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)

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SESSION 1: TOWARDS SCALE-UP OF LABORATORY SYNTHESIS: KEY PARAMETERS/DESCRIPTORS
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09:15 Towards innovative materials
D. Uzio, G. Pirngruber (IFPEN, France)

10:00 Scale up of innovative materials
J-M. Schweitzer, M. Servel (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. Jolimaitre (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

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SESSION 2: OPERATION UNITS MODELING FOR SCALE-UP
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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
JF. Joly, J-M. Schweitzer (IFPEN, France)

15:00 End of the Workshop

MATERIAL SYNTHESIS (2020)
30 January 2020

Link to the web page :