***Scientific program***

***December 9, 2014***

13h15Registration

14h00Opening session by President of the University, **P. Mutzenhardt** and representative of the Faculty

**Nathalie MIGNET** (SFNano President), **Didier Rouxel** (NanoSMS Coordinator)

**SYnthesis and Characterisation OF NANOMATERIALS FOR HEALTH**

***Chairpersons : Y. Fort, D. Rouxel***

14h30 **Christine Ménager,** UMR PHENIX,Paris, France

*Magnetic nanoparticles and magnetic hybrid systems for health*

15h00 **Sylvie Begin-Colin,** Institute of Physics and Chemistry of Materials, University of Strasbourg, France

*Dendronized magnetic iron oxide nanoparticles designed for targeting, MRI and hyperthermia*

15h30 **Raphaël Schneider**, LRGP (ENSIC), Lorraine Univ., Nancy, France

*Size and surface coating control the reactive oxygen species (ROS) production from ZnO quantum dots*

15h45 **Damien Lenoble**, Gabriel Lippman Center, Belvaux, Luxembourg

*Nanomaterials characterization for nano-enabled medicine*

16h00 **Coffee break**

16h30 **Sponsor presentations presented by Didier Betbeder, SFNano**

Nicolas GONZALEZ**, Schaefer Techniques**

Serge Réteaud, **Beckman Coulter**

Michel Terray, **Malvern Instruments**

C. Roesch**,** *Advanced Nano and Micro particle characterisation with Tunable Resistive Pulse Sensing***, Izon**

**Idex; Horiba**

17h30**Anne-Françoise Mingotaud**, L. Gibot, A. Lemelle, U. Till, B. Moukarzel, P. Vicendo, M-P. Rols, C. Chassenieux, M. Gaucher, F . Violleau

Polymeric micells encapsulating photosensitizer: structure/photodynamic therapy efficiency relation

17h45 **Samantha Soulé,**J. Allouche, J-C. Dupin, W-S.Ojo, C. Nayral, F. Delpech, H. Martinez

*Multifunctional gold nanoshell@mesoporous silica assemblies designed for nanomedicine: synthesis and characterization*

18h00 **Peter Reiss**, CEA Grenoble

*Quantum dot – rare earth complex conjugates for biological imaging and detection*

19h00 **Welcoming Cocktail at the Nancy City Hall**

***DECEMBER 10, 2014***

**MICRO and Nanosystems FOR HEALTH**

***Chairpersons: C. Fournier-Wirth, F. Sarry***

9h00 **Nicole Jaffrezic-Renault**, Institute of Analytical Sciences, Villeurbanne, France

*State of the Art of Nanotechnology for Biosensors*

9h30 **Sylvie Renaud**, IMS lab (Intégration, Matérial to System), Bordeaux Univ., France

*A bioelectronic sensor for electrical monitoring of diabetic patients insulin need*

10h00 **Denis Beyssen,** Jean Lamour Inst., Lorraine Univ., France

*Study of thermal effect between Rayleigh SAW and micro droplet: Toward DNA Duplication*

10h15 **Julien Claudel,** Laboratoire d'Instrumentation Electronique de Nancy, Nancy, France

*Microfluidic device for single-cell analysis using impedance spectroscopy*

10h30 **Coffee break & Poster session (Session A)**

11h00 **Eliott Teston**, C. Richard

*Design, properties and in vivo behaviour of superparamagnetic persistent luminescence nanohybrids*

11h15 **Victor Jeannot, S Mazzaferro, J Lavaud, V Josserand, M HENRY, C Schatz, S lecommandoux, A Hurbin, JL Coll**, *Glycopolypeptide based-nanocarriers targeting CD44 for non-small cell lung cancer therapy*

11h30 **Gaetan Bellot ,** *Self-assembly of DNA origami into 3D shapes for structural biology.*

11h45 Nanomedicine in France and Europe

* Presentation of the ETPN by P. Boisseau
* General Assembly of SFNano

12h30 **POSTER SESSION (Session A) & LUNCH BREAK**

**NANOTECHNOLOGIES FOR DIAGNOSIS**

***Chairpersons: N. Jaffrezic-Renault, S. Renaud***

14h00 **Chantal Fournier-Wirth**, Etablissement Français du Sang, Montpellier, France

*Perspectives of nanoparticles for diagnostic*

14h30 **Antigoni Alexandrou**, Optic and Biosciences Lab, Ecole Polytechnique, Palaiseau, France

*Reactive oxygen species sensing and MRI imaging using multifunctional rare-earth based nanoparticles*

15h00 **Thierry Gacoin,**  Physique de la Matière Condensée lab, Palaiseau, France

*Second Harmonic Generation with KTiOPO4 nanoprobes*

15h15 **François Montaigne**, Jean Lamour Int., Lorraine Univ., Vandoeuvre-les-Nancy, France

*On chip magnetic nanobead detection and manipulation for diagnosis*

15h30 ***Industrial point of view***: Round table led by Nicole Jaffrezic and Chantal Fournier-Wirth

Ismaël DIDELON, SD Médical : *microsystèmes biomédicaux*

Dr Patrice Sarfati, BIORAD- R&D Manager Infectious Disease Division- site de Marnes la Coquette

16h15 **Coffee Break & Poster session (Session A)**

***Chairpersons: Lucie Sancey, Cyrille Richard***

17h00 **Véronique Gigoux** *Targeted nanotherapy of endocrine tumors using magnetic iron oxide nanoparticles and high frequency magnetic field.*

17h15 **Axel Gansmüller**, El-E. Bendeif, K. Hsieh, S. Pillet, P. Durand, D. Schaniel, T. Woike

*Structure and dynamics of confined nanodrugs. A joint NMR and total X-ray scattering study*

17h30 **Yohann Lalatonne**, M. Boucher, J. Bolley, S. Meriaux, N. Pinna, L. Motte

*Controlled USPIO size towards T1 or T2 MRI contrast agent*

17h45 **Didier Rouxel**, Jean Lamour Institute –Lorraine Univ., Vandoeuvre-les-Nancy, France

Nanotechnologies : Societal impact, hopes and fears

18h00 **Interactive** discussionled by Y. Fort

J. Alnot, S. Lacour: Human and social science, E. Gaffet- Responsible Development of Nanotechnology

19h00 Cocktail and Villa Bergeret visits

***DECEMBER 11, 2014***

**NANOMEDICINES AND INFLAMMATION**

***Chairpersons: P. Maincent, D. Betbeder***

9h00 **Pierre Desreumaux**, University of Lille 2 – Faculty of Medicine, France

*Applications of nanotechnologies in inflammatory bowel diseases*

9h30 **Claus Michael Lehr**, Biopharmaceutics and Pharmaceutical Technology, Saarbrücken, Allemagne

*Nanomedicines for targeted drug delivery to the inflamed intestinal mucosa*

10h00 **Magali Zeisser**, M. Cinier, C. Rousseaux, J. Rodriguez, A. Cunha, N. Truong Tan, O. Kitten, L. Scapozza

*Development of Nanofitin protein scaffold for the treatment of inflammatory bowel diseases.*

10h15 **Nura Mohamed**, R. Davies, P. Lickiss

*PEGylation of the metal organic framework, MIL89 improves stability and displayed a selective inhibitory effect on iNOS activity.*

10h30 **Coffee break & Poster session (Session B)**

11h00 M. Parent, F. Dupuis, J. Perrin, C. Vigneron, Nicolas Violle, Jean-F. Bisson, P. Leroy, I. Lartaud, **A. Boudier**

*Cerebroprotection of S-nitrosoglutathione-loaded in situ forming microparticles against thromboembolic stroke*

11h15 Frantz Deschamps**, StaniPharm**

*Industrial development of drug nanoparticles*

11h30 **Julie Russier,** M. Grillaud, A. Bianco

*New Vectorisation strategies based on adamantine hydramers*

11h45 **Marie-Pierre Gosselin**, C. Gonçalves, V. Malard, P. Baril, C. Pichon, P. Midoux

*Delivery of siRNA in lung metastasis with targeted histidinylated lipopolyplexes*.

12h00 **Caroline Roques**, Z. Gaymalov, M. Torres, S. Batra, A. Kabanov

*Anti-tumor Activity of DNA/Pluronic P85 Vaccination in MUC4- Overexpressing Tumor Model*

12h15 **POSTER SESSION (Session A) & LUNCH BREAK**

**NANOMEDICINE AND RADIATIon THERAPIES**

***Chairpersons: A-C Couffin, M. Barberi-Heyob***

14h00 **Muriel Barberi-Heyob** , Nancy Research Center (CRAN), Vandœuvre-lès-Nancy, France

*Nanoparticles and radiation therapies: Main issues*

14h20 **Serge Mordon**, Assisted Interventional therapies assisted (ThIAIS), Loos, France

*Medical Applications of Photodynamic Therapy in 2014*

14h50 **Eric Deutsch,** Oncology Radiotherapy, Institute of Gustave Roussy Inst., Villejuif, France

*Overview if potential use of nanoparticles in cancer radiation therapy*

15h20 **Lucie Sancey,** S. Kotb, F. Lux, O.Tillement

*AGuIX® Nanoparticles for enhanced radiation therapy: Safety evaluation and major issues*

**15h35 Coffee Break & Poster session (Session B)**

16h15 **Gloria Jimenez Sanchez**, G. Laurent, C. Alric, C. Bernhard, S. Dufort, R. Bazzi, F.  Boschetti, P. Perriat, F. Denat, G. Le Duc, O. Tillement, S.Roux *Multifunctional gold nanoparticles for image-guided radiotherapy*

16h30**Cécile Sicard-Roselli**

*Full description of deleterious species emitted by nanoparticles when submitted to ionizing radiations*

*16h45* ***Céline Frochot****, R. Chouikrat, C. Truillet, A. Bulin, P.Arnoux, F. Baros, R. Vanderesse, F. Lux, O. Tillement, C. Dujardin, M. Verelst, M. Barberi-Heyob*

*Multifunctional nanoparticles for X-ray-induced PDT*.

17h00 **Industrial points of view**

Laurent Levy, **Nanobiotix**

Cédric Louis, **Nano H**, AGuIX: nanoprobes for radiotherapy

Thierry Bastogne, **CyberNano**

Arno Wiehe,**Biolitec**, Use of nanoparticles with photodynamic therapy

18h00 Round table led by Muriel Barberi and Laurent Levy

with Cédric Louis, Thierry Bastogne, Arno Wiehe, Eric Deutsch and Serge Mordon

What’s the future of the nanomedicine in association with non radiative therapies ? What’s next?

19h00 **Gala Dinner**

***DECEMBER 12, 2014***

**NANOMEDICINE AND THERANOSTIC COST SESSION**

***Chairpersons: N. Mignet, R. Muller***

9h00 **Robert Muller**, University ofMons , Belgium

*Magnetic Nanoparticles in Theranostics*

9h30 **Gerben Koning**, Laboratory Experimental Surgical Oncology, Rotterdam, Netherlands

*Thermosensitive liposomal nanomedicine for heat-triggered drug delivery in tumors*

9h50 **Chantal Pichon**, Biophysical Center, Orléans, France

*New formulations of cationic gas-filled liposomes for ultrasound triggered image and dual delivery of drug and nucleic acids*

10h10 **Coffee break & Poster session (Session C )**

10h40 **Tim Devling**, S.Morscher, W. Driessen

*Multispectral Optoacoustic Tomography (MSOT) for the Evaluation of Nanomaterial Pharmacokinetics and Biodistribution*

10h55 **Maite Callewaert**, C. Cadiou, C. Portefaix, M-C. Andry, S. Laurent, L. Vander Elst, R. Muller, M. Molinari, F. Chuburu

*A nanohydrogel approach to boost the relaxivity of conventional MRI Gd contrast agents*

11h10 ***Muriel Golzio****, V. Jausserand, M. Keramidas, C. Righini, E. Bellard, M-P. Rols, J. Teissié, J-L. Coll*

*Treatment of peritoneal micrometastasis by Electrochemotherapy assisted by fluorescence imaging.*

11h25 **Adrien Grassin**, D. Duret, A. Favier, J-L. Coll, M. Jourdan, S. Valetti, D. Desmaële, S. Mura, P. Dumy, P.Couvreur, D. Boturyn

*DESIGN OF NEW RGD-CONTAINING NPs FOR IMAGING AND DRUG TARGETED DELIVERY*

11h45 **POSTER SESSION (Session C) & LUNCH BREAK**

**REGENERATIVE NANOMEDICINE**

***Chairpersons: P. Menu, JL Coll***

14h00 **Didier Letourneur**, LVTS, University Paris Diderot, Université Paris Nord, France

*Nanosystems for Regenerative Medicine*

14h30 **Emilie Velot,** IMoPA, Ingénierie Moléculaire et Physiopathologie Articulaire, Vandoeuvre-les Nancy, France

*Exosomes: when nanoscale vesicles serve a broad range of therapeutic possibilities*

15h00 **Philippe Lavalle,** Biomaterials Bioengineering, University of Strasbourg, France

*Micro and nano structured hybrid implants*

15h20 **Jiang Chang**, Shanghai

*Study on nano-biomaterials for tissue regeneration*

Opened question with the speakers: D. Letourneur (Paris), P. Menu (Nancy)

15h50 SFNano-/ SANOFI Award for the best oral presentation

15h55 SFNano/NanoSMS Awards for the best poster presentations (x 2)

16h00 Final Conclusions & Meeting Closure