

Conference Programme

Wednesday 21 January

- 17:15 - 17:30 **Opening Remarks**
- 17:30 - 19:30 **Session 1: Microfluidics (Chair: N Quirke)**
- 17:30 **J deMello**
Microfluidic routes to nanoparticle synthesis
- 18:30 **S Sabella**
Disposable plastic microreactors for real time qPCR on a chip
- 19:00 **J-K Choi**
On chip detection of biomolecular reaction with thin membrane transducer
- 19:30 **Group dinner reception**
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Thursday 22 January

- 08:30 - 10:30 **Session 2: Micro to nanofluidics (Chair J de Mello)**
- 08:30 **C-F Chou**
The wonderland of micro to nanofluidic interfaces for molecular and cellular analysis
- 09:30 **J-P Shen**
Reshaping biological oscillators during bacterial cell division with micro/nano fluidic devices
- 10:00 **L Movileanu**
Channel based stochastic sensing of Proteins
- 10:30 - 10:45 **Informal discussion and refreshments**
- 10:45 - 12:45 **Session 3: Sensing I (Chair C-F Chou)**
- 10:45 **G U Lee**
Magnetic tweezers: from single molecule force measurements and diagnostic devices
- 11:45 **K W Plaxco**
Biomolecular Folding: the applications of a nanometerscale self-assembly process
- 12:15 **I M Grace**
Single molecule sensors
- 12:45 - 13:4 **Group lunch**

16:00 - 17:30 Session 4: sensors II (Chair C-F Chou)

16:00 F Rosei
Exploring molecular assembly at surfaces

17:00 A Okamoto
DNA SAM on metal for gene analysis

17:30 - 18:00 Informal discussion and refreshments

18:00 - 19:45 Session 5: Biomolecules (Chair: G Lee)

18:00 J O Rädler
Stochasticity in artificial gene transfer: single gene expression experiments and modeling

19:00 M Tadokoro
Structure and properties of nanometer scale water tube confined to channels

19:30 A Freiberg
High Pressure Manipulation and Spectroscopy of Photosynthetic pigment Protein complexes

20:00 Dine-around (choice of hotel restaurant)

Friday 23 January

08:30 - 10:45 Session 6: Modeling of nanoflows (Chair J Radler)

08:30 N Quirke
Simulation, theory and experiment of boundary flow in nanopores

09:30 J A Thomas
Mechanism of fast water transport through carbon nanotubes

10:30 - 10:45 Informal discussion and refreshments

10:45 - 12:45 Session 7: Modeling of biomolecules (Chair C Lambert)

10:45 Y Okamoto
Protein structure predictions by generalized-ensemble simulations

11:45 X Zhao
Interaction between nucleotide segments and c60 from MD

12:45 - 14:00 Group lunch

16:00 - 17:30 Session 8: Electron transport (Chair Y Okamoto)

16:00 C Lambert
Controlled Electron Transport Through Single Molecules

- 17:00** **V M Garcia Suarez**
Non trivial length dependence of the conductance and negative differential resistance in atomic molecular wires
- 17:30 - 18:00** **Informal discussion and refreshments**
- 18:00 - 20:00** **Session 9: Biomaterials (Chair M Stevens)**
- 18:00** **M-L Saboungi**
Carbon Bionanocomposites
- 19:00** **M Y Ogawa**
Metal mediated peptide assembly
- 19:30** **S Cosnier**
Nanostructured biointerfaces based on electropolymerised films and carbon nanotubes
- 20:00** **Group dinner**
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Saturday 24 January

- 08:00 - 10:30** **Session 10: Nanotoxicology (Chair M Thanou)**
- 08:00** **A Cuenat**
Metrology for Nanotoxicology
- 09:00** **A Salvati**
Quantitative approaches for the study of the interactions of nanoparticles with cells
- 09:30** **I Lynch**
Designer nanoparticles for quantitative Bionano Interactions
- 10:00** **A W Coleman**
Nanopharmacology and nanotoxicology: The calyx[n]arenes as case studies
- 10:30 - 10:45** **Informal discussion and refreshments**
- 10:45 - 12:45** **Session 11: Nanomedicine (Chair N Quirke)**
- 10:45** **M Stevens**
Nanomaterials for regenerative medicine
- 11:45** **M Estévez**
Topographic features at the micrometer scale induce changes in cell cytoskeleton and Golgi complex morphologies
- 12:15** **T Lopez**
Catalytic naomedicine
- 12:45** **Group lunch**

16:00 - 17:30 Session 12: Nanoparticles and nanodevices (Chair A Cuenat)

16:00 M Thanou
Nanoparticle and nanodevice design for therapeutic applications

17:00 J M Behrendt
Cellular imaging and delivery using Fluorescent core/shell polymer microspheres

17:30 - 18:00 Informal discussion and refreshments

18:00 P Quintana
IFC-305, a cirrhosis drug encapsulated into sol-gel titania nanoparticles

18:30 M Colombo
Resolving the structure of ligands bound to the surface of superparamagnetic iron oxide nanoparticles

19:00 M Whitby
Carbon nanotube bundles for drug delivery

19:30 F Cichos
Photothermal Correlation Spectroscopy

20:00 Group dinner

Sunday 25 January

08:30 - 10:45 Session 13: Nanoparticles (Chair F Rosei)

08:30 M Motskin
Simulation, theory and experiment of boundary flow in nanopores

09:00 D Prosperi
A general one step biofunctionalisation of magnetic nanoparticles

09:30 V Fester
Preparation of iron oxide nanoparticles for cancer treatment

10:00 H H Baumler
Red blood cells as carriers for delivery of nanoparticles

10:30 - 10:45 Informal discussion and refreshments

10:45 - 12:30 Session 14: Discussion Forum (Chair N Quirke)
Nanomedicine: progress and prospects

12:30 - 13:30 Group lunch