

PROGRAM NORDIC CCS SUMMER SCHOOL AUGUST 18TH-23RD, 2013, Bergen/Trondheim

Changes to the program might occur.

Sunday August 18th, 2013

Bergen

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| 16.00 – 16.45 | Welcome to the summer school <ul style="list-style-type: none">- Nils Røkke, SINTEF- Åse Slagtern, The Research Council of Norway- Per Aagaard, University of Oslo |
| 16.45 – 17.00 | Introduction to Group Work – Nordic CCS Roadmap:
"What is expected of a roadmap" <ul style="list-style-type: none">- Marit Mazzetti, SINTEF- Per Aagaard, University of Oslo |
| 17.15 – 18.45 | Group work "Roadmap for Nordic CCS" |
| 18.45 – 19.15 | Intro to Mongstad <ul style="list-style-type: none">- Olav Falck Pedersen, Technology Centre Mongstad |

Monday August 19th, 2013

Bergen/Trondheim

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| 09.00 | Field Trip Technology Center Mongstad |
| 10.30 – 11.45 | "CCS technology tested at Mongstad" <ul style="list-style-type: none">- Anne-Berit Hjorth Viken- Olav Falk-Pedersen |
| 11.45 – 14.45 | Lunch and tour of Mongstad facility |

Tuesday August 20th, 2013**NTNU Campus, PFI - Høgskoleringen 6b, 5th floor, Trondheim**

- 09.00 – 10.00 **"CCS Overview, incl. Steps to large scale deployment & Status of CCS projects"**
- Nils Røkke, SINTEF
- Philip Johnsson, Chalmers
- 10.00 – 10.45 **"Capture overview and Pre combustion"**
- Olav Bolland, NTNU
- 11.15 – 12.00 **"Capture 1 – Oxyfuel"**
- Toni Pikkarainen
- 12.00 – 12.45 **"Capture 2 – Post-combustion"**
- Karl Anders Hoff, SINTEF
- 13.45 – 14.30 **"Capture 3 – BIO CCS"**
- Antti Arasto, VTT, Finland
- 14.30 – 15.15 **"Capture 4 – Industrial sources"**
- Hans Aksel Haugen, Tel-Tek, overview
- Per Brevik, NORCEM
- 15.45 – 17.00 Visit to SINTEF CO₂ laboratory, Kolbjørn Heies vei 1a
see reactors for capture technologies
- Mario Ditaranto
- 17.30 – 20.00 Group work at Rica Nidelven Hotel

Wednesday 21st August, 2013**NTNU Campus, Høgskoleringen 6b, 5th floor, Trondheim**

- 09.00 – 09.45 **"Storage overview"**
- Per Aagard, University of Oslo
- 09.45 – 10.30 **"Storage 1 – Nordic storage atlas"**
- Karen Anthonsen, GEUS
- 11.00 – 11.45 **"Storage 2 – Site selection: capacity, injectivity and containment"**
- Per Bergmo, SINTEF
- 11.45 – 12.30 **"Storage 2 – EOR previous experiences and recent developments"**
- Per Arne Slotte, Statoil
- 12.30 – 13.15 **"Storage 3 – Modelling"**
- Ane Lothe, SINTEF
- 14.15 – 15.00 **"Storage 4 – Monitoring and verification"**
- Ola Eiken, Statoil
- 15.00 – 16.00 **"Combined capture and storage"**
- Sigurdur Gislason, University of Iceland
- 16.45 – 17.45 Group work at RICA Nidelven Hotel

Thursday August 22nd, 2013**NTNU Campus, PFI - Høgskoleringen 6b, 5th floor, Trondheim**

- 09.00 – 09.45 **“Transport of CO₂ – Overview and challenges”**
- Svein Solvang, Gassco
- 09.45 – 10.30 **“Transport, large scale infrastructure”**
- Jan Kjärstad, Chalmers
- 11.00 – 11.45 **“Transport: Flow modeling in CO₂ pipelines, cracks and impurities”**
- Svend Tollak Munkejord, SINTEF Energy
- 11.45 – 12.30 **“Political and legal – in international and Nordic context”**
- Tore Torp, Statoil
- 12.30 – 13.15 **“HSE – Health, safety and environment”**
- Christian Berston, Vattenfall
- 14.15 – 15.00 **“Public acceptance and communication of CCS”**
- Peter Stigsson, IVL
- 15.00 – 15.45 **“What is innovation – Innovation in a Nordic context”**
- Jill Hellman, Principal, The Strategy Lab, Inc./Cornell University, School of Hotel Administration
- 15.45 – 16.30 **“What is the cost of CCS?”**
- Nils H. Eldrup, Tel-Tek
- 17.15 – 20.00 Group work at Rica Nidelven Hotel

Friday August 23rd, 2013**NTNU Campus, PFI - Høgskoleringen 6b, 5th floor, Trondheim**

- 09.00 – 09.30 Outline of the day
- Nils Røkke
- 10.00 – 13.00 Group presentation/Oral Exam
- 14.00 – 15.00 Coffee and team awards
- Nils Røkke, SINTEF
- Olav Bolland, NTNU
- 15.00 – 15.30 Wrap-up
- Gunnar Sand, SINTEF