

Program for the 6th annual workshop
arranged by the
Norwegian PhD Network on Nanotechnology for Microsystems
Scandic Holmenkollen Park Hotel
15. - 17. June 2015

Monday 15 June

10:00	Registration opens
11:30 12:30	Lunch
12:30 12:40	Welcome: Jostein Grepstad, NTNU

Oral session 1: Nanomaterials science I

Chair: Erik Wahlström, NTNU	
12:45 13:15	Henning Riechert, Humboldt University of Berlin <i>Semiconductor nanowires - growth and applications</i>
13:15 13:30	Torstein Bolstad, NTNU <i>Structural effects on magnetism: A possible route to novel electromagnetic systems</i>
13:30 13:45	Ingrid Hallsteinsen, NTNU <i>Interface magnetism in LSMO/LFO heterostructures on (111)-oriented STO</i>
13:45 14:15	Kaying Wang, HBV <i>Electrochemical engineering of TiO₂ nanotubes for energy applications</i>
14:15 14:45	Coffee break

Oral session 2: Microfluidics and BioMEMS

Chair: Erik Johannessen, HBV	
14:45 15:15	José A. Plaza, Institute of Microelectronics of Barcelona IMB-CNM <i>A "voyage" from cells-on-chip to chips-in-cell</i>
15:15 15:30	Jonas Ribe, NTNU <i>A microfluidic filtration system for submicron particles via prototyping using electron beam lithography</i>
15:30 15:45	Armend Gazmeno Håti, NTNU <i>Advanced flow focusing microfluidic devices for controlled synthesis of micron- and nano-sized particles</i>
15:45 16:00	Per Øhlckers, HBV <i>Using the body as a thermostat: A parametric thermal simulation model for a noninvasive blood glucose sensor</i>
16:00 16:30	Poster Slam

Poster session

Chair: Nils Høivik, HBV	
16:30 18:30	Poster session with coffee and afternoon snack
19:30	Dinner at the hotel

Tuesday 16 June

Oral session 3: Integrated circuit and systems design for nanoelectronics and microsystems

Chair: Snorre Aunet, NTNU	
09:00	09:30 Gunnar Mæhlum, Integrated Detector Electronics AS <i>Nanoelectronics in space, challenges and opportunities.</i>
09:30	09:45 Hourieh Atarzadeh, NTNU <i>Stacking integration methodologies in 3D IC for 3D ultrasound image processing application: A stochastic flash ADC design case study</i>
09:45	10:00 Amir Hasanbegovic, UoO <i>Performance evaluation of low power radiation tolerant CMOS circuits in 65 nm bulk CMOS</i>
10:00	10:15 Bjørnar Karlsen, HBV <i>AC Josephson and AC resistive voltage dividers</i>
10:15	10:30 Ali Asghar Vatanjou, NTNU <i>Ultra-low voltage/energy CMOS building blocks in 65 nm technology</i>
10:30	11:00 Coffee break

Oral session 4: Nanomaterials science II

Chair: Naureen Akhtar, UoB	
11:00	11:30 Johannes Skaar, NTNU <i>Fundamentals of metamaterials</i>
11:30	11:45 Magnus Moreau, NTNU <i>Octahedral coupling in (111)-oriented oxide interfaces from first principles</i>
11:45	12:00 Sam Sloetjes, NTNU <i>Pinpointing parameters for ferromagnetic complex oxides by means of micromagnetic simulations</i>
12:00	12:15 Ranveig Flatabø, UoB <i>Charging effect in nanostructures on insulating substrates</i>
12:15	12:30 Thanh-Nam Tran, NTNU <i>Aluminum-based contacts for mid-IR laser applications</i>
12:30	13:30 Lunch

Oral Session 5: Optical/photonic microsystems and lithographic techniques

Chair: Olav Solgaard, Stanford University	
14:00	14:30 John William Phair, Polight <i>PiezoMEMS for autofocus applications</i>
14:30	14:45 Mahmoud Farghaly, HBV <i>Design concepts for novel MEMS tunable lenses</i>
14:45	15:00 Nadeem Akram, HBV <i>Development of transistor vertical cavity surface emitting laser (TVCSSEL).</i>
15:00	15:15 Torstein Nesse, NTNU <i>Atom lithography using binary Fraunhofer holograms</i>
15:15	15:30 Nilesh Patil, NTNU <i>X-ray characterization of thin films for polymer solar cells</i>
15:30	16:00 Afternoon snack
17:30	Bus leaves for Kon-Tiki museum
19:30	Dinner at Lanternen restaurant

Wednesday 17 June

Oral session 6: Microsystem interconnects and packaging

Chair: Kari Schjøberg-Henriksen, SINTEF ICT
08:45 09:15 Branson Belle, Thinfilm Electronics ASA <i>Using printed electronics to create a truly connected world</i>
09:15 09:30 Åsmund Sandvand, HBV <i>Influence of sensor package hermeticity-level on long-term drift for a piezoresistive MEMS pressure sensor</i>
09:30 10:00 Helge Kristiansen, Conpart AS <i>Challenges in fine pitch ACF interconnect</i>
10:00 10:30 Coffee break

Oral session 7: Nanomaterials science III

Chair: Sabrina Eder, UiB
10:30 10:45 Naureen Akhtar, UoB <i>Robust underwater superoleophobic surfaces</i>
10:45 11:00 Federico Mazzola, NTNU <i>Silver catalysed fluorouracil degradation; a promising new role for graphene</i>
11:00 11:30 Lasse Vines, UoO <i>Electrical characterization using scanning probe microscopy</i>
11:30 12:00 Frode Tyholdt, SINTEF ICT <i>Peculiarities in chemical solution deposition of functional oxide thin films and challenges in upscaling towards production</i>
12:00 12:30 Windup: Jostein Grepstad, NTNU
12:45 13:45 Lunch

Poster session

Monday 15 June, 16:30 - 18:30

Nanomaterials science

1	Eirik Torbjørn Skjønsvoll, NTNU <i>Nano scale imaging using X-ray ptychography</i>
2	Fredrik K. Olsen, NTNU <i>Impact of interface coupling in magnetic oxide thin film bilayers</i>
3	Andreas Reiten, NTNU <i>3D reciprocal space reconstruction for interpretation of diffuse X-ray scattering</i>
4	Ambjørn Dahle Bang, NTNU <i>Fabrication routes of large arrays of nanostructures for magnetic spectroscopy</i>
5	Vegard Flovik, NTNU <i>Magnetodynamics of nanomagnets</i>
6	Magnus Kristofer Nord, NTNU <i>Analyzing the electronic structure of perovskite oxides using transmission electron microscopy</i>
7	Chidanand Bhodoo, UoO <i>Annealing kinetics of the single vacancy in silicon studied by low temperature irradiation and deep level transient spectroscopy</i>
8	Thomas Neset Sky, UoO <i>Gallium diffusion in zinc oxide</i>
9	Mads Eide Ingebrigtsen, UoO <i>X-ray induced variations in the depletion capacitance correlating with K-shell transitions of defect constituting impurities: testing iron in silicon</i>
10	Ida Høiaas, NTNU <i>GaAs nanowire growth on [111]-oriented silicon with sub-grain thickness</i>

Microsystems packaging and applications

11	Ngoc Nguyen, HBV <i>Design of high Q thin film bulk acoustic resonator (FBAR) using dual-mode reflection</i>
12	Christian Bjørge Thoresen, HBV <i>Anti-touch: Detecting untouched objects on capacitive touch screens</i>
13	Trinh Bich Hoang, HBV <i>Acoustic resonator for the investigation of the mass loading effect from immobilised bioactive components</i>
14	Cuong Phu Le, HBV <i>Modelling of an electret-based power generator</i>
15	Sigurd Rolland Pettersen, NTNU <i>In situ four-point electrical measurements on spherical silver thin films</i>

Poster session: List of posters

Optical/photonic microsystems and lithographic techniques

16	Asmat Nawaz, HBV <i>Perovskite based solar cell: A novel competitor of Si solar cell.</i>
17	Kang Du, HBV <i>Photocurrent enhancement of TiO₂ nanotube photoelectrode decorated with PbS quantum dots</i>
18	Cuong Hung Nguyen, HBV <i>Interdigital-electrode thin-film piezoelectric transducers for autofocus lenses</i>
19	Eivind Bardalen, HBV <i>Packaging of an optical fiber coupled photodiode for operation at cryogenic temperatures</i>
20	Vårin Renate Andvik Holm, UoB <i>Blue to red observation of a reversed color change in an array of gold nano particles; a systematic investigation</i>
21	Julie Bonkerud <i>Properties of perovskite-based solar cell structures</i>
22	Jens Høvik <i>ICP-RIE shallow etching of silicon for photonic components</i>
23	Arivazhagan Valluvar Oli, UoB <i>Lattice channel based porous membranes: A new technique for mask based atom lithography</i>