10. Linking Research, Practice and Teacher Education: An Ecological Dynamics Perspective on Childhood Motor Competence.

Vanda Correia

University of Algarve, Sports Department | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

This presentation explores childhood motor competence through the lens of ecological dynamics, emphasizing the continuous interaction between individual, task, and environment. Grounded in a non-linear pedagogical approach, it presents a model that integrates observation, reflection, and action, developed within a university course on Motor Development in Childhood. The proposal includes an exploratory study conducted in a public primary school with 64 fourth-grade children. Motor competence was assessed using the Motor Competence Assessment (MCA), a validated tool measuring stability, locomotion, and object control. Additional data on age, sex, physical activity habits, and motivation were collected through questionnaires. Preliminary results indicate consistent performance in stability skills, greater variability in locomotor abilities, and lower scores in object control. Dance and gymnastics showed positive associations with motor competence, while frequent physical activity outside school emerged as the strongest predictor of overall performance. No significant differences were found in relation to participation in school-based extracurricular activities. The study also served as a pedagogical tool: based on the collected data, university students were challenged to design tailored physical education sessions adapted to each class's specific motor profiles. This process fostered a reflective, evidence-based teaching approach that values learner diversity and contextual relevance. By combining theoretical grounding, empirical research, and applied practice, this contribution offers a meaningful perspective on child-centred motor development and teacher education, with implications for promoting physical literacy and adaptive pedagogical strategies in real-world settings.

O_SocSci_11. "The Silent revolution in Reverse" - Conservatism and attidutes towards migrants in Poland.

Elżbieta Anna Czapka, Jakub Potulski

Department of Social Sciences | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

The main goal of the paper is to explore the interconnectedness of conservative values and attitudes towards migrants in Poland through the lens of the concept of „silent revolution" coined by Ronald Inglehart.

Inglehart argued that economic development, welfare institutions and the long peace between major powers since 1945 are reshaping human motivations in ways that have important implications concerning gender roles, sexual norms, the role of religion, economic behaviour and the spread of democracy. In the face of the growing regression of democracy and the wave of populism, Inglehart modified his theory to explain the rise in popularity of xenophobic, authoritarian populist parties, driven by rapid cultural changes, large-scale immigration, and quickly increasing economic inequalities. His evolutionary modernization theory holds that economic and physical insecurity elicits an authoritarian reflex leading to xenophobia, strong in-group solidarity, authoritarian politics and rigid adherence to traditional cultural norms. Inglehart saw a backlash in terms of increasing authoritarianism, political populism, and erosion of democracy.

In Poland, we can observe a noticeable retreat from "post-materialist values" towards "traditional values" and xenophobia. This transformation in attitudes is significantly linked to resistance against migration processes and fears of losing "cultural identity."

The study employs desk research, which involves the analysis of existing studies, reports, and databases to illustrate the distinctive turn in the attitudes of Polish voters. Furthermore, the results of a small-scale survey among social sciences students will be presented to provide supplementary data that reflects the current perspectives within this demographic group.

O_SocSci_12. Circular Water Management and Sustainable Business Models in Island Contexts: The Case of Capri.

Gabriella D'Amore, Amelia Rubini, Loris Landriani, Luigi Lepore

Department of Law, Via Generale Parisi 13, 80133, Naples | NAPLES PARTHENOPE

Presentation format: ORAL (ON SITE)

Abstract

The ecological transition has drawn renewed attention to marginal and insular territories as privileged laboratories for testing innovative and sustainable management strategies. Among these, the challenge of water governance in small Mediterranean islands is emerging as a strategic front for experimentation in circular economy practices.

This study investigates how local enterprises in the water sector on the island of Capri are redefining their business models in response to environmental constraints and the demands of circularity. The aim is to understand the enabling and inhibiting factors of sustainable transition in insular settings.

The research adopts a qualitative case study approach, with Capri selected based on its top-ranked performance in the 2024 Isole Sostenibili report (Battistelli et al., 2024). Data were collected through document analysis, stakeholder interviews and environmental performance indicators. The analysis is grounded in a theoretical triangulation that includes the sustainable business models framework (Bocken et al., 2014), circular economy theory (Geissdoerfer et al., 2017), and institutional theory (DiMaggio & Powell, 1983).

Capri's success in managing water sustainably—characterized by low network losses, rationalized consumption, and effective inter-municipal cooperation between Capri and Anacapri—demonstrates the centrality of integrated governance and adaptive business practices.

The study identifies critical levers such as public-private partnerships, infrastructural innovation, and institutional continuity as drivers of resilience and circularity in water management.

Practically, the findings offer concrete recommendations for policymakers and local actors aiming to replicate or scale similar practices in other peripheral or vulnerable territories.

O_SocSci_13. Democracy Under Structural Constraint: Tunisia, the EU, and the Limits of Post-Revolutionary Governance.

Joseph M Debono

Department of International Relations, Faculty of Arts, University of Malta. | MALTA

Presentation format: ORAL (ON SITE)

Abstract

In the wake of the Arab Spring, Tunisia emerged as a symbol of democratic possibility in the Global South. Yet, within a decade, that promise gave way to disillusionment and democratic reversal. This presentation examines Tunisia's troubled transition through the lens of international political economy, arguing that the collapse of democratic governance cannot be explained by domestic factors alone. Instead, it contends that structural constraints embedded in the global economic system – such as debt obligations, donor conditionalities, and neoliberal policy paradigms – systematically eroded the state's ability to respond to popular socio-economic demands. Particular attention is given to the role of European institutions and Tunisia's long-standing economic ties with the EU, including trade liberalisation agreements and policy dialogue with international financial institutions. Drawing on process-traced analysis and interviews with Tunisian political and civil society actors, the study explores how global structures and ideational norms shaped elite behaviour, narrowed policy space, and contributed to mass alienation. Focusing on two emblematic domains – debates over odious debt, and labour relations with the Tunisian General Labour Union (UGTT) – it shows how structural power weakens democratic responsiveness from within. The findings offer critical insights for scholars, policymakers, and citizens concerned with democracy's global future, especially in structurally constrained contexts. By highlighting the often-overlooked European dimension of Tunisia's democratic trajectory, this work contributes to the SEA-EU mission of fostering international collaboration, democratic resilience, and socially engaged research across borders.

O_SocSci_14. Beyond the Scenic View: Reimagining Destination Transformation through Eudai-monic and Hedonic Tourism Consumption.

Nelson Matos, Manuela Guerreio, Bernardete Sequeira

Cinturs, FE, UALG | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

This study explores how tourism destinations can be reimagined through the lens of Destination Transformation (DT), with a focus on promoting inclusive well-being and equitable access. DT refers to a multidimensional change involving personal, social, and environmental shifts, moving beyond traditional recreational tourism to more meaningful, participatory, and sustainable experiences. Central to this transformation is the integration of local communities and alignment with global sustainability goals. Transformative tourism experiences—marked by cultural immersion, emotional challenges, and personal reflection—are often triggered by both hedonic and eudaimonic forms of consumption. While hedonic consumption enhances short-term pleasure through activities such as festivals, eudaimonic consumption fosters personal growth and long-term life satisfaction. Inclusive tourism further strengthens this framework by addressing physical, economic, and cultural barriers, thereby enhancing social equity. This study employs a narrative literature review to synthesise existing research and trace conceptual developments, thematic trends, and empirical findings across these interlinked domains. The expected results highlight the potential of DT strategies to reinforce accessibility and social inclusion, particularly when tourism experiences are designed to balance hedonic enjoyment with eudaimonic fulfilment. The review is anticipated to reveal a research gap in connecting inclusive well-being with psychological consumption theories. Based on these insights, strategic recommendations will be provided to guide destination managers and policymakers in designing transformative, inclusive, and sustainable tourism experiences.

O_SocSci_15. Charting the Course: Real-World Application of Sustainability and Innovation Principles in the Portuguese Blue Economy Firms.

Jennifer Elston, Hugo Pinto, Carla Nogueira

Faculty of Economics - CinTurs | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

The Blue Economy is a key sector for advancing sustainability and innovation, particularly in coastal nations where marine-based industries shape economic and environmental resilience. This study explores Sustainability-Oriented Innovation through an in-depth analysis of five leading Portuguese firms, selected from a broader dataset of 40 companies. Adopting a qualitative approach, it employs semi-structured interviews as the primary data collection method, supported by content comparison techniques and thematic coding using NVivo software. The findings indicate that stakeholder collaboration, circular economy principles, and renewable energy integration drive stronger sustainability performance, whereas financial constraints, regulatory inefficiencies, and bureaucratic hurdles limit broader adoption. Grounded in sustainability transition theories, the study underscores the importance of institutional support, stakeholder engagement, and adaptive business strategies in overcoming systemic barriers. These results provide practical direction for policymakers and business leaders, highlighting the need for streamlined regulation, targeted financial incentives, and cross-sector collaboration. By showcasing how firms embed sustainability into their strategies while managing hybridity tensions, the research contributes empirical evidence on sustainable business model innovation and offers direction for scaling sustainability efforts within the Blue Economy.

O_SocSci_16. Quota and Catch Concentration in Fisheries under the ITQ System: Insights from Bluefin Tuna in the Strait of Gibraltar.

Manuel Acosta, Mª del Mar Cerbán, Daniel Coronado, Esther Ferrándiz

Department of Economics | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The Individual Transferable Quota (ITQ) is the instrument employed by the Common Fisheries Policy to regulate fishing, to maintain the economic level, and to promote the sustainability of resources. However, its implementation can influence the distribution of quotas, potentially leading to changes in the economic structure of the sector, which raise concerns about the future of small vessels. This study evaluates the impact of ITQs on bluefin tuna (Thunnus thynnus) fisheries in the ports of the Strait of Gibraltar, where ITQs have been applied since 2008. To analyse these effects, we use Lorenz curves and Gini indices to examine the evolution of catches and income. The results reveal that the application of ITQs has reinforce concentration of economic activity in the ports of the Strait of Gibraltar. Based on these findings, we propose a new ITQ distribution to ensure economic viability of smaller vessels and address the concentration caused by the current ITQ system in the ports of the Strait of Gibraltar. Our paper provides insights on the economic consequences of rigid quota allocation systems that can be relevant to fisheries facing similar challenges worldwide.

O_SocSci_17. The "Educational Marine Areas" in France: the educational challenges of an original environmental education “scheme”.

Julien Fuchs, Bertin Renoux Anne

Faculty of Sport and Education, Brest, 20 av. le Gorgeu, 29200 Brest - France | BREST

Presentation format: ORAL (ON SITE)

Abstract

Educational Marine Areas (AME) were created in the Marquesas Islands (French Polynesia) in 2012. This school "scheme" (Barrère, 2013), initially inspired by the management principle of Marine Protected Areas, offers schoolchildren the opportunity to become players in their own environmental education in a dedicated coastal or marine area. Adopted since 2016 in mainland France, the AMEs have followed an original development trajectory. Now coordinated by the French Office for Biodiversity (OFB), in conjunction with national education authorities, they have spread nationwide, and are now the subject of an explicit school policy. They can also be seen in an international context, as part of a global and protean movement in favour of education and awareness of the marine environment and environmental awareness.

The original principles of the AMEs are based on children's participation, complementarity with stakeholders from outside the school and anchoring the project in a local area. Their model has been institutionalised to ensure that it can be reproduced and disseminated, in a process that has given it legitimacy within the contemporary school system. We are interested in this trajectory of the AMEs and question the stages and issues involved in their structuring. Based on archives, semi-structured interviews and observations made in various research fields, we will discuss the uniqueness of this French maritime education “scheme”, which has now become a priority for the Ministry of Education and is beginning to spread internationally. This paper will also provide an opportunity to discuss how education at sea is viewed in other European contexts.

O_SocSci_18. Becoming Radical: Personality Predictors of Political Violence.

Anna N Gajda, Tomasz Besta, Artur Sawicki, Michał Jaśkiewicz

University of Gdańsk (Faculty of Social Sciences, Institute of Psychology, Bażyńskiego 4, 80-309 Gdańsk) | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Political engagement is not just a matter of values and beliefs—it also depends on more fundamental psychological inclinations, such as personality. This current study investigates the relationship between dark personality types—specifically everyday sadism and non-clinical psychopathy—and radical, violent collective action tendency. By examining this overlooked psychological dimension of political extremism, our study provides new insight into the darker motivational dynamics underlying extreme political behavior. We hypothesized that meanness, boldness, disinhibition, and sadism would be motivation factors for political participation based on violence. Based on a preregistered sample of 58 countries (N = 18,369), we found all four traits were positively associated with radical political participation across ideological frameworks. Meanness was not, however, because it was observed to have ideological asymmetry: it was positively correlated with right-wing causes of radical activities but negatively correlated with left-wing causes. These associations were greater for extremist behaviors than for moderate ones, and were controlled by factors at the country level, such as democratic development and violence exposure. The findings highlight that dark personality dimensions have an effect on not just how willing individuals are to become involved in politics, but also how intense and in which direction their involvement will be.

O_SocSci_19. Developing an Inclusive Independent Living Model: A Participatory Research Project.

Mayka García García, Ana Zarzuela Castro, Jennifer Perez Ordoñez, Gala Domínguez Rodríguez, Jesús Benítez de Alba, Mercedes Fernández Marcelo

Didactics | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The research project, entitled "Voices and independent living: supporting the social inclusion of young people with diverse abilities", is a collaboration between the EQUA Association and the University of Cadiz. The aim of the project is to co-construct and evaluate an inclusive model that promotes independent living for young people with diverse abilities. This approach is predicated on the recognition of the importance of young people's voices and experiences in decision-making processes that have a direct impact on their lives. The methodology employed is participatory, with young people engaged in all stages of the research process. A variety of data collection techniques are utilised, including group recordings and interviews.

The project is developed in several phases: a preparatory phase, an action-reflection phase in two cycles (dealing with living together and independent living), and a multi-focal evaluation phase. It is noteworthy that all participants, including the young people, assume the role of researchers. The results obtained focus on the model created, its sustainability and the opportunities and limits for its transfer.

The results demonstrate that the model fosters social inclusion and autonomy among young people, thereby ensuring their equitable participation in society and effecting a shift in societal perceptions regarding individuals living with disabilities. The model has also been shown to strengthen community support networks and to influence public policies that favour inclusion and independent living. The presentation of the project by EQUA members, young people and UCA academics reflects their commitment to the inclusive methodology adopted.

O_SocSci_20. Psychological barriers to integration of social robots in the workplace: How perceived self-efficacy, attitudes towards robots and human uniqueness beliefs shape willingness to collaborate with social robots.

Jean Christophe Gige, Nuno Piçarra, Grzegorz Pochwatko,Nuno Almeida, Ana Susana Almeida

Departamento de Psicologia e Ciências da Educação, Faculdade Ciências Humanas e Sociais, Universidade do Algarve, Campus de Gambelas, Gambelas, 8005-139 Faro, Portugal | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Recent studies in human-robot interaction (HRI) have shown the crucial role of perceived robot use self-efficacy in human robot collaboration. The current study investigated the relationship between perceived robot use self-efficacy, attitudes towards robots, and beliefs in human nature uniqueness (BHNU) and intentions to work with social robots. Participants (N = 117) completed questionnaires measuring their BHNU and attitudes towards robots before being randomly assigned to view either a humanlike or mechanical social robot video. Participants then rated their perceived robot use self-efficacy and intention to work with the displayed robot. Results from regression and serial mediation analyses revealed that: 1) Robot use self-efficacy and attitudes towards robots significantly predicted intention to work with social robots; 2) BHNU directly influenced attitudes towards robots; 3) BHNU indirectly affected work intention through attitudes towards robots and self-efficacy. These findings extend current understanding of how perceived self-efficacy impacts willingness to collaborate with social robots. We discuss implications for both HRI research and practical human resource management as organizations increasingly consider robotic integration in workplace. Our research highlights the importance of addressing psychological barriers when implementing social robots in work environments, suggesting that interventions targeting self-efficacy beliefs and attitudes may improve acceptance of robotic colleagues. Future research should explore how training programs might effectively modify these key psychological factors to facilitate smoother human-robot workplace integration.

O_SocSci_21. More than Apathy: Unpacking the Socio-Psychological Roots of Voter Abstention in Portugal.

Jean Christophe Giger, Nuno Almeida

Departamento de Psicologia e Ciências da Educação, Faculdade Ciências Humanas e Sociais, Universidade do Algarve, Campus de Gambelas, Gambelas, 8005-139 Faro, Portugal | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Voter abstention has emerged as a significant challenge for democracies worldwide, with Portugal experiencing similar trends, particularly among young people. This research investigates the socio-psychological factors underlying electoral abstention in Portugal, particularly among youth, through two complementary studies. Study 1 (N=613) explored social representations of abstention via an online questionnaire asking participants to associate words with political abstention. University students' representations centered on "disinformation" and "not wanting to participate," with their concept map forming two distinct branches: "disinterest" and "not wanting to participate." For non-students, "disinterest" and "not wanting to participate" formed the central core, with their representations structured into three branches: "disinterest," "misinformation," and "not wanting to participate." Study 2 employed focus groups with 42 participants (aged 20-64) to explore abstention motivations. Results revealed diverse non-voter profiles: the disbelieving citizen, disinterested youth, pragmatic abstainer, and protest abstainer. Key participation barriers included systemic distrust, practical obstacles, and insufficient political literacy. Despite their non-voting behavior, many abstainers expressed conditional willingness to vote under certain circumstances (e.g., high-stakes elections). Together, these two studies highlight that abstention in Portugal is not simply a result of apathy, but is shaped by a complex interplay of disinterest, information deficits, and systemic barriers. Abstention represents a complex phenomenon requiring nuanced interventions rather than one-size-fits-all solutions. The diversity of non-voter profiles and their nuanced motivations suggest that increasing voter turnout will require targeted strategies addressing both informational and structural challenges, as well as efforts to rebuild trust and engagement in the political process.

O_SocSci_22. “They don’t suffer, they are just animals”: Human supremacy beliefs reduce perception of industrial farm animals’ pain as-sociated with husbandry practices through moral exclusion.

Jean Christophe Giger, Ana Susana Almeida

Departamento de Psicologia e Ciências da Educação, Faculdade Ciências Humanas e Sociais, Universidade do Algarve, Campus de Gambelas, Gambelas, 8005-139 Faro, Portugal | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Animal welfare is increasingly recognized as a vital component of social sustainability in animal husbandry, especially as consumer awareness of painful farming practices grows. Despite this, progress among stakeholders remains slow. This study investigates the socio-cognitive barriers that hinder the acknowledgment of farm animal pain, focusing on the role of human supremacy beliefs (HSB) in shaping perceptions of animal suffering. Results indicate that individuals who endorse HSB are more likely to deny moral status and ethical consideration to farm animals, hold more favorable attitudes toward painful husbandry practices, and perceive these practices as less painful. Furthermore, HSB indirectly reduces pain recognition through its influence on attitudes and moral deservingness. These findings align with previous research showing that human supremacy beliefs serve as a legitimizing ideology, justifying the exploitation and moral exclusion of animals for human benefit. Understanding these psychological mechanisms is crucial for policymakers and industry leaders aiming to promote more humane and sustainable animal husbandry. By addressing the underlying ideologies that legitimize harmful practices, interventions can be designed to expand the moral circle to include farm animals, ultimately supporting both animal welfare and the long-term social sustainability of the food industry.

O_SocSci_23. Psychosocial risks in the university work environment: analysis of workers' perception and demand for information.

Nieves Gómez Aguilar, María José Foncubierta Rodríguez, Jesús Barrena Martínez, José Luis Perea Vicente, Magdalena Holgado Herrero, Sara Gómez Junquera

Department of Accounting and Finance, Faculty of Economic Sciences and Business, c/ Enrique Villegas Velez, 2. 11002. Cádiz | CADI

Presentation format: ORAL (ON SITE)

Abstract

Occupational Health Promotion (OHP) programmes assume an increasingly pivotal role within the European framework. These programmes assist companies in achieving the Sustainable Development Goals, specifically Goal 3 'Health and well-being' and Goal 8 'Decent work and economic growth'. In preventive culture, it is essential to emphasise the emergence of new occupational risks, which originate from VUCA environments (volatility, uncertainty, complexity and ambiguity) and the accelerated evolution and integration of technologies (digitalisation, automation and artificial intelligence). These technologies generate opportunities to eliminate pre-existing risks. Still, they can also introduce new risk factors, such as the advancement of ICT (automation, cybersecurity, AI integration), new ways of working (teleworking, virtualisation), new forms of employment (platforms, fragmented jobs) and the difficulty of disconnection. Psychosocial risks are defined as any condition in the work environment that causes excessive stress, anxiety, frustration or fear and leads to emotional disorders, hypertension or heart disease (EU-OSHA).

The identification of psychosocial risks affecting or potentially affecting the company's employees will facilitate the implementation of measures to minimise their effects and promote well-being in the working environment. Furthermore, the company is obligated to disclose information regarding the risks, incidents and opportunities about occupational health and safety in its sustainability disclosure statement, as stipulated by the Sustainability Reporting Directive (CSRD, 2022).

The University of Cadiz has demonstrated an unwavering commitment to sustainability reporting. The objective of this project is to ascertain the perception that workers at the University of Cadiz have regarding their exposure to psychosocial risks, as well as their opinion about the disclosure that the university should make about them. To achieve this objective, a survey will be conducted among the university's workforce. We will use a questionnaire as a means of collecting information and soliciting the opinions of the employees.

O_SocSci_24. Navigating Language Development and Diversity: Focus on Multilingualism, Language Disorders, and Educational Equity.

Ellen Franziska Hanke

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Presentation format: ORAL (ON SITE)

Abstract

My focus is on the complex interplay between language development disorders, multilingualism, language acquisition, intercultural communication, and their implications for educational equity. Language development disorders (LDD) are among the most common developmental issues in early childhood and can significantly hinder language acquisition and academic success. At the same time, typical language acquisition, whether monolingual or multilingual, is a dynamic process shaped by environmental, cultural, and social factors. Understanding the developmental norms of monolingual and multilingual language acquisition is crucial for distinguishing between language differences and disorders. In increasingly diverse classrooms, this distinction becomes essential to avoid misdiagnoses and ensure appropriate support. Intercultural communication and culturally responsive educational practices are central to creating inclusive learning environments. They foster trustful relationships with families and help tailor educational approaches to learners' linguistic and cultural realities. In addition, my work draws attention to the need for educational systems to view language diversity as a resource and to ensure fair learning opportunities for all learners.

O_SocSci_26. Generative AI and the Future of Game Development Education: Insights from Alumni to Align Curriculum with Industry Innovation.

Helga D Isfold Sigurdardottir, Line Kolås

Faculty of Social Sciences, Nord University | NORD

Presentation format: ORAL (ON SITE)

Abstract

The potential impact of generative AI on game development is expected to be both profound and accelerating. In this project, we explore how AI—particularly generative AI—are influencing professional practice in the gaming industry, and how academic programs can stay responsive and relevant. Our approach centres on direct engagement with alumni from the Games and Entertainment Technology program who are now working in the field.

Through a combination of open-ended surveys and in-depth interviews, we investigate how graduates perceive the relevance of their studies in hindsight, and how generative AI is currently being integrated into game production workflows. These interactions provide a dual benefit: enriching students' understanding of real-world applications and offering educators valuable insights into industry trends, tool adoption, and shifting competence requirements.

The project aims to critically assess the alignment between academic content and industry needs, with a focus on redefining learning outcomes and updating pedagogical practices to reflect socio-technical changes driven by AI. This initiative contributes to a broader conversation about how European universities can adapt to technological innovation while fostering meaningful societal impact through education that is both forward-looking and grounded in practice.

O_SocSci_27. The Relationship Between Religiosity and Social Dominance Orientation: A Systematic Review and Meta-Analysis.

Julia Kwoczek, Jurand Sobiecki, Agnieszka Krzepińska, Olga Jagodzińska, Natasza Kosakowska Berezecka

Institute of Psychology - University of Gdansk - 80-309 Gdansk | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

Religious belief systems, while fostering community and moral order, can simultaneously legitimize hierarchical social structures, as reflected in their association with social dominance orientation (SDO). While some research suggests that religious beliefs reinforce hierarchical social structures, findings vary across cultural, denominational, and demographic contexts. This presentation reports on a systematic review and meta-analysis designed to quantify the relationship between religiosity and SDO and to identify key moderators such as religious affiliation and gender. Following PRISMA guidelines, our review synthesizes data from peer-reviewed empirical studies that utilize validated scales to assess preferences for group-based dominance and inequality. By rigorously analyzing the available evidence, we aim to clarify the extent to which religiosity correlates with social dominance beliefs and to determine the conditions that strengthen or weaken this association. The findings have significant theoretical implications for understanding moral justifications and social hierarchies, and they offer promising directions for future research. This work was supported by the National Science Centre, Poland (Preludium grant no. 2023/49/N/HS6/01936).

O_SocSci_28. Models of long-term care at home for dependent elderly people in Europe: a comparison between Norway and Spain in the framework of the 2030 Agenda.

Paula López Anillo, María de los Ángeles Minguela Recover, Yan Zhao

Área de Trabajo Social y Servicios Sociales | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

By 2050, it is estimated that 30% of the European population will be made up of older people. This demographic increase raises the need to design public policies that adequately respond to the social transformations derived from demographic changes (European Commission, 2024). Although ageing does not necessarily imply the appearance of situations of dependency or support needs (Sarabia, 2009), initiatives such as the 2030 Agenda have highlighted the relevance of active ageing as a preventive strategy, as well as the guarantee of quality long-term care in the home environment for dependent elderly people. In this context, and given the need to develop a care model that responds to the needs of older people, this study carries out a comparative documentary analysis of the care systems for older people in Norway and Spain, framed within their respective welfare models. The main objective of this exploratory study is to identify preliminary similarities and differences in order to assess the extent to which these welfare models favour or hinder the implementation of the long-term care system proposed by the 2030 Agenda.

Key words: ageing, long-term care, dependency, Agenda 2030.

O_SocSci_29. Blue Tourism in Andalusia: Tools for its Management.

María Maestro, Juan Adolfo Chica, Manuel Arcila Garrido, María de Andrés García, Gema RamírezGuerrero, Javier GarcíaOnetti, Beatriz Gasalla

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Presentation format: ORAL (ON SITE)

Abstract

Tourism is a cornerstone of Andalusia's economy, drawing over 30 million visitors annually, accounting for roughly 25 percent of regional GDP and 10 percent of employment. Its more than 1,100 kilometer coastline along the Atlantic Ocean and the Mediterranean Sea serves as the heart of this sector. However, the European Commission identified Andalusia's coast as one of Europe's most climate-vulnerable areas, posing significant sustainability challenges. Studies highlight that climate impacts are already causing substantial economic, infrastructural, social and environmental losses across both shores of the region, threatening the competitiveness of coastal destinations. In response, the CosturA project has developed an automated tool to characterize coastal municipalities in terms of tourism potential and climate vulnerability. This innovative instrument evaluates a locality's current status and identifies areas for improvement in both tourism resources and climate resilience. The tool generates a set of management scenarios that offer proposed measures designed to enhance the sustainability and competitiveness of each coastal destination. The tool is designed for effortless use by local managers, exemplifying effective knowledge transfer from academia to society and providing a robust foundation for informed decision-making, optimized resource management and climate adaptation.

O_SocSci_30. Digital Tools for Resilience in Higher Education: The RESUPERES Platform as an Intercultural Proposal.

Hugo Mártires, Marisa Mártires

ESEC - Universidade do Algarve | ALGARVE

Presentation format: ORAL (ON SITE)

Abstract

Digital technology has profoundly transformed education, offering new opportunities for connectivity and collaboration while also presenting challenges such as social isolation, mental health risks, and misinformation. In this context, resilience—the ability to adapt and overcome adversity—has become essential for university students, particularly in navigating academic pressures in an increasingly digital world (González et al., 2024). The COVID-19 pandemic accelerated the adoption of digital learning tools, revealing both their potential to support resilience and the need for structured interventions to mitigate their risks.

This presentation explores the role of digital tools in fostering resilience among higher education students, with a focus on the RESUPERES Platform, an innovative intercultural project designed to strengthen coping skills, self-esteem, leadership, and teamwork through digital pedagogy. The platform offers 10 interdisciplinary modules, each developed by experts in resilience-related fields, integrating multimedia resources (videos, interactive exercises, gamification, and reflective activities) to address diverse learning needs. By combining theoretical foundations with practical applications, RESUPERES promotes adaptability within an intercultural framework, aligning with the SEA-EU mission of international collaboration and societal impact.

Key outcomes include: (1) a scalable model for resilience-building in digital education, (2) evidence-based strategies to counteract the negative effects of technology, and (3) best practices for faculty-student engagement across European universities. The platform's open-access design ensures inclusivity, supporting the conference's themes of innovation and policy relevance.

This contribution invites discussion on how digital tools can be harnessed to empower students, enhance institutional resilience, and address societal challenges in the evolving landscape of higher education.

O_SocSci_31. COMPLY: Translating EU Environmental Policy into a Digital Compliance Dashboard.

Luca Nguyen, Stefano Moncada

Islands and Small States Institute | MALTA

Presentation format: ORAL (ON SITE)

Abstract

European coastal SMEs are on the frontline of reducing marine litter, yet many struggle to interpret and implement rapidly evolving EU environmental rules. The COMPLY project, a partnership between the University of Malta, the Malta Chamber of Commerce and environmental consultancy Adi Associates, aims to co-create a multilingual, knowledge-management platform that turns complex regulation into actionable guidance.

The architecture is designed to cover the forthcoming EU Packaging & Packaging Waste Regulation (PPWR), with the first pilot testing Malta's transposition of the Single-Use Plastics (SUP) Directive for food containers, a sector with immediate impact on marine debris. Using a mixed methodology, the project combines policy analysis, SME interviews, design-thinking workshops, and quantitative surveys to distil legal texts into five integrated modules: (1) an interactive roadmap that visualises each legal step and deadline; (2) self-assessment and gap-analysis tools; (3) an audit-ready evidence repository; (4) a live regulatory-updates and FAQ feed; and (5) a direct-contact interface to national competent authorities.

The prototype aims to cut time users spend searching legal texts by up to 40% and increase confidence in compliance decisions by 60%, with AI-driven support planned as a next-stage feature. A planned Horizon Europe proposal will scale the platform across the SEA-EU alliance, pooling expertise and infrastructure to support businesses in European sea-basin regions.

By translating research into a practical digital tool, this project advances SDG-12 (responsible production and consumption) and SDG-14 (life below water), demonstrating how university–industry collaboration can drive tangible societal impact along Europe's coasts.

O_SocSci_32. Legal framework for the protection of the environment in occupied maritime territories.

Olena Nihreieva

Department of Public International, Criminal and Procedural Law | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

The protection of the marine environment is becoming more relevant nowadays. However, this issue almost lacks international legal regulation in the situations of occupied territories, whose number has been growing recently, including the territories of Ukraine, Palestine, etc. The main reason for it is an outdated character of the law of occupation, in which framework rules on environmental protection are absent. The same might be said, with several exceptions, about the general provisions of international humanitarian law on international armed conflicts. The situation is complicated by the fact that the capability of maritime territories to be occupied is controversial, even though recent studies confirm it. Furthermore, a consensus has been developing on the possibility of occupying not only national maritime territories, but also maritime territories beyond national borders, namely, the contiguous zone, the exclusive economic zone and the continental shelf. Consequently, environmental obligations of the occupier should concern all these spaces.

At the same time, the question about the legal sources of such obligations emerges. While the law of occupation might provide the marine environment only with indirect protection, other branches of public international law, namely international human rights law, international environmental law and the law of the sea, could successfully complement the imperfect legal framework of jus in bello and help to protect the marine environment.

O_SocSci_33. Influencing parenthood: the role of perceived credibility and trust in 'insta-parents' on family eating practices.

Sanaa Ouaade Laboratoire Lego

Finistère | BREST

Presentation format: ORAL (ON SITE)

Abstract

This research explores how the perceived credibility and trust in "insta-parents"—parenting influencers on Instagram—shape the parental role and family eating habits. Using role theory and trust/credibility frameworks, the study analyzes 21 interviews with mothers who follow "insta-parents" and 5 interviews with nutrition experts. Findings show that mothers are significantly influenced by the perceived expertise of these influencers, especially when they are healthcare professionals, which encourages the adoption of healthier eating practices. Trust is also critical and is built on content quality, emotional connection, and shared values. Three trust levels were identified, from superficial to deeply personal. Mothers are more receptive when they feel aligned with the influencer's lifestyle and experience.

Experts confirm the growing influence of "insta-parents" and suggest two strategic actions for public health communication: highlighting authentic expertise and training influencers in evidence-based practices. These insights reveal a shift in parenting norms, where social media plays a key role in shaping parental behavior, particularly regarding food. The study also highlights managerial implications for public health actors and brands, who can collaborate with qualified influencers to spread reliable and engaging content. However, limitations remain, such as the limited exploration of the entertainment or informational value of influencer content.

O_SocSci_34. Between Ideals and Identity: Extremism and Group Affiliation Shape Political Engagement in Spanish University Students.

Alberto Paramio

Psychology - Faculty of Education Sciences | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

Background: Political engagement among youth can take both activism and radical forms, yet few studies have quantitatively examined how ideological extremism and social identity influence these behaviors. This study explores how political orientation and group identification affect activism and radicalism in Spanish university students. Methods: A cross-sectional survey was administered to 455 students, who were classified by ideological positioning (left extremism, moderate, right extremism) and main identity group (country, religion, political party, social movement). Activism and radicalism were measured using The Activism and Radicalism Intention Scales. Differences across groups were tested using ANOVA and Tukey HSD post hoc comparisons, and multivariate tests examined interaction effects. Results: Significant differences were found for both activism ($F(2, 491) = 24.85$, $p < .001$) and radicalism ($F(2, 491) = 36.30$, $p < .001$) across ideological groups. Activism was higher in left-wing ($M = 4.70$) and right-wing extremists ($M = 4.69$) compared to moderates ($M = 3.62$). For radicalism, left-wing extremists scored the highest ($M = 3.29$), followed by right-wing ($M = 2.80$) and moderates ($M = 2.09$). Identity also influenced engagement: those identifying with social movements reported the highest activism ($M = 4.33$) and radicalism ($M = 2.74$), while those identifying with their country scored lowest in both ($M = 3.37$ and $M = 2.06$). A significant interaction effect indicated that ideology's impact in radicalism depends on identity group. Conclusions: Ideological extremism and identity affiliation significantly shape political engagement. Interventions should consider both dimensions to better understand youth political behavior.

O_SocSci_35. Bending Without Breaking: How Cognitive Flexibility Shields Empathy from Stress and Fatigue in Medical and Social Science Students.

Agata Rudnik, Krzysztof Sobczak, Agata Zdun Ryżewska

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Presentation format: ORAL (ON SITE)

Abstract

University students in medical and social disciplines face unique psychological challenges, including elevated levels of stress and fatigue. These demands can significantly impair empathy—an essential skill for effective interpersonal communication and professional care. This study explores the mediating role of cognitive flexibility in the relationship between stress, fatigue, and empathy among students preparing for helping professions. A total of 1,701 students from medical and social science programs participated in the study, completing validated measures of perceived stress (PSS-10), fatigue (CFQ), empathy (EQ), and cognitive flexibility (CFI). Results revealed strong associations between high stress and fatigue with reduced empathy, while cognitive flexibility was positively related to empathy and inversely related to both stress and fatigue. Mediation analyses confirmed that cognitive flexibility significantly mediated the negative effects of stress and fatigue on empathy. These findings suggest that cognitive flexibility—understood as the capacity to adapt thinking in response to situational demands—acts as a psychological buffer, helping students maintain empathic functioning even under considerable pressure. In professions where empathy is not only expected but essential, nurturing this mental adaptability may be key to protecting well-being and performance. This research highlights the importance of embedding interventions that enhance cognitive flexibility into academic curricula and student support services. Doing so could bolster emotional resilience, reduce burnout, and ensure that the next generation of professionals can care effectively for others—without compromising their own mental health.

O_SocSci_36. Artificial Creativity. How is creative work changing in the front of AI revolution.

Wiktor Sokół

Doctoral School at the Faculty of Social Sciences – University of Gdańsk – 80-309 | GDANSK

Presentation format: ORAL (ON SITE)

Abstract

The free public release of Chat GPT-3 in late 2022 drastically changed the discourse on artificial intelligence and creative work. Creative work, which had previously seemed immune to technological job replacement, became an area of rapid change. It didn't take long for small and large companies looking to cut costs to start using AI tools to create content for social networks, graphics, or even their advertising materials. Demirci et al. (2023) study of offers for creative workers on a reputable freelancing platform shows a decrease in offers for tasks that can be described as "automation-prone". On the other hand, Judy Wajcman argued in 2017 that the problem is not the technology, but who is using it, in what form, and for what purpose. What do these changes mean for creative workers and creative industries? To what extent will algorithms be able to replace human cognitive work? And how might these tools correlate with a sense of autonomy and control over the work process? By creative work, I mean work that primarily requires conceptual or "creative" effort. The methodology I will use is Labor Process Theory (LPT). LPT is concerned with how technology shapes the workplace, how employee attitudes can influence the implementation of technology, and how technology can influence the control tools used in the workplace. For the analysis, I will use secondary data analyzed through desk research, on how the creative industry has changed due to recent developments.

O_SocSci_37. The Unseen Cost of Motherhood: A Comparative Analysis of the Motherhood Penalty and Gender Wage Gap in Malta and the EU.

Vania Tabone

Department of Gender Studies, University of Malta | MALTA

Presentation format: ORAL (ON SITE)

Abstract

Extensive international research demonstrates that women experience a "motherhood penalty" in the labour market, with wages decreasing by approximately seven percent upon becoming mothers (Budig & England, 2001). This penalty not only reduces earnings but also limits opportunities for career progression. However, evidence suggests that this penalty can be mitigated—reduced to around five percent—if mothers engage in further education or training during career breaks (Budig & England, 2001). Despite this, mothers often face discrimination from employers who perceive them as less productive.

This paper presents a comparative statistical analysis of Malta and other EU member states, examining recent trends in the gender wage gap. Although the motherhood penalty has not yet been formally quantified in Malta, existing research indicates that it constitutes a substantial component of the gender wage gap, which tends to widen as female labour force participation increases (Arulampalam, Booth & Bryan, 2007; Tijdens & Van Klaveren, 2012; Doherty et al., 2017). Moreover, the motherhood penalty may contribute to Malta's persistently low fertility rate—the lowest in the EU. This issue warrants serious attention, as pension systems dependent on National Insurance and taxation require sustained demographic renewal to remain viable.

O_SocSci_38. Local Governance Strategies for Migration in Medium-Sized Cities: A Comparative Study.

Ceren Taskopru

PhD Program in Social, Criminological and Behavioral Sciences- 11406 | CADIZ

Presentation format: ORAL (ON SITE)

Abstract

As global migration dynamics become increasingly complex, national integration policies have proven insufficient in addressing the social, economic, and cultural needs migrants face at the local level. This gap has expanded the responsibilities of local governments, positioning cities as key actors in integration processes. In the European context, while migration governance is becoming more Europeanized institutionally, social inclusion policies are largely shaped locally (Zapata-Barrero, Caponio & Scholten, 2017). However, in medium-sized cities, these processes are often fragmented, under-resourced, and difficult to evaluate. The literature still lacks governance models that are adaptable, measurable, and participatory for such contexts (Ager & Strang, 2008; Scholten, 2021). These deficiencies contribute to the invisibility of migrants in urban life, unequal access to services, and the reproduction of exclusion.

In response, this study conducts a comparative analysis of local migration governance strategies in three medium-sized European cities, including Jerez de la Frontera. Grounded in intercultural and multi-level governance, it assesses the scope, impact, and sustainability of local strategies. This approach aligns with the European Parliament's call for cities to act as policy co-creators (European Parliament, 2022), and with the Fundamental Rights Agency's emphasis on strengthening rights-based practices at the local level (FRA, 2021).

The study ultimately aims to support the development and reinforcement of local strategies in migration governance and to contribute to socially impactful planning processes that can serve as applicable references for other medium-sized cities.

O_SocSci_39. Pomerania in the Light of Tradition and Reawakened Spiritual Consciousness.

Krzysztof Ulanowski

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Presentation format: ORAL (ON SITE)

Abstract

In the 19th century, healthcare in Pomerania—particularly in rural areas—was rudimentary, leading to the persistence of numerous folk beliefs and practices rooted in a quasi-magical worldview. Local healers and wise women played central roles in community health, and a widespread belief in witches, curses, and supernatural threats to both people and livestock remained deeply ingrained. While subsequent centuries brought technological progress, the question remains: what elements of these traditional belief systems have endured in popular consciousness? Can all 19th-century convictions be dismissed as mere superstition?
This presentation, drawing on written sources and recent ethnographic fieldwork, offers a new perspective on many contemporary ecological, revivalist, and even religious movements in Pomerania that trace their origins to these earlier spiritual and healing traditions. Over the past decade, there has been a marked resurgence of interest in nature-based spirituality, "natural healing," and the power of herbs. How are these movements reshaping Pomeranian communities today? Do they clash with technological modernity, or do they adapt and enrich it, preserving the most valuable elements of the region's ancestral traditions?

O_SocSci_40. The case of Ukrainian NGOs' performance during disaster relief actions.

Veronika Vakulenko

Business School | NORD

Presentation format: ORAL (ON SITE)

Abstract

The ongoing war in Ukraine has profoundly disrupted society, creating urgent needs for disaster relief, psychological support, and social reintegration among veterans, displaced persons, and traumatized civilians. Th is paper examines the performance of Ukrainian non-governmental organizations (NGOs) during these disaster relief efforts, focusing on how they respond to complex and evolving demands in a protracted crisis. It analyzes how NGOs deliver critical services under severe resource constraints while navigating the challenges of organizational identity, trust-building, and legitimacy. The study explores how these organizations balance donor expectations with accountability to local communities, adapting their roles and strategies in real time. By centering on the Ukrainian experience, this research contributes to understanding how NGOs operate and perform under extreme conditions, offering insights into the dynamic relationship between operational effectiveness and organisational identity in disaster settings.

SOCIAL SCIENCES

POSTERS

P_ SocSci_01. Emotional Availability of Parents, Productivity, Internet Addiction: the mediating role of Self-Esteem and Emotional Regulation in university students.

Ana Susana Almeida, Inês Pascoal, Jean-Christophe Giger

Psychology Research Centre (CIP), University of Algarve. Departamento de Psicologia e Ciências da Educação. Faculdade de Ciências Humanas e Sociais. Universidade do Algarve. Department of Psychology and Educational Sciences. Faculty of Human and Social Sciences. University of the Algarve

Presentation format: POSTER

Abstract

The main objective of this research is to examine the relationship between perceived parental emotional availability (PEA) and Internet addiction (IA), through self-esteem and emotional (dis)regulation, in higher education students. In addition, the relationship between IA and perceived productivity is explored. Higher education students (N = 461) participated in this study. The data was collected online using the Google Forms platform and consisted of (a) a sociodemographic questionnaire; (b) the Lum Emotional Availability of Parents; (c) the Rosenberg Self-Esteem Scale; (d) the Emotional Regulation Difficulties Scale; (e) the Internet Addiction Test, and (f) the Productivity Scale. The results suggest that: participants tend to perceive their parents as emotionally available and have good self-esteem; they have difficulties with strategies, non-acceptance and goals. However, they don't have as many difficulties in impulse, awareness and clarity; they don't have addictive behaviors to the internet; they perceive themselves as productive; females have more difficulties with emotional regulation strategies, controlling impulse and goals than male participants; university students who perceive their parents as more emotionally available are also those who have better emotional regulation; PEA is a predictor of Self-esteem, IA and Emotional (Dis)regulation; IA is a predictor of Productivity; Self-esteem is not a predictor of IA; Self-esteem not mediates the relation between the PEA and the IA; Emotional Regulation mediates the relation between the PEA and the IA, and) IA mediates the relation between the Emotional Regulation and self-perceived productivity. Practical implications for students are discussed.

P_ SocSci_02. Sustainable Management of Recreational Boating in Protected Marine Areas: Challenges and Methodological Insights.

Frederic Audard, Kimberley Cloirec, Antoine Le Doeuff

Geography, IUEM, Place Nicolas Copernic, 29280 PLOUZANE

Presentation format: POSTER

Abstract

Recreational boating is a significant economic activity in France, contributing to regional development while increasing the use of sensitive coastal and marine areas. Protected Marine Areas (PMAs), like the Bassin d'Arcachon Marine Natural Park, attract recreational boaters drawn to their natural and cultural heritage. However, the activity overlaps with traditional uses such as fishing and aquaculture, amplifying seasonal pressures and creating usage conflicts. The influx of first-time visitors, often unaware of environmental issues, further strains local ecosystems and infrastructure.

PMAs face a dual challenge: conserving natural heritage while supporting socio-economic vitality. This requires detailed insights into coastal mobility, which remain underexplored, particularly at fine spatial and temporal scales.

The MAcUMBA project addresses this gap by modeling daily spatiotemporal dynamics of summer boating activities. Using high-granularity data from Automatic Identification Systems and aerial imagery, the study identifies hyper-visitation zones and maps activity flows.

The methodology combines inferential and predictive modeling to better understand and anticipate peak visitation, offering practical tools for sustainable tourism management. Designed for interoperability, it can be applied to other protected and high-demand areas. This approach supports effective planning and conservation while balancing the socio-economic dynamics of marine and coastal environments.

P_ SocSci_03. Baby brain syndrome or functional reorganization of the brain? Specificity of cognitive functioning of pregnant women in the second trimester of pregnancy.

Ilona Poćwierz Marciniak, Jakub Budrewicz, Lidia Żelaskowska, Tamara Walczak Kozłowska

University of Gdańsk, Faculty of Social Sciences

Presentation format: POSTER

Abstract

Many women report deterioration of their cognitive functioning during pregnancy – a phenomenon called 'baby brain'. Pregnancy generally remodels brain architecture and neural functions. However, the results of research on memory and cognitive performance are inconclusive. Therefore, the aim of this study was to further investigate the specificity of neuropsychological functioning of women in their second trimester of pregnancy. This case–control study involved 30 pregnant women and 30 non-pregnant women. Short-term and working memory, verbal and non-verbal learning, attention, executive functions, and semantic and phonemic fluency were measured. No significant between-group differences were found in any of the assessed areas. However, some specificity in the process of learning verbal material was found in pregnant women. Interference during learning resulted in limited access to the use of semantic learning strategies in free recall. Pregnant women also needed more time to consolidate memory material; the 'primacy effect' dominated over the 'recency effect'. A detailed intragroup analysis showed certain specificity of cognitive functioning in relation to learning verbal material in pregnant women. The lack of intergroup differences indicates that this specificity does not impair performance. To conclude, rather than deterioration of cognitive functioning during pregnancy, there appears to be a functional reorganization.

P_ SocSci_04. COVID-19 and Conspiracy Theories: Impact on Public Trust and Health Communication.

María Camacho García, Judit Pérez Mejia, Maria Esther Ortega Martin, Javier Alvarez Galvez

Economía general - INDESS - 11406

Presentation format: POSTER

Abstract

Conspiracy theories are not a new phenomenon, although their dissemination has intensified over the past decade, largely due to the rise of social media. Unlike traditional media outlets, these platforms lack quality controls and fact-checking mechanisms, facilitating the viral spread of disinformation. In Spain, during the COVID-19 pandemic, multiple conspiracy theories emerged concerning both the origin of the virus and the vaccines, which negatively impacted adherence to public health measures and complicated the implementation of policies aimed at containing the disease.

The data we present were collected through a nationally representative survey, with the participation of 2,200 adults. The questionnaire included the COVID-19 Misinformation Scale (CMS12), as well as additional measures of trust in institutions, ideological orientation, and exposure to disinformation.

The study reveals significant findings regarding beliefs in different conspiracy theories and the population's perceptions of COVID-19 vaccines. Moreover, statistically significant differences were identified based on sociodemographic variables such as gender, educational level, political ideology, and size of the place of residence.

These findings demonstrate how sociodemographic characteristics clearly influence susceptibility to conspiracy theories and trust in vaccines. Understanding these patterns is essential for designing more effective public communication strategies, tailored to different social profiles, in order to counter disinformation and strengthen trust in science and health institutions.

P_ SocSci_05. The digital journey of healthcare firms: a systematic literature review and future research agenda.

Rosita Capurro, Raffaele Fiorentino, Stefano Marciano, Francesca Peluso, Stefano Garzella

Department of Business and Economics - University of Naples "Parthenope" - Naples, Italy

Presentation format: POSTER

Abstract

In the current economic context, the digital transformation offers new opportunities, as well as poses relevant challenges, for firms operating in several industries. In particular, firms operating in the healthcare sector are embracing digital technologies by promoting strategic changes with regard operational processes, governance roles and procedures, supply chains, and organizational models.

Prior research emphasizes that digital technologies create value and benefits for healthcare firms and their several stakeholders. Through digital technologies, firms can improve the quality of services offered, provide easy access to information, and reduce steps and time in the service delivery process, thus lowering transaction costs and promoting efficiency. Furthermore, digital technologies can improve patient empowerment and quality of life, enable communication among healthcare professionals and patients, and reduce both errors and length of hospitalization. Despite the rising digital-based evolution in the healthcare sector, there is a lack of integration across literature streams pertaining to the impact of digital transformations on healthcare firms and on the related relationships with their stakeholders. Thus, this research aims to analyse the state of the art of digital transformation in the healthcare sector and to explore the potential of digital technologies in improving firms' efficiency and stakeholders' relationships. This study addresses the research gap through a systematic literature review of peer-reviewed articles about digital transformation in the healthcare sector. Findings provide an overview of the state of the art in academic research on these topics, highlighting factors and barriers in the digital journey and the main impacts of digital technologies on healthcare firms and stakeholders.

P_ SocSci_06. Promoting Academic Success and Preventing Student Dropout through Peer Mentoring Programs in Higher Education: A Systematic Review as a Starting Point for Action.

Mariana Guerreiro, Saúl de Jesus

Department of Psychology and Education Sciences – University Research Center in Psychology Faculty of Humanities and Social Sciences, Department of Psychology and Education Sciences, Campus of Gambelas, University of Algarve, Faro 8005-139 Portugal

Presentation format: POSTER

Abstract

Preventing student dropout and promoting academic success are concerns in higher education and cover European Union's strategic goals for 2030. Although peer mentoring programs are being widely implemented in higher education, the specific programs' elements that best contribute to their effectiveness remain unclear. To better understand how to improve the effectiveness of peer mentoring programs in academia, this study presents a systematic review on the peer mentoring programs' elements focused on promoting academic success and preventing school dropout in higher education. Results on the twenty-three included studies revealed practical and theoretical insights, proposing a set of actionable, priority-based recommendations to guide program implementers, researchers, and reviewers. It is crucial to implement formal peer mentoring programs ensuring voluntary participation, no financial incentives, and academic members involvement. Future studies should provide detailed program descriptions, use representative samples, and apply objective or validated measures. Increased search in European and Eastern countries, along with replication of programs across multiple universities, is necessary to improve generalizability. Additionally, evaluating the impact of mentor screening based on academic performance, mentor training, matching characteristics, mentoring models, and program coordination feedback is essential to advancing the effectiveness of peer mentoring programs. Building on these findings, we are evaluating a mentor training program, and a peer mentoring program aligned with the identified key elements. By sharing this evidence-based approach at BEING SEA-EU, we aim to foster debate discussion and collaboration across SEA-EU universities.

P_ SocSci_07. Immigration, Hate Speech and Short-Form Videos: political strategies for capturing the youth vote in the Ibero-American context.

Sara de Moraes, Valdemir Soares dos Santos Neto, Jhonatan Mata

Programa de Pós-Graduação em Comunicação - Universidade Federal de Juiz de Fora - Juiz de Fora, Brazil

Presentation format: POSTER

Abstract

In the contemporary context of convergence between politics and digital media, political figures become “characters” who project themselves on platforms as digital influencers, using audiovisual resources to engage and mobilize voters, especially among younger people. This study focuses on the analysis of short-form video editing practices, or “edits”, as a political device used to reinforce narratives and intensify hate speech, particularly against vulnerable groups such as immigrants and minorities. Although anti-immigration discourse is not central to Brazilian politics, but in the Ibero-American context. The research aims to compare and analyze short-form video content produced for social media platforms such as Instagram and TikTok by political figures, including Brazilian Deputy Níkolas Ferreira (Liberal Party), known for his appeal among young conservatives, and right-wing politicians such as Santiago Abascal (VOX Party) from Spain, and Portuguese MP André Ventura (Chega Party), who frequently use immigration as a central theme in their campaigns. The methodology adopted is Audiovisual Materiality Analysis (Coutinho, 2016), which allows us to investigate the consumption of “edits” on digital video platforms, contributing to the polarization and amplification of hate speech. The purpose consists in understanding how these audiovisual performances and the architecture of social networks enhance the construction of a political “persona” and influence voter attitudes, especially in times of declining party identification. The expected results intend to reflect on the effectiveness of this short-form video content as a tool for political manipulation and mobilization.

P_ SocSci_08. Cross-cultural cooperation among universities: An arts-based narrative study bringing together insights from higher education in Norway, Germany and Italy.

Jonathan Durgadoo, T. Holm, A. Cohen Miller

International Center, Kiel University, Kiel, Germany

Presentation format: POSTER

Abstract

In this arts-based narrative study we explore the motivation and organizational culture of universities in European university alliances. The study is designed based on observations of challenges and mitigation steps to address them in a case study of the SEA-EU Alliance. In April 2024, a session at the European Association of Research Managers and Administrators conference focused on cross-cultural cooperation among universities. Drawing from published research, session results, and reflective narratives, the study highlights the complexity of decision-making and actions across inter-institutional collaborations in higher education. It showcases the importance of working across cultures as an essential skill that we can work towards learning and one that should be included in higher educational spaces, such as taught in professional development courses.

P_ SocSci_9. Designing an impactful Gender Equality Plan for the University of Gdańsk: from first steps to the EU Newcomer Gender Equality Champion Award.

Marta Dziedzic, Izabela Raszczyk, Ewa Lojkowska, Magdalena Zadkowska, Natasza Kosakowska Berezecka

Intercollegiate Faculty of Biotechnology University of Gdansk and Medical Univeersity of Gdansk, IFB UG & MUG

Presentation format: POSTER

Abstract

The University of Gdańsk (UG) has successfully conducted the process of enhancing gender equality (GE) at the institutional level. The process resulted in sustainable structural changes across the organisation embedding gender equality into its core operations and long-term development due to the implementation of the first Gender Equality Plan (GEP) executed during 2022-2023. For its impactful transformation UG was honoured with the EU Award for Newcomer Gender Equality Champions 2024 for its first GEP. This recognition highlights the institution's dedication to fostering an inclusive academic environment and its active role in advancing equality, diversity, and excellence in higher education and research. In the poster presentation we will demonstrate the steps of the design, implementation, and evaluation phases of the "Gender Equality Plan for the University of Gdańsk. Equality measures for 2022-2023" as well as particular examples of actions.

P_ SocSci_10. Household waste management - intrinsic versus extrinsic motivational factors: a case study in Split.

Silvia Golem, Slađana Pavlinović Mršić, Anita Stojan

University of Split, Faculty of Economics, Business and Tourism Split, Economics Department, 21000 Split, Croatia

Presentation format: POSTER

Abstract

In the context of sustainable urban development, household waste management has become an increasingly important issue. As the world's urban population has grown, the volume of waste generated by households has surged, placing a significant burden on natural ecosystems. When improperly managed, household waste disposal contributes to pollution, greenhouse gas emissions, and public health hazards, making an effective and comprehensive environmental policy essential. However, strict urban waste policies and regulations are not enough to promote environmentally friendly household behaviour. In fact, the role of individual behaviour has emerged as a key factor in promoting sustainable waste management practices. Pro-environmental behaviour at the household level is influenced by many intrinsic and extrinsic factors, and understanding these factors is crucial for designing effective interventions and policies.

This paper examines the key drivers of pro-environmental behaviour among individuals. Specifically, through a survey of Split residents, this study investigates the factors that influence household waste separation. Using a sample of 216 responses and a multinomial logit analysis, our results suggest that "environmental morality" is the most important factor determining an individual's incentive to separate waste. In other words, intrinsic factors play a more important role in motivating individuals to behave in an environmentally friendly way, compared to extrinsic factors.

By examining the motivating factors of environmentally friendly behaviour of households, this study sheds light on how sustainable behaviours can be promoted at the public level, to ultimately help reduce the environmental footprint of our everyday life.

P_ SocSci_11. Educational exclusion in peripheral areas in Poland.

Martyna Gralak

Department of Oceanography and Geography, University of Gdańsk, Piłsudskiego 46, 81-378, Gdynia, Poland

Presentation format: POSTER

Abstract

The aim of this work is to analyse the phenomenon of educational exclusion in peripheral areas in Poland, in the context of access to higher education. The considerations were based on two components: an analysis of data on the place of origin of students of the University of Gdansk and a survey conducted among students of this university. The research identified the main socio-economic factors influencing an individual's decision to study at the University of Gdansk, among which the degree of development of the transport network and the distance of the students' hometowns from Gdansk played a key role. The results show that students from peripheral areas have greater restrictions on their choice of higher education institution than students from other parts of the country. The paper emphasises the significance of the problem of educational exclusion and the support for students coming from excluded areas.

P_ SocSci_13. Impact of Food Industries on Agricultural Output and Food Security in Algeria an Econometric Study.

Benazza Ikram, Fatima Zahra Bourdim

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Presentation format: POSTER

Abstract

Extended Abstract:
Algeria's pursuit of economic diversification has prioritized agriculture as a key sector for achieving food security, rural development, and socioeconomic resilience. However, sustainable development in agriculture requires strong integration with related industries—most notably, the food industry. This study investigates the impact of the food industry on agricultural development in Algeria from 1985 to 2021, with a particular focus on sustainability. Using the Autoregressive Distributed Lag (ARDL) model, the research analyzes how the production levels of key food commodities (wheat, tomatoes, milk, legumes) influence gross agricultural output in both the short and long term.
Findings reveal that wheat production positively contributes to agricultural output, though the effect remains limited due to structural inefficiencies and unmet domestic demand. Conversely, milk production demonstrates a negative effect, highlighting competition for scarce resources like land and water. Despite Algeria's efforts to modernize agriculture through national programs and policy initiatives, food industry integration remains underdeveloped, limiting the sector's ability to reduce import dependency and improve food sovereignty.
This study fills a significant research gap by providing an empirical analysis of the dynamic relationship between the food industry and agriculture in Algeria, offering actionable policy recommendations to enhance sectoral synergy, promote environmental resilience, and align national efforts with Sustainable Development Goal 2 (Zero Hunger). The results underscore the importance of strategic planning to optimize resource allocation and encourage sustainable agro-industrial growth in line with Algeria's Vision 2030.
-Data source: Arab Organization for Agricultural Development (AOAD).

P_ SocSci_14. Project manager “Bridge”.

Paal Henning Ilstad

Bridge, SeaEu, NORD University

Presentation format: POSTER

Abstract

BRIDGE is a project within the SEA-EU, addressing the challenges of remote and hybrid work environments. Collaboration by overcoming barriers like communication gaps, team coordination, and inclusivity issues. By developing a framework for digital collaboration, BRIDGE aims to transform how remote teams function.

Creating virtual collaborative spaces enriched with AI-assisted communication to minimize cultural misunderstandings. It incorporates VR/AR technologies to mimic in-person interactions and ensures digital inclusivity like voice commands and adaptive interfaces for individuals with extra needs.

P_ SocSci_15. 9 Shades of Blue in the Scope of the SEA-EU: Alliance A Multidisciplinary Perspective on Blue Economy Through the Lens of the SEA-EU Universities.

Tea Knez

University of Split, International Relations Office

Presentation format: POSTER

Abstract

The term economy originates from the ancient Greek word oikos, meaning “house” or “home”, reminding us that all economic activity should be rooted in care for our shared living space. In this light, the blue economy represents not only the sustainable use of marine and coastal resources but also a commitment to preserving the ocean as our common home.

The SEA-EU Alliance, uniting nine coastal universities across Europe, embodies this philosophy through a rich diversity of academic disciplines, regional contexts, and maritime traditions. Each institution brings its unique “shade of blue” – from the cold waters of the Norwegian Sea, part of the North Atlantic Ocean, to the Baltic, and down to the Mediterranean, including its subregions: the Adriatic and Tyrrhenian Seas. On the western edge, partners are located along the Atlantic Ocean, from the Bay of Biscay to the Algarve and the Gulf of Cádiz, where the Atlantic meets the Mediterranean.

This abstract explores how the SEA-EU Alliance promotes collaboration in research, education, and innovation within the scope of the blue economy. It reflects on the potential of transnational academic cooperation to address global challenges such as climate change, marine pollution, biodiversity loss, and sustainable coastal development.

By sharing knowledge, practices, and perspectives, the SEA-EU universities offer a comprehensive vision of the blue economy that is environmentally responsible, socially inclusive, and economically viable – a vision shaped by nine distinct coastlines, yet united by a single, deeper purpose: safeguarding our blue home.

P_ SocSci_17. The Relationship Between Religiosity and Authoritarianism: Systematic Review and Meta-Analysis.

Oliwia Kosecka, Jurand Sobiecki, Martyna Malcher, Wiktoria Manowska, Natasza Kosakowska Berezecka

Institute of Psychology - University of Gdansk - 80-309 Gdansk

Presentation format: POSTER

Abstract

Religiosity and authoritarianism have been widely studied in psychology and political science, yet the relationship between them remains complex and context-dependent. While some studies suggest that religious beliefs reinforce authoritarian attitudes, others highlight variations across cultural, denominational, and demographic factors. This presentation synthesizes findings from a systematic review and meta-analysis aimed at quantifying this relationship and identifying potential moderators such as religious affiliation or gender. Following PRISMA guidelines, the review includes peer-reviewed empirical studies measuring religiosity and authoritarianism, with a focus on validated scales such as Right-Wing Authoritarianism (RWA). By systematically assessing the available evidence, this meta-analysis seeks to provide a clearer picture of the extent to which religiosity correlates with authoritarian beliefs and under what conditions these associations are stronger or weaker. This research was supported by the National Science Centre, Poland (Preludium grant no. 2023/49/N/HS6/01936). The presentation will discuss methodological considerations, theoretical implications, and future research directions, particularly in the context of moral justifications and ideological polarization.

P_ SocSci_18. Quantifying Local Benefits of Offshore Wind Development - Quantitative Study of Supply Chains.

Tomasz Laskowicz

Faculty of Economics - University of Gdansk - 81-824 Sopot

Presentation format: POSTER

Abstract

Europe's energy transition, as outlined in the European Green Deal and operationalized through legislative frameworks like the Fit for 55 package and the REPowerEU plan, is pivotal not only for mitigating climate change but also for enhancing energy security and fostering sustainable economic growth. Offshore wind energy stands as a cornerstone of this transition, with the European Commission aiming to install 30 GW of new wind capacity annually up to 2030 to meet the revised renewable energy targets.

However, the rapid expansion of offshore wind infrastructure exerts significant pressure on existing maritime sectors and coastal communities. Ensuring that the economic benefits of this growth are equitably distributed is essential for maintaining social license and political support. This research quantifies the extent to which offshore wind investments translate into local economic value, providing empirical insights into supply chain localization and regional value capture.

P_ SocSci_19. Pathways Between Gut Microbiome and Well-Being: Systematic Review and Meta-Analysis on Inflammation and Depression.

Martyna Malcher, Iwona Ulenberg, Martyna Szyperska, Wiktoria Stickel, Jurand Sobiecki

Institute of Psychology - University of Gdansk - 80-309 Gdansk

Presentation format: POSTER

Abstract

The gut microbiome is emerging as a pivotal factor in human health and behavior, with growing evidence implicating its role in modulating inflammatory responses that may contribute to depressive symptomatology. However, a comprehensive and systematic synthesis of the literature exploring the association between inflammatory markers and depression has yet to be undertaken. This presentation introduces our systematic review and meta-analysis—designed following PRISMA guidelines—to broadly examine the relationship between key inflammatory markers and depressive symptoms across diverse populations and study designs. Our analysis aggregates evidence from research that has investigated cytokines such as interleukin-6, tumor necrosis factor-alpha, and interleukin-1β in relation to mood disturbances. By incorporating data from studies with varying methodological frameworks, we aim to evaluate not only the strength and consistency of the inflammation–depression link but also to probe the potential directionality and underlying mechanisms of this association. This approach enables us to address critical questions whether systemic inflammation acts as a precipitating factor for depression, a secondary consequence, or part of a bidirectional interplay. The presentation will outline our methodology, including study selection criteria, data extraction procedures, and statistical techniques to manage heterogeneity among studies. We will discuss potential confounding factors and the importance of standardized biomarker assessment protocols that could enhance future research in this field. Finally, implications for integrative mental health interventions will be highlighted, considering how targeting inflammatory pathways and optimizing gut microbiome health might contribute to novel therapeutic strategies. This overview invites interdisciplinary collaboration to refine our approach and better understand the psychoneuroimmune basis of depression.

P_ SocSci_21. Chernobyl - the political and psychological repercussions of the disaster.

Marek Niemczyk, Kacper Gargul

Faculty of Social Sciences - University of Gdańsk - 80-309 Gdańsk

Presentation format: POSTER

Abstract

The Chernobyl disaster, which occurred on April 26, 1986, remains the most serious accident in the field of nuclear energy to this day. However, its consequences were not limited solely to issues related to the safety of energy production using nuclear installations. Ultimately, it led to a series of multidimensional changes. The main topic of the presentation is to showcase the greatest nuclear disaster of the 20th century in the context of its political and psychological consequences, which affected both Eastern countries and the member states of the European Union.

P_ SocSci_22. Paramedicine and Safety from a Human Factors Perspective, PARASAFE.

Ingunn Pedersen, Maria Strandås, Inger Lund Kordahl,Gunhild Birgitte Sætren

Faculty of Nursing and health services, Nord University, Namsos, Norway

Presentation format: POSTER

Abstract

Background and aims: Situational awareness (SA) is a foundational cognitive process required for effective decision-making in high-stakes environments like prehospital emergency medicine. SA involves perceiving, understanding, and anticipating events, enabling paramedics to adapt and respond quickly in dynamic, stressful conditions (Endsley, 1995). Research in emergency settings has shown that maintaining SA is crucial for patient safety and operational success, particularly in situations characterized by high operational stress (Levin et al., 2012).

Within the field of SA in paramedicine, there is a gap in the literature. Thus, the aim of the project is to gain deeper knowledge about paramedics' s SA, and to identify and analyze the factors that shape the situational awareness and subsequent actions of paramedics during the clinical decision-making process.

Methods: The project is article- based and consists of three studies. Study 1 consists of a systematic review to identify relevant literature. Study 2, The SAVOS Study (Situational Awareness under Varying Operational Stress) aims to investigate how paramedic students' SA is impacted by different levels of operational stress in prehospital emergency medicine simulations. Quantitative and qualitative data will be gathered using structured observations, and semi-structured interviews, ensuring a comprehensive understanding of how stress impacts paramedic students' SA. Study 3, The PESA study (Paramedics' Experiences of Situational Awareness during emergency medical incidents: identifying crucial factors for maintenance), is an interview- study, building up on the findings from SAVOS. This study aims to explore paramedics' experiences, perceptions, and contextual factors related to situational awareness.

P_ SocSci_23. Disinformation in Spain: Impact on beliefs and attitudes towards science and health.

Judit Pérez Mejía, María Camacho García, Esther Ortega Martín, Javier Álvarez Gálvez

University of Cadiz

Presentation format: POSTER

Abstract

Disinformation in health is a growing phenomenon that poses significant risks to public health, especially when it triggers harmful or detrimental behaviors in the population. Social networks act as accessible spaces for the exchange of health information; however, the lack of quality control on these platforms has facilitated the dissemination of false information on health issues. In this study we address some of the issues that generate the most health misinformation on the Internet: opinions on vaccination, diet and nutrition, and medical treatments. In addition, we address the relationship between misinformation and the perception of social control through science. The results were obtained from the Health Misinformation Survey conducted by the CS2 Datalab team through the DCODES project and NETDYNAMIC, conducted in a nationally representative population of 2200 adults. In the results we found significant relationships between different beliefs and attitudes towards science and health with variations according to ideology, sex, age and education.

P_ SocSci_24. The Heart of Campus: Reimagining the Academic Library as a Third Place – A Case Study of the University of Malta Library.

Ryan Scicluna

University of Malta Library - Library Services, University of Malta, Msida MSD 2080, Malta

Presentation format: POSTER

Abstract

Academic libraries are not only being recognised as repositories of knowledge and vital social spaces, but they are also becoming collaborative spaces within university ecosystems. This case study explores how the University of Malta Library has embraced the concept of the Third Place, a welcoming environment beyond home and work, by implementing innovative, student-centred initiatives designed to foster connection, well-being, and campus-wide engagement.

Through programs such as Borrow a Librarian, Blind Date with a Book, Checkmate and Chill, De-stress with a Librarian, Feel Good campaigns, Bibliotherapy sessions, Canine Storytelling, ART Connect, and community-focused events like bake and plant sales, the Library has actively cultivated a sense of belonging and emotional support among students and staff. These initiatives demonstrate how the Library is an inclusive space that bridges academic, social, and emotional needs.

Using qualitative observations, stakeholder feedback, and institutional insights, this research examines the role of the University of Malta Library in enhancing campus culture and student experience. It argues that by reimagining its purpose beyond traditional academic functions, the Library positions itself at the heart of campus life, promoting collaboration, creativity, and well-being.

This case study offers a replicable model for other academic institutions seeking to reposition their libraries as dynamic third places capable of enriching higher education through holistic, community-oriented engagement.

P_ SocSci_25. Integrating life cycle assessment into management accounting: a path to business models in the sea supply chain.

Rosa Staiano, Sabrina Pisano, Luigi Lepore, Assunta Di Vaio

Department of Legal Sciences - University of Salento - Piazza Tancredi, n.7 - 73100 Lecce

Presentation format: POSTER

Abstract

This study explores the management accounting (MA) literature to understand the informative role of Life Cycle Assessment (LCA) in corporate measurement and control systems, as well as its potential links to business model development. Despite increasing interest in environmental and sustainability issues, scholarly contributions integrating LCA into MA are still limited. Supported by the Corporate Social Responsibility (CSR) framework, this research investigates the content of 60 peer-reviewed English-language articles published in the Scopus database from 1990 to the first quarter of 2025. The findings highlight the main thematic areas in which LCA has been contextualized in MA studies, including sustainability reporting, performance measurement, strategic cost planning, and decision-making operational processes. The review also uncovers emerging research trends and identifies gaps in the current literature that offer opportunities for further exploration, especially for sea logistics firms to lead in developing LCA-informed accounting practices tailored to their sector.

By mapping the linkages between LCA and MA, this study contributes to a better understanding of how environmental assessment tools can support managerial decision-making and align with sustainability-driven business models. This study provides significant insights for firms operating along the sea supply chain, where environmental performance and sustainability are increasingly critical. Both theoretical and managerial implications are discussed, suggesting directions for future research and practical implementation.

Keywords: Life Cycle Assessment, Management Accounting, Sustainability, Corporate Social Responsibility, Business Models, Sea Supply Chain, Literature Review.

Acknowledgements: This work is an outcome of the “Blue Shipping & Cruise Lab” (BSCLab), Department of Law, University of Naples Parthenope, Italy.

P_ SocSci_26. A systematic review of sustainability in port infrastructure: applying LCC and LCA to achieve SDG12.

Assunta Di Vaio, Elisa Van Engelenhoven, Anum Zaffar

Law Department - University of Naples Parthenope - via G. Parisi, no. 13, Naples, Italy

Presentation format: POSTER

Abstract

This study examines the body of the literature on Life Cycle Costing (LCC) and Life Cycle Assessment (LCA), analyzing how these methodologies support the UN 2030 Agenda, particularly SDG12: "Responsible Consumption and Production," with a focus on targets 12.5 (waste reduction) and 12.6 (adoption of sustainable practices). The analysis focuses on the use of LCC and LCA in port infrastructure, a sector with significant environmental impact, where effective waste management and sustainable practices throughout the material life cycle are relevant to mitigating climate change. Despite the increasing application of LCC and LCA, existing literature reveals a gap in their use for port infrastructure, particularly concerning lifecycle-based waste management and sustainability practices. Accordingly, this study explores how these tools can promote sustainability and contribute to the achievement of SDG12-targets in this context. Grounded in Life Cycle Theory, which integrates environmental, economic, and social dimensions across a product or service's entire life span, the study employs a Systematic Literature Review (SLR) of studies published between 1990 and 2024. Scopus was selected for their coverage and quality, and Boolean operators refined search queries to capture relevant publications. The PRISMA protocol guided the review process to ensure transparency and rigor, while Leximancer software v.5 was used for content analysis of 80 English-language articles. This study addresses critical research gaps and proposes a framework to support sustainable practices in port infrastructure. It highlights how LCC and LCA can be instrumental in reducing environmental impacts, improving waste management, and advancing the implementation of SDG12-targets.

P_ SocSci_28. Art attack! A story of tomato soup, activists, and art masterpieces. An assessment of public attention after environmental activist attacks on art.

Vincenzo Alfano, Massimo Guarino

University of Napoli Parthenope, DISEGIM

Presentation format: POSTER

Abstract

In 2022 a series of attacks targeted a number of cultural goods. Various pro-environment movements aimed in this way to promote a greener agenda, trying to make the headlines in order to affect public attention and lobby the government. These attacks, typically carried out by young activists who threw substances at masterpieces, had the purpose not of ruining the works (to date no permanent damage has been caused), but of provoking a cultural shock in Western public attention, and highlighting the importance of taking action against climate change. By means of a quantitative analysis, exploiting data from Google Trends results for web searches and the inclusion of climate action from the 2030 Agenda for Sustainable Development of the United Nations to build a counterfactual, we analyze the effect on public attention of these attacks. Results show that this strategy leads to an increase in attention paid by the general public towards climate change, and therefore could increase public awareness about the issue, putting a spotlight on the fight against climate change.

P_ SocSci_29. Integration of Corporate Social Responsibility (CSR) into Company Strategies for Sustainable Development and Well-Being: A Systematic Literature Review (SLR).

Walaa Jarrar, Jesus Barrena Martinez, María José Foncubierta Rodríguez

Business Management Department, University of Cadiz, Spain

Presentation format: POSTER

Abstract

Sustainable development goals (SDG) become a relevant topic in company's strategy, as a process to improve organizational abilities to lives longer through social, economic or environmental commitments with society.

The manuscript focus in the role of corporate social responsibility (CSR) , and its contribution to the company's sustainable development, particularly focused on organizational well-being.

Methodologically, we implemented a systematic literature review (SLR) based on PRISMA to explore

We based our research on Scopus and Web of Science, finding 50 articles focused on three main themes: SDGs,

CSR and well-being: identifying sustainable strategies and future research lines. Subscribing SDG and CSR leading companies for the future needs based in human capital importance for companies.

The scholars adapting the companies' ability to improves their efforts in global sustainability. based on the three themes view (CSR, Sustainable Development, and Well-being).

P_ SocSci_30. Discovering the Essence of Foreign Investment by Individuals: Developing an Interdisciplinary Conceptual Framework with a Hierarchical Approach.

Mai Nguyen, Robet Suban, Hoang Nguyen

Department of Banking, Finance & Investment (BFI) - Faculty of Economics, Management & Accountancy (FEMA)

Presentation format: POSTER

Abstract

This study serves two purposes: first, to propose a methodology for constructing theoretical framework (TF) in an interdisciplinary (ID) research; and second, to introduce a TF for uncovering the essence of foreign investment by individuals (IFI). It begins by (1) presenting perpectives that critique certain points from existing studies; (2) offering an innovative yet streamlined approach to designing framework for complex interdisciplinary issues; and (3) providing a flexible structure to explore the core motivations behind individual foreign investments.

The IFI theoretical framework, referred to as MSIDA, integrates theories from Economics, Sociology, Ontology security, and Political ideology. It is built on a hierarchical tree structure encompassing Micro-Meso-Macro aspects, Attribute-Consequence-Value (ACV) levels, and Push-Pull forces, capturing both intrinsic and extrinsic drivers of investment decisions.

Beyond its theoretical contributions, this study also holds practical significance in investment migration research. The MSIDA model provides a structured interdisciplinary approach, offering a comprehensive methodological framework to analyze IFI motivations across multiple dimensions. In practice, MSIDA serves as a strategic guide for policymakers, assisting in the design of investment migration regulations by integrating economic, institutional, and behavioral insights.

P_ SocSci_31. Emotional availability of parents, parental practices and imposter syndrome: the mediating role of self-esteem and emotional regulation in university students.

Ana Susana Almeida, Sara Duarte, Jean Christophe Giger

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Presentation format: POSTER

Abstract

Previous research shows that Impostor Syndrome (IS) has a negative effect on the academic and professional lives of individuals. The present research aims to achieve a better understanding of how self-esteem and emotional regulation can mediate the impact of emotional availability of parents and parental practices on IS. Higher education students (N = 310), aged between 18 and 65, participated in this study. Data collection was carried out through an online questionnaire consisting of (a) a sociodemographic questionnaire; (b) the Clance Impostor Phenomenon Scale; (c) the Difficulties in Emotion Regulation Scale; (d) the Lum Emotional Availability of Parents; e) the Rosenberg Self-Esteem Scale; (f) Memories of Childhood – EMBU; and g) the Productivity Scale. The results suggest that: (1) parental emotional availability is a predictor of IS; (2) parental practices are predictors of IS; (3) self-esteem and emotional regulation mediate the relationship between perceived parental emotional availability and the symptoms underlying IS; (4) self-esteem and emotional regulation mediate the relationship between perceived parental practices and the symptoms underlying IS; (5) the symptoms underlying IS are negatively associated with perceived academic productivity. Practical implications for students are discussed.

SOCIAL SCIENCES

CAPSULES

C_ SocSci_01. The role of smart, crowdsourced platforms in empowering responsible traveller behaviour: a theory of change approach.

Amit Bhatia, Dora Agapito, Célia Ramos

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This study examines how smart, crowdsourced sustainability platforms can influence responsible traveller behaviour by applying a Theory of Change (ToC) conceptual framework. Using a case study approach, this research applies ToC as a participatory framework to analyse TripDoodler—a smart travel platform that leverages user-generated sustainability data to encourage responsible tourism. The ToC-informed approach offers a structured evaluation of how TripDoodler operationalises responsible travellers' engagement. The findings highlight the role of crowdsourced sustainability data in shaping travel choices, the challenges of ensuring rating integrity, and the importance of behavioural reinforcement mechanisms to sustain user engagement. The study offers strategic insights for destinations' stakeholders on how crowdsourced sustainability platforms can complement traditional sustainability certifications. Businesses can use user-driven insights to align sustainability efforts with traveller preferences, while DMOs can utilise aggregated data to monitor industry trends and inform evidence-based policies. This study advances the application of ToC in digital sustainability interventions, offering a framework for evaluating smart, user-generated sustainability platforms. Shifting the focus from barriers to behavioural enablers contributes to ongoing discussions on the attitude-behaviour paradox in tourism. The research also highlights how data-driven platforms can facilitate continuous learning, peer validation, and inclusive sustainability assessments.

C_ SocSci_02. Tourism and Sustainability in Costa Rica: A Comparative Perspective Through Integrated Coastal Zone Management.

Claudia Castro Sandí

University Research Institute for Sustainable Social Development- INDESS, CADIZ University

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

Costa Rica, with its 1,236 km of coastline (1,016 km on the Pacific and 220 km on the Caribbean), significantly depends on tourism as an economic driver and source of employment. Despite the coasts being one of the country's main attractions due to its renowned nature-based tourism, this has not translated into equitable development for coastal communities, which often show the lowest human development indices nationwide. The country presents contrasting tourism models on its two coasts. While some areas of the Pacific are characterized by large-scale tourism infrastructure, including resorts and vacation homes aimed primarily at the U.S. market under a sun-and-beach model, the Caribbean stands out for its less massified tourism, focused on nature and Afro-Caribbean culture, attracting visitors interested in adventure and wildlife observation.

This presents a comparative analysis of both coasts through the Integrated Coastal Zone Management (ICZM) approach, examining their physical-natural, sociocultural, economic, and legal-administrative dimensions. It characterizes tourism in each region by analyzing its attractions, infrastructure, superstructure, and demand, while identifying key challenges in light of the Sustainable Development Goals (SDGs).

The study aims to highlight the diverse trajectories and specificities of each coastal area, contrasting these realities with public policies on tourism, conservation, and coastal management, as well as with the country's sustainability discourse. This comparative perspective allows for drawing valuable lessons from each territory to formulate specific conclusions and recommendations aimed at promoting more sustainable tourism, integrated management of Costa Rica's coastal zones, and improved living conditions for their inhabitants.

C_ SocSci_03. Voices of Spanish: Podcasts on Norms, Diversity, and Glottophobia.

F. Javier de Cos Ruiz

Filología - Ciencias Sociales y de la Comunicación, CADIZ University

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This is a teaching innovation project focused on the creation of podcasts by university students, organized in groups of three, on topics related to the Spanish language. The podcasts address issues of linguistic norms and usage, attention to linguistic diversity, and the treatment of glottophobia. Students research, script, record, and publish podcast episodes that are accessible to both the university community and the general public.
The relevance for teaching lies in several key aspects:
1. Fostering communication skills, as students develop oral and written communication abilities, which are essential for their academic and professional development.
2. Encouraging research and critical thinking, as these skills strengthen through the research and content creation process involved in producing the podcasts.
3. Promoting teamwork, collaboration in small groups fosters interpersonal and group work skills.
4. Using technology, since students learn to use technological tools for audio recording and editing.
5. Raising sociolinguistic awareness, as the focus on linguistic diversity and glottophobia sensitizes students to issues of social justice and linguistic discrimination.
Based on the identification of the following issues: lack of active student participation; disconnection from social reality; and limited communication skills among many students; we can address a series of improvements: increased participation: the podcast format actively engages students, making them responsible for their own learning; social relevance: by addressing issues such as glottophobia, the project connects academic learning with real-world social concerns; and skills development: students will enhance their research, communication, and technological skills, better preparing them for the professional world.

C_ SocSci_04. Dialogues for Transformation: Building Collaborative Narratives in Andalusian Inclusive Education.

Mayka García, Carmen Gallego, Manuel J.Cotrina, Ana Zarzuela

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The research project "Inclusive Dialogues: Building Collaborative Narratives for Education in Andalusia (DI-COLEA)" is a project under the National R&D&I Plan that brings together researchers from the universities of Cádiz and Seville. It is a coordinated project that also involves the universities of Cantabria, Vigo, Santiago, A Coruña, and the Basque Country. Its main objective is to address the difficulty of creating societies open to diversity, recognizing inclusive education as fundamental to democracy and the fight against social exclusion.

In response to the theoretical and practical fragmentation observed in inclusive education and the lack of dialogue between stakeholders, the project proposes a participatory research methodology. The project seeks to create spaces for exchange, listening, and debate among diverse groups (professionals, students, families, and the community) to jointly analyze the challenges of inclusion at different levels and stages of the education system, both compulsory and non-compulsory. Through "Inclusive Meetings" structured around case studies ("the school from within" and "the school in its environment"), participants' narratives are analyzed, and obstacles and proposals for improvement are identified.

This approach not only seeks to describe the situation but also to promote social and educational transformations, generating new shared narratives about the future of inclusion. The project is developed in phases, culminating in the dissemination of findings and specific training, artistic, and scientific initiatives. This paper presents the initial results.

C_ SocSci_05. On Air, In Language: a Podcast-Based approach to L2 learning with unaccompanied foreign minors.

Sara Gemma

DiSMMeB (Dipartimento di Scienze Mediche, Motorie e del Benessere- via Medina, 40, Napoli, 80133) - Scienze della formazione, del turismo e dei beni culturali (Macerata)

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

Information and Communication Technologies (ICT) play an essential role in the socio-educational inclusion of migrants and refugees. This paper presents a workshop conducted in a non-formal educational context with unaccompanied foreign minors, focused on learning Italian as a second language. Grounded in Media Education and intercultural pedagogy, the project explored community-based learning and narrative practices as spaces for self-expression, identity construction, and cultural negotiation (Khosravi, 2019).

Thematic focus groups functioned both as spaces for reflection and as a strategy for language learning. Participants explored topics that were later developed into podcast episodes, including hate speech and verbal violence, the internalization of exclusionary language in the host culture, and the relationship between body, religion, music, and dance.

These discussions were transformed into a collective podcast, where the youths' voices intertwined with creative soundscapes to construct a shared narrative. The podcast served as an inclusive educational tool, fostering motivation, oral skills, and language acquisition. Aligned with the principles of Universal Design for Learning, the workshop offered accessible, informal, and flexible learning pathways.

By combining digital media with cultural and social reflection, the project enabled co-creation and counter-narratives, amplifying marginalized voices and encouraging active participation. Podcasting emerged as a powerful pedagogical tool in contexts of linguistic and social vulnerability.

Ultimately, this experience contributes to rethinking second language education by integrating physical, symbolic, and digital literacies in a transformative and inclusive way, promoting both language learning and intercultural understanding.

C_ SocSci_06. Tourist Carrying Capacity. Mathematical Optimization Study for the City of Cádiz.

María José Lechuga Gómez, María Carmen Sánchez Gil, Manuel Arana Jiménez

Departamento de Estadística e Investigación Operativa, CADIZ

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The tourism industry in Andalusia, according to a report funded by the Department of Tourism, Culture, and Sports, accounted for 12% of the Gross Domestic Product (GDP) and 12.5% of employment, serving as a key driver of the economy in many cities and tourist destinations.

Tourism represents a very important economic sector for the city of Cádiz. This highlights the need to understand the balance between the urban population and the visitor population. A balance between monetary income dependent on visitors and expenditures sustained by the urban population not related to the tourism sector. A balance between economic benefit and environmental impact. Therefore, it is clear that tourism needs to contribute to the achievement of the Sustainable Development Goals (SDGs) of the United Nations Global Compact and thus achieve sustainable tourism development.

This leads us to the fact that measuring the tourist carrying capacity that this city can support is necessary to establish this balance; it is about the sustainability of the productive system. That is the objective of the present study.

To conduct this study, research methods from Uncertainty Theory, operations, and orders are used to obtain interval values using optimization techniques. The aims to predict outcomes under certain conditions, helping to identify strengths and weaknesses that facilitate decision-making in terms the carrying capacity of a tourist destination.

C_ SocSci_07. Sustainable development goals and social work. New paths to gender equality.

Maríaeugenia Leónamado

INDESS, CADIZ

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The 2030 Agenda has been a significant global milestone influencing social practice in many disciplines, including social work. Social workers are trained by their interdisciplinary training to address gender equality-related challenges from different organizations and praxis. An evolution of certain practices can be discerned that contribute to achieving SDG 5 with a focus on equality.

C_ SocSci_08. The European Union countries as a setting for carrying out efficiency tourism measurements using the Data Envelopment Analysis: a Sustainability approach.

Julio Lozano Ramírez, Manuel Arana Jiménez, Atefeh Younesi, M. Carmen Sánchez Gil

Statistics and Operations Research Department
Research Institute for Sustainable Social Development (INDESS) - University of Cádiz

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The study assesses the efficiency of Tourism Sustainability in the 27 countries that compose the European Union, carrying out an evolutionary analysis during the pre-and post-pandemic periods. The proposed approach is based on the Data Envelopment Analysis (DEA) methodology, highlighting the use of economic, social, and environmental indicators. In particular, a non-targeted slack-based inefficiency model (SBI) is proposed. This first scenario calculates and analyzes inefficient countries' efficiency scores and improvement targets. Once the first model has been examined and given a large relative number of countries labeled as efficient, a super-efficiency approach (Super-SBI) is proposed to discriminate between the efficient results of the countries of the first stage, which leads to building a sustainability ranking. In this way, this research provides valuable information, such as identifying countries with the best tourism sustainability practices and observing the evolution of tourism sustainability before and after the COVID-19 pandemic.

C_ SocSci_09. Experience with digital tools in a class of International Managerial Skills.

Sebastian Bergen Byskov, Peter Sebastian, Jesús Barrena Martínez, Annette Malleuve Martínez

Organización de Empresas-Facultad de Ciencias Económicas y Empresariales, CADIZ

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The digitalization as a part of higher educational programs is a big challenge in different universities. One of the principal lacks is related to the low preparation and experience of teachers to enhance programs adapted to the AI era. This investigation has an objective to identify the main struggles during a class environment for learning and teaching with knowledge of digital tools, using a survey as a research tool.

The survey questions were based on themes derived from both the educator's instructions and our Master's Thesis. To maximize the respondents' motivation and completion rate, we kept it brief and conducted it online.

The survey shows that 58% of the students perceive their digital competences as good, and 9% as excellent, which is underlined by the amount of digital tools the students use. In addition, the results show that the majority of the students use digital tools frequently. However, the survey also indicates that students regularly seek help when it comes to guidance in the use of digital tools, where 68 of 93 students respond that they sometimes or more often seek help from the teacher.

As a conclusion, this was an interesting experience to analyze and evaluate both students and teacher behaviors using digital tools during the class, enhancing the identification of strengths and weaknesses in this area for improving the class scenario by digital.

C_ SocSci_10. From Pitch to Boardroom: Do Ex-Players Still Score? The boardroom impact of former sportsmen.

Vincenzo Alfano, Michele Nuzzo, Alessandro Scaletti, Gabriella D'Amore

Dipartimento di studi aziendali ed economici – Disae, Naples Parthenope

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This study investigates the impact of former professional athletes serving on the boards of football clubs on organizational performance, focusing on teams competing in Italy's Serie A. While prior literature has addressed the influence of board composition on firm outcomes—including in the sports industry—the specific role of sport-specific human capital within governance structures remains insufficiently explored.

The analysis is framed within a dual theoretical perspective, combining Resource Dependence Theory (RDT) and Human Capital Theory (HCT). RDT conceptualizes boards as strategic actors that manage dependencies and secure critical resources, while HCT emphasizes the contribution of individual knowledge, competencies, and experience to organizational effectiveness. Within this framework, we examine whether board members with elite athletic backgrounds—who embody domain-specific experiential capital—positively affect club performance.

Using an original panel dataset on Serie A clubs, our empirical analysis shows that a higher proportion of former athletes on the board is significantly associated with improved sporting performance. However, no corresponding effect is observed on financial performance metrics.

C_ SocSci_11. Corporate governance and innovation strategy.

Nikol Alejandra Peña Vanegas

Bussiness Management Faculty or Business and Economics / Enrique Villegas Street

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

A case study will be conducted to examine the impact of artificial intelligence (AI) on a company as a primary and strategic source for the differentiation and subsequent transformation of various processes related to organizational resilience, operational efficiency, and risk management. Using a qualitative approach based primarily on document review and interviews, the study will evaluate the implementation of innovative AI technologies in the corporate environment, focusing on the integration of cybersecurity and artificial intelligence. Best practices in corporate and digital governance in the business context will be highlighted. This analysis also considered the organizational resilience framework (Hollnagel, 2011) and risk management principles based on international standards such as ISO 31000:2018, allowing for a comparison of benefits and operational performance before and after AI implementation.

C_ SocSci_12. Analyzing the Sustainability in the Accommodation Sector Using Data Envelopment Analysis. The case for Hotel Chains.

Wu Qian, Manuel Arana Jiménez, Alicia Martín Navarro, Julio Lozano Ramírez

Research Institute for Sustainable Social Development (INDESS) - University of Cádiz

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

This study examines Spanish hotel chains' efficiency within sustainable development management by evaluating green technologies, using Data Envelopment Analysis (DEA) as the core methodological approach. The research seeks to optimize critical operational factors, precisely the number of hotel establishments, employment levels, and green financing, to drive revenue growth while supporting global sustainability objectives. Despite the hotel industry's significant economic contribution to Spain's GDP and employment, a gap persists in academic literature regarding the systematic evaluation of efficiency in sustainable practices. By analyzing input-output relationships, the DEA methodology provides a robust quantitative framework to assess resource management, identify inefficiencies, and propose strategic improvements. The findings highlight the potential for Spanish hotel chains to enhance both environmental and operational performance, reinforcing their competitiveness in an increasingly eco-conscious market. This study contributes to the broader discourse on sustainable tourism by offering actionable insights for policymakers and industry stakeholders to balance economic growth with environmental and social responsibility.

C_ SocSci_13. Representation of the Sea in Children's and Young Adult Literature: An Analysis and Didactic Proposal on Environmental Sustainability Based on Picture Books from the Public Libraries of Cádiz.

Yolanda Romero Vallejo

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The link between education and environmental awareness is longstanding and global. However, ecological concerns surged in the 20th century, particularly in the 1960s, due to threats like pollution and species extinction. Today, these issues align with the 2030 Agenda and the Sustainable Development Goals (SDGs), including water and marine pollution. In Spain, environmental education is embedded in curricula, but its success depends on teachers' commitment and the availability of quality didactic materials.

Research on picture books has gained momentum, highlighting their role in fostering critical and enjoyable perspectives (Ibarra & Ballester, 2022). Children's and young adult literature serves as a powerful tool for addressing environmental issues. Cassany et al. (1994) emphasize that “hook books” engage children and enhance their empathy, while Rifkin (2010) stresses that literature nurtures sustainable awareness crucial for planetary survival.

As a predoctoral researcher at the University of Cádiz (UCA) within the SEA-EU initiative, this action research fosters collaboration between academia, libraries, and schools. It is part of the PID2022-139640NB-I00 project on reading, linguistic education, and sustainability. The research analyzes picture books about the sea from Cádiz’s public libraries to develop reading workshops in formal and non-formal educational settings. These workshops integrate visual analysis to train competent, critical, and environmentally engaged readers. This work also examines how the sea is represented in fiction and non-fiction picture books, positioning them as valuable didactic materials for primary education.

C_ SocSci_14. Disclosure of psychosocial risks in Andalusian companies: a challenge for corporate sustainability reporting.

Sara Gómez Junquera, Estíbaliz Biedma López, Paula Rodríguez Castro, Nieves Gómez Aguilar

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Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

The growing global concern for sustainability has positioned the disclosure of corporate information in this area as a central axis for decision making. The contemporary concept of sustainability reflects a natural evolution of Corporate Social Responsibility (CSR) aligned with the Sustainable Development Goals (SDGs). This evolution responds to stakeholder pressure and the need for transparency. The institutionalisation of reporting is driven by regulatory frameworks in the EU and Spain, notably the European Sustainability Reporting Standards (ESRS), which adopt a dual materiality perspective to contribute to a sustainable economic system.

In this context, the health and safety of workers emerges as a fundamental pillar of sustainability disclosure. Psychosocial risks, derived from the interaction between work environment, organisation and worker, have gained relevance due to their significant impact on physical and mental health. Their identification, assessment and effective management is a key challenge, intensified by the current context. Its transcendence and the high probability of causing significant damage to health, especially mental health, underline the need for its management and dissemination, although specific legislation in Spain is still evolving.

The main objective of this paper is to study the disclosure on psychosocial risks by Andalusian companies obliged to make the Sustainability Report, assessing their level of preparedness for future mandatory disclosure according to NEIS S1. To achieve this objective, a mixed approach methodology was used, combining a content analysis of the sustainability reports with the evaluation of the materiality matrices to identify whether "Health and Safety", and within this, psychosocial risks, are considered material issues. A measurement instrument was designed based on the theoretical classification of psychosocial factors/risks and the NEIS S1. The selected sample consists of 42 large Andalusian companies (with a minimum of 250 employees and headquarters in Andalusia) that have published their sustainability reports for the financial year 2023.

C_ SocSci_15. Models of long-term care at home for dependent elderly people in Europe: a comparison between Norway and Spain in the framework of the 2030 Agenda.

Paula López Anillo, María de los Ángeles Minguela Recover, Yan Zhao

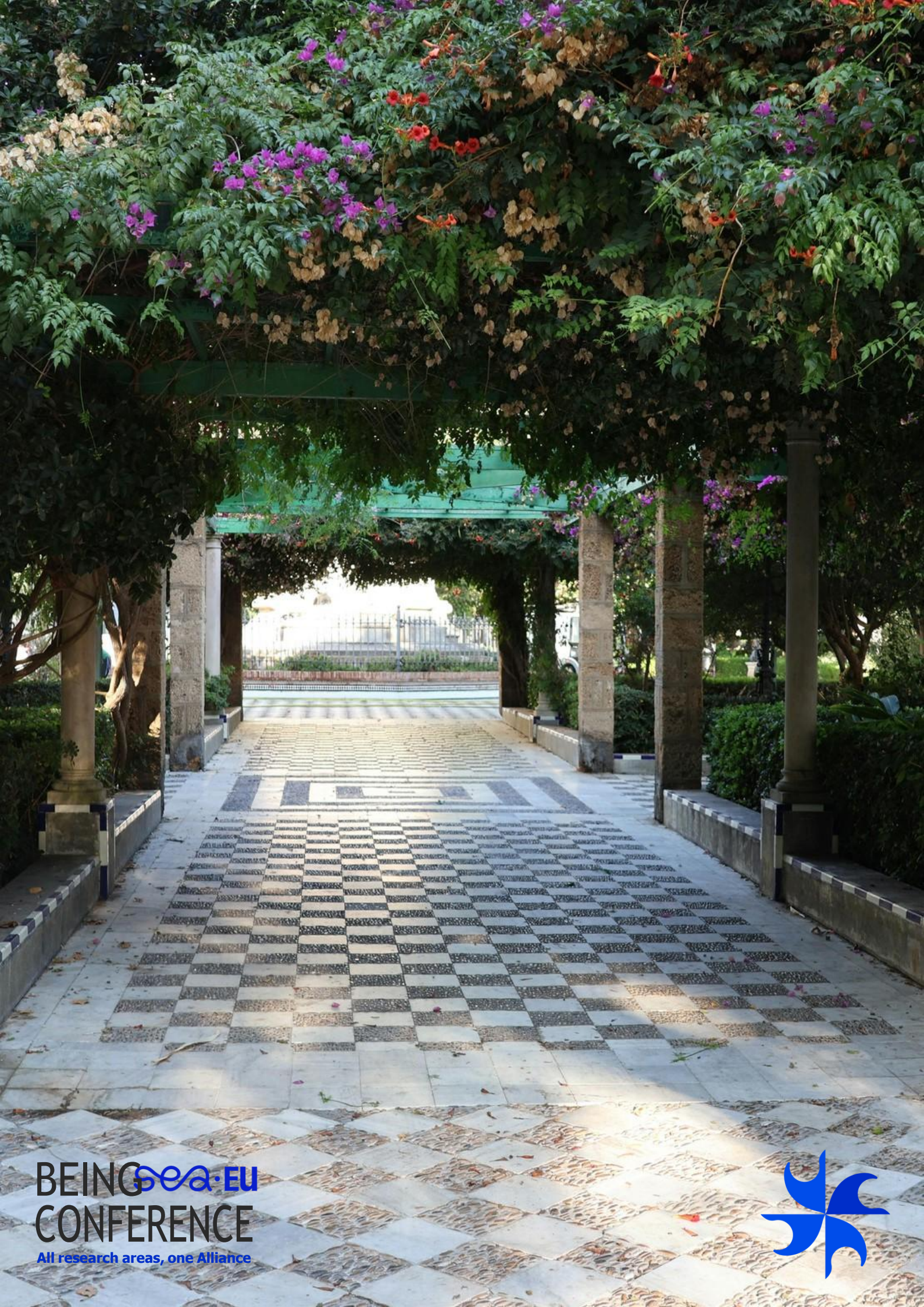
Área de Trabajo Social y Servicios Sociales

Presentation format: VIDEO CAPSULE (VIRTUAL)

Abstract

By 2050, it is estimated that 30% of the European population will be made up of older people. This demographic increase raises the need to design public policies that adequately respond to the social transformations derived from demographic changes (European Commission, 2024). Although ageing does not necessarily imply the appearance of situations of dependency or support needs (Sarabia, 2009), initiatives such as the 2030 Agenda have highlighted the relevance of active ageing as a preventive strategy, as well as the guarantee of quality long-term care in the home environment for dependent elderly people. In this context, and given the need to develop a care model that responds to the needs of older people, this study carries out a comparative documentary analysis of the care systems for older people in Norway and Spain, framed within their respective welfare models. The main objective of this exploratory study is to identify preliminary similarities and differences in order to assess the extent to which these welfare models favour or hinder the implementation of the long-term care system proposed by the 2030 Agenda.

Key words: ageing, long-term care, dependency, Agenda 2030.



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