

## DENORMS Action CA15125

### Workshop

#### *Modelling of high performance acoustic structures*

#### *Porous media, metamaterials and sonic crystals*

**Rome, 24-25 January 2017**



COST Action “Designs for Noise Reducing Materials and Structures” (DENORMS - CA15125) organizes the Action first Workshop entitled “Modelling of high performance acoustic structures Porous media, metamaterials and sonic crystals” and scheduled **on 24<sup>th</sup> and 25<sup>th</sup> January 2017 in Rome**.

The main focus of DENORMS Action, which started in May 2016, is to bring together scientists and industrial partners working on metamaterials, metasurfaces, sonic crystals and conventional porous materials around one common aim: to design multi-functional noise reducing treatments with enhanced mechanical and thermal properties.

This first Workshop will be dedicated to theoretical and numerical modelling of acoustic treatments made of porous materials and periodic structures. The Workshop will also have a session on Multiphysics applications including electromagnetics. This session will be aimed at broadening the scope of theoretical and numerical results available in different areas of Physics and Mathematics. On this occasion, the leading experts in these fields will share their knowledge with other researchers, PhD students, young scientists and engineers from all across Europe.

## Topics

- New trends in traditional noise treatments - porous materials and microperforated plates,
- Acoustic metamaterials (i.e. subwavelength absorbers), metasurfaces and sonic crystals for audible sound manipulation
- New trends in vibroacoustics (i.e. elastic metamaterials and metasurfaces)
- Use of metamaterials in other fields of physics and metamaterials exposed to multiple physical phenomena

## Preliminary program

### 24th January

08:30 - 09:00 Plenary lecture

09:00 – 12:30 Session on New trends in traditional noise treatments

12:30 - 13:30 Lunch

13:30 - 14:00 Plenary lecture

14:00 – 17:30 Session on Acoustic metamaterials

### 25th January

08:30 - 09:00 Plenary lecture

09:00 - 12:30 Session on New trends in vibroacoustics

12:30 - 13:30 Lunch

13:30 - 14:00 Plenary lecture

14:00 - 17:30 Session on Use of metamaterials in other fields of physics

Each session will comprise a plenary lecture (30 min) and several contributed presentations.

## Plenary lecturers

Keith Attenborough – lecture on new trends in traditional noise treatments

Noé Jiménez Gonzalez – lecture on deep subwavelength absorbers

Richard Craster – lecture on new trends in vibroacoustics

Alessandro Toscano – lecture on multiphysics applications of metamaterials

## Participation and registration

Participation in the Workshop is free of charge.

20 support grants will be provided on competitive basis to participants who are presenting their work during the Workshop. Priority will be given to PhD students and Early Career Investigators (i.e. researcher whose career span less than 8 years since the date of the PhD). More information is provided on the registration form. Registration must be performed online at the following link: <https://goo.gl/forms/0Jel1SJijJgS0x7D3>

## Deadlines

The **deadline for submitting the abstract is 10<sup>th</sup> December 2016**. Abstracts will be reviewed by the scientific committee and participants will be informed about the decision on 19<sup>th</sup> December 2016.

## **Venue**

The Workshop venue is the Department of Engineering of Roma Tre University (Via Vito Volterra, 62, Rome). The venue is easy to reach both from the airports and from the railways stations. It is close to two underground stations (Marconi and San Paolo, line B). The venue is also very close to two important historical sites: San Paolo Basilica and Cestia Pyramid, and only a few minutes by underground from Colosseo and many other tourist attractions.

## **Accommodation**

A certain number of rooms has been reserved for Workshop participants at the nearby Hotel Saint Paul: <http://www.hotelsaintpaulrome.com/default.html>

The price is € 52 single occupancy including breakfast plus € 6 of local taxes. Participants are requested to make their personal arrangements, the reference for reservations is "DENORMS Meeting - prof. Francesco Asdrubali".

## **Speed dating**

A speed dating session aimed at improving collaboration between the Action Working groups will be organized on Monday 23<sup>rd</sup> January from 17:00 to 18:30. If you would like to attend this session please indicate your interest on the registration form.

## **Organizing Committee**

Anton Krynkin (Work Group 1 Leader)<sup>1</sup>  
Francesco Asdrubali (Local Organiser)<sup>2</sup>  
Pauline Rasera (DENORMS Grant Manager)<sup>3</sup>  
Jean-Philippe Groby (DENORMS Chair)<sup>4</sup>  
Olga Umnova (DENORMS Vice-Chair)<sup>5</sup>

## **Scientific Committee**

Keith Attenborough (Open University, UK)  
Anne-Christine Hladky-Hennion, (CNRS, ISEN-IEMN, France)  
Jean-Philippe Groby (CNRS, LAUM UMR6613, France)  
Kirill Horoshenkov (The University of Sheffield, UK)  
Andrew Norris (Rutgers University, USA)  
Olga Umnova (The University of Salford, UK)  
Victor Sanchez-Morcillo (UPV – EPSG, Spain)  
Chrysoula Tsogka (Foundation for Research and Technology, Greece)  
Livija Cveticanin (University of Novi Sad, Serbia)

## **Contacts**

If you have any questions with regards to this workshop please contact members of the organizing committee.

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