

UM15 - Looking back... & forward, registration for Staff & Invited Speakers only

Monday 21 September 2015 - Wednesday 23 September 2015

CENTRAL LUND, STADSHALLEN & GRAND HOTEL

Scientific Programme

UM15 programme:

Monday, September 21 - Stadshallen

11.00 - **Registration opens**

12.00 - Light lunch

12.30 - **Welcome & short updates** - Christoph Quitmann, Director of MAX IV Laboratory

12.45 - **Looking back** - Sverker Werin, moderator

Jesper Andersen, Anders Flodström, Ingolf Lindau, Nils Mårtensson, Ralf Nyholm, et al.

This is a discussion between some of the people who were there when the laboratory grew up, from the eighties to today. We will hear personal reflections and comments to what "really happened", moving freely between politics, local details, the king, science and much more.

14.15 - **FASM**

- Annual meeting

- Future strategies at MAX IV (Christoph Quitmann)

- Progress report on Science Village Scandinavia (Ulrika Lindmark)

15.00 - Coffee break

15.15 - Derek Logan - "Past, present and future - the protein crystallisation facility at Lund University"

Plenary talks

15.30 - **Jill Trehwella** - Professor in the School of Molecular Bioscience and Deputy Vice-Chancellor (Research) at the University of Sydney.

"Understanding bio-molecular structures important in human health; the role of small-angle scattering and synchrotrons"

16.15 - **Chris Jacobsen**, Associate Division Director/Senior Physicist, Argonne National Laboratory, Professor, Department of Physics & Astronomy, Northwestern University.

"Seeing chemistry in cells, and the wiring of the brain: opportunities with coherent x-rays from MAX IV"

How do trace metals affect cell development, and disease progression? How might nanoparticles be used to target cancer? How can one correlate functional studies of the brain using magnetic resonance imaging with detailed wiring diagrams of small regions of the brain provided by serial section electron microscopy? These are some of the questions now being addressed today using x-ray microscopy. But MAX-IV will change the game! With a hundredfold increase in coherent flux, we can go from heroic demonstrations on single cells to do real studies, and push towards 10 nm resolution and below. With cryo specimen preparation and imaging, we can maximize the preservation of structure and chemistry, and minimize radiation damage effects, and efforts towards such instrumentation will be discussed.

17.00 - Poster session with refreshments and mingle

Tuesday, September 22, parallel sessions - Grand Hotel

Energy! 8:30 – 17:00

Key words: solar cells, batteries, bioenergy, new energy materials, catalysis, CO2 capture, green materials etc.

Organizers: Karsten Handrup, Konstantin Klementiev and Andrey Shavorskiy

Detailed programme for this session is found [here](#).

Pushing the limits: time-resolved, inelastic, non-linear 8:30 – 17:00

Key words: Short pulse facility, using timed modes in the ring, pump-probe, resonant inelastic scattering, non-linear effects in x-ray-matter interaction, etc.

Organizers: Rainer Pärna, Marcus Agåker, Jörgen Larsson, Patrik Norman

Detailed programme for this session is found [here](#).

4S: Solid State, Structure and Surface 8:30 – 17:00

Key words: complex surfaces & novel materials, multi-technique approach, correlated electron systems, modern surface science & solid state structure approaches.

Organizers: Mats Leandersson, Stefan Carlson

Detailed programme for this session is found [here](#).

Bio-imaging and structure 8:30 – 17:00

Key words: information from biological and environmental samples with imaging, diffraction and scattering techniques.

Organizers: Martin Bech, Marjolein Thunnissen, Thomas Ursby

Detailed programme for this session is found [here](#).

Banquet at Grand Hotel, Lund 18:00 - 23:00

Drinks will be served at 18:00, the dinner starts at 19:00.
Wednesday, September 23 - Stadshallen

08.30 - Looking forward - Sine Larsen, moderator

Panel - Christoph Quitmann, Jesper Andersen, Tomas Lundqvist et al.

Topics - RÅC, FEL, User questions

10.00 - TNA - Derek Logan (SSUO)

10.10 - Coffee break

10.30 - Best theses lecture

10.50 - Best poster lecture

Plenary - Scientific highlights 3 x 20 min

11.10 - **Pernille Harris** - Associate professor at Technical University of Denmark.

"XAFS – a complementary technique for metalloprotein studies"

11.30 - **Oscar Tjernberg**, Professor at KTH, Head of the Materials Physics unit at school of ICT, KTH Stockholm.

"Past, present and the future of spin resolved electron spectroscopy"

In this talk, a brief review of the development of spin resolved electron spectroscopy will be given together with the present status. Examples of some of the spin resolved work that we have performed at Max III will also be given and discussed in the context of present capabilities. Finally, some of our ongoing work to develop a new spin detector will be presented and compared to other efforts in the field.

11.50 - **Ulrich Starke**, Professor at Max Planck Institute for Solid State Research, Stuttgart

"Band structure engineering by intercalation in epitaxial graphene on SiC(0001): Extreme doping levels and many-body interactions"

Abstract is found here.

12.10 - Lunch to go

13.15 - MAX IV guided tour 1

14.15 - MAX IV guided tour 2

15.15 - MAX IV guided tour 3

Students presenting a poster do not pay any conference fee.