Written on 24 February 2019

5 minutes of reading

Events

Fundamental Research

Analysis and characterization

Microfluidics

13 - 15 November 2019

Co-Organized by

After two decades of development, **microfluidics is now pushing back the boundaries** to tackle a range of industrial challenges, including high-throughput experimentation, on-chip analysis, extreme conditions (pressure, temperature, etc.) and environmental footprint limitation.

Microfluidics 2019: From laboratory tools to process development (13-15 November 2019), an international academic and industrial conference, organized by IFPEN, has examind these topics in detail!

Download Microfluidics 2019 synthesis *(PDF - 400 Ko)*

THE SESSIONS WERE FOCUSED ON:

- Fluids and flow characterization
- Fluid separation and on-chip analysis
- Synthesis and performance monitoring
- New technologies for the environment and alternative energies

TWO INNOVATIVE FORMATS:

1/ Tutorial session led by internationally recognized experts:

- Impact of miniaturization on the representativity of results
- Microfabrication for extreme conditions
- Miniaturized on-line analysis

2/ Debates with startuppers:

- Start-ups and experts interviews: “from lab to market”
- Success and non-success stories, take-home solutions

Thank you to all participants, speakers, authors, sponsors. You made the event a success!
The Organizing Committee

Committees

Scientific Committee

Joelle Aubin, ENSIACET, France
Hugues Bodiguel, Université Grenoble Alpes, France
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Ludovic Chahen, IFPEN, France
Annie Colin, ESPCI Paris, France
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Claude de Bellefon, CPE Lyon, France
Gunther Kolb, Eindhoven University of Technology, Netherlands
Rob Lammertink, University of Twente, Netherlands
Anke Lindner, ESPCI Paris, France
Samuel Marre, Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB), France
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Flavie Sarrazin, Solvay Laboratory of the Future (LOF),CNRS, Univ. Bordeaux 1, France
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Claire Marlière, Applied Physical Chemistry and Mechanics Division
Marie Moiré-Marsiglia, Applied Physical Chemistry and Mechanics Division

Scientific Correspondents

Marie Moiré-Marsiglia and **Claire Marlière**
IFP Energies nouvelles – Applied Physical Chemistry and Mechanics Division

Program

Download the program *(PDF - 460 Ko)*

Keynotes speakers

Gunther Kolb, Eindhoven University of Technology, Netherlands
Rob Lammertink, University of Twente, Netherlands
David Sinton, University of Toronto, Canada
David Weitz, Harvard University, USA

Startuppers

Lyderic Bocquet, Lab. de Physique Statistique (LPS), ENS, France
Laurent Boitard, MilliDrop, France
France Hamber, Fluigent, France

Tutorials by

Noémie Caillol, Axel'One, France
Anke Lindner, ESPCI Paris, France
Samuel Marre, ICMCB, France

Abstract book

Download the abstract book *(PDF - 6.8 Mo)*

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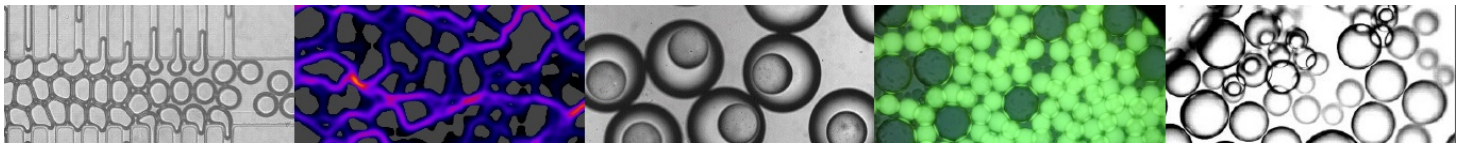
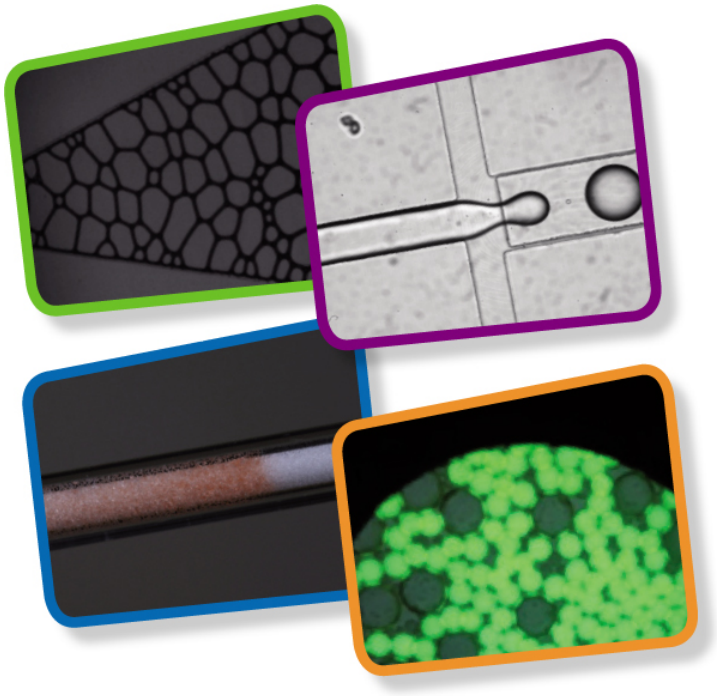


Previous edition: Microfluidics 2015

MICROFLUIDICS 2015

IFPEN / Rueil-Malmaison - 4-5 November 2015



Context and objectives

IFP Energies nouvelles has organized last 4 and 5 November the international scientific conference “ **Microfluidics: from laboratory tools to process development**”, in collaboration with the Pierre-Gilles de Gennes Institute.
Microfluidics refers to the sciences and technologies that allow to handle fluids from the micron scale to sub-millimetric scale. Laboratories are increasingly exploiting this field, reflecting its potential role in leading the emergence of radically improved industrial processes.
Microfluidics 2015 hab been the opportunity to bring together academic and industrial researchers to discuss recent developments in microfluidics and its impact in a wide range of fields, such as product and object synthesis, microchemistry, labs on a chip, the management of complex fluid flows in confined geometries and high-throughput screening.

Download the Review *(PDF - 60 Ko)*

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PROGRAM (2015)

The conference program includes 4 main sessions to put in perspective academic, engineering and finally industrial approaches.
All sessions welcome biology, chemistry, earth sciences and physics disciplines.

1. Basic science with microfluidics

• complex fluids, bubble and droplet microfluidics, biphasic flow, multiphase flow, hydrodynamics
• electro-osmotic flow, electrohydrodynamics, mass transport, heat transfer
• interfacial phenomenon, chemistry, biology, chemical kinetics
• thermodynamics, simulation

Fundamental studies with use of microfluidic or nanofluidic devices are welcome in this session as well as experimental or theoretical physics and chemistry at micro/nano scale.

2. Analysis and micro-measurement

• detection, sensors
• pre-treatment, image analysis
• microextraction, etc.

This session welcomes all works focusing on microfluidic devices able to perform fluid characterizations or dedicated to any specific measurement.

3. New development for microfluidic devices

• 3D printing, micro-fabrication, new materials, connectics, actuators
• dedicated chemistry, surface treatment, high pressure
• high pressure, high temperature

Here will be considered development of Microelectromechanical systems (*MEMS*), new fabrication techniques or dedicated components to achieve studies with difficult fluids in non-standard thermodynamic conditions.

4. Toward industrial applications

• integration, process development
• upscaling/downscaling
• lab on a chip, high throughput screening

Microfluidics 2019: From laboratory tools to process development
24 February 2019

Link to the web page :