

**Programme**  
**8th Annual Workshop**  
of the  
**Norwegian PhD Network on Nanotechnology for Microsystems**  
Quality Hotel Edvard Grieg, Bergen  
12 - 14 June 2017

**Monday 12 June**

10:00	Registration opens
<b>12:00 13:00</b>	<b>Lunch</b>
13:00 13:10	Welcome: Jostein Grepstad, NTNU

**Oral session 1: BioMEMS**

Chair: Einar Halvorsen, USN	
13:15 13:45	Thomas Glott, Sunnaas Hospital <i>The human sensory system - can implantable micro sensors replace defect functions?</i>
13:45 14:15	Ingelin Clausen, SINTEF <i>Microsensors in medical applications - when size matters</i>
14:15 14:45	Erik Johannessen, USN <i>From proteins to protozoans - The art of BioMEMS</i>
<b>14:45 15:15</b>	<b>Coffee break</b>

**Oral session 2: Nanomaterials science I**

Chair: Bjørn-Ove Fimland, NTNU	
15:15 15:45	Arne Brataas, NTNU <i>Spintronics</i>
15:45 16:00	Ambjørn Dahle Bang, NTNU <i>Switching antiferromagnetic spins in a ferromagnetic/antiferromagnetic bilayer system</i>
16:00 16:15	Fredrik K. Olsen <i>Exploring emergent magnetism at complex oxide interfaces</i>
<b>16:15 16:45</b>	<b>Poster Slam</b>

**Poster session**

Chair: Jo Gjessing, SINTEF	
<b>16:45 18:45</b>	<b>Poster session with coffee and afternoon snack</b>
<b>20:00</b>	<b>Dinner at the hotel</b>

## Tuesday 13 June

### Oral session 3: Nanomaterials science II

Chair: Bodil Holst, UoB		
09:00	09:30	Stefan Fölsch, Paul-Drude Institut Berlin <i>Quantum dots created by atom manipulation with the scanning tunneling microscope</i>
09:30	09:45	Torunn Kjeldstad, UoO <i>Self-assembled aluminium nanowires in silicon</i>
09:45	10:00	Anjan Mukherjee, NTNU <i>High quality single GaAs nanowire/graphene junctions fabricated by using an imprinting technique for embedded nanowire configuration</i>
10:00	10:15	Simon Cooil, NTNU <i>In-situ patterning of ultra sharp dopant profiles in silicon</i>
10:15	10:30	Runar Dahl-Hansen, NTNU <i>Breakdown mechanisms and passivation of piezoelectric micro-mirrors</i>
<b>10:30</b>	<b>11:00</b>	<b>Coffee break</b>
11:00	11:30	Seong-Soo Choi, Sungkyunkwan University <i>From micronsized coulter cell counter to nanosized single molecule nanopore sensor</i>
11:30	11:45	Muhammad Tayyib, USN <i>The Impact of Impurities on the relative efficiencies of solar cells from different silicon feedstocks</i>
11:45	12:15	Klaus Magnus Johansen, UoO <i>Studying defects in ZnO by cathodoluminescence spectroscopy - possibilities and pitfalls</i>
<b>12:30</b>	<b>13:30</b>	<b>Lunch</b>

### Oral Session 4: Integrated circuit design and sensors

Chair: Snorre Aunet, NTNU		
13:30	14:00	Michael Flynn, Univ. of Michigan <i>Progress in integrated analog-digital interfaces</i>
14:00	14:15	Luca Marchetti, USN <i>Design of a bidirectional amplifier for actuation and read-out of resonant sensors based on pseudo floating-gate amplifier</i>
14:15	14:30	Ali Ashgar Vatanjou, NTNU <i>Ultra-low voltage/energy CMOS logic cells in 28 nm FDSOI technology</i>
14:30	14:45	Roy Avisek, USN <i>Design considerations of CMOS Micro-heaters to directly synthesize carbon nanotubes for gas sensing applications</i>
14:45	15:15	Igor Paprotny, University of Illinois <i>Sensors and microrobots in the emerging field of air-microfluidics</i>
<b>15:15</b>		<b>Afternoon snack (informal, grab and go)</b>
<b>15:45</b>		<b>Meetup at hotel lobby</b>
<b>16:00</b>		<b>Bus leaves for Lysøen</b>
<b>20:00</b>		<b>Dinner at Bryggeloftet</b>
<b>23:00</b>		<b>Bus returns (appr)</b>

## Wednesday 14 June

### Oral session 5: Instrumentation and optics

Chair: Martin Greve, UoB		
09:50	10:10	Jostein Hovdenes, Aanderaa Data Instruments AS <i>Aanderaa, Reliable Sensors Solutions for the Ocean</i>
10:10	10:30	Peter James Thomas, Christian Michelsen Research <i>Introduction to Christian Michelsen Research</i>
10:30	10:45	Ranveig Flatabø, UoB <i>Large area scanning-helium-ion-beam lithography</i>
10:45	11:00	Nadeem Akram, USN <i>Accurate wide-field eye model based on ocular wavefront measurements of emmetropic patients</i>
11:00	11:30	Bodil Holst, UoB <i>Nanostructured optical elements for glass and atoms</i>
11:30	12:00	Wrapup and awards: Jostein Grepstad, NTNU
<b>12:00</b>	<b>13:00</b>	<b>Lunch</b>

## Poster session

Monday 12 June, 16:45 - 18:45

### Nanomaterials science

1	Chaoqun Cheng, HSN
	<i>Enhanced visible light absorption of MoS<sub>2</sub>-x/TiO<sub>2</sub>/Ti multilayered heterojunction photoelectrode</i>
2	Vårin Renate Andvik Holm, UoB
	<i>A theoretical investigation of the optical properties of metal nanoparticles for photothermal conversion enhancement</i>
3	Dingding Ren, NTNU
	<i>Single-mode IR lasing from GaAsSb/GaAs nanowire superlattices</i>
4	Kang Du, HSN
	<i>Photocurrent properties of Ti<sup>3+</sup>-introduced TiO<sub>2</sub> nanotubes photoelectrode decorated by CdSe quantum dots</i>
5	Kristoffer Kjærnes, NTNU
	<i>Strain engineering the symmetry of LaFeO<sub>3</sub></i>
6	Sindre Sjøpstad, HSN
	<i>Long-term potential stability of screen-printed reference electrodes</i>
7	Mohana Rajpalke, NTNU
	<i>InAs/(Al)GaAs quantum-dot-based intermediate band solar cells</i>
8	Torstein Bolstad, NTNU
	<i>Structure determination of La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> thin films through x-ray diffraction</i>
9	Sam Sloetjes, NTNU
	<i>Interplay between bulk and edge-bound topological defects in a square micromagnet</i>
10	Molly Bazilchuk, NTNU
	<i>Resistivity measurements on metal-coated polymer particles using van der Pauw structures fabricated with focussed ion beam</i>
11	Raj Kumar, UoO
	<i>Impact of post-deposition annealing on electrical properties of Cu<sub>2</sub>O thin film</i>

### Bionanotechnology

12	Jakob Vinje, NTNU
	<i>Nanostructuring and controlled surface chemistry for cell studies and biomedical applications</i>

### Optical MEMS/energy harvesters

13	Burak Cunbul, HSN
	<i>Laser-driven phosphor light engine for high-lumen DMD projector</i>
14	Mustafa Balci, HSN
	<i>Blue-laser-driven Ce-doped single crystal phosphors in application of high-power lighting and display technologies</i>
15	Binh Truong, HSN
	<i>Analysis of electrostatic energy harvesters electrically configured as Bennet's Doubler</i>
16	Jens Høvik, NTNU
	<i>Ring resonators as refractive index sensors</i>