

**Program of the 3rd event:
“Nanostructured materials and membranes for Energy”**

Sunday 08 03 2009		
13H00 – 14H00	Participant's registration at SINTEF Oslo	
14H00	Travel to Mountain area (Thon Hotel Skeikampen) by bus	
15H00	Bus departure from airport	
<i>18H00-19H30</i>	<i>Dinner at hotel</i>	
19H30-19H40	Welcome address	Dr. Rune Bredesen, SINTEF, NO
19H40-20H40	Energy and the green house gas challenge in a global perspective	Bjørn Utgård, Bellona, NO

Monday 09 03 2009		
8H30-9H30	Value chain assessment of fuel and electricity production from renewable sources - applied to the transportation sector	Prof. Ulrich Bünger Ludwig-Bölkow- Systemtechnik GmbH, GE
9H30-10H30	Hydrogen R&D challenges and priorities in a European perspective	Dr. Steffen Møller-Holst, SINTEF, NO
<i>10H30-11H30</i>	<i>Break</i>	
11H00-12H00	Basics on polymeric membranes - types, properties and performance	Dr. Klaus-Viktor Peinemann GKSS, GE
<i>12H00</i>	<i>Lunch</i>	
	<i>Free activities</i>	
15H30-16H30	Basics on inorganic membranes - types, properties and performance	Dr. Anne Julbe, CNRS- IEM, FR
16H30-17H30	Overview on membrane based technologies in a global energy company	Prof. Dr. Ir. Arian Nijmeijer , Shell, NL
17H30-19H00	Group work	
<i>20H00</i>	<i>Dinner</i>	

Tuesday 10 03 2009		
8H30-9H30	Overview on fuel cells and their performance characteristics (PEMFC, SOFC, PCFC, AFC)	Dr. Mathieu Marrony, Eifer-EDF, FR
9H30-10H30	Recent progress in PEMFC: Materials and performance	Dr. Suzana Nunes, GKSS, GE
<i>10H30-11H30</i>	<i>Break</i>	
11H00-12H00	Osmotic Power, a new, renewable energy source	Dr. Stein Erik Skilhagen, Statkraft AS, NO
<i>12H00</i>	<i>Lunch</i>	
	<i>Free activities</i>	
15H30-16H30	Modelling of transport and conversion in porous structures	Dr. Ann-Mari Svensson, SINTEF, NO
16H30-17H30	Degradation of PEM fuel cells	Dr. Magnus Thomassen, SINTEF, NO
17H30-18H30	Novel approaches in high temperature polymeric fuel cells	Dr. Stéphanie Roualdès, CNRS-IEM, FR
18H30-20H00	Poster session I	
<i>20H00</i>	<i>Dinner</i>	

Wednesday 11 03 2009		
8H30-9H30	Potential and limitations of zeolite membranes for H ₂ separation	Dr. Anne Julbe CNRS-IEM, FR
9H30-10H30	Microporous membranes for hydrogen separation and applications	Prof. Shin-ichi Nakao, University of Tokyo, JP
<i>10H30-11H30</i>	<i>Break</i>	
11H30-12H00	Polymer membranes for hydrogen separation	Ass. Prof. Kitty Nijmeijer, University of Twente, NL
<i>12H00</i>	<i>Lunch</i>	
	<i>Free activities</i>	
13H00-16H00	Outdoor winter games for everyone (no skiing practise needed)	
16H30-17H30	Hybrid and microporous membranes for pervaporation and energy savings	Dr. Jaap Vente, ECN, NL
17H30-18H30	Overview on membrane based technologies in power cycles – Systems considered by StatoilHydro	Dr. Jens B. Smith, StatoilHydro, NO
18H30-20H00	Poster session II	
<i>20H00</i>	<i>Dinner</i>	

Thursday 12 03 2009		
8H30-9H30	High temperature oxygen separation membranes – basic transport properties and flux performance	Prof. Henny Bouwmeester, Univ. Twente, NL
9H30-10H30	Oxygen sorption in oxides and application for O ₂ production	Prof. Henny Bouwmeester, Univ. Twente, NL
<i>10H30-11H30</i>	<i>Break</i>	
11H00-12H00	Chemical looping combustion and reforming	Prof. Juan Adanez, CSIC, S
<i>12H00</i>	<i>Lunch</i>	
	<i>Outdoor Program</i>	
14H30-15H30	Preparation and design of oxygen separation membranes	Dr. Paul I. Dahl, SINTEF, NO
15H30-16H30	Modelling of membrane reactors for air separation	Dr. Jaap Vente, ECN, NL
16H30-17H30	Stability of oxygen membranes	Prof. Tor Grande, NTNU, NO
17H30-18H00	<i>Break</i>	
18H00-19H00	Application of air separation units	Dr. Nicolas Richet, Air-Liquide, FR
19H00-20H00	Salinity Gradient Energy: Blue energy	Ass. Prof. Kitty Nijmeijer, University of Twente, NL
<i>20H00</i>	<i>Dinner / Administrative actions</i>	

Friday 13 03 2009		
8H30-9H30	AFC and PEM electrolyser - concepts and performance	Prof. Svein Sunde, NTNU, NO
9H30-10H30	Thermocycles and energy recovery	Dr. Séphane Sarrade CEA, FR
10H30-11H30	Status of high temperature electrolyzers	Prof. Mogens Mogensen, Risø National Laboratory, DK
11H30	Check out of rooms	
<i>12H00</i>	<i>Lunch</i>	
<i>13H30</i>	<i>Visit of SINTEF labs Break with drinks and snacks Travel to Lillestrøm conference centre (Thon Hotel Arena)</i>	
<i>20H00</i>	<i>Dinner at the conference centre in Lillestrøm</i>	

Saturday 14 03 2009		
8H30-9H30	Pd membranes for hydrogen production	Prof. Douglas Way, CSM Colorado, US
9H30-10H30	Photovoltaic technology I – basic principles and concepts	Dr. Alexander G. Ulyashin, SINTEF, NO
<i>10H30-11H00</i>	<i>Break</i>	
11H00-12H00	Photovoltaic technology II – prospects and challenges	Dr. Alexander G. Ulyashin, SINTEF, NO
<i>12H30-13H30</i>	<i>Lunch</i>	
13H30-14H30	Membranes related to Energy in the 7 th FP. Projects and networks	Prof. Gilbert Rios, CNRS-IEM, FR
14H30-15H30	Introduction to the 7 th FP	Dr. Boukje Ehlen, NL
15H30-16H30	How to start up new projects and collaboration within the 7 th FP: - programs, networks, mobility, proposals and calls, basics about making proposals (partnership, hit the call text, proposal writing)	Dr. Boukje Ehlen, NL
<i>20H00</i>	<i>Dinner</i>	

Sunday 15 03 2009		
10H00-11H00	Dense ceramic proton conducting membranes for hydrogen separation	Ass. Prof. Reidar Haugrud, University of Oslo, NO
11H00-12H00	Status of high temperature inorganic PCFC	Dr. Marie-Laure Fontaine, SINTEF, NO
<i>12H30</i>	<i>Lunch</i>	
14H00-15H00	Sealing technology for high temperature membranes and fuel cells	Dr. Ove Paulsen, SINTEF, NO
15H00-16H00	SOFC-status and new developments for the next generation of cells and stacks	Dr. Hans-Peter Buchkremer, Forschungszentrum Jülich GmbH, GE
<i>20H00</i>	<i>Dinner</i>	

Monday 16 03 2009		
8H30-9H30	Process intensification by membrane technology – a strategy to reduce energy consumption and use of resources	Prof. Enrico Drioli, ITM-CNR, IT
9H30-10H30	Status and applications of polymeric and hybrid membranes for CO ₂ separation	Prof. William Koros , Georgia Tech, US
<i>10H30-11H00</i>	<i>Break</i>	
11H00-12H00	Microporous carbon sieve membranes	Prof. May-Britt Hägg, NTNU, NO
12H00-13H00	Dual phase/molten carbonates membranes	Prof. Jerry Y.S. Lin, Arizona State University, US
<i>13H00-14H00</i>	<i>Lunch</i>	
14H00-15H00	Zeolite membranes – preparation, characterisation and performance in CO ₂ separation	Prof. Miguel Menendez, University of Zaragoza, S
15H00-16H00	Solvent absorbents and membrane contactors for CO ₂ capture	Prof. Halvard Svendsen, NTNU, NO
<i>16H00-16H30</i>	<i>Break</i>	
16H30-17H30	CO ₂ sorbents in SMR and WGS processes	Dr. Paul Cobden, ECN, NL
<i>20H00</i>	<i>Dinner</i>	

Tuesday 17 03 2009		
8H30-9H30	Power generation cycles and modelling of efficiency	Prof. Olav Bolland, NTNU, NO
09H30-10H30	Technologies and processes for CO ₂ mitigation from large point emission sources	Dr. Richard Beavis, BP, UK
10H30-10H45	Closing session	
10H45-11H30	Evaluation of course (Mandatory for all participants)	
<i>11H30</i>	<i>Lunch</i>	
12H30-14H00	Organisational activities: - Information on grants payout - AOB	