

8-9 Juin 2022 - Montpellier

French MOFs, COFs and Porous Polymers conference

Campus Richter



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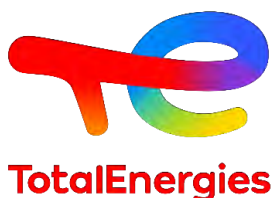
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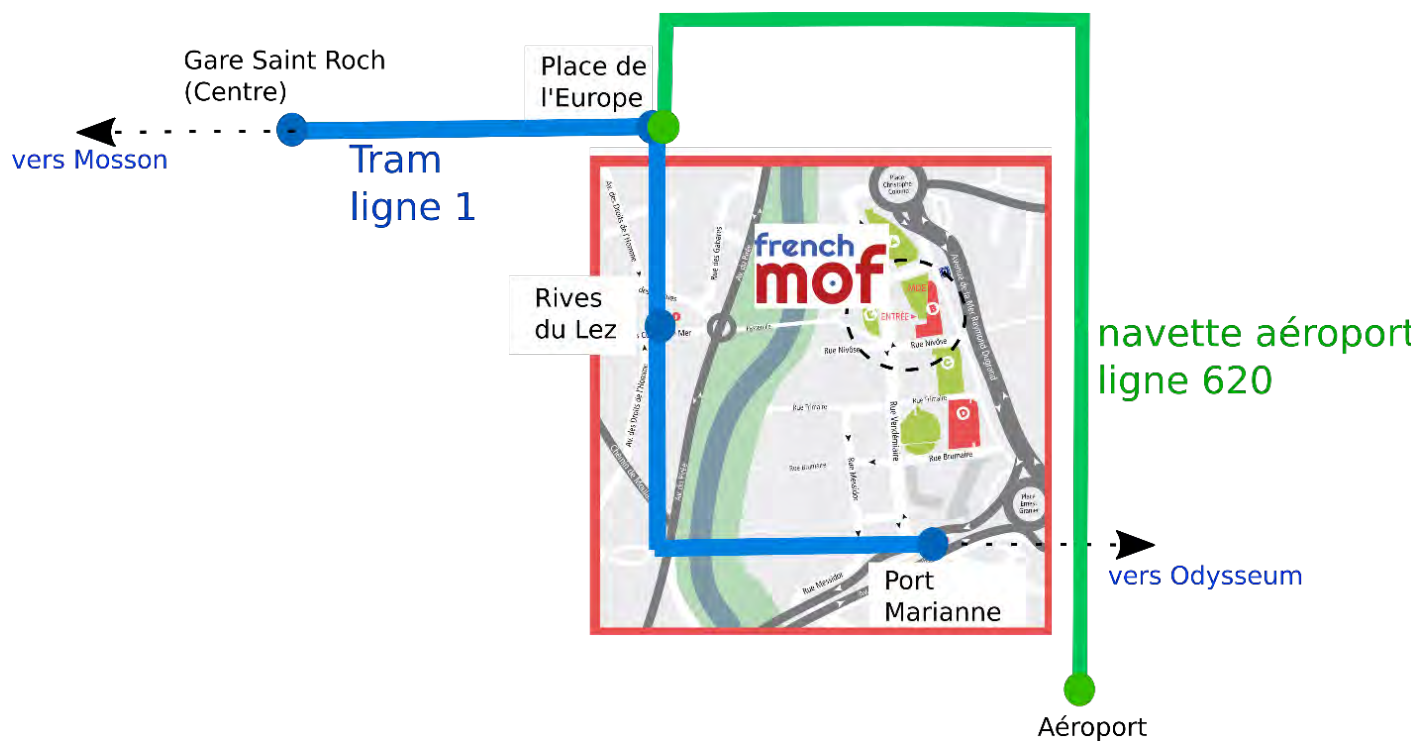


General Information

Access map:

- From the airport take “navette aéroport” shuttle, line 620, until final stop at Place de l’Europe. Take tram 1 in the direction of Odysseum (1 stop until Rives du Lez) or walk about 350 m towards Rives du Lez.
- From the train station Saint Roch, tram line 1 in the direction of Odysseum, stop at Rives du Lez (or Port Marianne).

From the tram stop “Rives du Lez”, walk towards the river and cross the bridge.





Plan d'accès Maison des Étudiants - Richter



1 Tramway
Arrêt Rives du Lez
Lignes 1, 3 et 4

2 Tramway
Arrêt Port Marianne
Lignes 1 et 3

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Program

Wednesday June 8

9.30 – 10.00: Welcome

10.00 – 12.00: Oral session 1 – MOF thin films/composites /membranes

- 10.00-10.20: Atomic layer deposition implemented to metal organic framework chemistry, A. Fateeva, LMI, Université Lyon
- 10.20-10.40: Controlled growth of multifunctional metal-organic framework thin films on conductive plates by mixing direct synthesis and post-synthetic treatment, B. Mortada, ICSM, Marcoule
- 10.40-11.00: MOF synergistically hybridized macroporous polymer monolith as catalytic flow through microreactor, B. Carbonnier, ICMPE, Univ Paris Est
- 11.00-11.20: Graphene oxide as a structural directing agent of MOFs, A. Saad, ILV, UVSQ, Université Paris-Saclay
- 11.20-11.40: Facile approach to polymer-assisted metal-organic frameworks processability enhancement, M. Semsarilar, IEM, Université Montpellier
- 11.40-12.00: Computational assisted development of mixed matrix membranes for energy intensive gas separation, D. Fan, ICGM, Université Montpellier

12.00 – 1.30 pm: Lunch Break

1.30 – 2.30: Plenary Lecture MOFs and COFs as green heterogeneous (photo)catalysts, *Pascal Van Der Voort – COMOC, Ghent University, Belgique*

2.30 – 3.30: Oral session 2 – Theory

- 2.30-2.50: Unfolding the terahertz spectrum of soft porous crystals: rigid unit modes and their impact on phonon properties, A. E.J. Hoffman, Ghent University, Belgique
- 2.50-3.10: Critical comparison of molecular dynamics simulations of amorphous metal-organic frameworks, N. Castel, Chimie Paris Tech.
- 3.10-3.30: Rubbery Organic Frameworks- ROF membranes for enhanced selective CO₂ capture, R. Dupuis, IEM, Université Montpellier

3.30 – 4.00 pm: Coffee Break

4.00 – 5.20: Oral session 3 – MOF Catalysis

- 4.00-4.20: Titanium terephthalate metal-organic frameworks as a novel isorecticular platform for photocatalytic reactions, B. Chen, IMAP, ENS ESPCI Paris
- 4.20-4.40: Heterogenized phosphine rhodium molecular catalyst within metal-organic framework (MOF) for ethylene hydroformylation, P. Samanta, IRCELYON
- 4.40-5.00: Ultra-small nanoparticles in Zr-MOFs towards challenging catalysis, S. Dai, LCS, Normandie Univ.
- 5.00-5.20: Heterogenization of molecular cobalt catalysts in robust metal-organic frameworks for efficient photocatalytic CO₂ reduction, C. Mellot-Draznieks, Collège de France, Sorbonne Université

5.30-7.30: Poster Session

6.15-7.30: Cocktail

Thursday June 9

9.00: Welcome

9.15 – 10.15: Plenary Lecture Pressure-driven phase transitions- a look to the future of solid state refrigeration, *Claire L. Hobday, Edinburgh University, Scotland, UK*

10.15-10.35: Industrial presentation, MOFs porous characterization and selective adsorption study, Pascal Pascal Szitas, Micromeritics

10.35 – 11.00: Coffee Break

11.00 – 12.00: Oral session 4 – Characterization-Applications

- 11.00-11.20: Investigating degradation mechanisms of nanoMOF drug carriers, M. Dang Le Vuong, Institut des Sciences Moléculaires d'Orsay, Université Paris-Saclay
- 11.20-11.40: Solid state NMR to study the metal-organic frameworks, F. Pourpoint, Univ. Lille, CNRS, Centrale Lille
- 11.40-12.00: Fe-BDC metal organic framework (MOFs) thin layers for the passivation of Si anodes in Li-ion batteries, W. Fu, LPMC, Ecole Polytechnique-CNRS Palaiseau

12.00 – 1.30 pm: Lunch Break

1.30–3.10: Oral Session 5 –Adsorption

- 1.30-1.50: Vacuum pressure swing adsorption using MIL-160(Al) for CO₂ capture from flue gases, G. De Weireld, UMONS, Belgique
- 1.50-2.10: 3D hierarchical porous MOF-74 based structured adsorbent for gas-phase dynamic separations, R. Sharma, Vrije Universiteit Brussel, Belgique
- 2.10-2.30: Scintillating metal organic framework for radioactive gas detection, S. Mauree, CEA-LIST, Palaiseau
- 2.30-2.50: Tuning the hexane isomers mixture separation performance of MOFs by external mechanical pressure, H. Zhao, IPR, Univ. Rennes 1.
- 2.50-3.10: Spin-crossover MOFs for gas-related applications, P. Poloni, SIMAP, Univ. Grenoble Alpes

3.10 – 3.50: Round table

3.50 – 4.00: Best poster and presentation prizes, Closing

Abstracts

Plenary Lecture

- p.12 P1 – Pascal Van Der Voort, COMOC, Ghent University
MOFs and COFs as green heterogeneous (photo)catalysts
- p.13 P2 – Claire L. Hobday, Edinburgh University
Pressure-driven phase transitions – a look to the future of solid-state refrigeration

Industrial Presentation

- p.14 I1 – Pascal Szitas, Micromeritics
MOFs porous characterization and selective adsorption study

Oral Communications

Session 1 – MOF thin films/composites/membranes

- p.16 S1.1 – Alexandra Fateeva, LMI Université Lyon
Atomic layer deposition implemented to metal organic framework chemistry
- p.17 S1.2 – Boushra Mortada, ICSM Marcoule
Controlled growth of multifunctional metal-organic framework thin films on conductive plates by mixing direct synthesis and post-synthetic treatment
- p.18 S1.3 – Benjamin Carbonnier, ICMPE Université Paris Est.
MOF synergistically hybridized macroporous polymer monolith as catalytic flow through microreactor
- p.19 S1.4 – Ali Saad, ILV Univ. Versailles St. Quentin en Yvelines
Graphene oxide as a structural directing agent of MOFs
- p.20 S1.5 – Mona Semsarilar, IEM Université Montpellier
Facile approach to polymer-assisted metal-organic frameworks processability enhancement
- p.21 S1.6 – Dong Fan, ICGM Université Montpellier
Computational assisted development of mixed matrix membranes for energy intensive gas separation

Session 2 – Theory

- p.22 S2.1 – Alexander E.J. Hoffman, Ghent University
Unfolding the terahertz spectrum of soft porous crystals: rigid unit modes and their impact on phonon properties
- p.23 S2.2 – Nicolas Castel, Chimie Paris Tech.
Critical comparison of molecular dynamics simulations of amorphous metal-organic frameworks
- p.24 S2.3 – Romain Dupuis, IEM Université Montpellier
Rubbery organic frameworks- ROF membranes for enhanced selective CO₂ capture

Session 3 – MOF Catalysis

- p.25 S3.1 – Bingbing Chen, IMAP ENS ESPCI Paris
Titanium terephthalate metal-organic frameworks as a novel isoreticular platform for photocatalytic reactions
- p.26 S3.2 – Partha Samanta, IRCELYON
Heterogenized phosphine rhodium molecular catalyst within metal-organic framework (MOF) for ethylene hydroformylation
- p.27 S3.3 – Shan Dai, LCS Normandie Université
Ultra-small nanoparticles in Zr-MOFs towards challenging catalysis
- p.28 S3.4 – Caroline Mellot-Draznieks, Collège de France Sorbonne Université
Heterogenization of molecular cobalt catalysts in robust metal-organic frameworks for efficient photocatalytic CO₂ reduction

Session 4 – Characterization Applications

- p.29 S4.1 – Mai Dang Le Vuong, Université Paris-Saclay
Investigating degradation mechanisms of nanoMOF drug carriers
- p.30 S4.2 – Frédérique Pourpoint, Université Lille CNRS, Centrale Lille
Solid state NMR to study the metal-organic frameworks
- p.31 S4.3 – Weichu Fu, LPMC Ecole Polytechnique-CNRS, Palaiseau
Fe-BDC metal organic framework (MOFs) thin layers for the passivation of Si anodes in Li-ion batteries

Session 5 – Adsorption

- p.32 S5.1 – Guy De Weireld, UMONS Belgique
Vacuum pressure swing adsorption using MIL-160(Al) for CO₂ capture from flue gases
- p.33 S5.2 – Ravi Sharma, Vrije Universiteit Brussel, Belgique
3D hierarchical porous MOF-74 based structured adsorbent for gas-phase dynamic separations
- p.34 S5.3 – Sharvane Mauree, CEA-LIST, Palaiseau
Scintillating metal organic framework for radioactive gas detection
- p.36 S5.4 – Hengli Zhao, IPR Univ. Rennes 1
Tuning the hexane isomers mixture separation performance of MOFs by external mechanical pressure
- p.37 S5.5 – Roberta Poloni, SIMAP Univ. Grenoble Alpes
Spin-crossover MOFs for gas-related applications

Poster Session

- p.39 PC1 – Sandrine Bourrelly, MADIREL Université d’Aix-Marseille
Propylene/propane separation on modified ZIF-8 samples: adsorption equilibria and kinetics
- p.40 PC2 – Paul Iacomi, ICGM Université Montpellier
Mechanical control of pore architecture of the MIL-53(Al) to intelligently modulate CO₂ adsorption
- p.41 PC3 – Dmitry I. Konovalov, ILV Université Paris-Saclay
Luminescent microporous metal-organic frameworks based on rhenium octahedral cluster complexes
- p.42 PC4 – Mathilde Renouard, IMAP Stellantis
Toward new porous materials for the capture of interior odors
- p.43 PC5 – Guillaume H. V. Bertrand, CEA-LIST Université Paris Saclay
In depth exploration of MOFs photophysics and application toward new scintillating materials
- p.45 PC6 – Heng Zhao, IMAP ENS Paris
Gold nanoclusters - MIL-100(Fe) nanocomposites for dexamethasone delivery and inflammatory disease theranostics
- p.46 PC7 – Ben Slater, IMAP ENS Paris
Two-dimensional metal-organic framework-nanopore devices as single strand DNA sensors
- p.47 PC8 – Audrey Delots, IMAP ENS Paris
Synthesis and ageing studies of highly cycling nanoporous MOFs materials for filtering and gases separation in humid environments: new materials towards industrial prospects
- p.48 PC9 – Ezgi Gulcay, ICGM Université Montpellier
MOFs for indoor contaminant capture and detection: a cooperative computational-experimental screening approach
- p.49 PC10 – Jonathan Bachir, ILV UVSQ Université Paris Saclay
Combining polysaccharide and metal-organic framework for protein encapsulation
- p.50 PC11 – Ioanna Christodoulou, ILV UVSQ Université Paris Saclay
Synthesis and characterizations of the mesoporous MIL-100(Fe) in presence of bacteria
- p.51 PC12 – Manon Leconte, IMAP ENS Paris
Combining MOFs with solid state nanopores for biosensing
- p.52 PC13 – Siddharth Ravichandran, Ghent University
Challenges of force field based GCMC simulations for an accurate characterization of the adsorption and separation properties of MOFs
- p.53 PC14 – Vic De Ridder, Ghent University
Applying classical density functional theory to efficiently characterize adsorption of (non-)spherically symmetric guests in MOFs
- p.54 PC15 – Mohammad Wahiduzzaman, ICGM Université Montpellier
Unraveling shape based selective adsorption of alkanes by MOFs

- p.55 PC16 – Sanchari Dasgupta, ILV UVSQ Université Paris Saclay
In depth investigation of the co-adsorption properties of MOF thin films by in operando spectroscopic Ellipsometry: application for cultural heritage conservation
- p.56 PC17 – Patrick Pires Conti, ICGM Université Montpellier
Capture of α -pinene traces by metal-organic frameworks
- p.57 PC18 – Karuppasamy Gopalsamy, ICGM Université Montpellier
Metal(II)-catecholates functionalized UiO-66 MOF for the effective capture of NO_x
- p.58 PC19 – Amir Astafan, Université de Haute-Alsace
ZIF-8 stability under high pressure water intrusion-extrusion cycles
- p.60 PC20 – Soraya Bouras, IMAP ENS Paris
Functional porous hybrid architecture for the detection of volatile organic compounds