

INSTITUT D'ETUDES SCIENTIFIQUES DE CARGÈSE

Cargèse International School 2014

Waves and disorder July 1 - 11, 2014

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The summer school 'Waves and disorder' will be focused on fundamental and applied aspects of wave propagation in disordered media. Its main distinctive feature will be the common view on the problems concerning different types of waves: light, sound, elastic and matter waves.

The subject of wave propagation in disordered media is strongly interdisciplinary because in the presence of disorder all waves behave in a similar way. Widely known examples of this universality in behavior are diffusive propagation (Ohm's law for conductors), universal conductance fluctuations (observed for electrons, light, and microwaves), Anderson localization (studied with electronic, optical, micro- and matter waves). The school will introduce in detail the theoretical concepts developed for the description of random wave propagation and then will illustrate their application in a variety of modern research domains spanning from laser physics and acoustics to biomedical optics.

The community of physicists and engineers working in this field has realized the advantage of analyzing these problems in an interdisciplinary context and previous summer schools and conferences on this topic have demonstrated the success of such an approach.

Main topics will include

- Waves
- Disorder
- Multiple scattering
- Wave diffusion
- Mesoscopic physics
- Anderson localization
- Random laser
- Photonic bandgaps
- Biomimetic optical materials
- Optical probes of complex materials
- Imaging

Eminent scientists in the field will animate the workshop

Denis Basko (LPMMC, Grenoble FR), Hui Cao (Yale University, USA), Remi Carminati (Institut Langevin, Paris FR), Dominique Delande (LKB, Paris FR), Turgut Durduran (ICFO, Barcelona, Spain), Marian Florescu (University of Surrey, UK), Vincent Josse (Institut d'Optique, Palaiseau), Thomas Mason (UCLA, USA), Allard Mosk (COPS, Twente NL), John Page (University of Manitoba, Winnipeg CA), Robin Kaiser (INLN, Nice FR), Juan Jose Saenz (Universidad Autónoma de Madrid, SP), Mordechai Segev (Technion, Haifa IS), Bart van Tiggelen (LPMMC, Grenoble FR), Arnaud Tourin (Institut Langevin, Paris FR), Silvia Vignolini (University of Cambridge, UK), Diederik Wiersma (LENS, Florence IT)

Organization committee

Serguei Skipetrov (LPMMC, Grenoble, FR), Frank Scheffold (University of Fribourg, CH), Diederik Wiersma (European Laboratory for Non-Linear Spectroscopy, Florence, IT)

Application and registration

<http://mesoimage.grenoble.cnrs.fr/>

Registration fee: 780 €

Deadline for registration: April 15th, 2014

