



Nano-objects in living cells : from physics to physiology

September 1 to 4 Villeneuve d'Ascq (France)

provisional program

Semiconductor nanocrystals (quantum dots) which are now used for imaging molecular events in living cells herald a variety of new nano-objects endowed with different functional properties that open the way to an increasing number of applications. The aim of this school is to bring together physicists and chemists who create and characterize these nano-objects with biologists who use them to investigate the cellular machinery or who try to decipher their physiological effects. Thus a special attention will be taken to promote the dialogue between participants.

Opening talks : bio-controlled synthesis of nano-objects in living cells

Dirk Schüler* (Bremen, Germany). Roberta Brayner*, Université Paris Diderot,

Session 1 : *synthesis and fonctionnalisation of nanoparticules*

Raphael Levy (Liverpool, UK). Eric Doris (CEA Saclay). Peter Reiss* / Frédéric Chandezon, (CEA/DRFMC/Grenoble). Bruno Chaudret* (CNRS, Toulouse). Horst Vogel* (EPFL, Lausanne)

Session 2 : *physical properties of nanoparticules. Intrinsic properties/ sensitivity to the environment.*

Paul Alivisatos (University of California, Berkeley, USA). Victor Puntès* (Institut Catala de Tecnologia, Espagne). Marcel Bruchez* (Carnegie Mellon University, USA), Daniel Vanmaekelbergh* (Debye-Institute, Utrecht University, The Netherlands)

Session 3 : *detection of molecular events by nanoparticules in living cells. Imaging with quantum dots.*

Shimon Weiss* / Xavier Michalet*(UCLA, USA). Hedi Mattoussi* (ONR, Washington, USA). Daniel Choquet et Brahim Lounis (CNRS, Bordeaux).

Session 4 : *physiological effects of nanoparticules in living cells. Cellular uptake, nanoparticules and health. Toxicology, therapeutical opportunities*

Kenji Hirakuri* (Tokyo Denki University). Chad Mirkin* (Northwestern University, USA), Mostafa El Sayed*, (Georgia Institute of Technology, USA). Helène Dumortier* (IBMC Strasbourg), Jorge Boczkowski* (INSERM, Paris). Nadine Pernodet* (Stony Brook University, USA).

The asterisk denotes the speakers who have already agreed to come.