Bilateral Ukrainian-French seminar

Fluorescence sensing and imaging in nano-biotechnology

June 07. - 08. 2012, Orsay (France)

Institut d'Electronique Fondamentale (IEF)
Université Paris-Sud / CNRS, Campus Orsay - Bâtiment 220, Amphitheatre IEF
(5 min. walk from RER B station Bures-sur-Yvette)

The seminar is open for the public. There will be sufficient places in the amphitheater so you do not need to register in advance. For any questions please contact Niko Hildebrandt (niko.hildebrandt@u-psud.fr; www.nbp.ief.u-psud.fr)

Program

Thursday June 7th

10.00 – 10.30: Welcome and introduction by the organizers (Niko Hildebrandt and Alexander P. Demchenko)
10.30 – 11.00: Overview of research and technological developments in the field of nanoscience and nanotechnology in Ukraine (Anton G. Naumovets, Institute of Physics NASU, Kiev, Ukraine).
11.00 – 11.30: Coffee break
11.30 – 12.15: Biosensing applications using lanthanide complexes and semiconductor quantum dots for Förster resonance energy transfer (Niko Hildebrandt, IEF Orsay, France).
12.15 – 13.00: Luminescent lanthanide(III) chelates. Functionalization, construction of FRET composites and analytical applications (Kateryna Vityukova, Bogatsky Physico-Chemical Institute NASU, Odessa, Ukraine).
13.00 – 14.30: Lunch break
14.30 – 15.15: Viral capsides as nanoscopic scaffolds for luminescent lanthanide complexes (Loïc Charbonnière, CNRS Strasbourg, France)
15.15 – 16.00: Ultra-small and stable magic-size semiconductor quantum dots. Spectroscopy and functionalization (Ihor Dmitruk, Institute of Physics NASU and Department of Physics Shevtchenko University, Kiev, Ukraine)
16.00 – 16.45: Efficient aqueous phase transfer of InP/ZnS quantum dots and functionalization with Ln(III) chelates for multimodal imaging (Peter Reiss, CEA Grenoble, France)
16.45 – 17.15: Coffee break
17.15 – 18.00: Polymers in functionalization of nanoparticles and nanocomposites. Functional oligoperoxide-based luminescent and scintillation polymer and mineral-nanocomposites. Applications in cellular research. (Alexander Zaichenko, Polytechnical Institute, Lviv, Ukraine).
18.00 – 18.45: Synthesis and functionalization of fluorescent semiconductor quantum dots for cellular and in vivo imaging (Thomas Pons, ESPCI, France)

Friday June 8th

10.00 – 10.45: Smart organic dyes as molecular reporters. Functionalization and incorporation into nanoscale composites (Alexander P. Demchenko, Palladin Institute of Biochemistry NASU, Kiev, Ukraine).
10.45 – 11.30: Nerve growth cones as sensing, amplifying and filtering modules: a single-molecule and microfluidic approach (Vasyl SHYNKAR, ENS Cachan, France)
11.30 – 12.00: Coffee break
12.00 – 12.45: Scanning tunneling microscopy of organic molecules (Olexandr Marchenko, Institute of Physics NASU, Kiev, Ukraine).
12.45 – 13.30: Plasmonic enhancement of fluorescence and the construction of new analytical devices (Volodymyr I. Chegel (Lashkarev Institute of semiconductor physics, Kiev, Ukraine).
13.30 – 14.45: Lunch break
14.45 – 15.30: Virus-templated assembly of QDs into higher order structures for applications in nanobiotechnology and nanomedicine (Oya Tagit, IEF Orsay, France).
15.30 – 16.15: Plasmonic enhancement of fluorescence in imaging biomolecules and living cells (Halyna I. Dovbeshko, Institute of Physics NASU, Kiev, Ukraine)
16.15 – 17.15: Visit of the IEF laboratories