

DTU Nanotech – DTU Photonics Engineering

Joint Seminars on Nanophotonics, Plasmonics and Metasurfaces



Friday 21.04.2017, 11:00 and 14:00

Time: Friday 21.04.2017 at 11:00

Place: Building 421, Aud. 73

New Material Platforms & Metasurface Designs for Plasmonics and Quantum Photonics

Vladimir M. Shalaev

School of Electrical & Computer Engineering and Birck Nanotechnology Center, Purdue University

Abstract: The field of metamaterials is expected to reshape the existing optical technologies and create new ones. In this presentation, emerging plasmonic and metamaterial concepts from design to material platforms will be discussed with the focus on practical photonic technologies for communication, bio-medical applications, energy and quantum photonics.



Bio: Vladimir M. Shalaev, Scientific Director for Nanophotonics at Birck Nanotechnology Center and Distinguished Professor of Electrical and Computer Engineering at Purdue University, specializes in nanophotonics, plasmonics, and optical metamaterials. Vladimir M. Shalaev has received several awards for his research in the field of nanophotonics and metamaterials, including the Max Born Award of the Optical Society of America for his pioneering contributions to the field of optical metamaterials, the Willis E. Lamb Award for Laser Science and Quantum Optics, Rolf Landauer medal of the ETOPIIM (Electrical, Transport and Optical Properties of Inhomogeneous Media) International Association, the UNESCO Medal for the development of nanosciences and nanotechnologies OSA and SPIE Goodman Book Writing Award, and IEEE Photonics Society William Streifer Scientific Achievement Award. He is a Fellow of the IEEE, APS, SPIE, MRS and OSA. Prof. Shalaev has authored three books, thirty invited book chapters and over 500 research publications.

Time: Friday 21.04.2017 at 14:00

Place: Building 421, Aud. 74

Emerging Materials for Nanophotonics and Plasmonics

Alexandra Boltasseva

School of Electrical & Computer Engineering and Birck Nanotechnology Center, Purdue University, West Lafayette, IN 47907, USA

Abstract: The fields of nanophotonics and plasmonics have taught us unprecedented ways to control the flow of light at the nanometer scale, unfolding new optical phenomena and redefining centuries-old optical elements. As we continue to transfer the recent advances into applications, the development of new material platforms has become one of the centerpieces in the field of nanophotonics. In this presentation, I will discuss emerging material platforms including transparent conducting oxides, transition metal nitrides, oxides and carbides as well as two- and quasi-two-dimensional materials for future consumer-level optical components across the fields of on-chip optics and optoelectronics, sensing, spectroscopy and energy conversion.



Bio: Alexandra Boltasseva is a Professor at the School of Electrical and Computer Engineering, Purdue University, and an adjunct Associate Professor at Technical University of Denmark (DTU). She received her PhD in electrical engineering at DTU in 2004. Boltasseva specializes in nanophotonics, nanofabrication, optical materials, plasmonics and metamaterials. She received the 2013 IEEE Photonics Society Young Investigator Award, 2013 Materials Research Society (MRS) Outstanding Young Investigator Award, the MIT Technology Review Top Young Innovator (TR35) award that "honors 35 innovators under 35 each year whose work promises to change the world", the Purdue College of Engineering Early Career Research Award, the Young Researcher Award in Advanced Optical Technologies from the University of Erlangen-Nuremberg, Germany, and the Young Elite-Researcher Award from the Danish Council for Independent Research. She is a Fellow of the Optical Society of America (OSA) and SPIE. Alexandra authored more than 100 journal articles (h-index 48, Google Scholar) with a total number of citations above 9500. She served on MRS Board of Directors and is Editor-in-Chief for OSA's Optical Materials Express.