



PARCOURS INTERNATIONAL MASTER'S DEGREE IN WAVE PHYSICS & ACOUSTICS - MASTER ACOUSTIC

PRÉSENTATION :

This international Master's Degree in Wave Physics & Acoustics is a two-year graduate program offered by the Institut d'Acoustique-Graduate School (IA-GS), within Le Mans University, France. Opened in September 2019, this program is devoted to international research training in Wave Physics with an emphasis on Acoustics. It is dedicated for high level students with diverse educational backgrounds (including e.g. Bachelor Degrees in physics, mechanical/ electrical engineering, material science and acoustics), who wish to pursue an international career in academia or in leading companies.

It is an international Master's program with an excellent scientific training, and a careful choice of state-of-the-art research lectures, in direct relation to the latest research findings of the international scientific community (e.g. topological acoustics, machine learning in acoustic emission, metamaterials...).

Funded by IA-GS, this program offers excellence scholarships, international mobility grants, dedicated students' spaces (Fablab, reconfigurable work place, openlab...).

Advanced lectures on waves by international invited experts will also be delivered in the curriculum (gravitational waves, X-ray micro-tomography, solitons in Bose-Einstein condensates, metamaterials...).

- * **Eric Maire**, Research Director at CNRS, Laboratory MATEIS - INSA LYON - Université de Lyon, "Imaging of materials in 3D with waves (ultrasounds, X-rays and electrons): acquisition, processing and applications...".
- * **Ping Sheng**, Professor at Hong-Kong University of Science and Technology, "Wave Scattering, Localization and Mesoscopic Phenomena ».
- * **David H. Shoemaker**, Senior Research Scientist, MIT LIGO, Leader of the Advanced LIGO Project, "Gravitational waves and experiments for their detection at LIGO".
- * **Dimitri Frantzeskakis**, Prof. University of Athens, "Solitons in atomic Bose Einstein Condensates".
- * **Panayotis Kevrekidis**, Prof. University of Massachusetts, "Localized Structures in Nonlinear Discrete Media: applications in nonlinear optics and mechanical/electrical lattices".

OBJECTIFS :

- * Prepare international students to research in general Wave Physics
- * Offer high level lectures from international experts on a wide spectrum of topics in Wave Physics (e.g. gravitational waves, x-ray micro-tomography, nonlinear optics, ...)
- * Acquire most research skills as identified by e.g. Vitae Researcher Development Framework
- * Learning through research projects in the lab as part of a research team of LAUM - (Laboratoire d'Acoustique de l'Université du Mans UMR CNRS 6613)

LES + DE LA FORMATION :

CONTEXT

THE INSTITUTE

Launched in September 2018, the Institut d'Acoustique-Graduate School (IA-GS) is a research and education unit focusing on a number of high-profile interdisciplinary challenges in the field of acoustics. It has been awarded the "*Ecole Universitaire de Recherche*" excellence label in 2017 by an international jury for its high level research laboratory LAUM and graduate program in acoustics. IA-GS is an international reference for research and education in the field of acoustics and wave propagation, with more than 150 research and academic staff and over 400 students in acoustics.

THE LAB

The laboratory, Laboratoire d'Acoustique de l'Université du Mans (LAUM) a joint unit of Le Mans Université and CNRS, is the heart of the IA-GS. With 165 staff in 2018 (CNRS researchers, Faculty members, technical and administrative staff, PhD candidates, post-doctoral students), LAUM is one of the largest laboratories on acoustics in Europe and worldwide.

LAUM takes its strength and originality in a collaborative way of working, by completely sharing all facilities and the budget, thereby facilitating and amplifying the quality and diversity of the research, and the integration of new talented staff. In addition, the collaborations between LAUM members are made easier as 95% of the people work in a unified site with less than a 500 m distance one building from the others. This configuration is very favorable to organize original and integrated program in close relation to the laboratory facilities and life, for optimal education through research.

Our contributions to research in acoustics are oriented towards the physics of (acoustic) waves, from basic research to applications, with experimental and methodological developments that are fully oriented towards fine and original measurements of sound (digital holography, laser ultrasonics, electro-acoustics, ...). This "all-in-one" positioning, from fundamental to applied research, covering a wide spectrum of topics and applications is the hallmark of LAUM.

+ d'infos sur la formation : : <http://www.univ-lemans.fr/master/wavephysics>

Comment s'inscrire: www.univ-lemans.fr/inscription

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**Faculté des Sciences
& Techniques**

Le Mans Université