



5th Annual International Sulcis CCS Summer School

Sotacarbo Research Centre, Carbonia (Sardinia, Italy)
June 19-23, 2017



IN COLLABORATION WITH



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THANKS TO



International Sulcis CCS Summer School

5th edition

The interest in the Sulcis CCS Summer School can easily be explained by the growing worldwide attention for the technologies of separation and containment of carbon dioxide (so called CCS – “Carbon Capture, Utilization and Storage”). The lectures programme will cover the range of techniques developed for the capture, utilization and geological storage of CO₂, for which the Sulcis basin is the ideal laboratory for experiments.

Monday, June 19 (afternoon): Introduction

- international policies
- CO₂ reduction approaches

Tuesday, June 20: CO₂ capture technologies

- pre-, post- and oxy-combustion
- membrane separation
- chemical looping

Wednesday, June 21: CO₂ utilization

- CO₂ hydrogenation
- electrochemical reduction
- other approaches

Thursday, June 22: CO₂ storage

- CO₂ sequestration technologies
- site characterization and monitoring
- public awareness

Friday, June 23 (morning): Economics and legal issues

commercial diffusion of CCUS
economic and legal issues

and more:

- technical visits
- workshop on intl. research activities on CCS
- interactive programme for the students
- e-learning platform

June 19th 23rd 2017



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Fifth Annual International Sulcis CCS Summer School Carbonia, Sotacarbo Research Centre June 19-23, 2017

Preliminary Programme

Monday, June 19th, 2017 - Introduction

Session chairman: Alessandro Lanza (Sotacarbo, Italy)

- 11:00 Registrations
- 12:20 Welcome lunch
- 13:30 Open ceremony, welcome and general introduction Alessandro Lanza (Sotacarbo, Italy)
- 14:00 The new strategy of Sardinian Region for technological innovation and dissemination
- 14:30 CCS in the European and Italian policies
- 15:00 Sources of CO₂, energy balance and CCUS approaches
- 15:30 Energy saving, renewable sources and CCS for a sustainable development
- 16:00 Interactive programme
- 16:30 Interactive programme (meeting of the workgroups)
- 18:00 End of day 1

20:00
Social dinner

Tuesday, June 20th, 2017 - CO₂ capture approaches and technologies

Session chairman: Bhima Sastri (U.S. Department of Energy, USA)

- 09:00 Pre-combustion CO₂ capture: liquid solvents and mineral carbonation
- 09:30 Post-combustion CO₂ capture technologies
- 10:00 Power generation through oxy-fuel combustion)
- 10:30 Break
- 10:50 CO₂ separation technologies by membranes
- 11:20 Chemical looping
- 11:50 Advanced CO₂ capture technologies To be confirmed
- 12:20 lunch
- 13:30 Visit to the Sotacarbo pilot platform and laboratories
- 15:30 Interactive programme (meeting of the workgroups)
- 18:00 End of day 2

Wednesday, June 21st, 2017 - CO₂ utilization technologies

Session chairman: Serge Perineau (World Coal-To-X, France)

- 9:00 Enhanced oil and gas recovery by injecting CO₂
- 09:30 CO₂ to liquid fuels: hydrogenation processes Eliseo
- 10:00 CO₂ to liquid fuels: electrochemical and photo-electrochemical processes
- 10:30 Break
- 10:50 Syngas enrichment by reacting CO₂ with H₂S: an innovative approach
- 11:20 Methanol from CO₂ and renewable hydrogen
- 11:50 Coal to X and CCS: a great association
- 12:20 Lunch
- 13:30 Interactive programme (meeting of the workgroups)
- 15:00 Workshop: CCUS research activities (see programme below)

Workshop

CCUS research activities

Workshop chairman: Sergio Persoglia (CO₂GeoNet, France)

- 15:00 Introduction Alessandro Lanza (Sotacarbo, Italy)
- 15:15 ECCSEL: the European CO₂ Capture and Storage Laboratory Infrastructure
- 15:30 CCUS: Sotacarbo activities and research infrastructure
- 15:45 CCUS: Enea activities
- 16:00 CCUS: The activities at DIMCM
- 16:15 break
- 16:30 The ENOS (Enabling CO₂ Onshore Storage in Europe) project
- 16:45 Site monitoring: Experiences from the USA projects
- 17:00 Cap rock-reservoir hydraulic characterization and test implementation. Experiences of Hontomín site
- 17:15 The Sulcis coal basin: an Italian and European project for CO₂ geological storage
- 17:30 Discussion
- 18:00 End of day 3

Thursday, June 22nd, 2017 - CO₂ storage

Session chairman: Sallie Greenberg (University of Illinois, USA)

- 9:00 CO₂ storage: where we are and new challenges
- 9:30 Site monitoring: general approach
- 10:00 Instruments for site monitoring
- 10:30 Break
- 10:50 Instruments for material characterization
- 11:20 Drilling technologies
- 11:50 The role of public in CCS projects
- 12:20 lunch
- 13:30 Interactive programme (meeting of the workgroups)
- 16:30 End of day 4

16:30
Guided tour to Nebida and Masua beaches and pizza-based dinner

Friday, June 23rd, 2017 - CCS: economics and legislation

Session chairman: Matthias Finkenrath (Kempten University of Applied Science, Germany)

- 9:00 Diffusion of CCS: main issues To be defined
- 9:30 CCUS: commercial and pilot applications in the world To be defined (Global CCS Institute, Australia)
- 10:00 CO₂-free power generation: economic performance Matthias Finkenrath (Kempten University of Applied Sciences, Germany)
- 10:30 Break
- 10:50 CO₂ to liquid fuels: economic issues Michele Polo (Bocconi University, Italy)
- 11:20 CCUS: legal issues To be defined (European Commission)
- 11:50 Summary and closure of the School Stefano Giammartini (Sotacarbo/Enea, Italy)
- 12:20 lunch
- 13:30 Interactive programme (presentations by the workgroups)
- 15:30 Visit to the Serbariu Old Mine Museum
- 17:00 End of day 5

POSTER SESSION