

# Program

## 9th Annual Workshop of the Norwegian PhD Network on Nanotechnology for Microsystems Scandic Havna Tjøme 11 - 13 June 2018

### Monday 11 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: Nanomaterials science I

Chair: Erik Folven, NTNU	
13:15 13:45	Fritz Prinz, Stanford University <i>Nanoscale engineered solid oxide fuel cells</i>
13:45 14:00	Ambjørn Dahle Bang, NTNU <i>Controlling antiferromagnetic spins by nanostructuring</i>
14:00 14:15	Alireza Qaiumzadeh, NTNU <i>All-magnonic helicity-dependent domain-wall motion in antiferromagnetic insulators</i>
14:15 14:30	Jon Borgersen, UoO <i>Defect dependent conductivity in metal oxides examined by ion irradiation and in situ I-V measurements</i>
14:30 14:45	Justas Zaliackas, UoB <i>Magnetic and electric field sensing using color centers in diamond</i>
14:45 15:15	Paul Alkemade, Delft University of Technology <i>Lithography with swift light ions</i>
<b>15:15 15:45</b>	<b>Coffee break</b>

### Oral session 2: Bionanotechnology

Chair: Kristin Imenes, USN	
15:45 16:15	Martin Peacock, Zimmer & Peacock AS <i>Fast tracking commercialisation of biosensors - a case study</i>
16:15 16:45	Geir Fonnum, Thermo Fisher Scientific <i>Ultrafast DNA sequencing enabled by novel Ugelstad bead technology</i>
16:45 17:00	Jakob Vinje, NTNU <i>Controlled surface topography and chemistry for cell studies</i>
<b>17:00 17:15</b>	<b>Poster Slam</b>

### Poster session

Chair: Jana Jágerská, UoT	
<b>17:15 19:15</b>	<b>Poster session with coffee and afternoon snack</b>
<b>20:00</b>	<b>Dinner at the hotel</b>

## Tuesday 12 June

### Oral session 3: Nanomaterials science II

Chair: Bodil Holst, UoB	
09:15	09:45 John de Mello, Imperial College London / NTNU <i>Microfluidic routes to the controlled synthesis of solution-processable electronic materials</i>
09:45	10:00 Einar Digernes, NTNU <i>Imaging vortex gyration in complex oxide micromagnets with sub-nanosecond time resolution</i>
10:00	10:30 Naureen Akhtar, UoB <i>Wetting of surfaces and interfaces</i>
<b>10:30 11:00 Coffee break</b>	
11:00	11:30 Jan Torgersen, NTNU <i>Synchrotron based X-ray absorption near-edge structure (XANES) for revealing geometric and electronic structure of atomic layer deposited films</i>
11:30	11:45 Sam Sloetjes, NTNU <i>Effects of intermagnet dipolar coupling on the dynamic properties of nanodisc arrays</i>
11:45	12:00 Fredrik K. Olsen, NTNU <i>Enhanced magnetism in embedded epitaxial complex oxide micromagnets</i>
<b>12:00 13:00 Lunch</b>	

### Oral Session 4: MEMS technology

Chair: Lars Hoff, USN	
13:00	13:30 Susan Trolier-McKinstry, Penn State University <i>Energy harvesting with piezoelectric films</i>
13:30	13:45 Runar Plunnecke Dahl-Hansen, NTNU <i>On the dynamics of a degrading piezoelectric micromirror operated in harsh environments</i>
13:45	14:15 Åsmund Sandvand, MEMSCAP AS <i>MEMS pressure sensors for aerospace applications</i>
14:15	14:45 Philippe Basset, Université Paris-Est <i>MEMS architectures for the evaluation of capacitive adiabatic logic</i>
<b>14:45 15:15 Coffee break</b>	

### Oral session 5: Nanophotonics

Chair: Olav Solgaard, Stanford University	
15:15	15:45 Nicolas Le Thomas, Ghent University <i>Fundamental thermodynamic noise in integrated photonic sensors</i>
15:45	16:00 Karolina Milenko, NTNU <i>Fabrication of gold nanostructures for surface-enhanced Raman scattering</i>
16:00	16:15 David André Coucheron, UoT <i>Comparison of Ta<sub>2</sub>O<sub>5</sub> and Si<sub>3</sub>N<sub>4</sub> photonic integrated circuits for optical nanoscopy and Raman spectroscopy</i>
16:15	16:30 Per Öhickers, USN <i>Packaging and demonstration of optical-fiber-coupled photodiode array for operation at 4 K</i>
16:30	17:00 Jana Jágerská, UoT <i>Mid-infrared photonics for trace gas detection</i>
<b>17:00 17:15 Afternoon snack, grab and go</b>	

17.30	Meetup at hotel lobby in comfortable shoes, dressed for outdoor activity
<b>20:00</b>	<b>Dinner at Spiseriet restaurant, Verdens Ende</b>
<b>23:00</b>	<b>Bus returns (appr)</b>

## Wednesday 13 June

### Oral session 6: Integrated circuits

Chair: Snorre Aunet, NTNU		
08:45	09:15	Alex Yakovlev, Newcastle University <i>Bridging asynchronous circuits and mixed-signal design</i>
09:15	09:45	Lars Lydersen, Silicon Labs <i>Electrical engineering for the IoT edge node</i>
09:45	10:00	Aaasmund Sudbø, UoO <i>A milestone in metrology</i>
<b>10:00</b>	<b>10:30</b>	<b>Coffee break and checkout</b>
10:30	11:00	Philipp Häfliger, UoO <i>CMOS Sequential 3D integration for mixed-signal 'circuits-in-cube'</i>
11:00	11:30	Gunnar Mæhlum, Integrated Detector Electronics AS <i>Nano- and microelectronics for use in space; requirements and application examples</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 11 June, 17:15 - 19:15

### Nanomaterials science

1	Chengjun Yu, USN
	<i>Towards the development of novel carbon based materials for on-chip supercapacitor</i>
2	Raj Kumar, UiO
	<i>Impact of hydrogen implantation on Cu<sub>2</sub>O thin films for solar cell applications</i>
3	Suraj Singh, NTNU
	<i>Magnetic properties of La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/SrTiO<sub>3</sub> (111) studied by ferromagnetic resonance</i>
4	Sihai Luo, NTNU
	<i>Mass production of sub-10 nm asymmetric electrodes array for photodetectors by adhesion lithography via self-peeling</i>
5	Xiao Fan, USN
	<i>Facile synthesis of NFL-ZnWO<sub>4</sub> for pseudocapacitor applications</i>
6	Yingge Wang, USN
	<i>Thick anodic oxide films on 304 type stainless steel for supercapacitors</i>

### Integrated circuits

7	Yelzhas Zhaksylyk, USN
	<i>Comparative analysis of inductive and capacitive feeding of magnetic resonant wireless power system</i>

### MEMS technology

8	Giang Nghiem, USN
	<i>ACF interconnects – relation between resistance repeatability and pad surface</i>
9	Nu Bich Duyen Do, USN
	<i>New packaging routes for medical ultrasound probes</i>

### Nanophotonics

10	Martin Greve, UiB
	<i>Metal nanoparticle fabricated on a waveguide – sensing with white light</i>
11	Marek Vlč, UiT
	<i>Towards on-chip Ta<sub>2</sub>O<sub>5</sub>-based platform for mid-infrared laser spectroscopy</i>

### Bionano technology

12	Oleksandr Dobroliubov, USN
	<i>The interaction of photosensitive proteins with microfabricated sensor arrays</i>