Acoustic Metamaterials are one of the most exciting topics in vibroacoustics today. The emergence of the field of metamaterials has provided an avenue to create materials that exhibit properties not previously obtainable. Through innovative tailoring of material geometries, metamaterials can be used for a wide range of applications ranging from frequency stop band materials block sound over wide frequency bands, or alternatively pass sound over an object, rendering it acoustically ‘invisible.’

This short course covers key aspects of Acoustic Metamaterials and will be taught by an international group of experts. You will learn:

- Introduction, fundamental ideas and concepts with a historical perspective
- State of the art metamaterial concepts from other physics disciplines
- Applications and benefits over traditional materials
- Introductions and advances in applications
  - Absorption and transmission control
  - Structures
  - Other applications

Instructors will also be available for a discussion panel

Contributors include:

Dr. Amanda Hanford – Research Associate, Applied Research Laboratory and Assistant Professor of Acoustics at the Pennsylvania State University

Dr. Benjamin Beck - Research Associate, Applied Research Laboratory

Dr. Douglas Werner - John L. and Genevieve H. McCain Chair Professor of Electrical Engineering at the Pennsylvania State University

Dr. Claus Claeys – Noise and Vibration Engineering Research Group, KU Leuven, Belgium

Dr. Massimo Ruzzene - Pratt and Whitney Professor of Aerospace Engineering, Georgia Institute of Technology

Dr. Greg Orris – Naval Research Laboratory