

Intensive Lecture Series on Wave Localisation in Disordered Systems

Date: 20-22 April 2026 (Monday-Wednesday)

Time: 3:00pm-5:00pm

Venue: Interdisciplinary Multi-function Room (AE-040), LG/F,
Academic Exchange Building, City University of Hong Kong



Speaker

Professor Habib Ammari

HKIAS Senior Fellow

Professor of Applied Mathematics, ETH Zürich

Member of the Academia Europaea

Member of the European Academy of Sciences

Recipient of Kuwait Prize in Basic Sciences (2013)

Abstract

The aim of this intensive lecture series is to elucidate the intricate nature of wave localisation in disordered resonator systems consisting of aperiodically arranged blocks. The speaker will relate the whole-system spectral characteristics to those of the constituent blocks. In particular, he will discuss the spectral convergence properties of the density of states and introduce an efficient meta-atom approach that enables its rapid and accurate evaluation in the fractal-like regime arising from constrained eigenmode hybridisation. He will also investigate the competing mechanisms of localisation in disordered systems subject to non-reciprocal damping, induced by imaginary gauge potentials.

Biography

Professor Habib Ammari is a Professor of Applied Mathematics at ETH Zürich. He is a member of the Academia Europaea, the European Academy of Sciences, and the American Mathematical Society. His research primarily focuses on wave propagation in complex media, inverse problems and imaging, and metamaterials. Professor Ammari holds a Bachelor of Science, a Master of Science, and a Doctor of Philosophy in Applied Mathematics from Ecole Polytechnique, France, as well as a Habilitation Degree in Mathematics from the University of Paris VI. Professor Ammari has authored over 300 papers in leading international peer-reviewed journals and has written or edited 20 books. His work has been highly cited, reflecting his significant contributions to the field. Throughout his career, Professor Ammari has received numerous accolades, including the Khwarizmi International Award (2015), the Kuwait Prize in Basic Sciences (2013), and the European Research Council Advanced Investigator Grant (2010-2016).

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