

SCIENTIFIC COMMITTEE

Jacob Bear, TECHNION, Israel, (co-chair)
Auli Niemi, Uppsala University, Sweden (co-chair)
Jacob Bensabat, EWRE Ltd, Israel (co-chair)
Philippe Gouze, CNRS, France
Jesús Carrera, CSIC, Spain
Meritxell Martell, Merience, Spain

CONTACT INFORMATION

Scientific program:

Jacob Bear (cvrbear@technion.ac.il)
Auli Niemi (auli.niemi@geo.uu.se)

Registration and local arrangements:

Meritxell Martell (meritxell.martell@merience.eu)

Information on TRUST project: <http://trust-co2.org/>

COURSE VENUE

CSIC
Seminario B
C/ Jordi Girona, 18-26
Barcelona, Spain

REGISTRATION

There will be a registration fee of 100 Euro per participant (including tuition fees, lunch and coffee breaks). Register for the course online at:

<https://trustco2course.wordpress.com/registration>

By registering to this advanced course, students will get a 20% discount in the purchase of the book "Geological Storage of CO₂ in Deep Saline Formations" (Editors: Auli Niemi, Jacob Bear and Jacob Bensabat). Springer, 2017. <http://www.springer.com/cn/book/9789402409949>.

MORE INFORMATION

<http://trustco2course.wordpress.com/>



3rd Advanced Course on CO₂ Sequestration in Deep Geological Formations

13-14 September 2017

Barcelona, Spain

www.trustco2course.wordpress.com

ANALYTICAL – EXPERIMENTAL – NUMERICAL

Carbon Capture and Storage (CCS) is an expanding technique, with globally addressed scientific and technical challenges, aimed at reducing carbon dioxide in the atmosphere and thereby combatting the climate change.

This course will provide the participants with the **current state of the art knowledge** concerning some key scientific and technical issues related to CO₂ sequestration in deep, brine-containing geological formations. The focus will be on the processes related to **CO₂ injection and storage, spreading and trapping in the target formation, their mathematical and numerical modelling as well as experimental characterization and monitoring**. Experts will lecture on site characterization and investigations of critical processes by laboratory studies and field techniques, as well as on planning of experimental projects and monitoring techniques aimed at verifying the conceptual models. Emphasis will be on understanding the flow and transport mechanisms that provide the foundation for planning of full scale projects. Risk issues and societal aspects will also be presented and discussed.

The course is organized by the European Commission FP7 TRUST project. The recently released text book "Geological Storage of CO₂ in Deep Saline Formations" (Editors: Auli Niemi, Jacob Bear and Jacob Bensabat). Springer, 2017. will be used as background reading.





AUDIENCE

This course is intended for graduate students and post-doctoral researchers, including M.Sc. and Ph.D. students in the fields of engineering (civil, chemical, mechanical and petroleum engineering), geology, and geophysics, as well as professionals who wish to gain a greater understanding of current research findings, modeling and planning elements of CCS projects.

13 September 2017

8:30 – 9.00	Registration
9:00 – 10:00	Introduction to geological storage of CO ₂ and examples of field projects (Auli Niemi, University of Uppsala, Sweden)
10:00 – 11:30	Mathematical models for CO ₂ spreading and related processes: flow, two phases, non-isothermal, reactive transport, deformable porous medium (Jacob Bear, Technion, Israel)
11:30 – 12:00	<i>Coffee break</i>
12:00 – 13:00	Mathematical models for CO ₂ spreading and related processes: flow, two phases, non-isothermal, reactive transport, deformable porous medium (Jacob Bear, Technion, Israel) – continuation
13:00 – 14:00	<i>Lunch</i>
14:00 – 15:00	Numerical Modeling of Geological Storage – part 1; Methodologies, part 2; Results and examples. (Jesús Carrera, CSIC, Spain)
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:30	Approaches to large scale projects (Auli Niemi, University of Uppsala, Sweden)
16:30 – 17:30	Hydro-mechanical processes (Jesús Carrera, CSIC, Spain)

14 September 2017

9:00 – 10:00	Characterization methods for geological reservoirs – Part 1 (Jesús Carrera, CSIC, Spain)
10:00 – 11:00	Characterization methods for geological reservoirs – Part 2 (Auli Niemi, University of Uppsala, Sweden)
11:00 – 11:30	<i>Coffee break</i>
11:30 – 12:30	Laboratory testing of properties relevant to CO ₂ injection and spreading (Philippe Gouze, CNRS, France)
12:30 – 13:30	<i>Lunch</i>
13:30 – 15:30	Characterization, monitoring and field experiments of an injection site – the Heletz case, Israel (Jacob Bensabat, EWRE, Israel)
15:30 – 16:00	<i>Coffee break</i>
16:00 – 17:00	Interactive exercise: public perception and societal challenges associated with CCS (Meritxell Martell, Merience, Spain).
17:00 – 17:30	Evaluation of the workshop and closure