



**SCANDEM**  
Nordic Microscopy Society

## SCANDEM 2010



**Welcome to 2010 annual SCANDEM and EMS event,**

**which will be held on 8-11<sup>th</sup> of June in Kista, Stockholm, Sweden**

We are happy to present the preliminary program with many world-leading scientists presenting innovative contemporary findings with a focus on EM applications both for material and life sciences. Also an interactive poster session, a big specialized exhibition and socials will frame the lectures. The 8<sup>th</sup> of June we offer a workshop program. You have the opportunity to gain insight into advanced EM methods, “hands on” experience and talk to experts in the field. We hope this program will convince you to come to Stockholm and bring new ideas and force to your future research. Additionally, we offer a boat trip in the archipelago on the 11<sup>th</sup> of June before departure or as a star on a recreation weekend in Stockholm!

Please inform colleagues all over Scandinavia to join! It is already now possible to become a member of SCANDEM and to apply for student/posdoc travel scholarships.

### **Important dates:**

Registration will be opened on March 15<sup>th</sup>. You will then find a link to the registration from this page. We encourage you to start preparing good novel findings for meeting abstracts. Abstract submission will be open 15<sup>th</sup> March – 3rd May. After 3rd of May only late registration will be allowed. So, please, mark these dates in you calendar and also inform all you colleagues!!!

You are all very welcome to Stockholm. We are looking forward to meeting you!!!

### **Local organizing committee:**

Oleg Shupliakov (KI) Oleg.Shupliakov@ki.se,

Hans Hebert (KTH/KI) Hans.Hebert@ki.se,

Lyubov Belova (KTH) belova@mse.kth.se,

Hans Bergquist (KTH) hansber@kth.se,

Linda Sandblad (KI) linda.sandblad@ki.se,

Michael Andersson (JEOL) michael.andersson@jeol.se,

Per Persson (LU) perpe@ifm.liu.se,

Mamoun Muhammed (KTH) mamoun@kth.se.

# **SCANDEM 2010.**

## **Kista**

*Tuesday, June 8th*

**1. Registration from 09:00.**

**2. Workshops and practical sessions.**

**Morning session 09:30-13:00**

**3. Lunch 13-14**

**Evening session 14:00-17:30**

**4. Board meeting 17:30-18:20**

**5. "Get together " in the evening: 18:30-20:00**

### **Workshop 1:**

**Sample preparation for FE-SEM**

*Organizer:* Michael Andersson (JEOL)

### **Workshop 2:**

**Combined SEM and FIB techniques (FEI, Zeiss; JEOL)**

*Organizer:* Torben Jenssen, FEI; Luba Belova, KTH

### **Workshop 3:**

**Scanning probe microscopy** (Asylum Research (presented by Atomic Force), NT-MDT, ST Instruments (represented by Park Systems and Nanonics))

*Organizer:* Luba Belova, KTH

### **Workshop 4:**

**Computational TEM: Tomography, single particle analysis, 2D crystallography**

*Organizer:* Hans Hebert (KI-KTH)

### **Workshop 5:**

**Specimen preparation for cryo-EM**

*Organizer:* (Linda Sandblad, KI)

HP-freezer, Vit-robot, Diamond knives, cryo-sectioning

### **Workshop 6:**

**Immunocytochemistry: pre- and post-embedding**

*Organizers:* (Oleg Shupliakov, KI)

**Wednesday, June 9**

**Plenary lectures (40 min+10 min discussions)**

**8:20 Opening**

08:30-09:15

1. *Osamu Terasaki*

**3D nano-structural information through topography, projected and cross-sectioned information,**

Arrhenius Laboratory, Stockholm University,

[terasaki@struc.su.se](mailto:terasaki@struc.su.se)

09:15-10:00

2. *Abraham J. Koster*

**Correlative Light Electron Microscopy: Finding the Needle in a Haystack**

Department of Molecular Cell Biology, Leiden University Medical Center,

Eindhovenweg 20, 2333 ZC Leiden, The Netherlands,

[a.j.koster@lumc.nl](mailto:a.j.koster@lumc.nl), (sponsored by Wenner-Gren Foundation)

**Coffee break 10:00-10:25**

10:30-11:15

3. *Roger Proksch*

**Structures, properties and functionalities - simultaneous information channels in atomic force microscopy**

Asylum Research, 6310 Hollister Avenue, Santa Barbara, California 93117, USA,

[roger@AsylumResearch.com](mailto:roger@AsylumResearch.com)

11:15-12:00

4. *Carolyn Larabell*

**X-ray tomography: High resolution views of whole cells,**

University of California, San Francisco, USA,

[carolyn.larabell@ucsf.edu](mailto:carolyn.larabell@ucsf.edu)

**Lunch 12:00-13:30**

**Sessions 13:30-15:30**

**Speakers for Material science section (30 min)**

1. *Eva Olsson*

**Characterisation of oxide interfaces using TEM with monochromator and probe Cs corrector,**

[eva.olsson@chalmers.se](mailto:eva.olsson@chalmers.se)

2. *Flemming Besenbacher*

**Dynamics of nanostructures: Diffusion, self-assembly, self-organization, DNA dolphins and nano-boxes,**

Head of Interdisciplinary Nanoscience Center (iNANO) Ny Munkegade, Building

1521, room 309 Aarhus University, DK-8000 Aarhus C, Denmark,

[fbe@inano.au.dk](mailto:fbe@inano.au.dk)

**Coffee break 14:30-15:00**

3. *Hans Mulders*

**Developments in Electron Beam Induced Processes for nano-prototyping, FEI**

Electron Optics, Achtseweg Noord 5, 5600 MD Eindhoven, The Netherlands,

[Hans.Mulders@fei.com](mailto:Hans.Mulders@fei.com)

4. *Per Persson*

**Materials at the nanoscale**

Department of Physics, Chemistry and Biology, IFM, Linköpings Universitet, 581 83

Linköping, Sweden,

[perpe@ifm.liu.se](mailto:perpe@ifm.liu.se)

**Speakers for Life science sections (30 min)**

1. *Niels de Jonge*

**Imaging Tagged Proteins in Eukaryotic Cells in Liquid with Scanning Transmission Electron Microscopy,**

Department of Molecular Physiology and Biophysics, Vanderbilt University Medical Center, 2215 Garland Ave, Nashville TN 37232-0615 and Materials Science and Technology Division, Oak Ridge National Laboratory, 1 Bethel Valley Rd., Oak Ridge, TN 37831-6064, USA,  
[niels.de.jonge@vanderbilt.edu](mailto:niels.de.jonge@vanderbilt.edu)

2. *Christel Genoud<sup>1</sup>, Patrick Schwarb<sup>1</sup>, Graham Knott<sup>2</sup>*

**Serial Block Face Scanning Electron microscopy: visualization of 3D volumes of biological samples at the ultrastructural level**

<sup>1</sup> Friedrich Miescher Institute for Biomedical Research, Maulbeerstrasse 66, 4058 Basel, Switzerland and <sup>2</sup> CIME, EPFL, 1015 Lausanne, Switzerland,  
Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland,  
[christel.genoud@fmi.ch](mailto:christel.genoud@fmi.ch)

**Coffee break 14:30-15:00**

3. *Irene Revenko*

**Using Atomic Force Microscopy for Life Science Research,**

Asylum Research, Santa Barbara, USA, [irene@AsylumResearch.com](mailto:irene@AsylumResearch.com)

4. *Mike Hales*

**FIB cryo technologies for medical applications,**

FEI Eindhoven, Netherlands and University of Cambridge, UK,  
[Mike.Hayles@fei.com](mailto:Mike.Hayles@fei.com)

**16:10-17:00 General Assembly**

**17:00-19:00 Poster session and Company presentations**

(Wine, cheese, and snacks).

**Thursday, June 10**

**Plenary lectures (40 min+5 min discussions)**

08:30-09:15

1. *Yoshinori Fujiyoshi*

**Structural physiology of water and ion channels studied by electron crystallography,**

Department of Biophysics, Graduate School of Science, Kyoto University, Oiwake, Kitashirakawa, Sakyo-ku, Kyoto, 606-8502, Japan,

[yoshi@em.biophys.kyoto-u.ac.jp](mailto:yoshi@em.biophys.kyoto-u.ac.jp)

09:15-10:00

2. *José-Maria Carazo*

**Understanding the dynamics of macromolecular machines by three-dimensional electron microscopy: the methods and some of their applications,**

National Center for Biotechnology, CNB-CSIC, and INSTRUCT Associated Center for Image Processing in Microscopy, Spain,

[carazo@integromics.com](mailto:carazo@integromics.com)

**Coffee break 10:00-10:25**

10:30-11:15

3. *Sven Hovmöller*

**Collecting complete 3D electron diffraction data using the automatic rotation method,**

Structural Chemistry Stockholm University S-106 91 Stockholm Sweden,

[svenh@struc.su.se](mailto:svenh@struc.su.se)

11:15-12:00

4. *Hans Tietz*

**Cameras for TEM- The Past, Present and Future,**

TVIPS GmbH, Herbststrasse 7, D-82131 Gauting, Germany,

[Hans.Tietz@tvips.com](mailto:Hans.Tietz@tvips.com)

**Lunch 12:00-13:30**

**Sessions 13:30-15:30**

**Speakers for Material science sections (30 min)**

1. *Martin Hytch*

**Measuring strain in electronics devices by dark-field electron holography,**

CEMES-CNRS, UPR 8011, 29, rue Jeanne Marvig, FR- 31055 TOULOUSE,

FRANCE, [martin.hytch@cemes.fr](mailto:martin.hytch@cemes.fr)

2. *Julia Nowak*

**Developments in In-Situ Nanomechanical Testing in the Electron Microscope,**

Hysitron, Inc., 10025 Valley View Rd., Minneapolis, MN 55344 USA,

[jnowak@hysitron.com](mailto:jnowak@hysitron.com)

**Coffee break 14:30-15:00**

3. *Kenji Matsuda*

**Effect of Cu or Ag on Nano Precipitation in Al-Mg-Si Alloys,**

Graduate School of Science & Engineering for Research, University of Toyama,

3190, Gofuku, Toyama, 930-8555, JAPAN, [matsuda@eng.u-toyama.ac.jp](mailto:matsuda@eng.u-toyama.ac.jp)

4. *Lyubov Belova*

**Applications of Scanning Probe Tools in Analysis of Complex Multi-phase Structures,**

Department of Materials Science and Engineering, Royal Institute of Technology, 10044 Stockholm, Sweden,

[belova@mse.kth.se](mailto:belova@mse.kth.se)

5. *Simon P. Ringer*

**Exploring the Hierarchy and Architecture of Solid Solutions with Atom Probe Microscopy,**

Australian Key Centre for Microscopy & Microanalysis, University of Sydney,  
Australia,  
[s.ringer@usyd.edu.au](mailto:s.ringer@usyd.edu.au)

**Speakers for Life science sections (30 min)**

1. *Helmut Gnaegi*

**Cryosectioning for CEMOVIS and TOVIS,**

Diatome,  
[helmut.gnaegi@diatome.ch](mailto:helmut.gnaegi@diatome.ch)

2. *Vladan Lucic*

**Quantitative analysis of the native presynaptic cytomatrix by cryoelectron tomography,**

Department of Molecular Structural Biology, Max Planck Institute of Biochemistry,  
D-82152 Martinsried, Germany,  
[vladan@biochem.mpg.de](mailto:vladan@biochem.mpg.de)

**Coffee break 14:30-15:00**

3. *Peter J. Peters*

**Towards Visualization of Nanomachines in their Native Cellular Environment,**

Division of Cell Biology, the Netherlands Cancer Institute - Antoni van Leeuwenhoek  
Hospital (NKI-AVL), Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands,  
[p.peters@nki.nl](mailto:p.peters@nki.nl)

4. *Sarah Butcher*

**Elucidation of picornavirus-receptor interactions by cryo-electron microscopy and image reconstruction,**

Institute of Biotechnology and Department of Biosciences, Biocenter 3, P.O. Box 65  
(Viikinkaari 1), FI-00014 University of Helsinki, Finland,  
[sarah.butcher@helsinki.fi](mailto:sarah.butcher@helsinki.fi)

5. *Tilman E. Schäffer*

**Scanning ion conductance microscopy**

Institute of Applied Physics, University of Erlangen-Nuremberg, Staudtstr. 7, Bldg.  
A3, 91058 Erlangen, Germany, [tilman.schaeffer@physik.uni-erlangen.de](mailto:tilman.schaeffer@physik.uni-erlangen.de)

**Posters and Company presentations**

**18:00 Departure to Vasa Museum.**

**19:00 Conference Dinner at Vasa Museum.**

*Friday, June 11*

**9:00- 14:00 Boat excursion to Archipelago**

**Departure.**