



UNIVERSITÀ
DI PAVIA



1561 PAVIA

ALMO COLLEGIO
BORROMEO

Meeting @ Almo Collegio Borromeo



8th June 2023

Fondazione
CARIPLO



Bando Economia Circolare 2019
Grant n. 2019-2090



MOFs & CAgEs for gas separation membranes & heavy metal capture devices

Almo Collegio Borromeo, Sala Bianca
Pavia, 8th June 2023



9.00 – 9.15 Registration desk

9.15 Welcome

9.30 Becky Greenaway – Imperial College London

High-Throughput Approaches for the Discovery of Porous Organic Materials

10.10 Valeria Amendola – Università di Pavia

Organic Cages as Materials for Separation Processes

10.50 *coffee break & posters*

11.15 Cristiano Zonta – Università di Padova

Exploiting Flexibility in Self-Assembled Supramolecular Cages

11.55 Mariolino Carta – University of Swansea

Tröger's base network Polymers of Intrinsic Microporosity (PIMs) with tunable pore size for heterogeneous catalysis

14.30 Roberto Millini – ENI S.p.A

The Eni's Pathway Towards Net Zero Emissions by 2050

15.10 Teresa F. Mastropietro – Università della Calabria

Metal Organic Frameworks Technologies for Water Remediation

15.50 *coffee break & posters*

16.15 Johannes C. Jansen – CNR-ITM

Mixed matrix membranes with tailored morphology for the separation of gases and for the capture of heavy metals

16.55 Pegah Hajivand – Università della Calabria

An overview on MOF applications and MOF-based mixed matrix membranes

17.35 Closing remarks





MOFs & CAgEs for gas separation membranes & heavy metal capture devices

Poster presentations

- **Rita Maria Percoco – University of Calabria**

Efficient Eco-friendly Metal-Organic Framework for Amoxicillin Degradation from Aqueous Solution

- **Pegah Hajivand, Marcello Monteleone, Mariagiulia Longo, Elisa Esposito, Alessio Fuoco, Teresa F. Mastropietro, Donatella Armentano, Johannes C. Jansen – University of Calabria, CNR-ITM**

Synthesis and gas transport properties of membranes for propene/propane separation.

- **Riccardo Mobili, Sonia La Cognata, Chiara Milanese, Theo Bellotti, Stefano A. Serapian, Marcello Monteleone, Mariagiulia Longo, Barbara Vigani, Johannes C. Jansen – Università di Pavia, CNR-ITM**

Amorphous organic cage forming self-standing membranes for gas separation

- **Sonia La Cognata, Riccardo Mobili, Aaron Bernardino, Benjamin D. Egleston, Annabel Basford, Becky Greenway, Valeria Amendola – Università di Pavia, Imperial College London**

High-throughput synthesis of novel imide-imine organic cages

- **Johannes C. Jansen, Mariagiulia Longo, Alessio Fuoco, Elisa Esposito, Marcello Monteleone – CNR-ITM**

Advanced methods for the analysis of the mixed gas transport in polymeric membranes.

- **Mariagiulia Longo, Marcello Monteleone, Alessio Fuoco, Elisa Esposito, Sonia La Cognata, Riccardo Mobili, Valeria Amendola, Mariagiulia Longo, Ariana Antonangelo, Mariolino Carta, Johannes C. Jansen – University of Calabria, CNR-ITM, University of Pavia, University of Swansea**

Preparation and characterization of thin film composite and mixed matrix membranes containing organic cages for CO₂ separation

- **Marcello Monteleone, Mariagiulia Longo, Alessio Fuoco, Elisa Esposito, Teresa Fina Mastropietro, Donatella Armentano, Rita Maria Percoco, Johannes C. Jansen – University of Calabria, CNR-ITM**

Synthesis and characterization of porous polymeric membranes with highly specific MOFs for the selective capture of heavy metals from contaminated water

- **Benjamin D. Egleston – Imperial College London**

Investigating Selectivity in Porous Liquids

- **Annabel Basford – Imperial College London**

Design and optimisation of a high-throughput automated workflow for the accelerated discovery of porous organic cages

- **Riccardo Mobili, Giovanni Preeda, Sonia La Cognata, Lucio Toma, Valeria Amendola, Dario Pasini – Università di Pavia**

Chiroptical Sensing of Perrhenate in aqueous media by a chiral Organic Cage