

8 November 2016



TEL AVIV UNIVERSITY

The Center for Nanoscience & Nanotechnology

Nano seminar

----- **Nikolay I. Zheludev** -----

Centre for Photonic Metamaterials and Optoelectronics Research Centre,  
University of Southampton, UK  
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# Metamaterials: Optical Properties on Demand

The next grand challenge for nanophotonics is to develop metamaterials with optical properties "on demand" when every individual metamolecule may be independently controlled at any given point in space and at any moment of time. This will allow not only the modulation of light's intensity or phase, but will offer control of the wavefront and the near-field of electromagnetic radiation, thus enabling reconfigurable electromagnetic space and multi-channel data processing in meta-systems. We report how randomly reconfigurable metadevices can be achieved with nano-opto-mechanical, phase change and coherent control technologies.



**Professor Nikolay Zheludev's** research interest are in nanophotonics and metamaterials. He is the Director of the Centre for Photonic metamaterials and Deputy Director of the Optoelectronics Research Centre in Southampton University, UK. He is also co-Director of The Photonics Institute and directs the Centre for Disruptive Photonic Technologies at Nanyang Technological University. His personal awards include the Thomas Young medal for "global leadership and pioneering, seminal work in optical metamaterials and nanophotonics".



Tel Aviv University Center for  
**Nanoscience & Nanotechnology**  
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Tuesday, 8 November 2016 at 14:00

Auditorium 011, Engineering Class Room Building,  
Faculty of Engineering, Tel-Aviv University  
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