



Venice International University
VIU Graduate Seminar
Climate Change Mitigation: Carbon Capture and Utilization

July 12-16, 2021

Faculty

- Renato Baciocchi, Dept. Civil Engineering and Computer Science Engineering, Tor Vergata University of Rome, Italy (Coordinator)
- Giulia Costa, Dept. Civil Engineering and Computer Science Engineering, Tor Vergata University of Rome, Italy (Coordinator)
- Louis-César Pasquier, Centre Eau Terre Environment, Institut National de la Recherche Scientifique (INRS), Canada
- Ming Zhao, School of Environment, Tsinghua University, China
- Tom van Gerven, Dept. Chemical Engineering, KU Leuven, Belgium
- Stefano Stendardo, Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)
- Angela Di Benedetto, CIRCC - University of Bari, Italy
- Michele Aresta, CIRCC - University of Bari, Italy

Day 1, Monday July 12

9:00 - 9:15 – *Welcome Coffee and registration*

9:15 - 9:30 – Introduction to the course (Renato Baciocchi)

9:30-9:45 – Student presentations

9:45-11:15 – Role of CCUS as a climate change mitigation strategy and other drivers (invited speaker TBC)

11:15-11:30 – *Coffee break*

11:30-13:00 – Overview of CO₂ capture processes (Ming Zhao)

13:00-14:00 – *Lunch*

14:00-15:30 – Solid sorbents for CO₂ capture (Stefano Stendardo, ENEA)

15:30- 15:45 – *Coffee break*

15:45-17:15 – Strategies for achieving negative emissions: Air capture (Renato Baciocchi)

17:15-17:30 – Discussion

Day 2, Tuesday July 13

09:30-11:00 – Strategies for achieving negative emissions: BECCS (Ming Zhao)

11:00-11:15 – *Coffee break*

11:15-12:45 – Introduction on CO₂ utilization and storage (Renato Baciocchi)

12:45-13:00 – Discussion

13:00-14:00 – *Lunch*

14:00-15:30 – CO₂ to chemicals (Angela Di Benedetto, Michele Aresta, CIRCC-University of Bari)

15:30- 15:45 – *Coffee break*

15:45-17:15 – CO₂ to fuels (Angela Di Benedetto, Michele Aresta, CIRCC-University of Bari)

17:15-17:30 – Discussion

Day 3, Wednesday July 14

09:30-11:00 – CO₂ to materials: introduction to carbon mineralization (Giulia Costa)

11:00-11:15 – *Coffee break*

11:15-12:45 – Carbon mineralization applications in the construction sector (Louis-César Pasquier)

12:45-13:00 – Discussion

13:00-14:00 – *Lunch*

14:00-15:30 – Process intensification techniques (Tom van Gerven)

15:30- 15:45 – *Coffee break*

15:45-17:15 – Process intensification for CO₂ capture and utilisation (Tom van Gerven)

17:15-17:30 – Discussion

Day 4, Thursday July 15

09:30-11:00 – Carbon mineralization ex situ applications for industrial residues (Giulia Costa)

11:00-11:15 – *Coffee break*

11:15-12:45 – Carbon mineralization in situ applications for mining residues (Louis-César Pasquier)

12:45-13:00 – Discussion

13:00-14:00 – *Lunch*

14:00-15:30 – Student activity session

15:30- 15:45 – *Coffee break*

15:45-17:15 – Student activity session

17:15-17:30 – Discussion

Day 5, Friday July 16

1 day field trip to the industrial site of Porto Marghera.

