

## **3rd Conference on Advanced Functional Materials AFM 2018**

### Thursday 21 August

- 16.20 Buses leave from the Physics Building, Campus Valla, Linköping
- 17:10 Buses leave from Sandgatan 31 (Godsmottagning), Norrköping  
*(at arrival to Vildmarkshotellet luggage may be left in a locked room at the reception)*
- 18:30 Presentation "Sustainable high performance - for today and tomorrow"  
MD Nils Edelstam
- followed by Dinner
- After dinner Check-in at Vildmarkshotellet

# Schedule AFM2018

(The schedule may be subject to minor changes)

Vers 21 August 2018

## Wednesday 22 August

07:45 Buses leave the Physics Building, Campus Valla, Linköping  
08:35 Buses leave from Sandgatan 31 (Godsmottagning), Norrköping  
Breakfast, Check in from 08.30, Spa available  
Registration, posters, company exhibition and coffee  
(Lecture hall Lejonet, level 4)

09:40-10:00 Introduction by Magnus Berggren, Igor Abrikosov and Per Dannetun  
(Lecture hall Lejonet)

Session one, oral presentations (Lecture hall Lejonet, level 4)  
Chairperson Igor Abrikosov

10:00-10:30 **Kersti Hermansson** (Uppsala University, Sweden) *"Multiscale modelling of metal oxide-surfaces – and their aqueous interfaces"*

10:30-11:00 **André Anders** (Leipzig University, Germany) *"Metal plasmas for thin film synthesis"*

11:00-11:30 **Natalie Banerji** (University of Bern, Switzerland) *"Charge generation in polymer:non-fullerene solar cells: A comparison of bilayer and bulk heterojunction films"*

11:30-12:00 **Jörg Neugebauer** (Max Planck Institut, Germany) *"Fundamental compositional limitations in the thin film growth of metastable alloys"*

12:00-13:00 Lunch (Vildmarkshotellet)  
13 Walk to to activity  
13:00-14:00 Safari gondola

14:10-15:15 Poster session with coffee (Lecture hall Lejonet, level 4)  
Company exhibition  
Check-in at Vildmarkshotellet

Session two, oral presentations (Lecture hall Lejonet, level 4)  
Chairperson Hans Högberg

15:15-15:45 **Fredrik Höök** (Chalmers University of Technology, Sweden) *"Single nanoparticle analytics: from viruses via exosomes to drug carriers"*

15:45-16:15 **Fabio Biscarini** (University of Modena and Reggio Emilia, Italy) *"Ion-gating in organic semiconductors: mechanism and specific recognition of neurotransmitters with organic electrolyte-gated transistors"*

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16:15-16:25 *Introduction to FUNSOM: An allied effort for research on functional nano-materials*  
**Wei-Xin Ni, LiU**

Session three, Joint Session on Nanomaterials and Nanotechnology (Linköping University–Soochow University)

## Session 3a

Chairperson **Wei-Xin Ni**

(Lecture hall Lejonet, level 4)

## Session 3b

Chairperson **Mats Fahlman**

(Lecture hall Sälen, level 1)

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|-------------|---|--|
| 16:30-16:45 | "Energy-level alignment at functional organic-inorganic interfaces"<br><b>Steffen Duhm</b> , FUNSOM, SU                         | "Organic Thin Film Memristors for Synaptic Electronics" <b>Suidong Wang</b> , FUNSOM, SU   |
| 16:45-17:00 | "Silicon Nanotechnology for Bioimaging and Biosensing applications" <b>Yao He</b> , FUNSOM, SU                                  | "Modulating the immunological effects of nanomaterials for cancer immunotherapy"<br><b>Rui Peng</b> , FUNSOM, SU   |
| 17:00-17:15 | "Multiscale simulation of nanomaterials" <b>Yuyong Li</b> , FUNSOM, SU  | "Sensitive Detection of Enzymatic Activities and Cell-secreted H <sub>2</sub> O <sub>2</sub> with Microfluidic Technologies"<br><b>Jian Liu</b> , FUNSOM, SU |
| 17:15-17:30 | Transition Metal Based Nanostructures for Efficient Solar Water Splitting"<br><b>Xuhui Sun</b> , FUNSOM, SU                     |  |
| 17:30-18:30 | Poster session (Lecture hall Lejonet, level 4)<br>Company exhibition  |  |
| 19:00-21:00 | Dinner  |  |
| 21:00-22:30 | Poster session in Lejonet. Individual research discussions. Company exhibition<br>Bar available outside Lejonet and on floor 3. |  |

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## Thursday 23 August

07:00-08:15 Breakfast. Spa and posters available

### Session 4a

Chairperson **Per Eklund**  
(Lecture hall Lejonet, level 4)

### Session 4b

Chairperson **Kajsa Uvdal**  
(Lecture hall Elefanten, level 1)

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|-------------|--|--|
| 08:30-08:45 | "Dual-target high power pulsed hollow cathode sputtering: a strategy for producing advanced nanoparticles, nanowires and nanotrusses" <b>Sebastian Ekeröth LiU</b> | "Harnessing nuclease biology for the development of diagnostic and therapeutic strategies" <b>Frank J Hernandez LiU</b>                                  |
| 08:45-09:00 | "Hybrid plasmonic and organic nanodevice concepts" <b>Magnus Jonsson LiU</b>   | "Iron oxide nanoparticle decorated graphene for ultra-sensitive detection of volatile organic compounds" <b>Marius Rodner LiU</b>                        |
| 09:00-09:15 | "Alkyl chain engineering on organic supramolecular ferroelectric BTA " <b>Indre Urbanaviciute LiU</b>  | "Blood cell visualization using PEEM and Imaging XPS" <b>Andreas Skallberg LiU</b>   |
| 09:15-09:30 | "Hybrid plasmonic and pyroelectric harvesting of light fluctuations" <b>Mina Shiran Chaharsoughi LiU</b>   | "A decade of iontronic delivery devices" <b>Daniel T Simon LiU</b>   |
| 09:30-09:45 | "Ultrafast dynamics of charge generation in efficient organic photovoltaics" <b>Qingzhen Bian LiU</b>  | "Conducting polymer electrocatalysts for proton-coupled electron transfer reactions: towards organic fuel cells with forest fuels" <b>Canyan Che LiU</b> |
| 09:45-10:00 | "Versatile conjugated polymers for solution processed organic electronics" <b>Fengling Zhang LiU</b>   | "Bacterial Cellulose for Advanced Wound Care and Biodetection" <b>Daniel Aili, LiU</b>   |
| 10:00-10:30 | Coffee. Posters available. Company exhibition  |  |

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### Session 5a

Chairperson Björn Alling

(Lecture hall Lejonet, level 4)

### Session 5b

Chairperson Magnus Jonsson

(Lecture hall Sälen, level 1)

10:30-10:45

"High-throughput identification of point defects in SiC" **Joel Davidsson LiU**

"Electrochemical Hydrogen Evolution Reaction on Vapor Phase Polymerized PEDOT" **Roudabeh Valiollahi LiU**

10:45-11:00

"Morphology and Ion Diffusion in PEDOT: a theoretical perspective" **Igor V. Zozoulenko LiU**

"Phase Evolution of RF Magnetron Sputtered Cr-rich (Cr,Zr)<sub>2</sub>O<sub>3</sub> coatings studied by In-Situ Synchrotron experiments during Annealing in Air or Vacuum conditions" **Ludvig Landälv LiU**

11:00-11:15

"Diffusion in ionic conductors from ab initio molecular dynamics" **S. I. Simak LiU**

"Optical conductivity model for conducting polymers based on ultrawide spectral range ellipsometry" **Shangzhi Chen LiU**

11:15-11:30

"Substitution of Inherent Surface Terminations of 2D Titanium Carbide" **Ingemar Persson LiU**

"Engineering high Seebeck coefficients in p- and n-type polymer blends" **Martijn Kemerink, LiU**

11:30-11:45

"Studies of heterogeneous surface reactions and chemical vapour deposition processes by multiscale molecular modelling" **Lars Ojamäe LiU**

"Advanced terahertz frequency domain ellipsometry – a powerful tool for studying electronic materials" **Nerijus Armakavicius, LiU**

11:45-12:00

"Ionic thermoelectric effect and devices" **Dan Zhao LiU**

"Electronic Properties of Transition Metal Borides for the Next Generation of Thin Film Coating Materials Investigated by X-ray Spectroscopy" **Martin Magnusson LiU**

12:00-13:00 Lunch. Posters available.

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### Session 6a

Chairperson Xavier Crispin

(Lecture hall Lejonet, level 4)

### Session 6b

Chairperson Ulf Helmersson

(Lecture hall Sälen, level 1)

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|--------------|---|---|
| 13:00-13:15  | "Soft and inert conductive composites for neural interfaces" <b>Klas Tybrandt LiU</b>                         | "Thin Film Materials from LiU for Future Neutron Technology" <b>Jens Birch LiU</b>  |
| 13:15-13:30  | "Peptide-Oligothiophene Hybrid Materials with Inducible Chiro-Optical Properties" <b>Robert Selegård, LiU</b> | "Efficient and Tunable Electroluminescence from in-situ Perovskite Quantum Dots" <b>Hongling Yu</b>   |
| 13.30-13:45  | "The all-forest supercapacitor" <b>Isak Engquist LiU</b>  | "Printed OECTs for logic circuits" <b>Marzieh Zabihpour</b>   |
| 13.45-14.00  | "Decrease the photovoltage losses in organic solar cells" <b>Feng Gao, LiU</b>                                | Modeling the high-temperature paramagnetic state of magnetic materials - coupling of spin dynamics and lattice vibrations from <i>first-principles</i> <b>Björn Alling, LiU</b> |
| 14:10-14.20  | Poster prize award (presented in Lejonet)   |   |
| 14:20-15:00  | Panel discussion. Subject "AFM Impact and outreach"   |   |
| 15:00- 16:00 | Coffee and individual research discussions  |   |
| 15.45-17:00  | Possibility to go for a ride Wildfire roller coaster (AFM participants as well as Agora students)             |   |
| 16:40        | Buses for Norrköping and Linköping leave Vildmarkshotellet  |   |

## Exhibitors

