

# COST DENORMS CA15125 Training School

## Sound waves in metamaterials and porous media

26-30th September 2016, CTU-FEE, Prague (CZ)

The First DENORMS (CA15125) Training School will be held on 26-30th September 2016 in Prague, Czech Republic. The Training School, co-organized by CTU-FEE and DENORMS, aims at providing a common theoretical background to researchers & engineers working on acoustic metamaterials, metasurfaces and sonic crystals as well as conventional acoustic materials.

The Training School is combined with Working Group meetings of the DENORMS Action.

### Venue

Czech Technical University in Prague, Faculty of Electrical Engineering, Technická 2, 166 27 Prague 6 - Dejvice, Czech Republic

### Registration

Registration is free of charge, please **register by 31st August 2016** by filling in the form available at [www.denorms.eu/activities/](http://www.denorms.eu/activities/)

### Grants

30 competitive COST grants will be awarded to PhD students or Early Career Investigators (researchers whose career span less than 8 years since the date of the PhD) whose institutions are more than 200 km from Prague. An exception may be granted on the basis of special circumstances. **Deadline to apply for a grant is 20th August 2016.**

### Grant amount

- Participation in only one session (either Session 1 or Session 2): 500 EUR.
- Participation in both sessions: 700 EUR.

### Travel and accommodation

Trainees are expected to arrange their own travel and accommodation.

### The school will cover the following topics:

#### Session 1 (26–27th September) – Sound waves in periodic structures and metamaterials

- Irreducible Brillouin zone/dispersion relationship in periodic structures/Plane Wave Expansion method
- Multiple Scattering Theory
- Homogenization for periodic structures and metamaterials
- Sonic crystals
- Metamaterials for sound absorption

#### Session 2 (28–30th September) – Sound waves in viscothermal fluids & nonlinear propagation

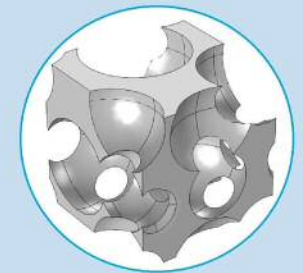
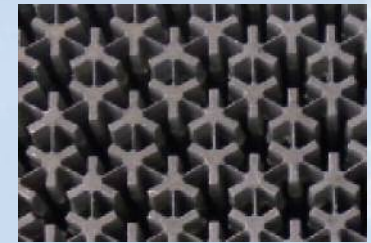
- Generalities on acoustic wave propagation in viscothermal fluids and application to nonlocal homogenization
- Theory of homogenization applied to porous materials
- Numerical methods for porous media
- Examples of industrial use of porous materials
- Nonlinear acoustic wave propagation

### Lecturers

- Dr. C. Boutin (École Nationale des Travaux Publics de l'État, France)
- Dr. F. Coulouvrat (Institut Jean le Rond d'Alembert, France)
- Prof. P. Göransson (KTH, Royal Institute of Technology, Sweden)
- Dr. D. Lafarge (Laboratoire d'Acoustique de l'Univ. du Maine, France)
- Prof. P. Martin (Colorado School of Mines, USA)
- Dr. V. Romero-García (Labor. d'Acoustique de l'Univ. du Maine, France)
- Prof. J. Sánchez-Dehesa (Univ. Politècnica València, Spain)
- Prof. P. Sheng (Hong Kong University of Science and Technology, Hong Kong, China)
- Prof. J. Vasseur (Univ. Lille 1, France)

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COST is supported by the EU Framework Programme Horizon 2020

