**Relevant tools and models for translation of advanced drug delivery systems**

**SFNano Workshop 2014, 2 – 4 October 2014, Porto, Portugal**

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| **Time** | **Proposed topics** | **Speakers** |
| **Day 1** |  |  |
| **Registration** |  |
| **I. Introductory presentations**  |
| 9:00 – 9:45 | Pharmacokinetics and pharmacodynamic concepts | Tobias Paehler, Sanofi, Germany |
| 9:45 –10:30 | Computational approaches for prediction/simulation of drug delivery | Tarek Mounir, Univ Nancy, France |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 11:45 | In vitro/in vivo correlation in drug delivery | Jean-Michel Cardot, (Laboratoire Biopharmacie, Univ Clermont 1, Clermont-Ferrand) |
| 11:45 – 12:30 | Principles of Electroporation for drug delivery | Marie-Pierre Rols (Institute of pharmacology and structural biology, Toulouse, France) (A confirmer par Marie-Pierre) |
| 12:30 – 13:15 | Electroporation : characterization, tools, and constraints for in vivo delivery | Damijan Miklavcic (Univ Ljubljana, Ljubljana, Slovenia) |
| 13:15 – 14:30 | Lunch break and Networking |
| **I. Oral route** |
| 14:30 – 15:15 | Current scenario, barriers, and challenges | Clive Wilson, Univ Strathclyde, UK |
| 15:15 – 16:00 | Computational models | Michael B. Bolger, Simulations Plus, California, USA |
| 16:00 – 16:30 | Coffee break |  |
| 16:30 – 17:15 | In vitro models for assessment of oral drug absorption | Per Artursson |
| **Short oral communications** |  |
| 17 :15 – 17 :30 | PLGA particles as a vector for oral insulin delivery: in vitro and in vivo validation of biofunctionality | El Hadji Mouhamadou Bamba Diop, University of Strasbourg, France |
| 17 :30 – 17 :45 | Chitosan nanocapsules for peptide delivery | Belén L. Bouzo et al., University of Santiago de Compostela, Spain |
| 17 :45 – 18 :00 | A neurofilament-derived peptide targets neural stem cells | Joel Eyer, University of Angers, France |
| 18 :00 – 18 :15 | Improving the ability of S4(13)-PV cell-penetrating peptide to mediate siRNA delivery through peptide acylation | Catarina M. Morais et al., University of Coimbra, Portugal |
| **Day 2** |
| **II. Parenteral route**  |
| **1. Intravenous (models/tools for drug delivery to cancer and to brain)** |
| 9:00 – 9:45 | Physiological barriers to drug delivery by i.v. route, clinical relevance, and challenges) | Jean Marie Devoisselle, Univ Montpellier, France |
| 9:45 – 10:30 | In vitro and in vivo models for drug delivery to **cancer** | Khaled Greish, Univ Otago, New Zealand |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 11:45 | Electroporation in Preclinic :Electrochemotherapy (ECT) for cutaneous cancers | Gregor Sersa ((Institute of Oncology Ljubljana, Zaloška cesta 2, SI - 1000 Ljubljana, Slovenia) |
| 11:45 – 12:30 | Targeting the Blood-brain-Barrier to improve drug delivery to the brain of low molecular drugs | Xavier Descleves, Univ Paris Descartes |
| 12 :30 – 13:15 | Targeting the Blood-brain-Barrier to improve drug delivery to the brain of macromolecules | Didier Betbeder, Lille, France |
| 13:15 – 14:30 | Lunch break and networking |  |
| **2. Alternative routes: Pulmonary & Nasal, Cutaneous** |
| 14:30 – 15:15 | Drug delivery through pulmonary route: Physiology, barriers, and the associated challenges | Rita Vanbever (Univ Louvain, Belgium) |
| 15:15 – 16:00 | In vitro and in vivo models for drug delivery to lung | Carsten Ehrhardt, Univ Dublin, Ireland |
| 16:00 – 16:30 | Coffee Break |  |
| **Short oral communications** |  |
| 16:30 – 16 :45 | Biodistribution, tumor targeting and melanoma anticancer properties of innovative pegylated siRNA lipid nanocapsules | Pauline Resnier et al., University of Angers, France |
| 16:45 – 17 :00 | Platform KINE C3 : relevant technological methods to assess brain bioavailability of new therapeutic compounds. | Thibaud Thiollier  et al., Cynbiose SAS, France |
| 17:00 – 17 :15 | Organized and differentiated 3D model mimicking the human pulmonary alveolar epithelium: an alternative model for drug discovery, toxicology and radiobiology | Romain Grall et al., CEA, Fontenay-aux-Roses, France |
| 17:15 – 17 :30 | Pegalation of the metal organic framework, MIL89 improves stability andconfers an inhibitory effect on iNOS activity in macrophages | Nura A Mohamed et al., Imperial college, United Kingdom |
| 17:30 – 17 :45 | Development and optimization of pegylated lipoplexes for vaginal application | Anna Lechanteur et al., University of Liege, Liege, Belgium |
| 17:45 – 18 :00 | Intrapulmonary delivery of gadolinum-based nanoparticles: a theranostic approach for lung imaging and radiosensitization | Sandrine Dufort et al. INSERM-UJF U823, Grenoble, France |
| **Day 3** |
| 9:00 – 9:45 | Drug delivery by cutaneous route: Physiology, barriers, associated challenges, and in vitro/in vivo models | B. Delgado-Charro, Bath, United Kingdom |
| 9:45– 10:30 | DNA electroporation for local delivery of therapeutic proteins and vaccines  | Gaelle Vandermeulen (Louvain Drug Research Institute, Univ Catholique de Louvain, Brussels, Belgium) |
| 10:30 – 11:00 | Coffee break |  |
| 11:00 – 11:45 | Current clinical experience on electroporation based treatments, and future prospects | Julie Gehl (Herlev Hospital/Herlev Ringvej 75/ 2730 Herlev/Copenhagen, Denmark) |
| 11:45 – 12:30 | Nanomedicine revolution: the path through regulatory science into personalized medicine | Rogerio Gaspar, Portugal |
| 12:30 | Lunch & End of the Workshop |  |