

# SFNano Annual Meeting

5-7th December 2022

Strasbourg, IRCAD



## SCIENTIFIC PROGRAM

DECEMBER 5<sup>TH</sup>, 2022

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12:30 Registration - Poster installation - Session A

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13:30 **Opening session**  
**COLL Jean-Luc, SFNano**  
Welcome words

13:45 **Pr Jacques Marescaux IRCAD**

### SESSION 1 – Engineering/design/nanofabrication of theranostics nanoplatforms

Chairpersons: Amanda Brun, Alberto Bianco

14:00 **Pr Rainer Haag, Berlin - *Biomedical Applications of Dendritic and 2D Drug Delivery Systems***

14:30 Ariane Boudier - *Copper nanoclusters as active agents for a pediatric orphan disease*

14:45 Maria De Los Angeles Ramirez - *Design of Iron Oxide Nanoparticles for imaging and active targeting: theranostic in one formulation*

15:00 Marie Devreux - *MRI and optical image-guided drug delivery by pH-sensitive polymer nanocarriers*

15:15 Sponsor x3

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15:30 Coffee break

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16:00 **Pr Mónica L Fanarraga, University of Cantabria, Spain - *Customizing the nanomaterial's biocorona using biotechnology***

16:30 Emilia Benassai - *High throughput microfluidic elaboration of PS-PAA block co-polymer magnetic micelles, their degradation in spheroid models and in lysosome like model*

16:45 Gilles Bruylants - *Ultrastable Calixarene-Coated Plasmonic Nanoparticles with a Tunable Bioconjugation Density for Biomedical Applications*

17:00 Sponsor x6

17:30 **General Assembly of SFNano** (French Society for Nanomedicine)

18:00 *Poster (Session A) and Cocktail*

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20:30

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8:00 Registration

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## SESSION 2 – Nanoplatforms for imaging and diagnostics

Chairpersons: \*\*\*Andrey Klymchenko, Lucie Sancey

- 8:30 **Dr Daniel Jaque Garcia, Universidad Autónoma de Madrid (UAM), Spain - Luminescent nanothermometers for biomedical applications**
- 9:00 Andreas Reisch - *Designing Fluorescent Polymer Nanoparticles for (Intra)Cellular Imaging*
- 9:15 Nicolas Tsapis - *Biocompatible and photostable photoacoustic contrast agents as nanoparticles based on BODIPY-scaffold and polylactide polymers: synthesis, formulation and in vivo evaluation*
- 9:30 Mireille Blanchard-Desce - *Organic fluorescent nanoparticles made from multipolar and polarizable dyes: a versatile class of organic nanoparticles for bioimaging purpose*
- 9:45 Sponsors (x3)

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10:15 Coffee break et Poster Session A

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- 10:45 Yun Luo - *Hybrid microgels as versatile biomedical platform for bioimaging and cancer treatment.*
- 11:00 Christina Chirizzi - *The role of the bio-nano interface on cellular uptake of superfluorinated nanoprobess for 19F-MRI*
- 11:15 Sponsors (x3)

11:30 **Dr Thomas PONS, ESPCI Paris, France - Zwitterionic polymer coatings for stable and stealthy nanocrystals in bioimaging and micromanipulation**

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12h00 Lunch and Poster Session A (end) and installation poster session B (from 13h45)

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## SESSION 3 – Cancer Nanomedicine, Emerging Techniques for Cancer Therapy

Chairpersons: \*\* Alexandre Detappe, Marie-Pierre Rols

- 14:00 **Dr Florence Gazeau, Université Paris, France - (Nano) modulation of the tumor microenvironment to boost the anti-cancer immune response**
- 14:30 Jordan Beurton - *Albumin-based biomaterials for the delivery of anti-tumoral active ingredients*
- 14:45 Yifan Jiang - *Dendrimer nanosystems for adaptive tumor-assisted drug delivery via extracellular vesicle hijacking*
- 15:00 Anne-Laure Bulin - *New insights on the radiotherapeutic effects of nanoscintillators*

15:15 **Dr Céline Frochet, Université Lorraine, Nancy, France : Nanoparticles for photodynamic therapy**

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15:45 Coffee break and Poster session B

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- 16:15 Sheryl Bui : *Virus-free Method to Enhance Extracellular Vesicle Cargo Loading and Delivery*
- 16:30 Alexandre Specht - *Red light responsive nanoparticles for a controlled prodrug activation: Application to a tumor model*
- 16:45 Ahmed Abdelhamid - *Intracellular induced cargo release from magnetic nanoparticles@metal-organic frameworks nanocomposites in response to heating or mechanical stress upon magnetic fields application*
- 17:00 Ping Gao - *Supramolecular Organization of Polymer Prodrug Nanoparticles Revealed by Coarse-Grained Simulations*

## Young Session

Chairperson: Milad Baroud, Younès Louaguenouni

### 17h30 Young Session and PhD award

**Thomas Ador** - CD44-Targeted bubbles for glioblastoma ultrasound imaging

**Lucie Haye** - Gold Nanocluster Loaded Polymer Nanoparticles for SWIR Imaging

**Ivan Ciganek** - Messenger RNA engineering of Natural Killer cells with imidazole lipid-based nanoparticles

**Huan Chen** - CAR T cells loaded with iron oxide nanoparticles for MRI tracking of tumor infiltration and magnetic manipulation

**Justine Journaux** - Origin of Fe ions in ROS production induced in magnetic hyperthermia anti-cancer nanotherapy: release from iron oxide nanoparticles or not?

**Ana Rodriguez-Ramos** - Design and validation of an autopropelled drug delivery system

**Revadee Liam-Or** - Protein Corona Bio-Inspired Mesenchymal Stem Cell-Derived Extracellular Vesicles for Liver Regeneration

**Anna Sebbagh** - Extracellular Vesicles From Adipose-derived Stromal Cells Promote Healing In A Rat Model Of Perian Fistulizing Crohn's Disease

**Yilin He** - Synthesis of Polyethylene Glycol-Prussian Blue Nanoparticles and Evaluation their Biodegradability for Biomedical Applications

**PhD Award – Best PhD in Nanomedicine year 2022**

### 19h00 Departure for Gala Diner

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8:00 Registration

#### SESSION 4 – SYNTHETIC BIOMATERIALS AND BIOPOLYMERS FOR NANOMEDICINE

Chairpersons: \*\*\* Elisabeth Garanger, Damien Mertz

9:00 **Prof. Dr. Mark Tibbitt, ETH Zürich, Switzerland - Nanoparticles as building blocks for advanced biomaterial design**

9:30 Olivier Jordan - *Nanostructured thermosensitive gels as synovial fluid replacement for osteoarthritis mitigation*

9:45 Naveed Ahmad - *Development of polymeric nanoparticles for Nose-to-Brain delivery of oxytocin to treat Autism Spectrum Disorder*

10:00 Claire Monge - *Mucosal delivery system for nanovaccine delivery*

10:15 Coffee break and Poster session B

10:40 **Pr Maria J Vicent, Valencia, Spain - Designing Personalized Polymer-based Combination Nanomedicines for Advanced Stage Breast Cancer Patients**

#### SESSION 5 – LIPID BASED MATERIALS

11:10 Baptiste Robin - *Gene Activated Matrix for Cartilage Repair: Development of siRNA Nanovectors to Control MSC Differentiation*

11:25 Younès Louaguenouni - *Immunomodulatory nanoparticles to treat the acute immune response during sepsis*

11h45 Lunch and Poster session B

Chairpersons : Benoit Frisch (or Nicolas Tsapis), Sylvie Bégu

13h30 **Dr Roy van der Meel, Eindhoven University of Technology, Netherlands - Lipid nanoparticle technology enabling next generation nucleic acid therapeutics**

14h00 Mans Broekgaarden - *Spatiotemporal controlled drug delivery with radiotherapy-responsive nanoliposomes*

14h15 Elita Montanari - *Metastable lipid spherulites for the sustained release of highly-dosed small hydrophilic compounds*

14h30 Elmira Arab-Tehrany - *Active nanoliposomes from salmon lecithin increase polyunsaturated fatty acid bioavailability in cortical neurons and mice*

14h45 **Dr Jessica Gobbo, INSERM Dijon, France - Clinical interest of exosomes: biomarker and therapeutic target in oncology**

15h15 SFNano Awards and Final conclusion

15h45 Meeting closure