

Process Engineering

Meeting room 521, Kolbjørn Hejes vei 1D, 5th floor

Co-chairs:: Prof. Arne Bredeesen and Prof. Yamaguchi

08:45-09:00 Welcome and HSE

09:00-09:20 "Pilot scale testing using a facilitated transport membrane capturing CO₂ from power plants"
Prof. May-Britt Hägg, NTNU, Chemical Engineering

09:20-09:40 "The potential of inorganic membranes for selected industrial processes"
Prof. Izumi Kumakiri, Yamaguchi University

09:40-10:00 "Performance estimation of a CO₂ heat pump water heating system"
Prof. Ryohei Yokoyama, Osaka Prefecture University

10:00-10:20 "Performance of solar water heater using supercritical CO₂"
Mr. Haruhiko Yamasaki, Doshisha University

10:20-10:35 *Coffee break*

10:35-10:55 "High efficiency supermarkets, application of non-controlled R744 ejectors in commercial refrigeration"
Senior Research Scientist Armin Hafner, SINTEF Energy Research

10:55-11:15 "Refrigerated Sea Water (RSW) plant for fishing vessels using CO₂ as refrigerant"
Prof. Trygve Eikevik, NTNU Energy and process engineering

11:15-11:35 "Energy conversion using a binary temperature sensitive magnetic fluid"
Mr. Yuhiro Iwamoto, Doshisha University

11:35-11:55 "Smart Factory by Ubiquitous Sensor Networks"
Dr. Akira Tezuka, Nat Inst of Adv Ind Science and Technology (AIST)

11:55-13:00 *Lunch at Tellus*

13:00-13:20 "Current status of CCS technology in Japan"
Prof. Teruhiko Kai, Research Inst of Innovative Techn for the Earth (RITE)

13:20-13:40 "Bioenergy research in AIST"
Dr. Shigeru Futamura, Nat Inst of Adv Ind Science and Technology (AIST)

1340-1400 "Towards ideal NO_x and CO₂ emission control technology for bio-oils combustion energy system using a plasma-chemical hybrid process"
Prof. Tomoyuki Kuroki, Osaka Perfecture University

14:00-14:20 "Energy efficiency in industrial processes"
Prof. Petter Nekså, SINTEF Energy Research and NTNU Energy and process engineering

- 14:20-14:35 *Coffee break*
- 14:35-14:55 "High temperature heat pumps, possibilities for utilization of waste heat to produce heat above 100°C for use in industrial applications"
Senior Research Scientist Tom Nordtvedt, SINTEF Energy Research
- 14:55-15:15 "Synthesis of physical process and chemical process for preparing functional foaming materials"
Prof. Yasushi Ido, Nagoya Institute of Technology
- 15:15-15:45 **Wrap up**
- 16:00-1700 **Laboratory visit**
- 17:00- 18:00 **Co-chair meetings**
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- 1900 **Dinner** for Process Engineering at restaurant down-town