

Preliminary programme for the Norwegian Nano Symposium 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: Session 6: Energy crisis - What energy crisis?

13:30 *Chasing hydrogen with photons and neutrons*

Olena Zavorotynska, University of Stavanger, Norway

14:00 *Synthesis and application of core-shell nanostructures of graphene-wrapped CdS nanoparticles and TiO₂ for photocatalytic H₂ generation*

Muhammad Zubair, NTNU

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 *To be announced*

Svein Sunde, NTNU

15:15 Coffee (Put up posters)

Session 4: Will Death Ever Die? (day1)

- 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 *Tantlum Pentaoxide 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 sonopermeation for treatment of cancer and brain disease*
Sofie Snipstad, NTNU
- 17:00 Poster Session**

Thursday 17 October

Session 5: Will Death Ever Die? (day 2)

- 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 Sletfjerd, 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 Lunch**

Session 7: Small, better, faster, stronger (part 2)

- 13:30 *New materials, new phases, and new functionalities on the nanoscale*
Mikael Fogelström, Chalmers University of Technology
- 14:15 *Matter Waves and More*
Bodil Holst, University of Bergen
- 14:45 *3D imaging of ferroelectric domain walls by FIB tomography*
Erik Dobloug Roede, Dept of Materials Science and Engineering, NTNU
- 15:00 *Assembly of Van der Waals Heterostructures for high performance devices*
Branson D. Belle, SINTEF INDUSTRY
- 15:15 *Black silicon fabrication and its applications*
Kaiying Wang, University of South East Norway
- 15:45 Coffee**

Session 8: Panel debate

- 16:00 *What next for nano?*
- 16:45 Coffee**

Session 9: Energy crisis - What energy crisis? (day 2)

- 17:00 *Precise and scalable nanomanufacturing of surfaces*
Manish K. Tiwari, University College London
- 17:15 *Prediction of Absorption Spectrum Shifts in Dyes Adsorbed on Titania*
Vishwesh Venkatraman, NTNU
- 17:30 *Taming the surfaces of Silicon nanoparticles for Lithium ion batteries*
Ingvild Jensen, SINTEF INDUSTRY
- 17:45 *Ni-based nanoparticles as difunctional and efficient electrocatalysts for overall water electrolysis*
Fatemeh Poureshghi, NTNU
- 18:00 *Title to be announced*
De Chen, NTNU
- 18:30 Closing**
- 19:00 Dinner at the Quality Panorama Hotel**