Preliminary programme for the Norwegian Nano Symposium 2019
(version 10.10.2019)

Quality Panorama Hotel, Tiller

Wednesday 16 October

08:45 Registration and Coffee

Session 1: Small, better, faster, stronger

09:00 Welcome
John de Mello, NTNU Nano

09:05 Design and synthesis of nanoparticles for biotechnology and medicine
Erik Reimhult, University of Natural Resources and Life Sciences, Vienna

09:50 Co-existing Ferromagnetic-Antiferromagnetic Order in a Metamaterial
Anders Strømberg, NTNU

10:05 Ice adhesion and wettability at nanoscale
Sigrid Rønneberg, NTNU

10:20 NIL Metasurfaces for miniaturized optics
Christopher A. Dirdal, SINTEF Microsystems and Nanotechnology

10:35 Coffee

Session 2: Small, better, faster, stronger

10:45 The future of Materials: Smart, Functional, Sustainable
Athanassia Athanassiou, Istituto Italiano di tecnologia

11:30 Friction vs. area scaling of superlubric NaCl particles on graphite
Astrid de Wijn, Department of Mechanical and Industrial Engineering, NTNU

11:45 Working with NorFab: The Norwegian Infrastructure for Micro- and Nanofabrication
Peter Köllensperger, NTNU NanoLab

12:00 Using point defects in semiconductors for quantum technology
Lasse Vines, University of Oslo

12:30 LUNCH

Session 3: Energy crisis - What energy crisis?

13:30 Chasing hydrogen with photons and neutrons
Olena Zavorotynska, University of Stavanger, Norway

14:00 Taming the surfaces of Silicon nanoparticles for Lithium ion batteries
Ingvild Jensen, SINTEF INDUSTRY

14:15 Perspectives on costs and development of nano-materials for energy conversion processes
Shareq Mohd Nazir, NTNU

14:30 Engineering approaches for Perovskite solar cell materials
Meysam Pazoki, Uppsala University, Sweden

14:45 Core-shell electrocatalysts for energy applications
Svein Sunde, NTNU

15:15 Coffee (Put up posters)
Session 4: Will Death Ever Die?
15:45 Challenges in using nanofabricated structures to study living systems
Pawel Sikorski, NTNU
16:15 3D orientational imaging of bone using X-ray diffraction computed tomography
F. K. Mürer, NTNU
16:30 Tantalum Pentoxide waveguide chip developed directly on thin transparent substrate for fluorescence microscopy of biological cells
Anish Priyadarshi, UiT-The Arctic University of Norway
16:45 Nanomedicine and sonoporation for treatment of cancer and brain disease
Sofie Snipstad, NTNU

Parallel Sessions
17:00 Poster Session until 19.00
18:00 Company presentation
Why work/write your thesis for SINTEF MiNaLab?
Christopher A. Dirdal and Ozhan Koybasi

Thursday 17 October
Session 5: Will Death Ever Die?
09:00 Nanooptics for trapping and analysis of nanoparticles
Olav Gaute Hellesø, University of Tromsø, Norway
09:30 Unraveling the intricate in vivo fate of active-targeting nanomedicines
Alexandros Marios Sofias, Dept of Circulation and Medical Imaging, NTNU
09:45 The role of conformational dynamics in protein function; Deciphering CRISPR-Cas12a and hydrolytic lipase function by studies at the single molecule level
Magnus B Sletfjerding, Novo Nordisk Center for Protein research, University of Copenhagen
10:00 Piezoelectric ceramics as bone replacement material
Magnus Rotan, Dept of Materials Science and Engineering, NTNU
10:15 Coffee
10:25 Taking control of innate immunity with nanobiologics
Willem Mulder, Mount Sinai, New York
11:10 Electron beam lithography: principles and applications for cell studies
Jakob Vinje, NTNU
11:25 Coffee
Session 6: Sinner or saviour? The impact of nanotechnology on pollution.
11:35  
**AFM study cellulose nano-fibril swelling in water – relevance of nanofiber crystallinity**
Vegar Ottesen, NTNU

11:50  
**Gas sensors based on 2D heterostructures**
Ozhan Koybasi, SINTEF DIGITAL

12:05  
**DNA functionalized magnetic nanoparticles encapsulated in silica/polymer shell for hydrological tracing**
Anuvansh Sharma, NTNU

12:20  
**Nanostructured conducting polymers for water treatment, metal recovery, and energy conversion and storage**
Irina Chernyshova, Columbia University, New York

12:35  
**Session 7: Small, better, faster, stronger**
Lunch

13:15  
**New materials, new phases, and new functionalities on the nanoscale**
Mikael Fogelström, Chalmers University of Technology

14:00  
**Matter Waves and More**
Bodil Holst, University of Bergen

14:30  
**3D imaging of ferroelectric domain walls by FIB tomography**
Erik Dobloog Roede, Dept of Materials Science and Engineering, NTNU

14:45  
**Assembly of Van der Waals Heterostructures for high performance devices**
Branson D. Belle, SINTEF INDUSTRY

15:00  
**Black silicon fabrication and its applications**
Kaiying Wang, University of South East Norway

15:30  
**Coffee**

Session 8: Panel debate
15:45  
**What next for nano?**
16:30  
**Coffee**

Session 9: Energy crisis - What energy crisis?
16:40  
**Precise and scalable nanomanufacturing of surfaces**
Manish K. Tiwari, University College London

16:55  
**Prediction of Absorption Spectrum Shifts in Dyes Adsorbed on Titania**
Vishwesh Venkatraman, NTNU

17:10  
**Synthesis and application of core-shell nanostructures of graphene-wrapped CdS nanoparticles and TiO2 for photocatalytic H2 generation**
Muhammad Zubair, NTNU

17:25  
**Ni-based nanoparticles as difunctional and efficient electrocatalysts for overall water electrolysis**
Fatemeh Poureshghi, NTNU

17:40  
**Nanocatalysis beyond Activity**
De Chen, NTNU

18:05  
**Closing**

19:00  
**Dinner at the Quality Panorama Hotel**