



PROGRAM

Flow synthesis of multiscale materials

FLOWMAT 2019

Wednesday, June, 26

8h30 -> 9h Welcome / Coffee

9h-> 9h15 Introduction

09h15-10h00: **PLENARY**

Professor Saif A. Khan, *The National University of Singapore*

Microfluidic Factories for Advanced Materials: From metallic nanoparticle catalysts to designer pharmaceutical drug products

10h00 -10h40: **Session CATALYSIS and BIOMIMETIC APPLICATIONS**

10h00. Development of AuNPs and Au@zeolites immobilized micro reactors for selective oxidation of benzyl alcohol to benzaldehyde
Stéphanie Ognier, Xi Rao, Ali Abou Hassan, Cédric Guyon, Michaël Tatouliau

10h20. Microfluidics for the synthesis of biocompatible lipid-based cellular mimics
Naresh Yandrapalli, Tom Robinson

10h40-11h: **COFFEE BREAK**

11h-12h20: **Session MATERIALS SYNTHESIS (1)**

11h00. Preparation, Deep Characterization and Application of Composite/hybrid Multi-Scale and Multi-Domain Polymeric Microparticles
Christophe Serra, isabelle Kraus, Marc Schmutz, Michael Köhler, René Muller, Michel Bouquey, Wei Yu, Shukai Ding, Nikunj Kumar Visaveliya

11h20. Co-precipitation of Iron Oxide Nanoparticles in Flow: New Opportunities for Basic Research and Large-Scale Production
Maximilian Besenhard, Alec LaGrow, Luca Panariello, Liudmyla Storozhuk, Aden Hodzic, Manfred Kriechbaum, Nguyen Thanh, Asterios Gavriilidis

11h40. Microfluidic synthesis of switchable materials
Juan H. Gonzalez-Estefan, Mathieu Gonidec, Guillaume Chastanet, Nathalie Daro, Mathieu Marchivie, Thi Thiet Vu

12h00. An innovative supercritical fluids-based technology for the preparation of calcium silicates: Application to green cementitious materials
Valentina Musumeci, Guillaume Aubert, Jorge Dolado, Cyril Aymonier

12h20 -14h00: LUNCH

14h00-14h45: PLENARY

Professor John de Mello, *The Norwegian University of Science*
Automated Flow Reactors for the Controlled Synthesis of Functional Materials

14h45- 15h15: FLASH POSTER PRESENTATION SESSION

14h45. Microwave assisted continuous flow syntheses of nanomaterials for catalytic applications
Olivier Durupthy, Laurent Delannoy, Lionel Tinat

14.55. How additive manufacturing and microfabrication techniques could be complementary and applied to the development of the Galenic-on-chip concept?
Nicolas Rolley, Marie Bonnin, Sylwester Bargiel, Jean-Christophe Gimel, Jean-Pierre Benoit, Guillaume Bretons, Brice Calvignac

14h55. An all-OSTE+ microfluidic device coupling droplet microfluidics and in-situ SAXS
Tobias Lange, Sophie Charton, Fabienne Testard, Florent Malloggi

15h00. Electrochemical analysis of merged plugs in microfluidic channels
Thomas Delahaye, Teo Lombardo, Catherine Sella, Laurent Thouin

15h05. Nanohybrids in microfluidic chips for heterogeneous catalytic reactions and recycling of carbon dioxide.
Joseph Farah, Edmond Gravel, Eric Doris, Florent Malloggi

15h10. Building biomimetic bone at high level of tissue organization
Elora Bessot, Clement Sanchez, Marco Faustini, Nadine Nassif

15h15-16h: POSTER SESSION and COFFEE BREAK

16h-17h00: Session MATERIALS SYNTHESIS (2)

16h00. Strategies for the synthesis and assembly of noble metal nanoparticles in microfluidic devices towards in situ Surface-Enhanced Raman Spectroscopy applications
Gustavo Ochoa-Vazquez, Boris Kharisov, Ana Arizmendi-Morquecho, Anaïs Cario, Cyril Aymonier, Samuel Marre, Israel López

16h20. Flow synthesis of 50 nm gold nanoparticles via a seeded-growth approach – from kinetics measurements to reactor design
Luca Panariello, Kevin To, Gaowei Wu, Spyridon Damilos, Ivan P. Parkin, Asterios Gavriilidis

- 16h40. Process intensification for the synthesis of fluorescent organic nanocrystals by microfluidics supercritical antisolvent
Thomas Jaouhari, Guillaume Aubert, Olivier Nguyen, Thierry Tassaing, Suzanne Fery-Forgues, Arnaud Erriguible, Cyril Aymonier, Samuel Marre

Thursday, June, 27

09h00-09h45: PLENARY

Professor Hélder A. Santos, The University of Helsinki
Microfluidic Fabrication of Nanoparticles for Biomedical Applications

9h45 -10h20: Session BIOMEDICAL APPLICATIONS

- 09h50. Investigation of calcium oxalate crystallization under microfluidic conditions towards the understanding of urolithiasis
Karol Rakotozandriny, Florence Babonneau, christian Bonhomme, Ali Abou-Hassan
- 10h10. Transposition from a batch to continuous formulation process of sterile pentamidine-loaded nanopolyplexes to treat Leishmaniasis
Kevin Matha, Jean-pierre Benoit, Jean-Christophe Gimel, Jean-Pierre Gangneux, Brice Calvignac

10h30-11h: COFFEE BREAK

11h-12h: Session INVITED TALKS

- 11h00. Shaping hydrogels by liquid atomization
Nicolas Bremond
- 11h20. Alternative synthesis of metal nanoparticles in microreactors using electrocrystallization and acoustofluidics
Fabien Chauvet
- 11h40. Coupling microfluidics and Small-Angle X-ray scattering to study the whole crystallization process of proteins in solution
Sébastien Teychené

12h -13h30: LUNCH

13h00- 16h30: Round table and Projects discussion