



## 2023 Master internship at UCA

### TITLE

**Máster en Ingeniería Acústica**

### LAB & PEOPLE

- **Name of the hosting lab:** Laboratorio de Ingeniería Acústica
- **General activities of the lab:** Mediciones e investigación en Acústica y Vibraciones
- **Website:** <https://tep195.uca.es/>
- **Number of staff / PhD:** Ricardo Hernandez Molina
- **Supervisor name and contact:** Daniel Espinosa Corbellini ([daniel.espinosa@uca.es](mailto:daniel.espinosa@uca.es))

### TOPIC OF THE INTERNSHIP

- **Scientific context of the internship (max 20 lines)**

*Currently, the Group's activity includes the following areas:*

- *ENVIRONMENTAL ACOUSTICS:*

*Technical assistance in the field of acoustics and vibrations.*

*Noise measurements and tests*

*Vibrations and structural acoustics*

*Noise Maps and Action Plans*

*Natural sound reserves and soundscapes in quiet areas.*

*Acoustic legislation and regulations*

- *UNDERWATER ACOUSTICS:*

- *Studies of Underwater Acoustic Impact through modeling:*

*Underwater acoustic propagation models to establish sound pressure levels at different distances in order to determine protection and action areas.*

*Marine acoustic measurements:*

*Long-term measurements through the anchoring of hydrophones.*

*Short-term measures*

*Technical assistance to professionals, local and regional public administrations and private companies.*

*Bioacoustics*

- *ARQCHITECTURAL ACOUSTICS AND ELECTROACOUSTICS:*

*Electroacoustic, Loudspeakers and Electronics in Audio. Filters*

*Instrumentation. Microphones, Kundt tube, anechoic and reverberant chambers measures*

*Architectural acoustics: acoustic comfort and insulation.*

*Psychoacoustics in architectural design and loudspeakers design (hi-end)*

- *OTHER FIELDS:*

*Development of educational programs and training courses in the fields of environmental acoustics, conservation of the marine environment and bioacoustics.*

- **Keywords**

*Environmental acoustics, Underwater acoustics, Architectural acoustics and Electroacoustic, Loudspeakers.*

- **Bibliography**

The one referring to the field of study within the acoustics that you choose or that is chosen or assigned

- **Tasks and duties entrusted to the student:**

Software development and kundt tube measurements. Measurements and improvement of loudspeaker systems. Underwater Acoustics and others proposals related to the fields of study of acoustics engineering.

- **Skills to be acquired or developed:**

Acoustic systems study development. Ability to make electrical and acoustic measurements correctly. Acquisition of acoustic instrumentation concepts for investigation.

#### **PROFILE OF THE DESIRED STUDENT**

- **Minimum level of study required:** Acoustic Engineer or degree in a degree related to acoustics and electronics.

- **Field(s) of study:** Acoustics and Electronics

- **Scientific skills :** Mathematical development or management of measurement tools in acoustics and electroacoustics

- **Language skills required :** Those of the language and use of acoustic engineering

#### **THE INTERNSHIP ASSIGNMENT:**

**Desired duration of the internship (in months):** Four-month period

**Desired Starting date of the mission:** *(please indicate the level of flexibility) : Flexible period*

**Indicative weekly schedule:** *25h / week*

**Remuneration:** *Undetermined*

**Erasmus grant:** Managed by student through the internationalization service of the UCA (erasmus students)

**Internship agreement:** *An internship agreement will be signed.*

*To SEA-EU students:*

*If you're interested please send your CV and letter of motivation to the scientist in charge,  
[daniel.espinosa@uca.es](mailto:daniel.espinosa@uca.es)*