

Eric Ballestero

· POST-DOCTORAL RESEARCHER IN ACOUSTICS ·

1 Rue du Hallai, Le Mans, France

☎ (+33) 6-15-19-62-22 | ✉ eric.ballestero@univ-lemans.fr

Academic education & jobs

Laboratoire d'Acoustique de l'Université du Mans (LAUM), UMR -- CNRS 6613

Le Mans, France

IA-GS POST-DOCTORAL RESEARCHER IN BIOLOGICAL MECHANOPERCEPTION IN PLANTS

Janv.2024 - Present

- Project -- **Biological hyperuniform elastic metamaterial for mechanoperception in plants**
- Post-Doctoral IA-GS fund of **18 months** through **internal competition**. Institut d'Acoustique -- Graduate School (IAGS) is an Institute led by the Université du Mans and the CNRS, labelled "École Universitaire de Recherche" in 2018 by les Programmes d'Investissements d'Avenir vague 3.
- Scientific **dissemination** article "Ce que le son fait aux plantes", Pour La Science, Dec. 2023.
- Scientific **conference** organizer: "4th Symposium on Acoustic Metamaterials", Aegina, Greece.

Laboratoire d'Acoustique de l'Université du Mans (LAUM), UMR -- CNRS 6613

Le Mans, France

CNRS POST-DOCTORAL RESEARCHER IN ACOUSTIC METAMATERIALS

Oct. 2021 - Dec. 2023

- Project -- **ANR METARoom CE08-0021: Reconfigurable and deep-subwavelength acoustic treatments for room acoustics**
- External mission IA--GS: 1 month visit at **Polytechnic University of Valencia**, Spain, May 2022.
- Scientific **dissemination** in schools & scientific **exhibition** "À l'Image du Son", Nîmes, France.
- Scientific **conference** organizer: "3rd Symposium on Acoustic Metamaterials", Nîmes, France.

London South Bank University & Royal Opera House

London, UK

PHD IN ACOUSTIC METAMATERIALS FOR AUDITORIUM ACOUSTICS (Level 8)

Jan. 2018 - Jul. 2021

- Thesis -- **Overhauling Sound Diffusion in Auditoria Using Deep-Subwavelength Acoustic Metamaterials**
- 1 week **EAA Winter School on Computational Acoustics** at **Laboratoire d'Acoustique de l'Université du Mans**, France
- 1 month **Short-Term Scientific Mission** (COST STSM) at **Laboratoire d'Acoustique de l'Université du Mans**, France
- 1 month **Doctoral Visit** (UKAN) at the **Audio and Acoustics Group, University of Edinburgh**, U.K.
- **Award**: *IOA Young Persons for Innovation in Acoustical Engineering Award*, Institute of Acoustics, U.K.
- Scientific **conference** organizer: "2nd Symposium on Acoustic Metamaterials", Ischia, Italy.

London South Bank University

London, UK

MASTER OF SCIENCE IN ENVIRONMENTAL & ARCHITECTURAL ACOUSTICS (Level 7)

Sept. 2015 - Fev. 2017

- MSc Thesis (Distinction) -- **Acoustic Virtual Reality: Dynamic Binaural Synthesis of the Roman Theatre of Arles**
- **Award**: Acoustical Society of America Robert Bradford Newman Student Medal.

Institute of Acoustics

St. Albans, UK

GRADUATE DIPLOMA IN ACOUSTICS & NOISE CONTROL (Level 6)

Sept. 2014 - Nov. 2015

- Project (Merit) -- **Reverberation Time as a Characterizing Criterion for Halls**

National Conservatory of Arts and Crafts

Paris, France

SPE. MODULE IN BUILDING ACOUSTICS (Level 5)

Jan. 2014 - Oct. 2014

- Mark: 95/100 (Distinction)

ADAMS 3IS

Bordeaux, France

HIGHER NATIONAL DIPLOMA IN SOUND DESIGN AND AUDIO ENGINEERING (Level 5)

Sept. 2010 - Jun. 2012

Lycée Alfred-Kastler

Talence, France

TECH LEVEL IN ELECTRICAL ENGINEERING (Level 3)

Sept. 2008 - Jun. 2010

Academic activities

IRP CNRS -- Centre d'Acoustique Jacques Cartier

MEMBER

International Research Project

May 2024 - Present

- Collaborative work within the IRP with the CRASH research group of the University of Sherbrooke, CA.

Young Researchers in Acoustic Metamaterials (YRAM)

CO-FOUNDER / TREASURER

Association

Mar. 2019 - Present

- Organization of a yearly 3 day Symposium on Acoustic Metamaterials (SAM)
- Launched by COST DENORMS CA 15125

Journal Reviews

REVIEWER

Occasional

Oct. 2021 - present

- Academic peer-reviews for Applied Acoustics, Journal of Physics D

London South Bank University

HOURLY PAID LECTURER/TEACHING ASSISTANT

London, UK

Oct. 2016 - June 2021

- Teaching assistance to laboratories for BSc/MSc students (eg. room acoustics, vibration control, student projects, etc.).
- Yearly lectures on engineering calculus, acoustic computer modelling, and practicals
- Project supervision for 14 BSc/MSc students in 2017.

Extracurricular Certificates

Verified Certificate of Acknowledgement in Astrophysics

Federal Polytechnic School of
Lausanne, Switzerland

MOOC (MASSIVE ONLINE OPEN COURSE) STUDENT

Feb. 2015 - May 2015

- Mark: 81/100 (Distinction)

International English Language Testing System

Cambridge University, U.K

DISTANCE LEARNING STUDENT

July 2014

- Mark: 6.5/9

Skills

I.T/Software LaTeX | MATLAB | Python | COMSOL | Blender | GNU/Linux | HTML | C#

Acoustics Metamaterials | Room Acoustics | Phytoacoustics | Numerical Acoustics | Psychoacoustics

Languages English (*fluent*), French (*native*), Spanish (*native*), Italian (*elementary*)

Peer-review publications

2024	Two papers in preparation (Nat. Comm./ Phys. Rev. Let.),	
2024	Ballesterio et al. , "Dual-Function Acoustic Metasurface for Optimal Passive Broadband Absorption and Diffusion" (In submission)	<i>Proc. Natl. Ac. Sci.</i>
2024	Meng et al. , "Passivity-induced minimum-phase reflection in 1D acoustic systems" (In submission)	<i>Adv. Mater.</i>
2024	Ballesterio et al. , "Ultrasonic Bi-Directional Diffusing Lens for Simultaneous Reflection and Transmission Phase Control" (In submission)	<i>Phys. Rev. App.</i>
2022	Dance et al. , "Acoustics of classrooms"	<i>Front. Young Minds</i>
2021	Ballesterio et al. , "Scattering Evaluation of Equivalent Surface Impedances of Acoustic Metamaterials in Large FDTD Volumes Using RLC Circuit Modelling"	<i>MDPI App. Sci.</i>
2021	Ballesterio et al. , "Metadiffusers for Quasi-Perfect and Broadband Sound Diffusion"	<i>App. Phys. Lett.</i>
2020	Romero-García et al. , "Absorption parfaite et diffusion sublongueur d'onde"	<i>Acoust & Tech.</i>
2019	Ballesterio et al. , "Experimental validation of deep-subwavelength diffusion by acoustic metadiffusers"	<i>App. Phys Lett.</i>

Conferences

2024	ASA Meeting , invited oral presentation	Ottawa, CA
2024	Meta Conference , oral presentation	Toyama, JP
2023	Metavision Trainging School 01 on Acoustic & Elastic (Meta)-Materials , co-organizer & attendee	Valencia, SP
2023	Forum Acusticum , oral presentation	Torino, IT
2023	Isaac Newton Institute on Multiple Scattering in Engineering and Applied Sciences , attendee	Cambridge, UK
2022	Congrès Français d'Acoustique , oral presentation	Marseille, FR
2021	InterNoise , oral presentation	Madeira, PT
2021	IOA Annual Meeting , oral presentation	London, UK
2020	COST-DENORMS Final Event , oral presentation	Coimbra, PT
2020	Tecniacústica , oral presentation	Faro, PT
2019	Meta conference , oral presentation	Lisbon, PT
2019	Symposium on Acoustic Metamaterials , oral presentation	Ischia, IT
2019	EAA Winter School on Numerical Methods , attendee	Le Mans, FR
2019	International Congress on Acoustics , oral presentation	Aachen, GE
2019	ICA Summer School on Metamaterials & Sonic Crystals , attendee	Leuven, BE
2018	Symposium on Acoustic Metamaterials , oral presentation	Xativa, SP
2018	IOA Auditorium Acoustics , poster	Hamburg, GE
2018	European Conference on Acoustic & Mechanical Metamaterials , attendee	London, UK
2018	IOA Reproduced Sound , oral presentation	Bristol, UK
2018	IOA Annual Conference , attendee	Cardiff, UK
2017	International Congress on Sound & Vibration , oral presentation	Hamburg, GE

References

Dr. Jean-Phillipe Groby , CNRS Researcher (jean-philippe.groby@univ-lemans.fr)	<i>Laboratoire d'Acoustique de l'Université du Mans</i>
Dr. Vicent Romero-Garcia , Senior Lecturer (vicente.romero@univ-lemans.fr)	<i>IUMPA, DMA, Universitat Politècnica de València</i>
Dr. Vincent Tournat , CNRS Researcher (vincent.tournat@univ-lemans.fr)	<i>Laboratoire d'Acoustique de l'Université du Mans</i>
Dr. Aroune Duclos , Senior Lecturer (aroune.duclos@univ-lemans.fr)	<i>Laboratoire d'Acoustique de l'Université du Mans</i>
Dr. Stephen Dance , Associate Professor (dances@lsbu.ac.uk)	<i>Acoustics Group, London South Bank University</i>
Dr. Noe Jimenez , Post-Doctoral Researcher (nojigon@upv.es)	<i>3IM, Universitat Politècnica de València</i>
Dr. Adelin Barbacci , INRAE researcher (adelin.barbacci@inrae.fr)	<i>LIPME, INRAE, Toulouse</i>