

Cargèse International School 2019

Imaging in Wave Physics: Multi-Wave and Large Sensor Networks September 23rd – 27th, 2019

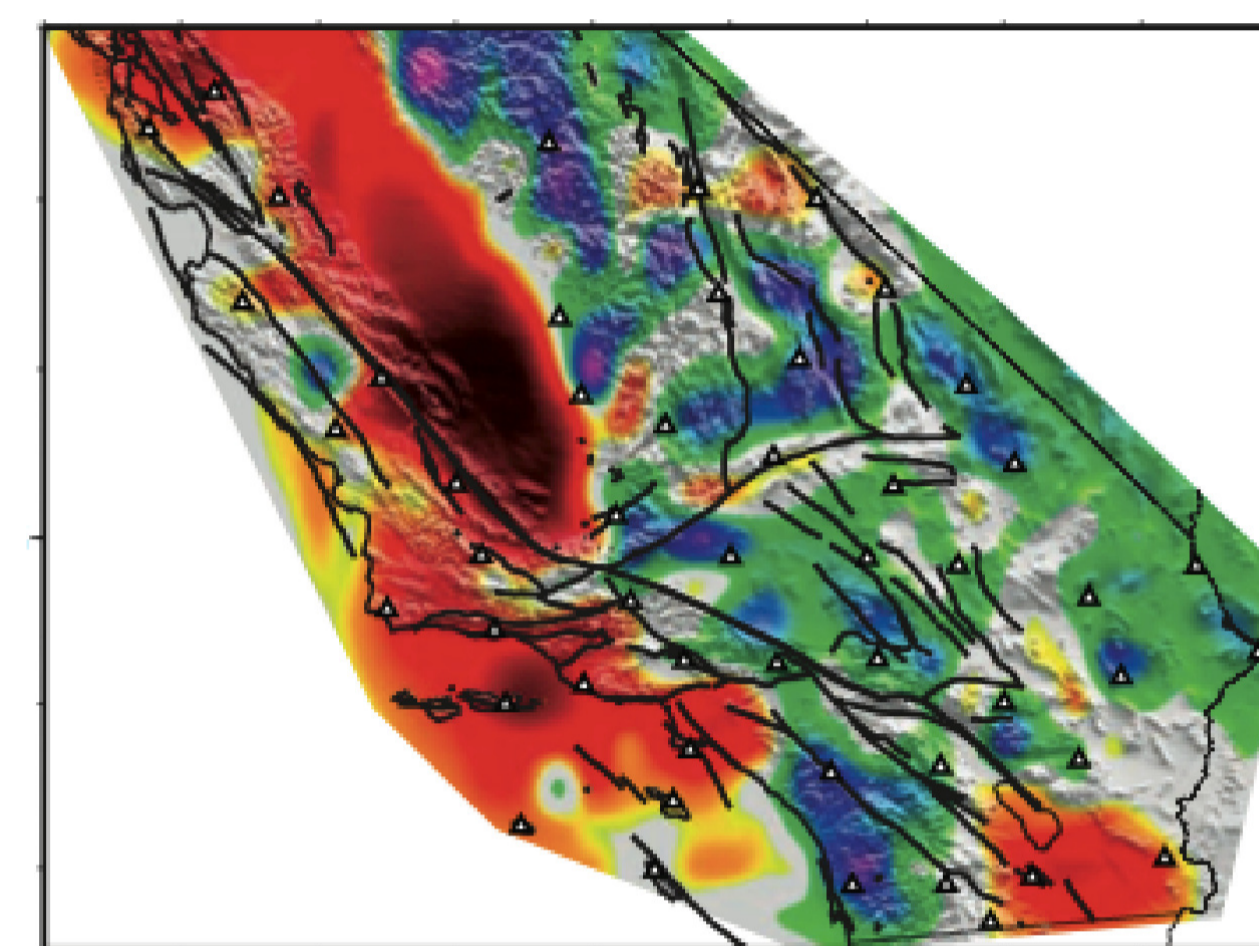
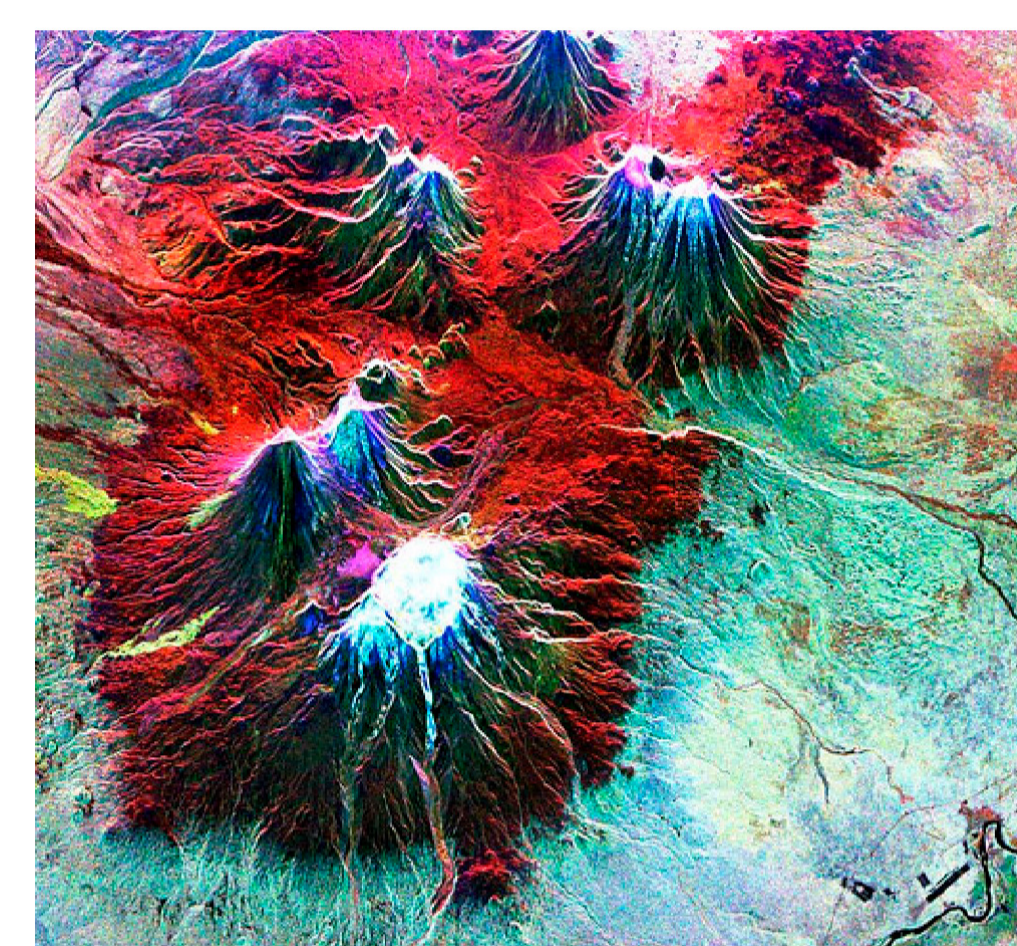
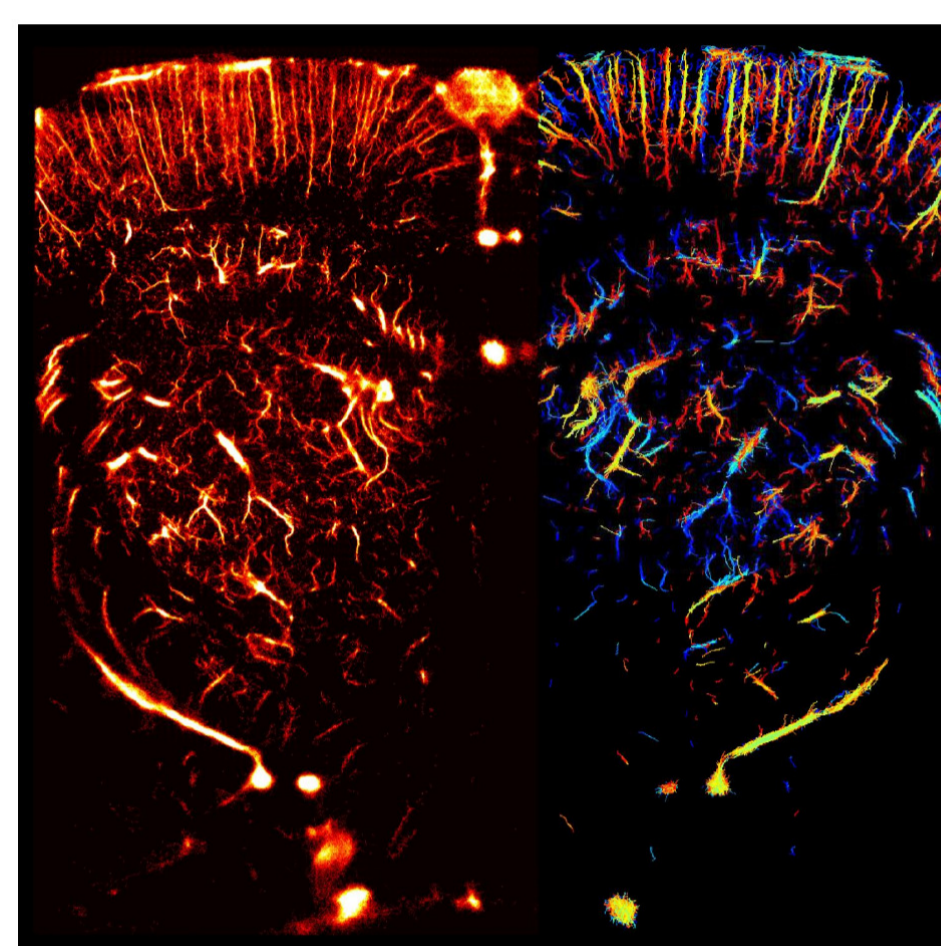
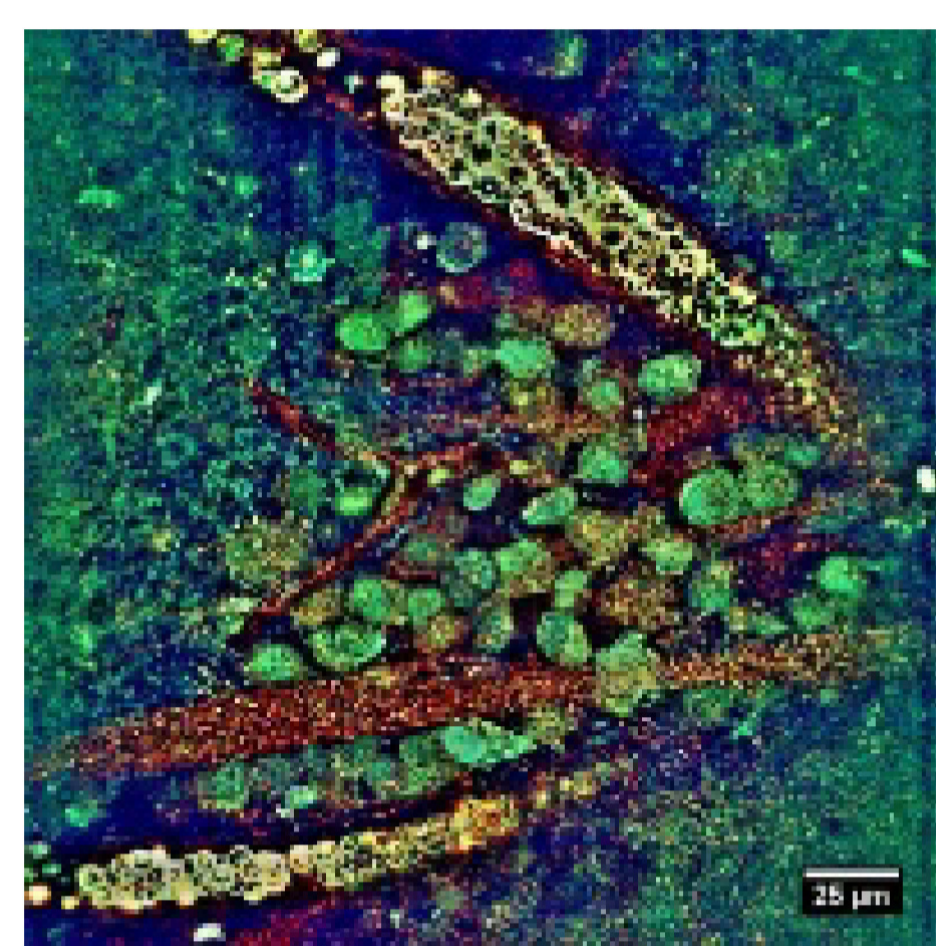
School director
Pr. Mathias Fink

Scientific and organizing committee

Dr. A Aubry
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Contact

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Whatever the nature of the waves used (acoustic, electromagnetic, seismic or optical) and propagation media, wave control is of fundamental interest for many applications ranging from live imaging to telecommunications including medical diagnosis or defense. The emergence of large-scale sensor arrays in each of these disciplines and recent advances in data science will revolutionize imaging in the coming years. It is therefore the moment to bring these physical and mathematical concepts related to imaging into a summer school. The goal is to share knowledge and experiences in areas that have different applications but have very similar issues.

The school will consist of lectures given by eminent scientists and seminars to present recent works and applications. This format will allow attendees to appropriate the common theoretical bases of wave physics in complex environments and data processing, while having a very good overview of the different experimental approaches specific to each type of wave. This multi-disciplinary approach will also allow junior and senior researchers to go beyond the scope of their own research topics, and to acquire an overall vision necessary for cutting-edge research. A specific effort will be made to target the younger audience. It will allow PhD students and young scientist to acquire a solid and broad knowledge of imaging in complex media from the best experts worldwide.

Main topics will include

Waves in complex media, time-reversal, multi-wave, seismic, ultrasound, speckle imaging, deep learning...

Eminent scientists in the field will animate the school

Pr. Mathias Fink – ESPCI Paris
Pr. Michel Campillo – Université de Grenoble
Pr. Josselin Garnier – École Polytechnique
Pr. David Smith – Duke University
Dr. Ori Katz – The Hebrew University of Jerusalem
Dr. Ulugbek Kamilov – Washington University in St. Louis
Mr. Frédéric Barbaresco – Thales
Pr. Jérôme Mertz – Boston University
Pr. Emmanuel Bossy – Université de Grenoble
Pr. Elisa Konofagou – Columbia University

Pr. Wonshik Choi – Korea University
Pr. Kees Wapenaar – Delft University of Technology
Pr. George Barbastathis – MIT
Pr. Changhuei Yang – Caltech
Dr. Stefan Catheline – Université de Lyon 1
Dr. Sophie Brasselet – Institut Fresnel
Pr. Tomas Cizmar – Friedrich-Schiller University Jena
Dr. Olivier Couture – Physics for Medicine, Paris
Dr. Julien de Rosny – Institut Langevin
Dr. Geoffroy Lerosey – Greenerwave

■ **Registration fees (lunch and lodging included)** 600 € for undergraduate and PhD students – 750 € otherwise

■ **WEB** https://www.institut-langevin.espci.fr/imaging_in_wave_physics_multi_wave_and_large_sensor_networks

■ **Deadline for applications** June 1st, 2019