

The Norwegian NanoSymposium 2021

Program

Tuesday Oct 5

08:45 *Welcome*
John de Mello, NTNU Nano

Session 1

09:00 *Surface protonics in nanoporous oxides*

- Truls Norby, Dept of Chemistry, University of Oslo

09:30 *3D analysis of dopants in a multiferroic oxide by atom probe tomography*

Kasper Hunnestad, Dept of Materials Sciences and Engineering, NTNU

09:40 *Thermal Transport in Semicrystalline Polyethylene: The Effect of Force Fields*

Sandra Sæther, Dept of Structural Engineering, NTNU

09:50 **Short Break**

Session 2

10:00 *Visualising your research*

Andreas Dahlin, Visualize your science, Espoo, Finland

11:00 **Short Break**

11:10 *Chip-Based Nanoscopy*

Krishna Agarwal, Dept of Physics and Technology, University of Tromsø

11:40 *Going local: on-chip heating and magnetic field generation*

Jakob Vinje, Dept of Electronic Systems, NTNU

11:50 *Tracking the growth of Nanoparticles using Experiments, Simulations and Modelling*

Karthik Raghunathan, Dept of Chemical Engineering, NTNU

12:00 *Nanomaterials and nanofabrication for supercapacitors of improved energy density*

Xuyuan Chen, Dept of Microsystems, University of South-Eastern Norway

12:10 **Lunch Break**



Tuesday Oct 5 – continued

Session 3

- 13:00** *Developing a new corona test from lab to production*
Sulalit Bandyopadhyay, Dept of Chemical Engineering, NTNU
- 13:30 *Photonic crystal supported membrane waveguide for spectroscopic CO₂ sensing*
Jehona Salaj, Dept Of Physics And Technology, UiT
- 13:40 *Controlling local electronic conduction phenomena via defects oxygen defects*
Jiali He, Dept of Materials Sciences and Engineering, NTNU
- 13:50** **Short Break**

Session 4

- 14:00** *Science matters: sharing your research with the media and the public*
Nancy Bazilchuk, Communication Division, NTNU
- 15:00** **Short Break**

Session 5

- 15:10** *Physical Avatars: using your Heart-on-a-Chip to treat your heart*
Berend van Meer, Faculty of Science and Technology, University of Twente
- 15:40 *Thermal effects and spontaneous frictional relaxation in atomically thin layered materials*
Jennifer Sheehan, Dept of Mechanical and Industrial Engineering, NTNU
- 15:50 *Controlling the Flow of Information in Neuronal Networks through the use of Customized Microfluidics*
Nicolai Winter-Hjelm, Dept of Neuromedicine and Movement Science, NTNU
- 16:00** **Wrap Up**
John de Mello, NTNU Nano



Wednesday Oct 6

Session 6

09:00 *The potential for micro- and nanoscale technology in harvesting water from the atmosphere*

Andreas Carlson, Dept of Mathematics, University of Oslo

09:30 *Fabrication of Size-Controlled Metallic Nanogaps with Gap-Widths Down to the Sub-3-nm Level*

Sihai Luo, Dept of Chemistry, NTNU

09:40 *Squeezed Ice: Anisotropy and Hysteresis Tailoring in a Magnetic Metamaterial*

Anders Strømberg, Dept of Electronic Systems, NTNU

09:50 **Short Break**

10:00 **Poster Session**

11:00 **Short Break**

11:10 **Panel Discussion**

The Nanotechnology of Tomorrow: Future of Fiction?

Chair: Ida Breivik, MTNano, NTNU

- Maria Strømme, Dept of Materials Science (Div. for Nanotechnology and Functional Materials), Uppsala University
- Dennis Meier, Dept of Material Science and Technology, NTNU
- Rune Nydal, Dept of Philosophy and Religious Studies, NTNU
- Birgitte McDonagh, SINTEF Biotechnology and Nanomedicine

12:00 **Lunch Break**



Wednesday Oct 6 - continued

Session 7

- 13:00** *Boosting solar cell efficiencies using plasmonic nanostructures*
Martin M. Greve, Dept of Physics and Technology, University of Bergen
- 13:30** *Thin Film Engineering for Spintronics*
Yu Liu, Dept of Material Science and Technology, NTNU
- 13:40** *First Report of CDCA-Substituted Dyes for DSSC Improving Efficiency through Reduced Aggregation*
David Moe Almenningen, Dept of Chemistry, NTNU
- 13:50** **Short Break**

Session 8

- 14:00** *Micro and Nanorobots. Machines of the Size of Cells and Viruses*
Martin Pumera, University of Chemistry and Technology, Prague
- 14:30** *Atomistic Insight into Oil Displacement on Rough Surface by Janus Nanoparticles*
Yuanhao Chang, Dept of Structural Engineering, NTNU
- 14:40** *Design of Adaptive ALD Reactor for In-Situ FTIR Spectroscopy Study*
Abdulla Shaikh Abdul Qader Bin Afif, Dept of Mechanical and Industrial Engineering, NTNU
- 14:50** *Curvature-induced long-range supercurrents in diffusive superconductor-ferromagnet-superconductor Josephson junctions with a dynamic $0-\pi$ transition*
Tancredi Salamone, Dept of Physics, NTNU
- 15:00** **Short Break**

Session 9

- 15:10** *Spin Insulatronics*
Arne Brataas, Dept of Physics, NTNU
- 15:40** *Charged ferroelectric domain walls for a.c. signal control on the nanoscale*
Jan Schultheiß, Dept of Material Science and Engineering, NTNU
- 15:50** *Finish pass strategy to improve sidewall quality in structures fabricated by FIB milling*
Markus Joakim Lid, Dept of Mechanical and Industrial Engineering, NTNU
- 16:00** **Wrap Up**
John de Mello, NTNU Nano

