Postdoc position: Acoustic metamaterials in the audible frequency regime

An one year postdoc position is available at the Laboratoire d'Acoustique de l'Université du Maine (LAUM) from October 2014. The goal of the project is the design and manufacture of acoustic metamaterials dedicated to the absorption and control of sound at very low frequencies.

Subwavelength resonant absorbers, such as Helmholtz and membrane absorbers, have been widely used to overcome the lack of absorption at low frequencies that characterizes porous absorbers. The objective of the post-doc research is the use of these types of resonators to maximize the acoustic attenuation performance of sound absorbing metamaterials.

A synergistic approach will be followed combining: 1) theoretical predictions based on multi-scattering theory, 2) numerical computations by implementing numerical methods (FEM, BEM), and 3) experimental measurements.

The postdoc position is part of the ANR Metaudible project (n°ANR-13-BS09-0003) and is hosted by LAUM, a joint research unit of the Université du Maine and of CNRS UMR 6613 (section 9, Institut des sciences de l'ingénierie et des systèmes, INSIS).

Founded in 1981, LAUM has about 130 employees including 50 full-time researchers and teacher-researchers. Since 2000, it has been the leading European laboratory for publications (4th worldwide) in the 2 world-class reviews wholly dedicated to acoustics: Journal of the Acoustical Society of America and Acta Acustica. LAUM has been graded A+ by the AERES (2011). The National Centre for Scientific Research (CNRS) is the major organization for scientific research in France. CNRS supports all areas of research through the entire country. In addition, the CNRS organizes and provides financial support for meetings in diverse subject areas and offers courses for researchers, such as for laboratory management training.

Requirements: The candidate should hold a PhD degree in Acoustics, Physics, Mechanical engineering or equivalent. Previous experience in acoustic wave propagation and sound absorbing structures / metamaterials is preferable.

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