

Program

10th Annual Workshop of the Norwegian PhD Network on Nanotechnology for Microsystems Clarion Hotel the Edge 17 - 19 June 2019

Monday 17 June

10:00	Registration opens
11:30	12:30 Lunch
12:30	12:45 Welcome: Jostein Grepstad, NTNU

Oral session 1: Nanomaterials science I

Chair: Bjørn-Ove Fimland, NTNU	
12:45	13:15 Camilla Coletti <i>Wafer-scale high-quality graphene for optoelectronics</i>
13:15	13:45 Matteo Chiesa, UiT Arctic University of Norway <i>Surfaces wettability evolution: the counterintuitive role of water</i>
13:45	14:00 Anders Strømberg, NTNU <i>Long-Range order in tightly packed pinwheel artificial spin ice</i>
14:00	14:15 Andreas Liudi Mulyo, NTNU <i>Utilization of graphene as substrate and bottom electrode for high-density and vertically-aligned GaN/AlGaIn nanocolumns in light-emitting diodes in the UV-A</i>
14:15	14:30 Håkon Røst, NTNU <i>Low-temperature and patterned growth of graphene-dielectric-semiconductor heterostructure systems</i>
14:30	14:45 Einar Digernes, NTNU <i>Fabrication of nanodisk arrays that show long-range magnetic order</i>
14:45	15:15 Coffee break

Oral session 2: NEMS/MEMS technology

Chair: Kristin Imenes, USN	
15:15	15:45 Silvan Schmid, TU Wien <i>Nanomechanical sensing</i>
15:45	16:15 Xuyuan Chen, USN <i>MEMS Supercapacitors with high energy density</i>
16:15	16:30 Runar Dahl-Hansen, NTNU <i>On the importance of water-splitting for piezoMEMS-reliability</i>
16:30	16:45 Trygve Magnus Ræder, NTNU <i>In-plane switching mechanisms in BaTiO₃ films</i>
16:45	17:00 Poster Slam

Poster session

Chair: Trond Ytterdal, NTNU	
17:15	19:15 Poster session with coffee, drinks and afternoon snack

Tuesday 18 June

Oral session 3: Nanomaterials science II

Chair: Justin Wells, NTNU		
09:00	09:30	Yuri Suzuki, Stanford University <i>Controlling spin: Giant Rashba splitting, spin currents and the future of spintronics</i>
09:30	09:45	Sam Sloetjes, NTNU <i>Exchange explosions of topological edge defects in a square micromagnet</i>
09:45	10:00	Suraj Singh, NTNU <i>Tailoring the magnetodynamic properties of dipole coupled 1D magnonic crystals by shape anisotropy</i>
10:00	10:15	Stephanie Burgmann, NTNU <i>Enabling nucleation phenomena studies of ALD deposited films by In-situ high-resolution TEM</i>
10:15	10:30	Xin Song, UiO <i>Metallization on thermoelectric material ZnSb</i>
10:30	11:00	Coffee break
11:00	11:30	Erik Folven, NTNU <i>Long-range order in a magnetic metamaterial</i>
11:30	11:45	Kristoffer Kjærnes, NTNU <i>Antiferromagnetic spin engineering in LaFeO₃</i>
11:45	12:00	Sihai Luo, NTNU <i>Plasmonic nanogaps through SAM-assisted adhesion lithography</i>
12:00	12:15	Feng Wang, NTNU <i>Phase transformable slippery liquid infused porous surfaces with durable anti-icing performance</i>
12:15	12:30	Martin Greve, UiB <i>Wide-field microscopy for magnetic field imaging using nitrogen vacancies in diamond</i>
12:30	12:45	Alex Schenk, NTNU <i>Unexpected 3D electronic structure in ultrathin doped diamond films</i>
12:45	13:00	<i>Leg stretch</i>
13:00	14:00	Lunch

Oral Session 4: Devices and circuits

Chair: Snorre Aunet, NTNU		
14:00	14:30	Alan Seabaugh, University of Notre Dame <i>Energy harvesting with piezoelectric films</i>
14:30	14:45	Somayeh Hossein Zadeh, NTNU <i>Low energy CMOS building blocks for IoT</i>
14:45	15:00	Harald Garvik, NTNU <i>A low-power noise-shaping SAR ADC in 28 nm FDSOI – challenges, solutions and results.</i>
15:00	15:15	Mehdi Azadmehr, USN <i>Colpitts oscillators</i>
15:15	15:45	Coffee break

Oral session 5: Bionano and microfluidics

Chair: Krishna Agarwal, UiT		
15:45	16:00	Jakob Vinje, NTNU <i>Surfaces made by Electron Beam Lithography for cellular studies</i>
16:00	16:15	Anowarul Habib, UiT <i>Fabrication of gold nanostructures for surface-enhanced Raman scattering</i>
16:15	16:30	Fredrik Kristoffer Mürer, NTNU <i>Studying the 3D structures of bone and cartilage with modern X-ray tomography techniques</i>
16:30	16:45	Azeem Ahmad, UiT <i>Quantitative phase microscopy in biomedical imaging</i>
16:45	17:00	David André Coucheron, UiT <i>Integration of optical nanoscopy and quantitative phase microscopy for investigation of liver sinusoidal endothelial cell fenestrations</i>
17:00	17:30	Ralph Bernstein, Kjeller Innovasjon AS <i>Commercialization of R&D – models, methodology, and cases</i>

Wednesday 19 June

Oral session 6: Nanophotonics and sensing

Chair: Jana Jágerská, UiT		
09:00	09:30	Dag Wang, Gassecur AS <i>MEMS for wireless gas monitoring</i>
09:30	10:00	Jon Olav Grepstad, Tunable AS <i>Next generation gas analysis</i>
10:00	10:15	Ine Jernelv, NTNU <i>Quantum cascade lasers for applications in biomedicine and nanotechnology</i>
10:15	10:30	Marek Vlček, UiT <i>Air-cladded tantalum pentoxide waveguides for mid-infrared spectrum</i>
10:30	11:00	Coffee break and checkout
11:00	11:15	Håkon Jarand Dugstad Johnsen, NTNU <i>Design and fabrication of beam steering lens arrays through raytracing and maskless grayscale lithography</i>
11:15	11:30	Anjan Mukherjee, NTNU <i>Radial junction GaAs nanowire solar cells: Towards efficient performance</i>
11:30	11:45	Sabrina Eder, UiB <i>SHeM: "Scanning Helium atom Microscopy" A novel atom probe technique</i>
11:45	12:00	Per Öhlckers, USN <i>"Publish or Perish": A guide for writing scientific paper - with some subjective recommendations</i>
12:00	12:30	Wrapup and awards: Jostein Grepstad, NTNU
12:30	13:00	Leg stretch
13:00	14:00	Lunch

List of posters

Nanomaterials science

1	Frode Sneve Strand, NTNU <i>Metalation of phthalocyanines on semi metal surfaces</i>
2	Chaoqun Cheng, USN <i>Nano-TiO₂ for solar fuel</i>
3	Hoang-Vu Nguyen, USN <i>Reworkable Anisotropic Conductive Adhesive for Assembly of Medical Devices</i>
4	Tor Håvard Aasen, USN <i>Rydberg Catalyst Materials</i>
5	Nu Bich Duyen Do, USN <i>New encapsulation concepts for medical ultrasound probes – A heat transfer simulation study</i>

Sensors, microscopy and imaging

6	Abhishek Ranjan, UiT Arctic University of Norway <i>Photoacoustic Imaging of Microparticles</i>
7	Aldritt Scaria Madathiparambil, NTNU <i>3D Non-destructive Imaging of Shale Rocks</i>
8	Basab Chattopadhuay, NTNU <i>Nanoscale imaging of shale cuttings with coherent X-ray diffraction</i>
9	Mojde Hasanzade, USN <i>High Resolution Fourier Ptychographic Microscopy</i>
10	Henock Demessie Yallew, UiT Arctic University of Norway <i>Laser absorption spectroscopy with mid-infrared integrated photonic sensors</i>

Bionanotechnology

11	Ankit Butola, UiT Arctic University of Norway <i>Deep learning enables classification of human spermatozoa using quantitative phase microscopy</i>
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