

Program

Norwegian PhD Network on Nanotechnology for Microsystems

Tønsberg, Norway, 31. May - 2. June 2010

Monday 31. May

10:30	Registration
11:30 - 13:00	Lunch
Oral session 1	
Norwegian Micro- and Nanoindustry	
	Chair: Dag Wang
13:00 - 13:15	Welcome to the workshop <i>Jostein Grepstad</i>
13:15 - 13:40	Sensoror Technologies, 25 years with MEMS <i>Sverre Horntvedt, Sensoror</i>
13:40 - 14:05	Miniaturization challenges in CMOS image sensors <i>Johannes Sølhusvik, Aptina</i>
14:05 - 14:20	Optimization of nano unmanned aerial vehicles <i>Luca Petricca, Institute for Microsystem Technology, HiVe</i>
14:20 - 14:45	Norwegian stakeholders in the field of Smart Systems Integration <i>Per Gløersen, Sensoror/SINTEF</i>
14:45 - 15:05	Coffee break
Oral session 2	
Materials, nanocharacterization and –structuring	
	Chair: Terje Finstad
15:05 - 15:30	Advanced characterization of semiconductor materials <i>Bengt Svensson, Dept. of Physics, UiO</i>
15:30 - 15:45	Growth of heterostructured III-V semiconductor nanowires by molecular beam epitaxy <i>D.L. Dheeraj, Dept. of electronics and telecommunications, NTNU</i>
15:45 - 16:00	Enhanced annealing of MeV ion implantation damage in n-type 4H silicon carbide by thermal oxidation <i>Lars Sundnes Løvlie, Dept. of Physics, UiO</i>
16:00 - 16:15	Nanoscale Modeling of AlN/GaN Quantum Cascade Lasers <i>Kristian Berland, Chalmers University of Technology</i>
16:15 - 16:30	Presentation of all poster in poster session 1
Poster session 1	
16:30 - 17:30	Poster session
18:30	Dinner at the hotell

Tuesday 1. June

Oral session 3	
Optical micro- and nanosystems	
Chair: Nils Høivik	
08:30 - 09:10	Optical Interfaces to the Nanoscale <i>Olav Solgaard, Stanford University</i>
09:10 - 09:25	Application of MEMS Mirror for Laser Speckle Reduction <i>Zhaomin Tong, Institute for Microsystem Technology, HiVe</i>
09:25 - 09:40	A novel tunable grating fabricated with viscoelastic polymer (PDMS) and conductive polymer (PEDOT) <i>G. Ouyang, Institute for Microsystem Technology, HiVe</i>
09:40 - 09:55	Photonic crystal based biosensing platform for single molecule detection <i>Jon Olav Grepstad, Dept. of Electronics and Telecommunications, NTNU / SINTEF</i>
09:55 - 10:20	Speckle reduction in laser display technology by using MOEMS <i>X. Chen, Institute for Microsystem Technology, HiVe</i>
10:20 - 10:40	Coffee break
Oral session 4	
Materials, nanocharacterization and –structuring	
Chair: Jostein Grepstad	
10:40 - 11:05	A new Electron Beam Lithography facility at the University of Bergen <i>Bodil Holst, Dept. of Physics and Technology, UiB</i>
11:05 - 11:20	Direct imaging of antiferromagnetic domains in nanostructured LaFeO ₃ thin films. <i>Erik Folven, Dept. of Electronics and Telecommunications, NTNU</i>
11:20 - 11:35	Neutral Helium Atom Microscopy "Seeing with Atoms" <i>Sabrina Eder, Dept. of Physics and Technology, UiB</i>
11:35 - 11:50	Variations in atomic-scale structures mapped with micron-scale resolution <i>Håvard Granlund, Dept. of Physics, NTNU</i>
11:50 - 12:05	Microwave characterization of ferroelectric PZT/ZrO ₂ thin films <i>Deokki Min, Institute for Microsystem Technology, HiVe</i>
12:05 - 13:20	Lunch

Oral session 5	
ASICs for MEMS / 3D Integration	
	Chair: Trond Ytterdal
13:20 - 14:00	Interfacing MEMS sensors with ASICs <i>Markku Åberg, VTT Technical Research Centre of Finland</i>
14:00 - 14:15	Nanoscale CMOS analog design for medical ultrasound imaging <i>Linga Reddy Cenkeramaddi, Dept. of Electronics and Telecommunications, NTNU</i>
14:15 - 14:40	Evolution of 3D integration for IC and sensors <i>Maaikje M. V. Taklo, SINTEF ICT, Microsystems and Nanotechnology</i>
14:40 - 14:55	Presentation of all poster in poster session 2
Poster session 2	
14:55 - 16:00	Poster session
Oral session 6	
RF MEMS	
	Chair: Trond Ytterdal
16:00 - 16:25	Augmenting electronic systems by including MEMS components <i>Oddvar Søråsen, Dept. of Informatics, UiO</i>
16:25 - 16:40	Modeling of mixer-filter Square-Frame Resonators using a CMOS-MEMS compatible process <i>Jan Erik Ramstad, Dept. of Informatics, UiO</i>
16:40 - 16:55	Microfabricated folded waveguide slow-wave structure for terahertz traveling-wave tubes amplifiers <i>Ruilin Zheng, Institute for Microsystem Technology, HiVe</i>
18:15 – ca 22:00	<p>Boat trip and dinner The boat, MS Klipperfjord, will pick us up at the quay outside the hotel at 18:15, and depart as soon as we have boarded. Don't be late!</p> <p>It might be cold at sea, even though the weather is nice on shore, so bring some warm clothes.</p> <p>Buffet dinner and two drinks are included. Additional drinks can be bought on board, but they only accept cash! (It is not allowed to bring your own drinks.)</p>

Wednesday 2. June

Oral session 7	
	Transducers technologies / Micro- and nanotechnology for biosystems
	Chair: Dag Wang
08:30 - 08:55	MEMS vibration energy harvesters <i>Einar Halvorsen, Institute for Microsystem Technology, HiVe</i>
08:55 - 09:20	Hybrid hydrogels for biospecific signal transduction – a tool for realizing biosensors on a fiber-optic based interferometer <i>Bjørn Stokke, Dept. of Physics, NTNU</i>
09:20 - 09:35	Simulation of an energy harvesting system with broadband excitation <i>Lars-Cyril Julin Blystad, Institute for Microsystem Technology, HiVe</i>
09:35 - 10:00	A biomedical microsystem technology that perform biological, chemical and molecular analysis of complex disease <i>Frank Karlsen, NorChip</i>
10:00 - 10:20	Coffee break
10:20 - 10:45	Design Modeling of CMUT's for medical Imaging <i>Arne Rønnekleiv, Dept. of Electronics and Telecommunications, NTNU</i>
10:45 – 11:05	Opportunities and limitations for nano- and microtechnologies in the life sciences <i>Øyvind Halaas, Department of Cancer Research and Molecular Medicine, NTNU</i>
11:05 - 12:15	Panel discussion
12:15 - 12:30	Summing up and announcement of best student presentation/poster
12:30	Lunch