



## International Workshop and NIS Colloquium

Sponsored by doMino and DAM4CO<sub>2</sub> projects

# Towards Carbon Neutrality

New frontiers in carbon dioxide capture and valorization

**Wednesday 19<sup>th</sup> June 2024**

Aula Darwin - Molecular Biotechnology Center  
Via Nizza, 52 - Torino (Italy)

**Local organizers (Department of Chemistry, University of Torino):**

Valentina Crocellà, Matteo Signorile, Silvia Bordiga, Virginia Guiotto,  
Alberto Ricchebuono, Melodj Dosa, Gabriele Deplano



## MORNING SESSION

8.30 – 9.00

**Registration**

9.00 – 9.10

**Gabriele Ricchiardi** - Director of NIS, University of Torino, Italy

Introduction to the Colloquium

9.10 – 9.20

**Alessio Fuoco** - Institute on Membrane Technology, CNR-ITM, Italy

doMino and DAM4CO<sub>2</sub> projects

9.20 – 9.30

**Francesco Matteucci** – European Innovation Council

Innovation trends and public funding in CO<sub>2</sub> management and valorization

Chair: Berend Smit - EPLF

9.30 – 9.50

**Alexis Dunand** - Carbon Gap LTD, Belgium

A snapshot of the state of carbon management policy in the EU

9.50 – 10.40

**Susana García** - Heriot-Watt University, United Kingdom

On the race to Net Zero Energy Systems: Shedding light on Stakeholders' perspectives for Sorbent-based Carbon Capture

10.40 – 11.00

**Virginia Guiotto** - University of Torino, Italy

Exploring Flexible MOFs as Potential Fillers of Mixed Matrix Membranes for CO<sub>2</sub> separation

11.00 – 11.20

**Coffee Break offered by Assing s.p.a.**

Chair: Bartolomeo Civalleri - University of Torino

11.20 – 12.00

**Alexander Forse** - Cambridge University, United Kingdom

Using Electrochemistry to Capture Carbon Dioxide

12.00 – 12.20

**Matteo Romano** - Polytechnic of Milano, Italy

The calcium looping process for CO<sub>2</sub> capture in cement plants: the outcomes from the Cleanker project's TRL7 pilot plant

12.20 – 12.40

**Angiolina Comotti** - University of Milano Bicocca, Italy

CO<sub>2</sub> in porous frameworks: an insight on adsorption and dynamics

12.40 – 13.00

**Sergio Bocchini** - Polytechnic of Torino, Italy

Bridging Research and Industry: Ionic Liquids in CO<sub>2</sub> Capture Applications

13.00 - 14.00

**Light Lunch**

## AFTERNOON SESSION

Chair: Mariolino Carta - Swansea University

- 14.00 – 14.40 **Rocio Semino** - Sorbonne Université, France  
What can simulations teach us about MOF-based membranes?
- 14.40 – 15.00 **Carmen Rizzuto** - Institute on Membrane Technology, CNR-ITM, Italy  
Fluorinated Mixed Matrix membranes for CO<sub>2</sub> capture: preparation and transport properties
- 15.00 – 15.20 **Grazia Bezzu** - Swansea University, United Kingdom  
Polymers of intrinsic microporosity for CO<sub>2</sub> capture and catalysis
- 15.20 – 16.00 **Adele Brunetti** - Institute on Membrane Technology, CNR-ITM, Italy  
Sustainable valorization of waste CO<sub>2</sub> into e-fuel through catalytic and photocatalytic membrane processes
- 16.00 – 16.20 **Coffee Break offered by CEM s.r.l.**

Chair: Susana Garcia - Heriot-Watt University

- 16.20 – 16.40 **Roberto Gobetto** - University of Torino, Italy  
Recent Advances in CO<sub>2</sub> Electroreduction by Molecular Catalysts Functionalized on Electrode Surface
- 16.40 – 17.00 **Nataly Carolina Rosero** - Instituto de Cerámica y Vidrio, CSIC, Spain  
Rational design of sustainable and environmentally friendly electrocatalysts for CO<sub>2</sub> reduction reaction
- 17.00 – 17.20 **Francesca Valetti** - University of Torino, Italy  
Microbial enzymes for CO<sub>2</sub> capture, conversion and upcycling
- 17.20 – 17.40 **Haresh Manyar** - Queen's University Belfast, United Kingdom  
Catalysis and Process Engineering for CO<sub>2</sub> Conversion to Fuels and Chemicals
- 17.40 – 18.20 **Berend Smit** - EPFL, Switzerland  
Big-data in chemical engineering; science beyond understanding
- 18.20 – 18.30 Conclusions and greetings

Attendance is free but **registration is required**, [fill this form \(https://forms.gle/TMG9GFhCdnxQ91v6\)](https://forms.gle/TMG9GFhCdnxQ91v6) before 11/06/2024

(the organization will close the registration before this date if the maximum number of participants is reached)

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