

Preliminary Programme for the Nano@NTNU Symposium (Version 2)

Akrinn, NTNU, Trondheim

6-7 December 2017

Wednesday 6 December

08:45 **Registration and Coffee**

Session 1:

Chair: Mari-Ann Einarsrud

09:00 *Welcome*

Peter Köllensperger, NTNU NanoLab

09:10 *Functional oxides and nanotechnology for opto-electronics*

Bengt Gunnar Svensson, University of Oslo

09:55 *Nanostructured surfaces for efficient CO₂ liquefaction*

Ingrid Snustad, Dept of Structural Engineering, NTNU

10:10 *M₂+Fe₂O₄ (M₂= Co²⁺, Ni²⁺, Fe²⁺) core-shell nanoparticles: Synthesis, characterization and preliminary biological study*

Anna Del Tedesco, Ca' Foscari University

10:25 **Coffee**

Session 2:

Chair: Erik Folven

10:45 *All-magnonic helicity dependent antiferromagnetic domain wall motion*

Alireza Qaiumzadeh, Dept of Physics, NTNU

11:00 *Engineering magnetic anisotropy at interfaces*

Ingrid Hallesteinsen, Lawrence Berkeley Lab/NTNU

11:15 *Spin-orbit torques and self-oscillating antiferromagnetic dynamics*

Roberto Troncoso, Dept of Physics, NTNU

11:30 *Gas analysis with unstable semiconductor lasers*

Renato Bugge, Integrated Solar AS

11:45 *The Neural Information Capacity*

Mladen Veletic, Dept of Electronic Systems, NTNU

12:00 **Lunch**

Session 3:

Chair: Dennis Meier

- 13:00 *Optical nanoscopy based on integrated photopic-chip*
Balpreet Singh Ahluwalia, University of Tromsø
- 13:45 *Electronic bulk and domain wall properties in B-site doped hexagonal ErMnO₃*
Theodor Secanell Holstad, Dept of materials science and engineering, NTNU
- 14:00 *Probing domain dynamics in epitaxial micromagnets with sub-nanosecond resolution*
Einar Digernes, Dept of Electronic Systems, NTNU
- 14:15 *Proximity effects in thin-films with superconductors: theoretical investigations into dissipationless spintronics*
Sol Jacobsen, Dept of Physics, NTNU
- 14:30 Coffee (Put up posters)**

Session 4:

Chair: Arne Brataas

- 15:00 *Quantum computation with solid-state spin qubits*
Jeroen Danon, Dept of Physics, NTNU
- 15:45 *Chemical Solution Deposition of Ferroelectric Nano-Composites*
Trygve Magnus Ræder, Dept of materials science and engineering, NTNU
- 16:00 Coffee (Put up posters)**

Session 5:

Chair: Ton van Helvoort

- 16:15 *In-situ toolbox for studying nucleation and growth in oxide thin films and hierarchical structures prepared from aqueous solutions*
Anders Blichfeld, Dept of materials science and engineering, NTNU
- 16:30 *Comparison of two-photon-absorption and three-photon-absorption for in-bulk-silicon modifications*
Roland Richter, Dept of Physics
- 16:45 *NTNU TTO - Bringing research results from university to society*
Kristin Lønsethagen, NTNU Technology Transfer AS
- 17:00 Poster Session**
- 18:45 **Bus transport to Ringve Museum**
- 19:00 Dinner**

Thursday 7 December

Session 6:

Chair: Jostein Grepstad

- 09:00 *Understanding friction at the nano scale*
Astrid de Wijn, Dept of Mechanical and Industrial Engineering, NTNU
- 09:45 *Controlling texture in lead-free KNN ferroelectric thin films by aqueous chemical solution deposition*
Nikolai Helth Gaukås, Dept of materials science and engineering, NTNU
- 10:00 *Nanostructures on Microstructures: Robust Hierarchical Structuring For Superhydrophobicity*
Per-Olof Andersson, Dept of Civil and Environmental Engineering
- 10:15 *Ternary GaAsSb Nanowire for Optoelectronic Applications*
Dingding Ren, Dept of Electronic Systems, NTNU
- 10:30 *Determination of bandgap in nanometer scales by TEM*
Maryam Vatanparast, Dept of Physics
- 10:45 Coffee**

Session 7:

Chair: Astrid de Wijn

- 11:00 *Polarization dependent optical response (Mueller Matrix) of patterned nanostructured surfaces using Finite Element modelling*
Morten Kildemo, Dept of Physics, NTNU
- 11:15 *Electrochromic WO₃ film prepared by AJA sputter*
Yingpeng Zhen, Dept of Civil and Environmental Engineering, NTNU
- 11:30 *Optical waveguides and gratings*
Mukesh Yadav, Dept of electronic systems, NTNU
- 11:45 *Phase and orientation mapping of nanomaterials*
Ton van Helvoort, Dept of Physics, NTNU
- 12:00 Lunch and Open Space**

Session 8:

Chair: Jan Torgersen

- 13:00 *Size Matters: Energy Conversion at Nano Scale*
Fritz Prinz, Stanford University
- 13:45 *Critical dimension metrology of metasurfaces based on Mueller matrix ellipsometry*
Jean-Philippe Banon, Dept of Physics, NTNU
- 14:00 *Controlling Antiferromagnetic Domain Formation Through Nanostructuring*
Ambjørn Dahle Bang, Dept of electronic systems, NTNU
- 14:15 Coffee**

Session 9:

Chair: Helge Weman

- 14:30 *GaN/AlGaIn nanowire flip-chip UV LED using graphene as substrate and transparent electrode*
Ida Marie Høiaas, Dept of Electronic Systems
- 14:45 *Finite element analysis of hydrogels: material properties measurements, swelling kinetics and buckling phenomena*
Victorien Prot, Dept of Structural Engineering, NTNU
- 15:00 *Next generation polysaccharides*
Bjørn E. Christensen, Dept. Biotechnology and Food Science, NTNU
- 15:15 *Closing remarks*
Bjørn Torger Stokke
- 15:30 **End of program**