



# Thermal Probe Workshop

Technical Program Wednesday 13<sup>th</sup> March



08:30 Registration open

09:15 Opening remarks

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## Session I: Advances in thermal scanning probe lithography

Chair: Dr. Emine Cagin

09:30 **Prof. Dr. Xia Liu**  
Institute of Physics CAS, Beijing

Multiple-Scale and Gray-Scale Patterning Using Thermal Scanning Probe Lithography

10:00 **Dr. Fabian Könemann**  
Heidelberg Instruments Nano, Zürich

Introducing parallel thermal scanning probe lithography

10:30 **Valerio Levati**  
Politecnico di Milano

Thermally driven Phase Nanoengineering for Spintronics

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11:00 Coffee break

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## Session II: 2D materials

Chair: Dr. Simon Bonanni

11:15 **Berke Erbas**  
EPFL

Grayscale topography engineering for 2D nanoelectronics

11:45 **Dr. Yu Kyoung Ryu**  
Universidad Politécnica de Madrid

Laser-induced graphene advanced energy storage devices

12:15 **Dr. Gabriela Borin Barin**  
EMPA, Dübendorf

Bottom-up graphene nanoribbons: towards high-performance devices

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12:45 Lunch break

Mercure Zurich City

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## Session III: Nanodevices

Chair: Dr. Armin Knoll

14:15 **Dr. Chit Siong Aaron Lau**  
IMRE, Singapore

Utilizing thermal scanning probe for engineering 2D material-based quantum applications

14:45 **Dr. Chloé Bureau-Oxton**  
IBM Research, Zürich

A side-gated finFET as a scanning electrometer

15:15 **Prof. Dr. Saptarshi Das**  
Pennsylvania State University

3D Integration of 2D Devices for Advanced Memory, Logic, and Bio-inspired Computing

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15:45 Coffee break

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## Session IV: Bionano sciences and biomimicry

Chair: Dr. Cathelijn van Nesselroy

16:00 **Dr. Alexander Wright**  
New York University

Thermochemical activation of a polymer for protein immobilisation

16:30 **Prof. Dr. Thomas Iskratsch**  
Queen Mary University of London

Nanofabrication of bioarrays for single molecule resolution tracking of receptor-ligand interactions and cell adhesion formation

17:00 **Dr. Stefan Walheim**  
Karlsruhe Institute of Technology

Substrate-controlled self-assembly as a bio-inspired approach towards nano-functional surfaces

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17:30 Bus transfer to Social Event

Bus leaves in front of Manufakt8048



# Thermal Probe Workshop

Technical Program Thursday 14<sup>th</sup> March



08:30 Registration open

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Session V: **Photonics and nano-optics**

Chair: Dr. Nolan Lassaline

09:00 **Prof. Dr. Rachel Grange**  
ETH Zürich

Lithium niobate on Insulator and Beyond: Overcoming Fabrication Challenges for Integrated and Flat Photonics

09:30 **Prof. Dr. Olivier J.F. Martin**  
EPFL

The promise of the third dimension nanophotonics

10:00 **Yannik Glauser**  
ETH Zürich

Optical Fourier Surfaces for Holography

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10:30 **Coffee Break & Posters**

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Session VI: **Advances in materials**

Chair: Dr. Nicholas Hendricks

11:15 **Harry Biller**  
Allresist, Berlin

From powder to liquid resist: Insights into the stability of Polyaldehydes in solution

11:45 **Prof. Dr. Javier Rodríguez-Viejo**  
Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona

Bulk versus surface melting in thin film organic semiconductor glasses: A path for glass coexistence and nanostructuring

12:15 **Dr. Heiko Wolf**  
IBM Research, Zürich

Will it compute? – Networks of micro-scale chemical oscillators

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12:45 **Lunch break**

Mercure Zurich City

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14:00 **Posters**

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Session VII: **Innovation at the nanoscale**

Chair: Dr. Fabian Könemann

14:30 **Dr. Meguya Ryu**  
**Prof. Dr. Junko Morikawa**  
NMIJ AIST / Tokyo Institute of Technology

Detection of local thermal diffusivity of soft materials by using nano thermal heating probe

15:00 **Dr. Gabriel Puebla Hellmann**  
QZabre, Zürich

Nitrogen vacancy based quantum sensors for nano-scale thermometry

15:30 **Dr. Filippo Federici**  
Nanolayers Research Computing, Espoo

ALANN: Atomic lithography automation with neural networks

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16:00 **Best Poster Award & Closing Remarks**