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#### Words from the Director Trevor Forsyth

Its becoming increasingly busy at LINXS, with many thematic and other events coming up, including a number of guest seminars in March and early April. On 2nd/3rd May there will be a <u>Catalysis Workshop</u> as part of the New Materials Theme. On 4th May, the next <u>LINXS</u> <u>Science Day</u> will feature presentations from senior managers at MAX IV, ESS, and ISIS (UK).



There will also be updates on LINXS' plans for the future – for example new Themes approved in response to the recent LINXS National and International Theme Call 2022, and our imminent move to Science Village that will place LINXS directly between MAX IV and ESS, and right in the middle of an area that without doubt will become a key national and international hub for science and industry.

Following this, the focus of the day will shift to early-stage researchers and their science, as well as plans to expand the LINXS community and associated developments at MAX IV, ESS and the other infrastructures to which Sweden subscribes (including ESRF, ILL, ISIS, and Diamond), and an informal mingle at the end.

Other LINXS events coming up include the <u>Integrated Pharmacology and Dr</u>ug <u>Discovery (IPDD) workshop on Biomedical Imaging</u> (9th May), the <u>IPDD Theme</u> <u>meeting</u> (24th May), and the annual <u>Northern Lights on Food conference</u> (7-9 June). There are numerous other activities, so please keep an eye on the <u>website</u>.

It is also nice to reflect on some very successful recent activities, such as the **LINXS** 

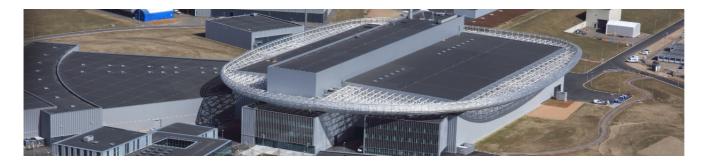
Young Researchers' Symposium in Life Sciences – an event that was so popular that registration had to be closed well ahead of the deadline. The event which was organised, run, and attended almost exclusively by young scientists (convened by Daniel Sarabi (LINXS) and Swati Aggarwal (MAX IV)), was hosted and supported by LINXS. It was a vibrant, lively, and highly interactive event with participants from all over Sweden and indeed Europe, and is set to become a recurring annual event. Parallel events are being planned in the areas of Soft Matter and Hard Matter. There was also a Northern Lights on Food Hackathon – which gathered large numbers of participants and highlighted the need for discussion, exchange and networking.

As mentioned above, we are also about to announce the outcome of our National and International Theme Call 2022. We are convinced that the incoming Themes will make outstanding additions to the existing portfolio of activities, greatly strengthening the effort to develop X-ray and neutron-based research throughout Sweden and internationally.

Last, but not least, we are delighted to welcome a new colleague! Josefin Martell is the new LINXS Activities Coordinator. You can read more about her in this newsletter. You can also read some interviews with our two incoming guest researchers, as well as an article about one of the ESS in-kind projects which is hosted by LINXS, and co-led by New Materials theme leader Elizabeth Blackburn.

We are looking forward to seeing as many of you as possible at the upcoming LINXS events, and of-course at the LINXS Science Day, 4th of May!

Take care and stay safe!



### LINXS hosts ESS in-kind project co-led by Elizabeth Blackburn, New Materials theme leader

During the time period 2021–2025, part of the Swedish contribution to ESS will be used

for in-kind deliveries, for example technical equipment or personnel, from Swedish universities to ESS. Four of these in-kind projects were approved by the Swedish Research Council in 2022.

One of them, Neutron polarization capacity building for use in user experiments on ESS instruments, is co-led by the LINXS New Materials theme leader, Elizabeth Blackburn, and hosted by LINXS. A second project, entitled, Commissioning Researchers for the ODIN instrument, focused on developing the ODIN imaging instrument at ESS, is led by Stephen Hall, former LINXS Director.

Read an interview with Elizabeth Blackburn and other researchers involved in the project



# Biophysics of Drug Delivery: new working group under the IPDD theme

A new working group, Biophysics of Drug Delivery, has been established under the Integrative Pharmacology and Drug Discovery, IPDD, theme.

Its aim is to develop orthogonal approaches for designing and characterizing efficient drug delivery systems, from pharmaceutical formulation development to the design of novel materials, and to develop methods for biophysical analysis of biomolecules.

– We want to foster a novel culture in the pharmaceutical sciences, by combining neutrons and X-ray sciences with imaging and spectroscopic approaches. By bringing together scientists with different backgrounds, in the interdisciplinary setting provided by LINXS, and the IPDD theme, we can start to tackle the main obstacles preventing drugs to reach their target, says Vito Foderà, Associate Professor, University of Copenhagen, and working group leader.

Read an interview with Vito Foderà about the new working group

### Meet Josefin Martell LINXS Activities Coordinator

LINXS is delighted to welcome Josefin Martell, the Institute's new Activities Coordinator. She will support LINXS operations and is responsible for overall coordination of activities.

In this interview, Josefin shares her motivation for applying for the role, and what aspects she sees as important for organising science and industry activities and engagements.

Read an interview with Josefin Martell



LINXS is delighted to welcome Andrew Boothroyd as a guest researcher from 1st of May to the end of June. Andrew is a Professor of Physics at the Clarendon Laboratory at Oxford University, and a member of the LINXS Scientific Advisory Board, SAB, since 2021.

Read an interview with Andrew Boothroyd

## Meet LINXS guest researcher Michael Philipp Adams





At the start of April, LINXS will welcome junior guest researcher, and LINXS fellow, Michael Philipp Adams to LINXS and Lund. He is in his second year of his PhD-studies at the University of Luxembourg, under the group Magnetic Neutron Scattering Group of the University of Luxembourg.

Read an interview with Michael
Philipp Adams





LINXS Guest Seminar: Order from disorder in sarcomeric Z-disks with Kristina Djinović Carugo, European Molecular Biology Laboratory

Time: 15.00 - 16.30 CET

See you at LINXS! Online participation possible

In this seminar, **Kristina Djinović Carugo**, head of the **European Molecular Biology Laboratory (EMBL) in Grenoble**, **France** will present their studies on the interaction of the major Z-disk protein  $\alpha$ -actinin with FATZ and Z-portion of titin, forming dynamic fuzzy complexes, and discuss findings in view of asymmetric sorting of  $\alpha$ -

actinin and sarcomeric Z-disk architecture and assembly

**28**March

**REGISTER** 



LINXS Guest Seminar and CoWork webinar: Recent advances in soft X-ray spectroptychography with Adam Hitchcock, McMaster University

Time: 15.30 - 16.30 CET

See you at LINXS! Online participation possible

In this seminar, Adam Hitchcock, Chemistry & Chemical Biology, McMaster University, Hamilton, ON, Canada, will describe recent advances in soft X-ray spectroptychography including extension to low X-ray energies (<200 eV), and in situ flow electrochemical studies of Cu catalysts for CO2 reduction.



**REGISTER** 



Welcome to LINXS Science Day

Time: 08.30 - 17.00 CET

#### See you at LINXS! Online participation possible

Welcome to the LINXS Science Day which will focus on early-stage researchers' science and initiatives. We will also discuss the LINXS developments and future plans in expanding the LINXS community, as well as the developments at MAX IV and ESS and other facilities such as ISIS.



#### Calendar

Our upcoming scientific activities within our Themes and Working Groups, and related events.

28

LINXS guest seminar

Mar

- Order from disorder in sarcomeric Z-disks with Kristina Djinović Carugo, EMBL

Register

LINXS guest seminar and WEBINAR: CoWork series

Mar

- Recent advances in soft X-ray spectroptychography with Adam Hitchcock

Register

April

LINXS guest seminar and WEBINAR: CoWork series

- Colloidal lipid self-assembly materials in nanomedicine with Calum Drummond

Register

**5**April

Antibodies in Solution: a LINXS – NIST Webinar Series

- Domain Motions, with Ralf Biehl, Jülich Centre for Neutron Science (JCNS), Germany

Save the date

19 April Northern Lights on Food theme

- Workshop with the Food Interaction on Surfaces working group

Register

**24**April

LINXS related event: ESS seminar

- Dynamics and Disorder in Macromolecular

Structures

Register

27 April LINXS Small Angle Scattering Data Clinic

- SAS-clinic with focus on small angle X-ray/neutron scattering

**Register** 

2-3

**New Materials** 

May

- Catalysis workshop

Register

3

Antibodies in Solution: a LINXS - NIST Webinar Series

- All Atom MD with Christina Bergonzo, Nist, USA May Save the date LINXS Science Day Register May Integrative Pharmacology and Drug Discovery May - 3D histology with x-ray micro-tomography: workshop on Biomedical Imaging Register Integrative Pharmacology and Drug Discovery - Theme meeting May

Save the date

Antibodies in Solution: a LINXS - NIST Webinar Series June - Protein Interactions with Mikael Lund, Lund University, Sweden

Northern Lights on Food 7-9 - Northern Lights on Food - Conference IV June Register

LINXS outreach event 12-

Save the date

**14**June

- BSR14 - 14th International Conference on Biology and Synchrotron Radiation

Save the date

**MORE LINXS ACTIVITIES** 



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