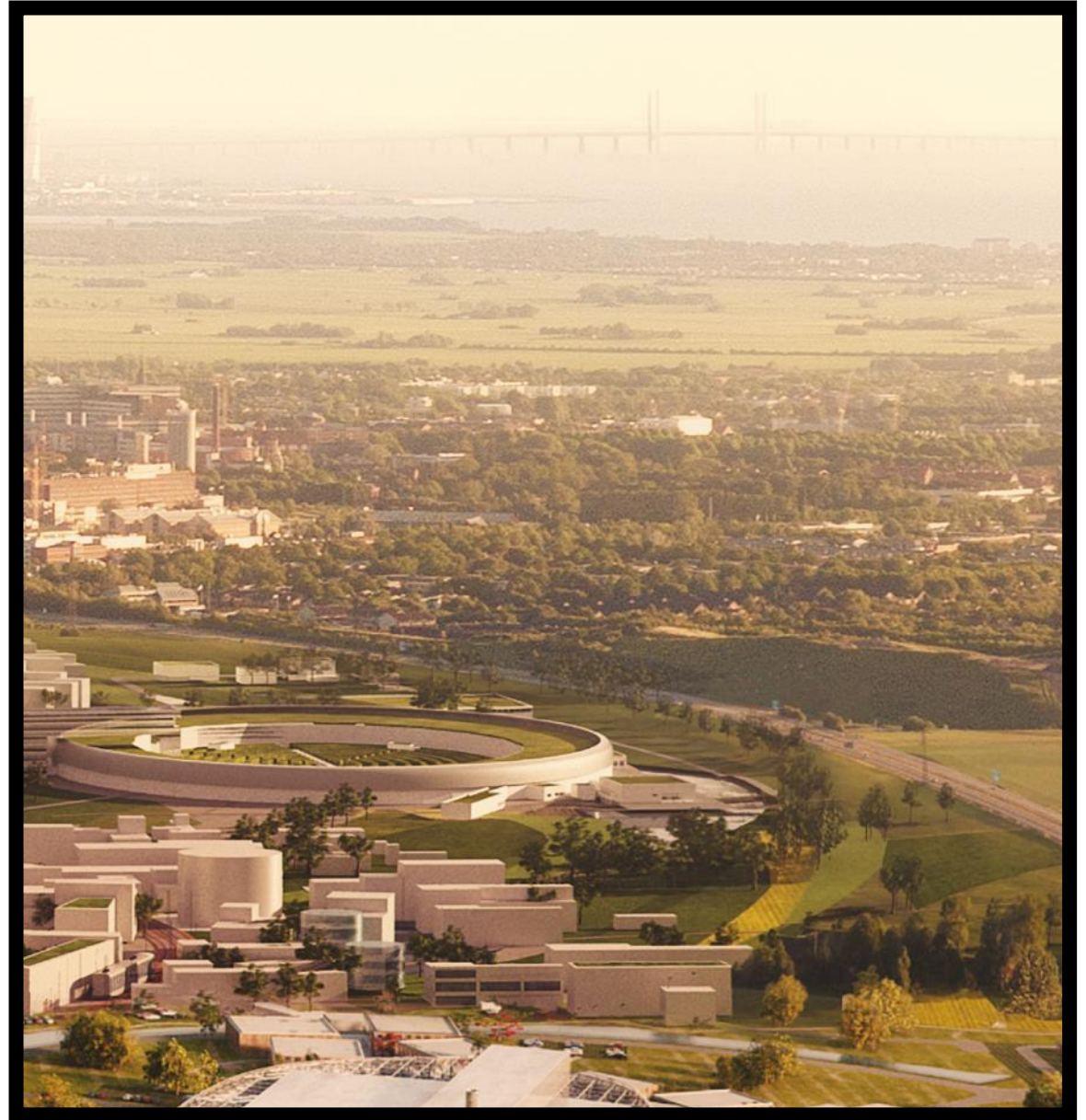




LINXS

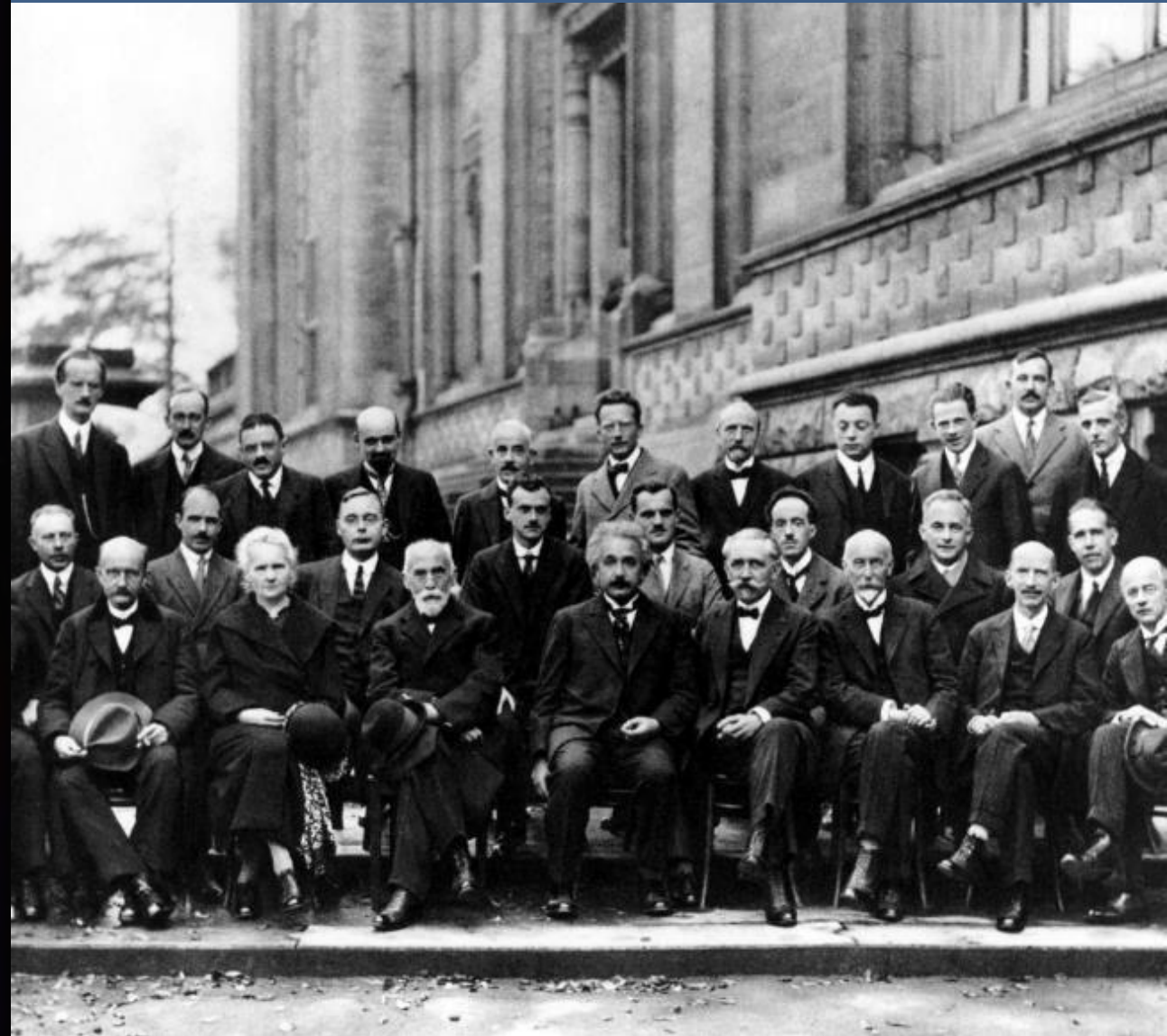
LUND INSTITUTE OF ADVANCED
NEUTRON AND X-RAY SCIENCE



LINXS is an advanced study institute

Our mission is to advance science and education for all research activities that can benefit from the use of neutrons and x-rays

- We bring together scientific communities - experimentalists, theoreticians and modellers
- “Advanced” is relative; the forefront can be found at different levels and manifestations depending on the community involved



Fifth Solvay Conference, Brussels, 1927

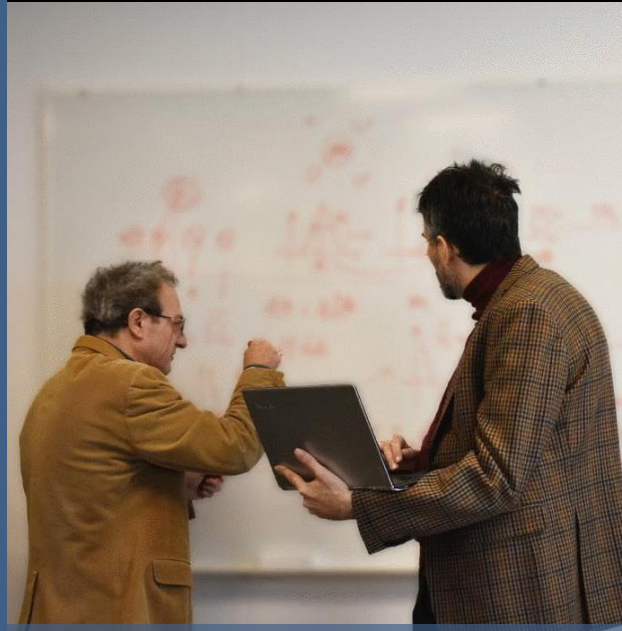
(image: Wikipedia)

What is LINXS?

LINXS provides the time and space to bring researchers together to solve challenges

LINXS' work is based around **Themes**, a time-limited programme of activities (3 years), with many active **Working Groups** focusing on specific topics

Themes are suggested by the community and address key research challenges. Costs ~1,25 MSEK / yr to run, 1 for researcher salaries and 0,25 for activities. Most of the work is in-kind.



Guest researchers



Schools and try-outs



Workshops, conferences and symposia



Hackathons and research programs

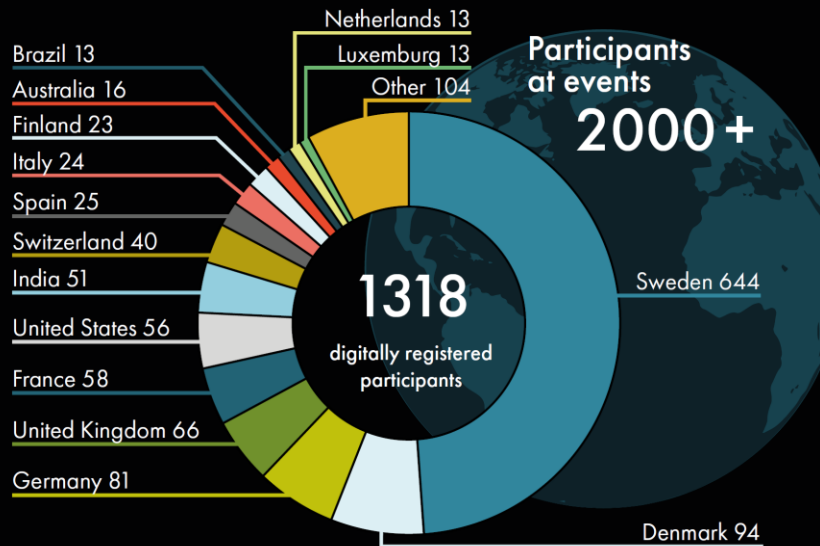
LINXS in numbers

- 6 Themes so far
- 145 Fellows in 2021
(people active in Working Groups)
- 120+ Educational videos in repository

2021 statistics

Communication & outreach

- 2179 Subscribers to the LINXS newsletter
- 6 Newsletters
- 811 LinkedIn followers
- 224 Twitter followers
- Keynote speakers
- 73 total
- ♀ 36% ♂ 64%



Partners



Core partners



Members



2170+ people in the LINXS network

Current LINXS Fellows come from the following organisations:



Collaborations:





New Director – Trevor Forsyth

- Appointed by Erik Renström, first ever tri-faculty recruitment
- Built up an interdisciplinary research environment linking four European Large Scale Research Facilities in Grenoble, France
- LINXS Director (50%), Research Professor (50%), at Faculty of Medicine, Lund University

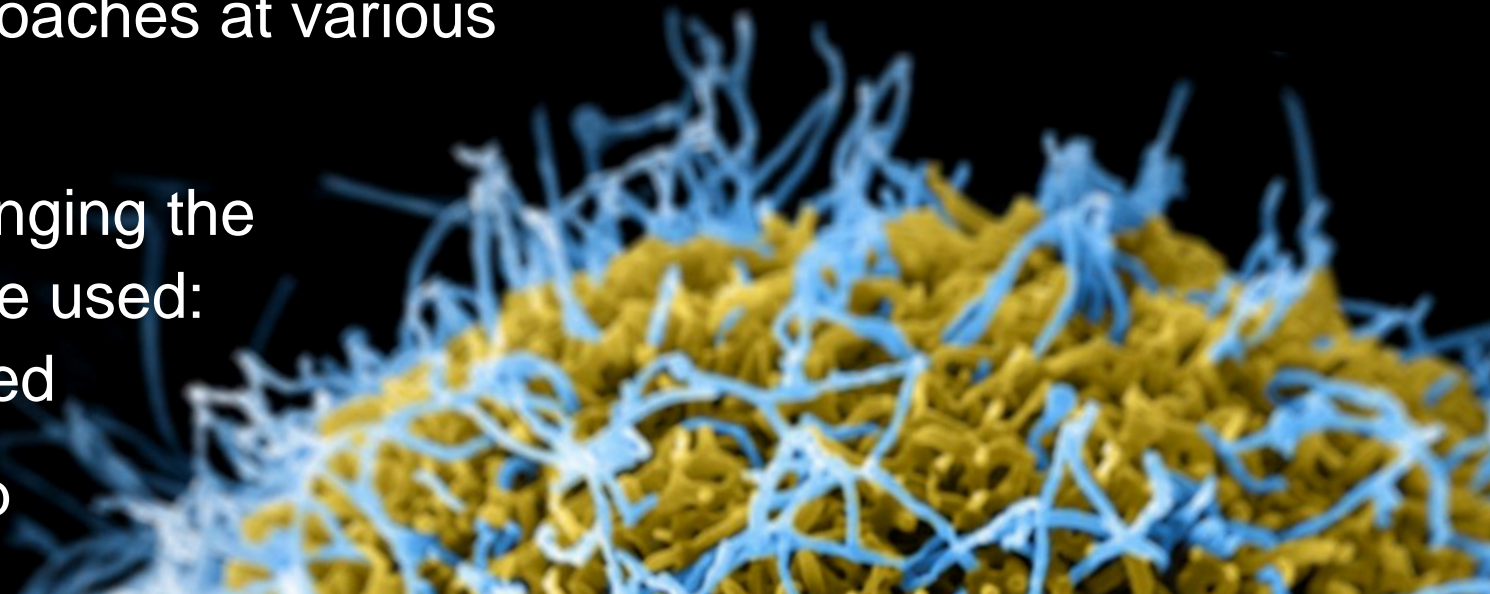
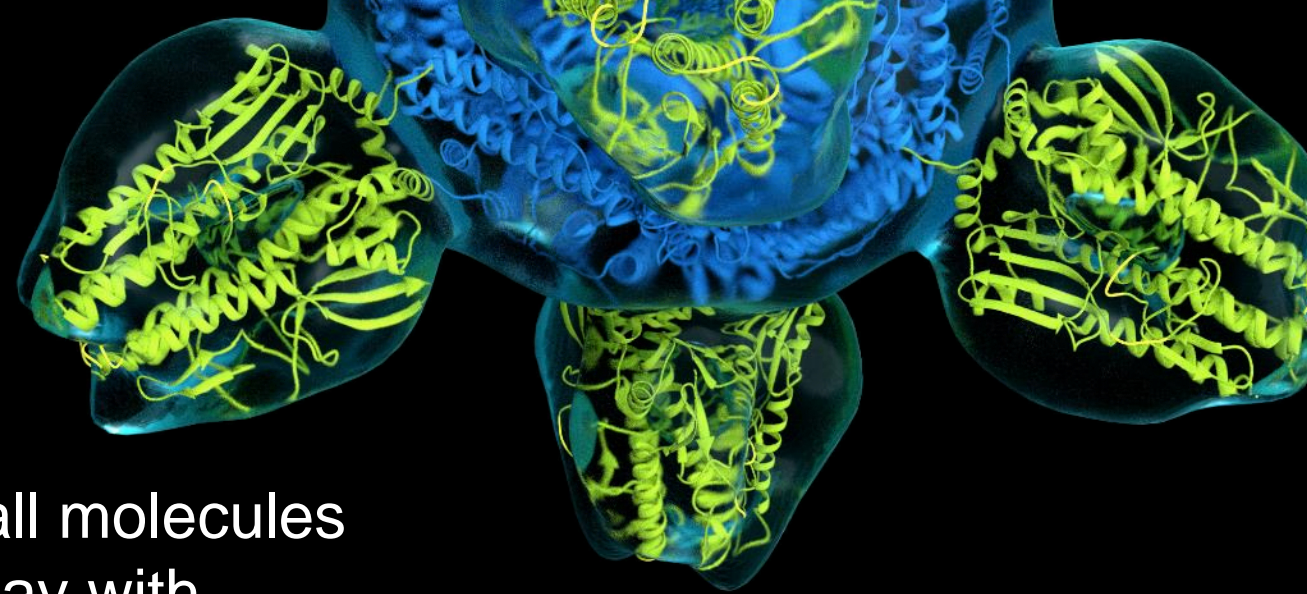


Grenoble, EPN campus

Latest Theme: Integrative Pharmacology and Drug Discovery

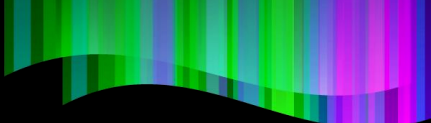
From structure-based drug design of small molecules and macromolecular drugs to their interplay with tissue and its formulation

- Combination of high throughput and rational design, classical and non-classical approaches at various lengthscales.
- AI and Machine Learning is changing the landscape of how techniques are used: X-ray, neutron and electron based
- CSO of Pfizer in the Core Group



Theme

*“From farm
to fork”*



**NORTHERN
LIGHTS ON
FOOD**

Brings together expertise in food science and technology for new knowledge and innovation.

Signature developments:

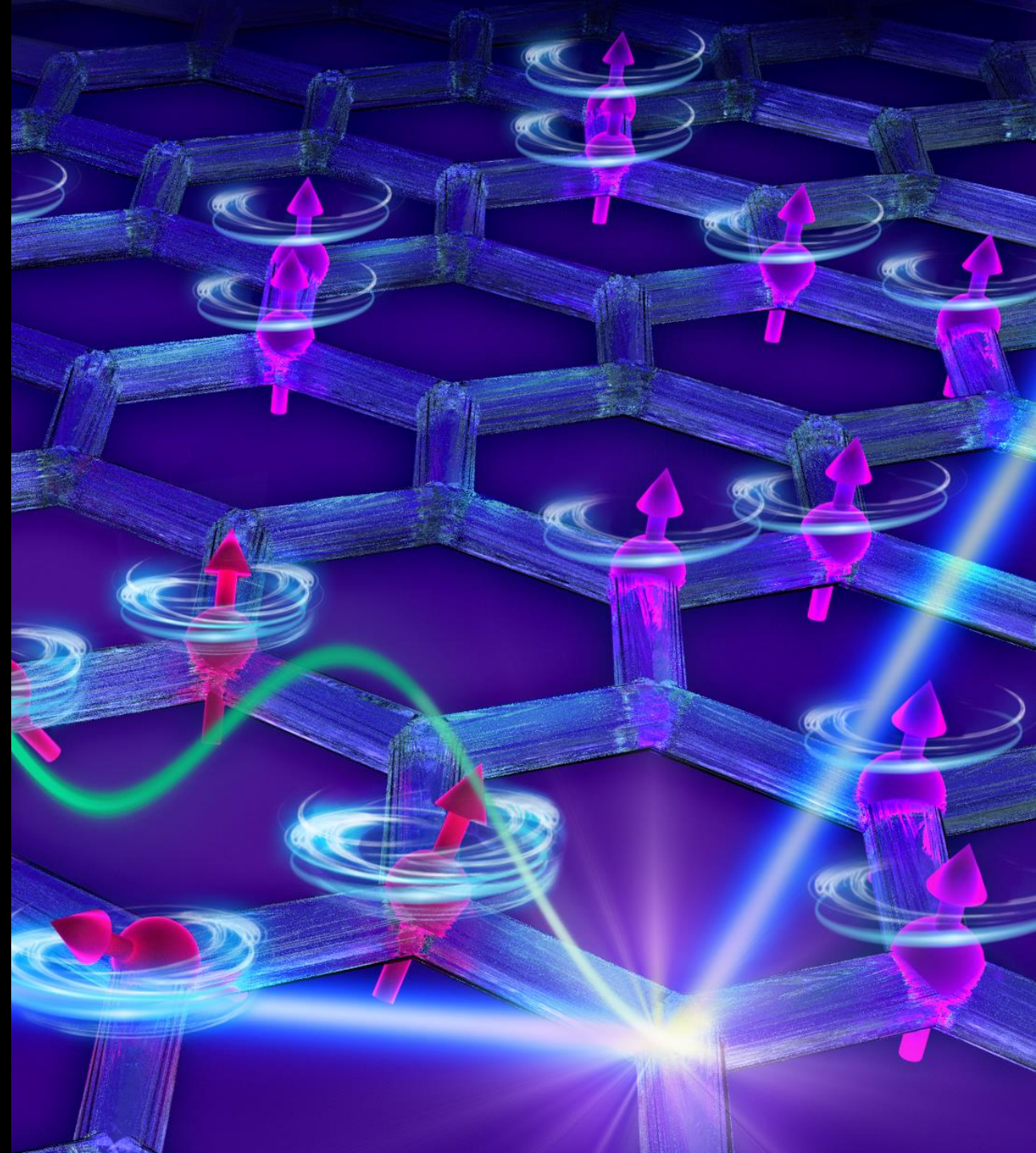
- Started as a Working Group, with the outcome of becoming a Theme
- Received booster financing from Formas, TVV and, lately, VINNOVA
- Example of LINXS acting as an incubator for nationally relevant initiatives



New Materials for Energy and Sustainability

Drives the development and characterisation of new materials for future applications in energy and sustainability

- Materials discovery
- Working groups on catalytic, light harvesting, charge transfer, magnetic, and nanostructured materials



The evolution of LINXS

Under the new management LINXS will be taking several progressive new steps targeted to the national and international community, specifically:

- **Broaden the call for Themes**
So that people from any organisation can be PIs. This will be contingent on the coordinating organisations contributing resources to the theme, in a similar manner to the Helmholtz schools.
- **Progressing partnerships**
LINXS is officially in talks with Uppsala University on a partnership model.



The evolution of LINXS

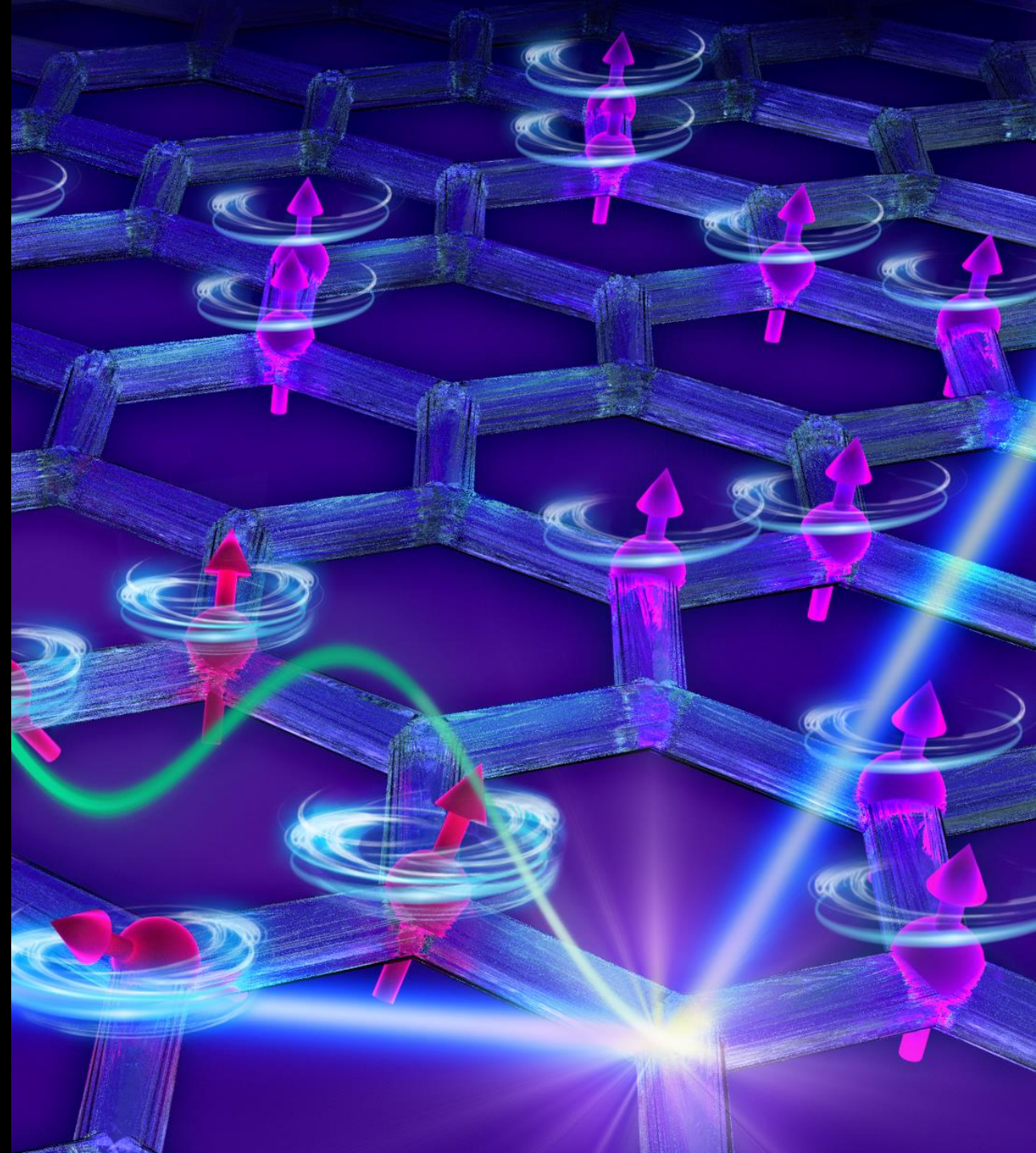
- Continue to establish LINXS in SVS as soon as possible
- Supporting the PIs of tomorrow
LINXS will seek to involve itself further in Schools, Undergraduate and Postgraduate Education, Learning & Outreach, and various funding schemes that support these activities.
- Focus on the digital *and* physical
Continue to improve the digital presence, resources and branding of LINXS and facilitate on-line and hybrid collaborative modes and practices, while increasing physical working modes in safe and targeted ways, both in SVS and nationally.



New Materials for Energy and Sustainability

Drives the development and characterisation of new materials for future applications in energy and sustainability

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NEW MATERIALS

THEMES - IMAGING | DYNAMICS | INTEGRATIVE STRUCTURAL BIOLOGY | **NEW MATERIALS** | NORTHERN LIGHTS ON FOOD



Magnetic Materials

Elizabeth Blackburn
LU Physics
Martin Sahlberg
UU Chemistry



Catalysis

Sara Blomberg
LU Chem. Eng.



Charge Transfer Materials and Light Harvesting

Jens Uhlig
LU Chemistry

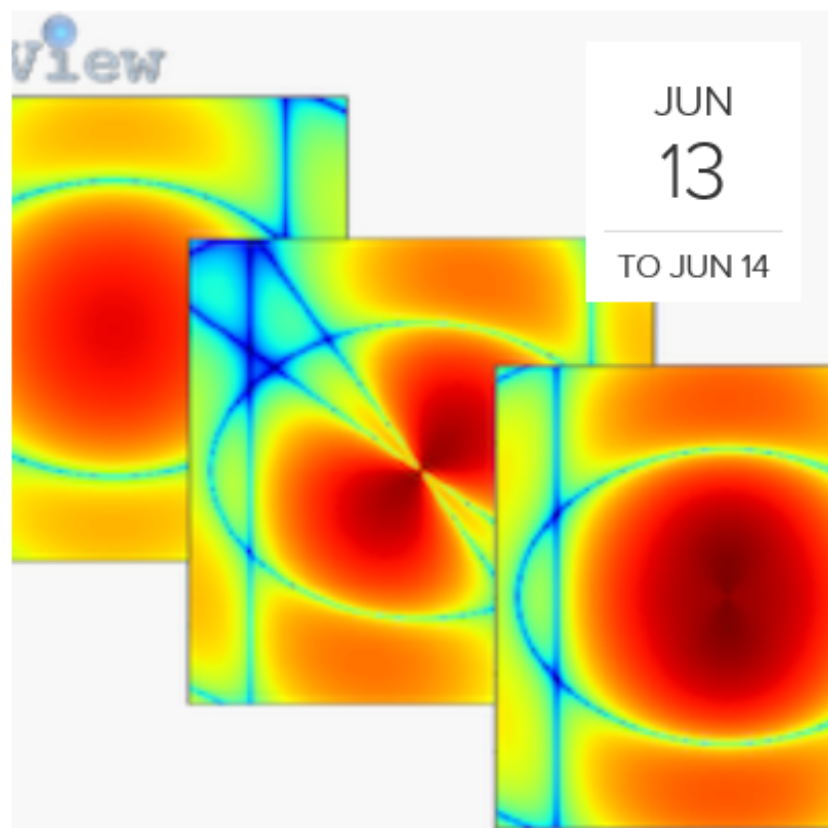


Nanostructures and Interfaces

Maria Messing
NanoLund

<https://www.linxs.se/new-materials>





LINXS Workshop - Magnetic SANS – Data Analysis and Software Prospects

Mon, Jun 13, 2022, 09:00 CET – Tue, Jun 14, 2022, 17:00 CET

The analysis of magnetic cross-sections by half- or full-polarized SANS measurements remains challenging and often the commonly available software packages like SasView, SASfit, BornAgain, and GRASP need to be extended by programs developed in-house.



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