

CONFERENCE PROGRAM

Monday, June 10, 2013

9:00 - 9:30 Registration & Coffee break (Hall Savary)

9:30 - 9:45 Welcome (Assembly room) - Jean Tkaczuk - Regional council delegate

9:45 - 10:50 Single molecule technology (Assembly room)

09:45 › Pulling on single biological molecules: a powerful tool for studying diverse systems - *Thomas Perkins, JILA, USA*

10:20 › DNA mapping in nanochannels - *Jonas Tegenfeldt, Solid State Physics and Nanometer Structure Consortium (nmC@LU), Sweden*

10:55 - 11:15 Coffee break (Hall Savary & Rouergue)

11:15 - 12:35 Single molecule technology (Assembly room)

11:15 › Sensing Proteins through Nanopores: Fundamental to Applications - *Juan Pelta, The Analysis and Modeling laboratory for Biology and Environment (LAMBE), France*

11:35 › A novel DNA chip for single molecule analysis - *Sebastien Chevalier, Institut de pharmacologie et de biologie structurale, France*

11:55 › Nanofluidic technology for high-throughput origins of replication mapping - *Joris Lacroix, Laboratoire d'analyse et d'architecture des systèmes, France*

12:15 › Cell-free expression and insertion of the integral membrane proteins Aquaporin Z into a tethered bilayer lipid membrane - *Angélique Coutable, Laboratoire d'analyse et d'architecture des systèmes, Laboratoire d'Ingénierie des Systèmes Biologiques et des Procédés, France*

12:35 - 13:45 Lunch (Hall Savary & Rouergue)

13:45 - 15:35 Sensing based nanotechnology (Assembly room)

13:45 › Nanomechanical sensors for use in environmental control, security and diagnostics - *Anja Boisen, Technical University of Denmark*

14:20 › Nanoporous nanostructured layers applied to optical biosensing - *Guy Voirin CSEM, Centre Suisse d'Electronique et de Microtechnique SA, Switzerland*

14:55 › Distinguishment of subtypes of influenza viruses with waveguide-mode sensors - *Koichi Awazu, Advanced industrial science and technology, AIST, Japan*

15:15 › Aptamers for the detection of biomarkers - *Jean-Jacques Toulme, Institut Européen de Chimie et Biologie, IECB, France*

15:35 - 16:00 Refreshments (Hall Savary & Rouergue)

16:00 - 17:40 Sensing based nanotechnology (Assembly room)

16:05 › Nanocarriers in medicine: challenges, dogmas and new horizons - *Jean-Christophe Leroux, Institute of Pharmaceutical Sciences, Department of Chemistry and Applied Biosciences, ETH Zürich, Switzerland*

16:40 › Combining multiplexed SPRI and AFM approaches for the detection and qualification of blood-derived microparticle sub-populations - *Celine Elie-Caille, FEMTO-ST, France*

17:00 › Hydrogel Photonic Crystals As Antigen Responsive Sensing Materials - *Xiangwei Zhao, Southeast University, China*

17:20 › Multiple nanoparticles-modified electrode microarrays dedicated to the multiplex detection of explosive precursors - *Cloé Desmet, Institut de Chimie et Biochimie Moléculaires et Supramoléculaires, ICBMS, France*

17:40 - 19:30 Poster session (Hall Rouergue & Savary)

Tuesday, June 11, 2013

8:00 - 9:50 Nano-objects & nanomaterial for life sciences (Assembly room)

- 08:00 › Bio-functionalized 3D-scaffolds for cell studies - *Martin Bastmeyer, Karlsruher Institut für Technologie, Germany*
- 08:35 › Biomimetic polymersomes for therapy and diagnosis - *Sebastien lecommandoux, Université de Bordeaux, France*
- 09:10 › Multiplexed Polymer Pen Lithography - *Falko Brinkmann, Karlsruhe Institute of Technology, University of Münster, Germany*
- 09:30 › Biofabrication of nanostructured biomaterials based on tailor-made hydrogels - *Günter Tovar, Institute for Interfacial Process Engineering and Plasma Technology IGVP, University of Stuttgart, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Germany*

9:50 - 10:20 Coffee break (Hall Savary & Rouergue)

10:20 - 12:05 Nanotechnology for cell characterisation & tissue engineering (Assembly room)

- 10:20 › Nanomaterials to modulate (stem) cell activity - *Lino Ferreira, University of Coimbra, Portugal*
- 10:55 › Forces, waves, and multiscale dynamics in living tissues - *Xavier Trepate, Institute for Bioengineering of Catalonia, Spain*
- 11:30 › Microfluidics quantification of pathological changes in leukocytes deformability and motility - *Olivier Theodoly, Adhesion & Inflammation Lab – INSERM U1067, France*

12:05 - 13:20 Lunch (Hall Savary & Rouergue)

13:20 - 14:50 Nano-Oncology & Nanomedicine (Assembly room)

- 13:20 › Nano-enabled personalised medicine - *Paul Galvin, University College Cork, Ireland*
- 13:55 › New challenges for nanomedicine - *François Berger, Clinatec - CEA –LETI, France*
- 14:30 › Miniaturised glucose biofuel cell implanted in a rat produces enough power to drive external electronic devices - *Jean-Pierre Alcaraz, Gestes Médico-Chirurgicaux Assistés par Ordinateur/ Laboratoire TIMC / IMAG, France*

14:50 - 15:30 Industrial Innovation session (Assembly room)

- 14:50 › Helium Ion Microscopy: Extending the frontiers of nanobiotechnology - *Peter Gnauck, Carl Zeiss Microscopy*
- 15:00 › Cell motility visualized by High-Speed Atomic Force Microscopy - *Alexander Dulebo, Bruker Nano Surfaces Division*
- 15:10 › Using Nanoparticle Tracking Analysis (NTA) for Accurate and Complete Nanosuspension Characterisation - *Pierre Peotta, NanoSight Limited*
- 15:20 › Three-dimensional biological scaffolds fabricated with a rapid-prototyping system combined with subnanoliter piezoelectric dispensing - *Steffen Howitz, GeSiMmbH*
- 15:30 › High-speed 3D laser lithography with high NA-objectives for 3D micro and nanofabrication - *Alexander Legant, Nanoscribe GmbH*

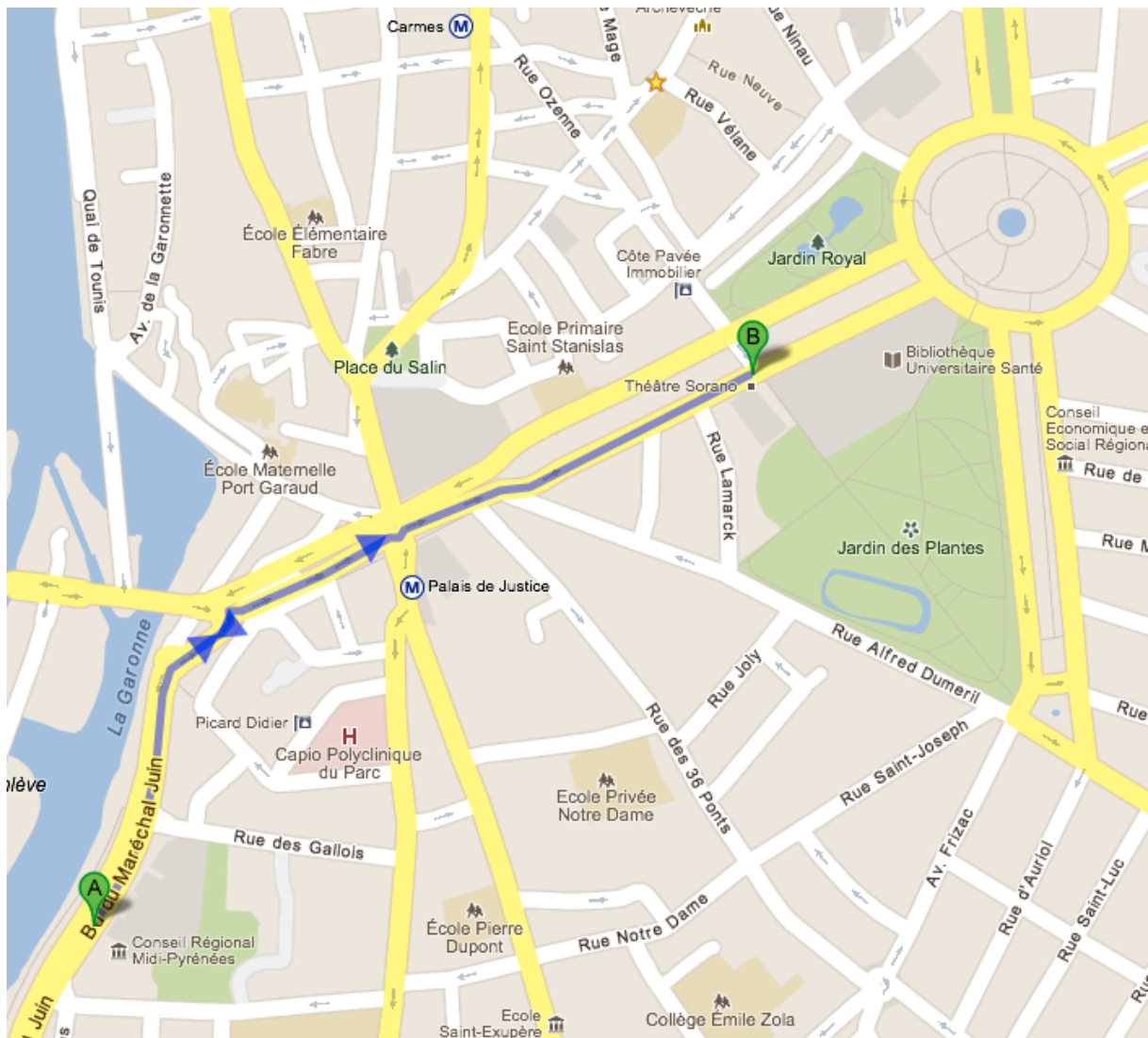
15:30 - 16:00 Refreshments (Hall Savary & Rouergue)

16:00 - 17:50 Imaging based nanotechnology (Assembly room)

- 16:00 › FluidFM: combining AFM and microfluidics for single-cell manipulation - *Tomazo Zambelli, Swiss Federal Institute of Technology in Zurich, Switzerland*
- 16:35 › New developments in Blo AFM Imaging - *Pierre-Emmanuel Milhiet, Centre de biochimie Structurale, France*
- 17:10 › Parallelized lensfree time-lapse microscopy - *Vincent Haguet, Laboratoire Biologie à Grande Echelle, France*
- 17:30 › In-situ determination of the mechanical properties of gliding or non-motile bacteria by Atomic Force Microscopy under physiological conditions without immobilization. - *Christian MARLIÈRE, Institut des Sciences Moléculaires d'Orsay, France*

18:30 - 23:00 Gala at the Museum - Guided tour of the Natural History Museum & Cocktail reception made by Gérard Garrigues (The "Moai" restaurant)
<http://www.museum.toulouse.fr/>

A 15 minutes walk...



Wednesday, June 12, 2013

8:00 - 10:10 Nanotoxicity (Assembly room)

- 08:00 › Current challenges of nanotoxicology - Rafi Korenstein, Tel-Aviv University, Israël
- 08:35 › In vitro Toxicity testing of manufactured nanomaterials: an experimental challenge - Francois Rossi, Joint Research Centre, Italy
- 09:10 › Investigation of the potential toxicity / ecotoxicity of double-walled carbon nanotubes - Emmanuel Flahaut, Institut carnot CIRIMAT (Centre inter-universitaire de Recherche et d'Ingénierie des Matériaux), CIRIMAT, LAAS, France
- 09:30 › Lipidots®: a versatile nanostructured lipid carrier for biomedical applications - Frédérique Mittler, Université Joseph Fourier, INSERM U1038, CEA DSV/IRTSV/Biomics, CEA LETI MINATEC DTBS, France
- 09:50 › Electrostatics at the nano-bio interface: A key interaction for optimizing cellular uptake and reducing cytotoxicity of metallic nanoparticles - Marcelo Marucho, Department of Physics and Astronomy, UTSA, USA

10:10 - 10:40 Coffee break (Hall Savary & Rouergue)

10:40 - 12:15 Nano-enabled drug delivery (Assembly room)

- 10:40 › Peptide-based nanoparticles for targeted drug delivery - Gilles Divita, CRBM-CNRS, France
- 11:15 › Nanoconjugation of gastrin to magnetic nanoparticles enables targeting of tumoral cells expressing gastrin receptor and cell death induction - Daniel Fourmy, Laboratoire de Réceptologie et Ciblage Thérapeutique en Cancérologie, France
- 11:35 › Polymeric self-assemblies for photodynamic therapy: cell penetration of the photosensitizer - Anne-Françoise Mingotaud, Interactions moléculaires et réactivité chimique et photochimique - Patricia Vicendo, Interactions moléculaires et réactivité chimique et photochimique, France
- 11:55 › The protein corona of nanoparticles: identification of single proteins influencing cellular uptake, by an unbiased, quantitative approach - Susanne Schöttler, Max Planck Institute for Polymer Research Mainz, Germany

12:15 - 13:30 Lunch (Hall Savary & Rouergue)

13:30 - 15:35 CGSO & CLARA Session (Assembly room)

- 13:30 › Social representation of nanotechnology, knowledge about disciplines and nanorelated products - Maité Brunel, Laboratoire CNRS, CLLE-LTC, UMR5263, Université Toulouse 2
- 13:42 › Biotechnological Application of Aptamers: Detection of MMP-9, a marker of brain tumors - Laurent Azema, Université Bordeaux Segalen, France
- 13:54 › Cancer-cells on a chip for label-free detection of secreted molecules - Ophélie Berthuy, Institut de Chimie et Biochimie Moléculaires et Supramoléculaires (ICBMS), Lyon
- 14:06 › High resolution prism-coupled-SPRi for single cell studies - Loïc Laplatine, Structures et propriétés d'architectures moléculaire (SPRAM), Grenoble
- 14:18 › Aptamer biosensor for small molecules detection using Surface Plasmon Resonance imaging and gold nanoparticles signal enhancement - Ferial MELAINE, CEA, Grenoble
- 14:30 › Study of cytokines secretion of lymphocytes: Real-time analysis by « biochip-cells » - Radé BAGANIZI - Institut Albert Bonniot (IAB), Grenoble

14:42 › High aspect ratio Microstructures for the Investigation of the Mechanics and Rheology of MultiCellular Tumor Spheroids

Laurene AOUN, Laboratoire d'analyse et d'architecture des systèmes (LAAS) & Institut des Technologies Avancées en sciences du Vivant (ITAV-USR3505), Toulouse

14:54 › Investigation of the competition between cell/surface and cell/cell interactions during neuronal stem cell culture on a micro-engineered surface - *Boris Demain - Imagerie cérébrale et handicaps neurologiques, Laboratoire d'analyse et d'architecture des systèmes (LAAS), Toulouse*

15:08 - 15:30 Refreshments (Hall Savary & Rouergue)

15:30 - 17:20 Cancéropôles GSO & CLARA Session (Assembly room)

15:30 › Theories and experiments on the way to optimize magnetic nanoparticles for magnetic hyperthermia - *Julian Carrey, Laboratoire de Physique et Chimie des Nano-Objets, Toulouse*

15:42 › Aqueous synthesis and dextran coating of large magnetite nanocrystals with interesting hyperthermia properties - *Vincent Connord, Laboratoire de physique et chimie des nano-objets (LPCNO), Toulouse*

15:54 › Rare earth oxysulfide nanoparticles as multimodal imaging agents for T2-weighted MR, X-ray tomography and photoluminescence - *Marc Verelst, Centre d'élaboration de matériaux et d'études structurales (CEMES), Toulouse*

16:06 › Elaboration of Water-soluble Macromolecular Probes for Two-Photon Bio-imaging and Photodynamic Therapy - *Favier Arnaud, Laboratoire d'Ingénierie des Matériaux Polymères (IMP), Laboratoire Joliot-Curie (LJC), Laboratoire de Chimie, Lyon*

16:18 › Polymeric self-assemblies for photodynamic therapy: treatment efficiency in spheroid 3D tumor models - *Laure Gibot, Institut de pharmacologie et de biologie structurale (IPBS), Toulouse*

16:30 › Gold-carbohydrate-polysiloxanes hybrid nanoparticles for biological applications - *Stéphane Lemonier, Interaction moléculaire et réactions chimiques et photochimiques (IMRCP), Toulouse*

16:42 › Colloidal suspensions based on biomimetic apatites: update and perspectives - *Christophe Drouet, Centre interuniversitaire de recherche et d'ingénierie des matériaux (CIRIMAT), Toulouse*

16:54 › Specific in vivo target delivery of siRNA using Peptide-Based Nanoparticles - *Nadir Bettache, Centre de Recherche de Biochimie Macromoléculaire (CRBM), Montpellier*

17:06 › pH-sensitive tripartite polyion complex micelles as siRNA vectors for DC engineering to induce tolerance
Rita Vicente, Institut Charles Gerhardt Montpellier, UMR 5253 CNRS-ENSCM-UM2-INSERM U844

17:20 - 18:00 Round table (Assembly room)