



Words from the Director Stephen Hall

Summer is almost here. At LINXS, we are wrapping up a busy spring term that has seen good development of the scientific activities within our themes. The community has adapted to remote work and interactions and we have had a number of very successful, interactive online meetings and workshops. Webinars continue to be a successful forum at all levels from the introductory Science at Large Scale Research Facilities series to in-depth scientific discussions in, for example, the CoWork series. We have also been working to progress the New Materials theme and have welcomed our most recent theme, Northern Lights on Food. We also announced a new theme call. Officially the Dynamics theme has concluded after 3.5 years, but some activities delayed by the pandemic are still planned for the future, not least the final symposium that we hope to have next year, along with the closing symposium of the Imaging theme.



The last weeks have also seen a flurry of activity during which we hosted the Swedish Neutron Week in collaboration with SNS and SwedNess. This was a great event to bring together the Swedish neutron community and attracted many new people who had not previously been involved in the annual Swedish neutron meeting. We also organised a number of on-line graduate-level schools in collaboration with SwedNess, turning the enforced necessity to meet online into something positive in terms of enabling PhDs and new-to-neutron researchers from different parts of Sweden, and further afield, to participate in lectures by leading international experts.

By autumn, we await, with fingers crossed, the opening-up of Swedish society and the lessening of coronavirus pandemic restrictions to allow us to host in-person and hybrid activities with our community. We will, of course, take with us the positives relating to online and digital meetings, not least to cut down on travel and to allow for participation by speakers and participants from different parts of the world. Yet, one cannot underestimate the need to meet in person, especially for an institute like LINXS, that is built around, often unexpected, discussions, collaboration and exchanges that spark blue-sky research ideas.

We are currently in the process of planning the activities for the autumn. Besides the activities planned by the various working groups, both webinar series will continue. Some of the LINXS themes are also coming to an end with summarising workshops. So please make sure that you visit our website regularly to stay updated. Our plan is to send out an email informing on the autumn activities in late August/early September.

In this edition of the newsletter, we share some reflections from keynote speakers from our new webinar series, Science at Large Scale Research Facilities plus reflections from the recent Heart and Mind workshop and Northern Lights on Food conference. We also feature some thoughts on neutron research and the recent Swedish Neutron Week. Finally, we are happy to share online the LINXS Annual

Report 2020 Highlights.

We wish you a great and relaxing summer and we cannot wait to continue discussions, chats and progression on x-rays and neutron research in the autumn.

Last, but not least, we sincerely thank you all for all your contributions to LINXS this term. We really appreciate your time and dedication, especially considering the challenges the past year has thrown at us with the coronavirus pandemic.

Take care and stay safe!

LINXS Annual Report 2020 Highlights

LINXS is pleased to announce the publication of LINXS Annual Report 2020 Highlights!

Read about last year's activities within our themes, reflections from the Scientific Advisory Board, and words from our Director Stephen Hall. We also highlight statistics from our scientific activities, reflect on our webinar series, Let's dive into the atoms, and CoWork, and share some featured news articles from last year.

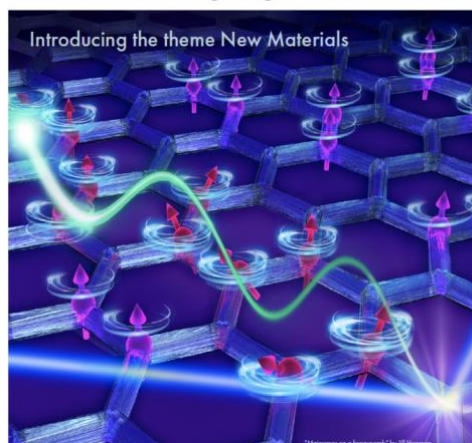
– We would like to sincerely thank everyone who has contributed to the development of LINXS this year; our staff, board and SAB, LINXS fellows, visitors, as well as participants at our activities. We look forward to continue working with all of you to further develop LINXS in its aim to support and advance x-ray and neutron science.

Stephen Hall, LINXS Director

[Read about LINXS Annual Report 2020 Highlights and download it at linxs.se](#)



LINXS Annual Report 2020 Highlights



Reflections on LINXS webinar series, Science at Large Scale Research Facilities

The LINXS webinar series, Science at Large Scale Research Facilities, is an excellent response to the coronavirus pandemic and provides the type of information one would get at a conference or at an actual facility. It's also a good way to reach out to people who use x-rays and neutrons more seldomly and to grow the community, say Ken Andersen and Sakura Pascarelli. Read their reflections on research frontiers, the importance of knowledge sharing and the need to keep a long-time perspective.



Both Ken Andersen, Associate Laboratory Director for Neutron Sciences at Oak Ridge National Laboratory

in the USA, and Sakura Pascarelli, Scientific Director at the European XFEL in Germany, have presented their respective facility as part of LINXS webinar series: Science at Large Scale Research Facilities.

[Read Ken Andersen and Sakura Pascarelli's reflections at linxs.se](#)

Northern Lights on Food II conference paves the way for a food network

The recent Northern Lights on Food II conference brought together researchers from academia and industry with the aim to establish a food network that will enable researchers to take full advantage of the new tools provided by large scale research infrastructures such as the ESS and MAX IV in Lund, Sweden. It was organised by the Food Science and Technology working group at LINXS.

A close to 140 participants, as well as keynote speakers and panelists gathered for the online event, which took place over three days. It was opened by introductory remarks from the Lund University vice-chancellor, Prof. Erik Renström. In this interview, some of the keynote speakers and participants, share their reflections on the conference - which is a follow up activity on the successful Northern Lights on Food workshop in 2019.



– The great science, collegial nature of the participants, and the many future potential intersections really highlighted the timeliness and need for a food network for researchers. This was not so much a surprise but a great validation of the concept we are trying to establish, says keynote speaker, Benjamin Boyd, professor at Monash University, Australia, and soon to commence a Novo Nordisk Laureate Research Fellowship at the University of Copenhagen. He is also a core member of the new Northern Lights on Food theme at LINXS.

[Read reflections on the conference at linxs.se](#)

Heart and Mind workshop closes the gap

To really push forward on treatment and research on amyloidosis, you need to first close the gap between biophysical researchers and physicians say Vittorio Bellotti and Trevor Forsyth. They were both involved in organising the recent Heart and Mind workshop on behalf of the LINXS Amyloid working group – which attracted more than 60 participants.



The Heart and Mind workshop in March at LINXS brought together researchers and physicians with different backgrounds and entry points into amyloidosis. Vittorio Bellotti and Trevor Forsyth explain that activities like this are important in stimulating better integration between experimental and clinical medicine

and in finding improved approaches to some of the challenging questions currently facing the field. They argue that basic scientists and physicians need to start working together on crucial questions of mutual importance: why do normal proteins misfold in this way? How are specific tissues targeted by different types of amyloid? Why do some patients respond to treatment and others not?

[Read a reflection on the workshop at linxs.se](#)

Swedish Neutron Week was a great success to grow and engage the community ahead of the opening of the ESS

Swedish Neutron Week is an important yearly event to gather neutron researchers before the opening of ESS, the European Spallation Source in 2023. Martin Sahlberg, Director of SwedNess, emphasises that it takes time to build a community that can make use of the huge potential offered by the new large scale research facility in Lund.

– It was a great event, with more than 180 registered participants. You can tell that people have figured out to handle the online format by now. It is also easier for people who are less active neutron users to join. You do not have to be an expert to join a session, since the barrier is that bit lower than at a physical conference.

[Read Martin Sahlberg's reflections at linxs.se](#)



LINXS events and related events

Here is a list of all the current events and activities taking place at LINXS, in partnership with LINXS or related to LINXS.

Events are open to all researchers from academia and industry.

[LINXS Event - Webinar: CoWork DUO webinar: Upscaling x-ray nanoimaging to macroscopic objects - Ptychographic image reconstruction using automatic differentiation: first and second order methods](#), 24

June

[LINXS Related Event - The 2021 CINEMAX VI PhD summer school and online course](#), 23 - 27 August

[LINXS Related Event - Virtual symposium: X-ray Imaging in Life Sciences](#), 26 August

[LINXS Related Event - ESRF/ILL Undergraduate Student Summer Programme on X-Ray and Neutron Science](#), 5 September - 2 October 2021, Grenoble, France, 5 Sept - 2 Oct

LINXS Event - Webinar: Science at Large Scale Research Facilities – with Philip Willmott, Paul Scherrer Institut, Swiss Light Source (PSI SLS), Switzerland, 22 September

LINXS Event - Webinar: Science at Large Scale Research Facilities – with Mark Johnson, Institut Laue-Langevin (ILL), France, 29 September, 29 September

[LINXS Related Event - AIMday Big Science & Technology 13th October](#), 13 October

LINXS Related Event - MAX IV User Meeting, 25 - 27 October

LINXS Event – Amyloid workshop. BIO SAXS, 22 November

LINXS Event – Membrane Protein workshop 2, 7-8 December

LINXS Event – Amyloid workshop: Mind the Gap, 9 -10 December

[LINXS Event - Workshop: An Introduction to surface x-ray and neutron scattering techniques](#), 10 January (2022)

[LINXS Related Event - Nordic Workshop on Scattering from Soft Matter | Aalto University](#), 10 - 11 January (2022)

[LINXS Related Event - SCIENTIFika, January 2020 - December 2021](#)



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The LINXS newsletter is sent out approximately four times a year. It highlights news and events from LINXS, as well as information in the area of neutron and x-ray science.

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