

EPFL Latsis Symposium 2005

Negative refraction: revisiting electromagnetics from microwave to optics

Programme

The Symposium takes place in the building SG. All lectures are in the auditorium SG1. Coffee breaks, welcome party and poster session are in the auditorium lobby (near the Symposium registration).

Monday February 28th, 2005

- 9:30 Opening
Juan R. Mosig and Olivier J.F. Martin, EPFL
- 9:50 Some problems of negative refraction
Victor G. Veselago, Russian Academy of Sciences, Russia
- 10:35 Coffee break
- 11:00 Chirality and negative refraction: The Swiss roll revisited
John B. Pendry, Imperial College London, United Kingdom
- 11:45 CRLH metamaterials: Transmission line theory and novel electromagnetic concepts
*Christophe Caloz, Montreal University, Canada and
Tatsuo Itoh, University of California in Los Angeles, U.S.A.*
- 12:30 Lunch, Restaurant le Parmentier, EPFL
- 14:00 The design of negative index metamaterials: Extending effective medium concepts
David R. Smith, Duke University, U.S.A.
- 14:45 Simulation, design and tests of a graded negative index of refraction lens
Claudio G. Parazzoli, Boeing Phantom Works, U.S.A.
- 15:30 Coffee break
- 16:00 Designing super-lenses with negative refractive index materials
Anantha S. Ramakrishna, Indian Institute of Technology Kanpur, India
- 16:45 Metamaterials and metafilms: Effective parameter models and applications
Edward Kuester, University of Colorado, U.S.A.
- 17:30 Welcome reception

Tuesday March 1st, 2005

- 9:00 Research on negative refraction and backward-wave media: A historical perspective
Sergei Tretyakov, Helsinki University of Technology, Finland
- 9:45 Development of left-handed composite materials and negative refracting photonic crystals with subwavelength focusing
Ekmel Ozbay, Bilkent University, Turkey
- 10:30 Coffee break
- 11:00 Negative-index media and negative refraction in a microscopic physical perspective
Ole Keller, Aalborg University, Denmark
- 11:45 Miniaturized waveguides, resonators and antennas based on uniaxial single-negative metamaterials
Silvio Hrabar, University of Zagreb, Croatia

Tuesday March 1st, 2005 (cont.)

12:30 Lunch buffet and poster session

14:00 Negative index materials: New frontiers in optics

Costas Soukoulis, Iowa State University, U.S.A.

14:45 Duality in metamaterials and metasurfaces design

Ricardo Marqués, Sevilla University, Spain

15:30 Coffee break

16:00 Ideas for double-negative metamaterials, negative-index nano-layers, and nano-circuit elements and transmission lines at optical frequencies

Nader Engheta, University of Pennsylvania, U.S.A.

16:45 Characterization and application of anisotropic and bianisotropic lefthanded metamaterials

Tomasz Grzegorcyk, Massachusetts Institute of Technology, U.S.A.

19:30 Banquet, Hotel Beau-Rivage, Lausanne

Wednesday March 2nd, 2005

9:00 Miniature antennas & arrays embedded within magnetic photonic crystals

John Volakis, Ohio State University, U.S.A.

9:45 Negative refraction in outer space

Akhlesh Lakhtakia, Pennsylvania State University, U.S.A.

10:30 Coffee break

11:00 Metamaterials applications to electrically small antennas

Richard W. Ziolkowski, University of Arizona, U.S.A.

11:45 Negative refractive-index transmission-line metamaterials and electromagnetic applications

George V. Eleftheriades, Toronto University, Canada

12:30 Concluding remarks

Olivier J.F. Martin and Juan R. Mosig, EPFL