



Written on 30 January 2020



2 minutes of reading



Events

Fundamental Research

Chemical sciences

Organic and mineral synthesis

Engineering sciences

Chemical engineering and process engineering

Systems modeling and simulation



24 - 25 November 2020



IFPEN Scienc'Innov Workshop: Innovative materials: which

scale-up methodology? (Scale4MAT); Web Conference 24-25 Nov. 2020

Catalysts are central to many industrial processes and have been the focus of decades of research to improve their performance. In the future, breakthroughs will most certainly come from **new ways of synthesizing these materials**, with the use of new technologies which will have to be rolled out on an industrial scale, in order to make these materials available in sufficient quantities for the process industry. The transition **from laboratory to industrial scale** remains a major challenge, to ensure

rapid transfer of research results to the market.

The **Scale4MAT** Web conference has been a special opportunity to discuss the new approaches to modeling unit operations required to facilitate the extrapolation of syntheses of breakthrough materials.

## IFPEN Organization Committee

### Scientific Correspondent of this Scienc'Innov Workshop

**Jean-François Joly**

Process Design and Modeling Division

### Organization Committee

**Alain Méthivier**

Catalysis, Biocatalysis and Separation Division

**Jean-Marc Schweitzer**

Process Design and Modeling Division

**Christophe Vallée**

Catalysis, Biocatalysis and Separation Division

## Program

### Tuesday 24 November

**09:00** Opening of the conference  
J-F. Joly (Scale4MAT scientific correspondent, IFPEN, France)

**9:10** Welcome  
X. Longaygue (IFPEN Scientific Division, France)

SESSION 1: TOWARDS SCALE-UP OF LABORATORY SYNTHESIS: KEY PARAMETERS/DESCRIPTORS

**09:15** Towards innovative materials  
D. Uzio, G. Pirngruber (IFPEN, France)

**10:00** Scale up of innovative materials  
J-M. Schweitzer, M. Serval (IFPEN, France)

- 10:45** PRODIA project (MOF)  
D. Farrusseng (IRCELYON, France)
- 11:30** End of the presentation - Lunch break
- 14:00** Understanding structure-transport relationships in disordered porous solids  
S. Rigby (Univ. of Nottingham, UK)
- 14:45** Multi-technique characterisation of hierarchically organised gamma-alumina catalyst supports  
E. Jolimaître (IFPEN, France)
- 15:30** Nature-inspired, computationally assisted design of hierarchically structured zeolites  
M.O. Coppens (UCL London, UK)
- 16:15** End of the presentations

### Wednesday 25 November

#### SESSION 2: OPERATION UNITS MODELING FOR SCALE-UP

- 9:00** Porous network modeling - synthesis and discussion  
J. Verstraete (IFPEN, France)
- 9:45** Complex rheological flows of suspensions: three case studies  
S. Manneville (ENS de Lyon, France)
- 10:30** Population balance approach for gelification modeling  
M. Lattuada (Univ. of Fribourg, Switzerland)
- 11:15** End of the presentation - Lunch Break
- 14:00** Understanding diffusion and effective diffusivity in porous media using pulsed field gradient nuclear magnetic resonance  
M.D. Mantle (Univ. of Cambridge, UK)
- 14:45** Concluding remarks  
J.F. Joly, J-M. Schweitzer (IFPEN, France)
- 15:00** End of the Workshop

MATERIAL SYNTHESIS (2020)  
30 January 2020

Link to the web page :