

# Nordic Nanolab User Meeting 2024

NorFab, University of Oslo and SINTEF, Oslo, Norway 3 – 4 June 2024

## Monday 3 June

10:30 Visits to MiNaLab

10:30 Registration and coffee

11:30 Lunch

**12:00 Welcome**

12:10 Dmitry Suyatin, Alixlabs AB: *How to go Lab to Fab in Scandinavia*

### Thematic tutorials

13:00 **Characterisation**

**Optical techniques: Practical Raman Measurements, unwanted artefacts and how to avoid them (Advanced)**  
Jakob Thyr, Uppsala

**Thin Film technologies**

**Introduction and comparison of thin film deposition techniques (Basic)** Martijn de Roosz, NTNU

**Bonding technologies**

**Bonding technologies, with focus on SLID intermetallic bonding for thermally challenging applications (Basic)** Knut Aasmundtveit, USN

**Lithography**

**Lithography Basics - Sample preparation and process variables (Basic)** Sarah Mckibbin, Lund  
**2-photon lithography - optimizing settings to achieve the best compromise between print time and quality,** Milena De Albuquerque Moreira, Uppsala

13:55 Anil Thilsted, Spectro Inlets: *Microbudget Engineering: Converting Microfabrication Ideas into Cost-Effective Start-Up Successes*

14:30 Coffee

15:00 **Characterisation**

**TEM characterization – from specimen preparation to data analysis, including FIB sample prep, STEM, spectroscopy and SPED (Advanced)**  
Tina Bergh, NTNU

**Thin Film technologies**

**Combinatorial pulsed laser deposition (C-PLD) - an introduction. (Basic)** Magnus Andreassen, UiO

**Bonding technologies**

**Anisotropic conductive adhesive film for high-density interconnections (Basic)**, Hoang Vu Nguyen, USN

**Lithography**

**Maskless lithography - parameter control (Advanced)**  
Grigory Skoblin, Chalmers

15:45 Poster session

Visits to MiNaLab (15:45 - 17:30)

18:00 Hotel check-in (approximate time)

19:30 Conference dinner at Samfunnssalen in the center of Oslo



# Tuesday 4 June

09:00	Maaïke Taklo, Sonitor Technologies: <i>Unleashing Competitive Advantage by Embracing MEMS Technology</i>			
09:45	<b>Characterisation</b> <b>EBS/TKD intro (Basic)</b> Alice Bastos da Silva Fanta, DTU	<b>Thin Film technologies</b> <b>Thin Film deposition by magnetron sputtering: Insights in process development and process control.</b> (Intermediate) Mertin Stefan, VTT	<b>Etching technologies</b> <b>Ion Beam Etching (Basic)</b> Mats Hagberg, Chalmers	<b>Lithography</b> <b>High-Resolution Hexagonal Patterns Fabricated by Dipole Cross Exposure in Deep UV-Lithography and their Applications (Basic to more advanced)</b> Matthias Keil /Meena Dhankar
10:30	Coffee			
11:00	<b>Characterisation</b> <b>Demo: Analyzing EBS/TKD data with hyperspy, kikuchipy (Basic/advanced)</b> Håkon Ånes, NTNU	<b>Thin Film technologies</b> <b>Thin film superconductors grown on silicon for single photon detectors by different deposition methods: Molecular Beam Epitaxy versus Sputtering.</b> (Intermediate) Adrian Iovan, KTH	<b>Etching technologies</b> <b>Advanced Plasma Etch (Advanced)</b> James Dekker, VTT	<b>Lithography</b> <b>E-Beam&amp;UV Mix-and-Match</b> Thomas Pedersen /Elena López-Aymerich, Nanolab (Basic to more advanced)
11:55	Maria Asplund, Chalmers: <i>Bioelectronic microsystems engineering: for patients, for cyborgs and for neuroscientists at work</i>			
12:30	Lunch			
13:15	<b>Characterisation</b> <b>X-ray diffraction (XRD) (Basic)</b> Evgeniy Shkondin, DTU	<b>Thin Film technologies</b> <b>Pulsed Laser Deposition: From High Temperature Superconductors to Atomically Engineered Interfaces. (Advanced)</b> Alexei Kalaboukhov, Chalmers	<b>Etching technologies</b> <b>SF6/O2 Plasma Etching: More about the CORE process, (Advanced) Use of DoE in dry etching,</b> Berit Herstrøm, DTU	<b>Lithography</b> <b>Automated metrology for improved E-beam lithography (Advanced)</b> Niclas Lindvall, Chalmers <b>Focused Ion Beam Lithography,</b> Andreas Liapis, Aalto
14:00	Coffee			
14:15	Peter Böggild, DTU: <i>2.5D and grayscale nanolithography patterning capabilities</i>			
14:50	Wrap up			
15:15	Bus to Gardermoen			

