



13th International Congress on Artificial Materials for Novel Wave Phenomena

Metamaterials 2019

Rome, Italy, 16 – 21 September 2019

The *Thirteenth International Congress on Artificial Materials for Novel Wave Phenomena – Metamaterials 2019*, will comprise a **4-day Conference (16–19 September)**, and a **2-day Doctoral School (20–21 September)**. Organized by the *METAMORPHOSE VI AISBL* (www.metamorphose-vi.org), this Congress follows the success of *Metamaterials 2007-2018* and continues the traditions of the highly successful series of *International Conferences on Complex Media and Metamaterials (Bianisotropics)* and *Rome International Workshops on Metamaterials and Special Materials for Electromagnetic Applications and Telecommunications*. The Congress will provide a unique topical forum to share the latest results of the metamaterials research in Europe and worldwide. It will bring together the engineering, physics, applied mathematics and material science communities working on artificial materials and their applications in electromagnetism/optics, acoustics/mechanics, transport, and multi-physics.

Paper Submission

Papers should be 2-3 pages long and contain an abstract, a brief conclusion, and a main body where technical content and novelty of the work are clearly presented.

Papers should be submitted as camera-ready PDF files to the website:

<http://congress2019.metamorphose-vi.org>

Authors are requested to use the template provided on the Congress website when preparing their submission. Authors of accepted and presented papers will be given the option of publishing their work in IEEE Xplore subject to the manuscript compliance with the format and copyright requirements.

Committees

General Chair

Alessio Monti, Italy

Technical Program Committee Chair

Martin Wegener, Germany

Local Organizing Committee

Mirko Barbuto
 Filiberto Bilotti
 Angelica Viola Marini
 Davide Ramaccia
 Alessandro Toscano
 Stefano Vellucci

Contact

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Submission deadline

10 March 2019

Topics

We interpret metamaterials as rationally designed composites, the effective properties of which go beyond their bulk ingredients, qualitatively and/or quantitatively. **We accept papers in any combination out of the following 8 categories:**

Category 1 - Area

- Electromagnetic from DC to optical and beyond (including, e.g., metallic, dielectric, magnetic, and superconducting ingredients)
- Acoustic and mechanical (including, e.g., seismic)
- Transport (including, e.g., nanoelectronics, and thermal transport)
- Multi-physics

Category 2 - Geometry

- 1D, 2D, and 3D metamaterials and metasurfaces
- (1+1)D, (2+1)D, and (3+1)D space-time metamaterials and metasurfaces
- Individual meta-atoms
- Meta-systems (including, e.g., gradient metamaterials, metamaterials in architectures designed by coordinate transformations, as well as far-field and near-field imaging systems)

Category 3 - Arrangement

- Periodic
- Non-periodic

Category 4 - Frequency

- Static
- Dynamic (including wave propagation)

Category 5 - Type

- Passive
- Active

Category 6 - Status

- Fixed properties
- Tunable properties (including, e.g., modulators, switchable properties, software-defined, and adaptive properties)

Category 7 - Physical basis

- Classical (linear and nonlinear, including, e.g., multistable and programmable)
- Quantum

Category 8 - Technology Readiness Level

- Effective-medium theories and homogenization (including, e.g., high-frequency and high-contrast homogenization and spatial dispersion modelling)
- Design (including, e.g., analytical approaches, topology optimization, numerical methods, machine and deep learning, bio-inspiration)
- Fabrication and characterization (including, e.g., new manufacturing approaches, 3D additive manufacturing, parameter retrieval, reliability testing, and fatigue testing)
- Applications and commercialization (including, e.g., antennas, sensing, spectral and spatial filtering, civil engineering, marine engineering, biology, and earthquake protection)

In addition, we accept papers on composites, plasmonics, photonic crystals, phononic crystals, and invisibility cloaking if related to the scope of the congress in some way.