

East-West Summit on Nanophotonics and Metamaterials

Taiwan & Singapore 27 April – 1 May 2009

Singapore Venue: Data Storage Institute, 5 Engineering Drive, Singapore 117808

Date: Monday April 27th 2009

Time: 14:00 – 18:00 (Registration starts at 1:30 pm)

Speakers

Professor Ulf Leonhardt *University of St Andrews*

Invisibility

Invisibility has turned from an instrument of fiction into a subject of science. The lecture explains the ideas and technology of cloaking devices.

Professor Richard DeLaRue *University of Glasgow*

Sensitive and Tunable Silicon Photonics

Metamaterial/plasmonic split-ring resonator arrays provide optical surfaces that are readily modified by thin layers of organic material, implying spatially resolvable sensor capability. Silicon substrates offer possibilities for tuning of the metamaterial properties.

Professor Allan Boardman *Salford University*

Gyrotropic nanoscale metamaterials

Power control leads to the possibility of discovering new types of surface and guided modes. Extra functionality can be introduced through magneto-optic effects, leading to enhanced Kerr rotations and group velocity management.

Professor Ortwin Hess *Gilford University*

The Trapped Rainbow and the storage of light

The talk gives an overview of recent progress in the physics of ultra-slow and stored light in metamaterials by the Trapped Rainbow principle and discusses optical magnetism in ordered and disordered plasmonic nanomaterials.

Professor Nikolay Zheludev *University of Southampton*

Active Plasmonics

We review recent advances in 'active plasmonics' including plasmon modulation on the femtosecond timescale and the development of on-chip nanoscale light and plasmon sources pumped by free electrons.

Professor Anatoly Zayats *Queen University of Belfast*

Plasmonic nanophotonics

Coupling light to plasmonic excitations on nanostructured metal films and surfaces allows passive and active functionalities to be achieved on the sub-wavelength scale. In this talk, plasmonic waveguides, crystals and metamaterials will be overviewed and their applications discussed.

Professor Boris Luk'yanchuk *Data Storage Institute*

Fano resonance in plasmonic materials and metamaterials

Since the time of Fano discovery, the asymmetrical Fano resonance was considered as a specific feature of quantum systems. It has been recently revealed that a similar type of resonance can be realized in optics with plasmonic materials and metamaterials. We present the theory of Fano resonance in these materials and the necessary conditions for realization of such type resonances.

To register, please visit: <http://www.dsi.a-star.edu.sg>

