

Seminario
Martedì 31.07.18, ore 11.00
Aula 1 Marconi, Area CNR, via Madonna del Piano 10, Sesto F.no (FI)

Tricks with Au and Ag: spheres, cubes, cuboids and cages

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Au and Ag are two most popular plasmonic materials. The advantages of Ag nanoparticles are related with sharp LSPR peaks and high SERS enhancement due to smaller resistive loss. Au nanoparticles are chemically stable, nontoxic and have simple protocols for synthesis of nanoparticles with designed shape and optical properties. In this presentation we decide to overlap the advantages of Au and Ag by developing wet-chemical approaches for synthesis of composite Au@Ag nanoparticles with different shapes. The following types of particles will be considered: Au Mie spheres, Au@Ag nanocubes, Au nanocages, Au@Ag nanocuboids, nanocuboids with embedded Raman reporters, tip-functionalized Au nanorods with Ag shell. The brief protocols for nanoparticles synthesis, their optical properties and possible biomedical applications are under consideration.



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Boris Khlebtsov (b. 1980), Senior scientist at Laboratory of Nanobiotechnology at the Institute of Biochemistry and Physiology of Plants and Microorganisms, Russian Academy of Sciences (IBPPM RAS), Saratov, Russia.

Education: 1996-2001, Saratov State University, Physical Department, Specialty – Biophysics.

Degrees: Doctor of Physical and Mathematical Sciences (habilitation), Specialty - Biophysics, Saratov State University (2011); PhD, Specialty - Biophysics, Saratov State University (2004).

Field of Research and Experience: Synthesis, simulation and application of noble metal nanoparticles. Static and dynamic light scattering by small particles, optics of disperse systems, thermodynamics of high polymer solutions, Fortran programming and

calculation of light scattering and absorption by using various approximate and state-of-art methods.

Publications: He has published more than 150 scientific papers published in international scientific journals and books.