

# INSTITUT D'ETUDES SCIENTIFIQUES DE CARGÈSE

Cargèse International School 2015

## Rogue and shock waves in nonlinear dispersive media July 6 - 18, 2015

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Rogue waves and shock waves are ubiquitous in various branches of the physical sciences and engineering, ranging from hydrodynamics to optics, acoustics and plasma. Such phenomena have an universal character, i.e., most of the times, they can be described on a common mathematical and physical background. The scope of the school is to get together top-level theoretical physicists, mathematicians and experimentalists working in different fields with the aim of presenting to students and young researchers a unifying concept of rogue and dispersive shock waves. Special attention will be given to the nonlinear dynamics of ocean waves and nonlinear optics where the field of rogue/shock waves has been mostly developed.

### Main topics will include

- Rogue waves
- Nonlinear optics
- Modulational instability
- Statistical properties of rogue waves
- Mathematical aspects of rogue and dispersive shock waves
- Dispersive shock waves
- Ocean waves
- Breathers
- Experiments in hydrodynamics and optics

### Eminent scientists in the field will animate the workshop. These include:

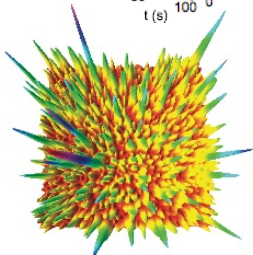
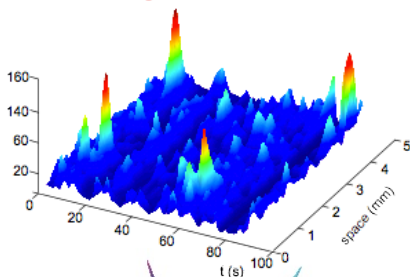
N. Akhmediev (Australian National Univ, Canberra, AU), F. Baronio (Univ. of Brescia, IT), M. Brocchini (Univ. Politecnica delle Marche, Ancona, IT), A. Chabchoub (Swinburne Univ. of Technology, AU), D. Churkin (Aston Univ., Birmingham, UK), M. Conforti (PHLAM, Univ. of Lille 1, FR), C. De Angelis (Univ. of Brescia, IT), A. Degasperis (INFN and Sapienza Univ. di Roma, IT), F. Dias (Univ. College, Dublin, IR), E. Falcon (Univ. Paris Diderot, CNRS, Paris, FR), T. Grava (SISSA, Trieste, IT), P. Janssen (ECMWF, Reading, UK), E. Kartashova (J. Kepler Univ., Linz, AT), C. Kharif (IRPHE, CNRS-Univ. of Aix-Marseille, FR), C. Klein (Inst. Mathématiques de Bourgogne, Dijon, FR), A. Kudlinski (PHLAM, Univ. of Lille 1, FR), S. Lombardo (Northumbria Univ., UK), E. Louvergneaux (PHLAM, Univ. of Lille 1, FR), G. Millot (ICB, CNRS-Univ. of Bourgogne, Dijon, FR), A. Mussot (PHLAM, Univ. of Lille 1, FR), M. Onorato (Univ. of Torino, Torino, IT), E. Pelinovski (Inst. of Applied Physics, Nizhny Novgorod, RU), A. Picozzi (ICB, CNRS-Univ. of Bourgogne, Dijon, FR), S. Randoux (PHLAM, Univ. of Lille 1, FR), S. Residori (INLN, CNRS-Univ. of Nice, FR), T. Sapsis (MIT, USA), V. Shrira (Keele Univ., UK), A. Slunayev\* (Inst. Applied Physics, Nizhny Novgorod, RU), P. Suret (PHLAM, Univ. of Lille 1, FR), A. Toffoli (Swinburne Univ. of Technology, AU), A. Tonello (XLIM, CNRS and Univ. of Limoges, FR), S. Trillo (Univ. of Ferrara, Ferrara, IT), K. Trulsen\* (Oslo Univ., SU), S. Wabnitz (Univ. of Brescia, Brescia, IT), T. Waseda\* (Univ. of Tokyo, JP), V. Zakharov\* (Univ. of Arizona, Tucson, US)

### Scientific Committee

John Dudley (Univ. de Franche-Comté, Besançon FR), Stefano Trillo (Univ. degli studi di Ferrara, IT), Frederic Dias (Univ. College Dublin IR), Christian Kharif (IRPHE, Marseille, FR), Fabio Baronio (Univ. Brescia, IT), Miguel Onorato (Univ. Torino IT), Stefania Residori (Univ. Nice Sophia Antipolis, FR)

### Application and registration

<http://cargese2015.ph.unito.it/>  
Contact : [rogue.cargese@gmail.com](mailto:rogue.cargese@gmail.com)  
Deadline Registration : June 7, 2015



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