



哈尔滨工程大学  
HARBIN ENGINEERING UNIVERSITY

物理与光电工程学院

# Light Seminar 理学之光科学家论坛

**Title:** All-dielectric nanophotonics

**Speaker:** Prof. Pavel Belov, ITMO University, St. Petersburg, Russia

**Beijing Time:** 15:00-16:00 p.m., Thursday 17 June 2021 (10:00-11:00 a.m. Moscow time)

**Online:** HEU 云视频 账号: 2021201119 密码: 211119

下载网址 <http://meeting.hrbeu.edu.cn>

**Organizer:** College of Physics and Optoelectronic Engineering, Key Lab of In-fiber Integrated Optics of Ministry Education of China, Harbin Engineering University



## Abstract:

A driving force for nanophotonics is the discovery of new materials to improve existing concepts or enable new applications. One of the most recent conceptual shift was related to the replacement of metallic nanoparticles by all-dielectric ones (e.g., silicon, GaAs, etc.) bringing novel opportunities for light manipulation at nanoscale [1]. This report overviews the state-of-the-art in all-dielectric nanophotonics, including recent results on its implementation in optical devices.

[1] A. I. Kuznetsov, A. E. Miroshnichenko, M. L. Brongersma, et al. Optically resonant dielectric nanostructures, *Science* 354, 6314: aag2472 (2016).

## Biography:

Pavel Belov (born 18 December 1977 in **Ust-Ilimsk**, Russia) is a Russian physicist, head of **The International Research Centre for Nanophotonics and Metamaterials** (St. Petersburg, Russia) and head of Physics and Engineering School.

**Education:** Pavel Belov graduated with honors from the **ITMO University** in 2000. He defended his PhD thesis twice: from ITMO University in Russia in 2003 with the thesis "Analytical modeling of electromagnetic crystals", and then in Finland in 2006 at the **Helsinki University of Technology** with the thesis "Analytical modeling of metamaterials and new principle of sub-wavelength imaging". In November 2010 he received **Doctor of Science** degree for his thesis "Analytical modeling of electromagnetic crystals and left-handed materials".

**Career:** Dr. Belov has extensive experience of working abroad (Finland, South Korea, United Kingdom) with such industrial giants as **Nokia**, **Samsung Electronics** and **Bosch**. He is a member of the Council of young scientists and specialists of the ITMO University. He is also a member of **IEEE**, **AP-S**, **ED-S**, **MTT-S**, **LEO-S** (Laser and Electro-Optics Society, [www.i-leos.org](http://www.i-leos.org)); **URSI**, **SPIE** scientific societies.

**Awards:** Dr. Pavel Belov is a laureate of the Russian Federation President's Prize in Science and Innovation for Young Scientists in 2009. The prize is awarded for outstanding contributions to the physics of metamaterials and the development of devices for transmission and processing of superresolution images.

**Publications:** Pavel Belov is the author of more than 250 scientific articles in refereed journals, 300 conference proceedings and 18 book chapters. His h-index is 56 (according Scopus). His work has generated over 11 000 citations.



纤维集成光学教育部重点实验室  
Key Laboratory of In-Fiber Integrated Optics Harbin  
Engineering University - Ministry of Education