

Swedish Neutron Week 2024

Venue: Stadshallen, Lund
29-31 May 2024



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LUND UNIVERSITY

Wednesday 29/05/2024

Related event during the Conference Northern Lights on Food		
11:05 – 11:45	Neutron reflectivity studies of the adsorption of proteins and lipids at interfaces	Giovanna Fragneto, ESS
12:00 – 13:00	Arrival & Registration + Hang Posters	
Welcome + Food and Biological Systems (Chair: Hanna Barriga)		
13:00 – 13:15	Welcome	Felix Roosen-Runge, SNSS Giovanna Fragneto, ESS
13:15 – 13:45	<u>Invited Talk</u> : The structure and interactions at the lipid aqueous interface and implications for food for the future	Tommy Nylander, Lund University
13:45 – 14:00	Thermal gelation of plant-based proteins	Francesca Dessi, Lund University
14:00 – 14:15	Temperature-induced DNA density transition in phage lambda capsid revealed with contrast matching SANS	Alex Evilevitch, Lund University
14:15 – 14:30	Neutron imaging of water diffusion in knee joint tissues	Edvin Tobias Bokvist Wrammerfors, Lund University
14:30 – 14:45	Neutron Spin Echo Spectroscopy - a Key Tool for Understanding Crowded Protein Solutions	Anna Stradner, Lund University
14:45 – 15:15	Coffee break	
Methodology for Neutron Science (Chair: tba)		
15:15 – 15:45	<u>Invited Talk (Poster Prize 2023)</u> Isotope-optimized single crystal CrB ₂ /TiB ₂ superlattices as novel materials for neutron optics	Samira Dorri, Linköping University
15:45 – 16:00	Enhancing Polarizing Neutron Optics: A Scalable Approach to Incorporating ¹¹ B/ ⁴ C in Fe/Si Multilayers	Anton Zubayer, Linköping University
16:00 – 16:15	Instrument-specific prediction of neutron scattering experiments using machine learning	Eric Lindgren, Chalmers
16:15 – 16:30	A proposal for a multipurpose experimental station using A compact neutron source at ESS: The DuNES concept	Damian Martin Rodriguez, ESS
16:30 – 16:45	SuperADAM – history, results and opportunities	Björgvin Hjörvarsson, Uppsala University
16:45 – 17:00	SAGA – GISANS for ESS	Sebastian Köhler, LINXS
17:00 – 17:15	Discussion / Community feedback SAGA	
17:15 – 19:00	Poster session with refreshments	

Thursday 30/05/2024

Magnetic Materials (Chair: Sheng Guo)		
08:30 – 09:00	<u>Invited Talk</u> : Compositionally complex alloys for sustainable hydrogen storage and compression	Martin Sahlberg, Uppsala University
09:00 – 09:15	Imaging the Evolution of Macroscopic Magnetic Domains in Silicon Steel using Polarized Neutrons	Alex Backs, Lund University / ESS
09:15 – 09:30	The effect of Manganese substitutions on the magnetism in Fe ₂ P-based compounds	Johan Cedervall, Uppsala University
09:30 – 10:00	Coffee break	
SNSS and SwedNess General Assemblies and Updates		
10:00 – 10:30	SwedNess Update	Martin Sahlberg, Uppsala University Martin Månsson, KTH
10:30 – 10:40	Infravis	Emanuel Larsson, Lund University
10:40 – 10:50	Big Science Sweden	Mike Olsson, Big Science Sweden
10:50 – 11:00	RISE	Shun Yu, RISE
11:00 – 11:30	SNSS update	Max Wolff, Uppsala University Marianna Yanez Arteta
11:30 – 12:00	Community discussion: Swedish Neutron Strategy	Hanna Barriga, Karolinska
12:00 – 13:30	Lunch	

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Thursday 30/05/2024 (continued)

Energy Materials (Chair: Björgvin Hjörvarsson)		
13:30 – 14:00	Invited Talk: Dynamics in energy relevant metal halide perovskites studied with neutron scattering techniques	Maths Karlsson, Chalmers University
14:00 – 14:15	Octahedral tilting in Prussian blue analogues	Hanna Boström, Stockholm University
14:15 – 14:30	Water ordering and local distortions in Prussian white cathode materials	Ida Nielsen, Uppsala University
14:30 – 14:45	The critical morphological structures for solvents insensitive processed organic solar cells	Rui Zhang, Linköping University
14:45 – 15:00	In-situ neutron diffraction study of Ni-addition influence on Phase transformations in Co-Re-Cr high-temperature alloys	Přemysl Beran, ESS / CAS (Prague)
15:00 – 15:30	Coffee break	
Soft Matter (Chair: Karen Edler)		
15:30 – 16:00	Invited Talk: Softness probed by neutron scattering	Judith Houston, ESS
16:00 – 16:15	Rheo-NR to Study the Ordering of Soft Polymer Crystals at the Solid-Liquid Interface under Shear	Tim Günter, Uppsala University
16:15 – 16:30	Impact of lipids present at the hair bio-interface on the structure of adsorbed polymer-surfactant systems	Serena Cozzolino, KTH
16:30 – 16:45	Hydration Dependent Dynamics in Cellulose Nanocrystals	Agnes Åhl, Stockholm University
16:45 – 17:00	Charged colloidal particles interaction in the microgravity environment of space: A USANS and SANS study	Jitendra Mata, ANSTO
17:00 – 19:00	Free time	
19:00 – ...	Conference Dinner	

Friday 31/05/2024

Future Opportunities at ESS (Chair: Samira Dorri)		
08:30 – 08:50	Large-Scale Structures	Andrew Jackson, ESS
08:50 – 09:10	Spectroscopy	Pascale Deen, ESS
09:10 – 09:30	Diffraction and Imaging	Mikhail Feygenson, ESS
09:30 – 09:45	DMSC	Torben Nielsen, ESS
09:45 – 10:00	DEMAX	Hanna Wacklin-Knecht, ESS
10:00 – 10:30	Coffee Break	
Swedish Opportunities for First Science at ESS (Chair: Karen Edler)		
10:30 – 10:45	Future scientific activities at LINXS (in SVS)	Trevor Forsyth, LINXS
10:45 – 11:00		Lisbeth Olsson, VR
11:00 – 11:15		Lars Hultman, SSF
11:15 – 11:30	Opportunities for first science at ESS	Giovanna Fragneto, ESS
11:30 – 12:00	Panel discussion	Giovanna Fragneto, ESS Lars Hultman, SSF Trevor Forsyth, LINXS Lisbeth Olsson, VR Felix Roosen-Runge, SNSS board
12:00 – 12:10	Final words	ESS + SNSS board
12:10 – 13:00	Lunch	
ESS site visit		
13:00 – 13:30	Transfer to ESS via tram	
13:30 – 16:30	Tour at ESS – Coffee Break – “Meet your beamline scientist”	BEER – Premek Beran ESTIA – Jos Cooper FREIA – Tom Arnold CSPEC – Daria Noferini DREAM – Florence Porcher
	ODIN – Stefanos Athanasopoulos	
	LOKI – Judith Houston	
	BIFROST – Rasmus Toft-Petersen	
	NMX – Esko Oksanen	
	Polarized SANS – Annika Stellhorm	
	DEMAX – Jia-Fei Poon and Anna Leung	

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Poster contributions		
1	Small-Angle Scattering of bran arabinoxylan gels	Marjorie Ladd-Parada
2	Exploring digestion dynamics of protein-rich food	Davide Schirone
3	Exploring digestion pathways of proteins from <i>Pisum sativum</i> during gastric digestion	Anna Maischberger
4	Morphology and stability studies of mRNA lipid nanoparticles	Sibel Uzuncayir
5	Investigation of the aggregation behavior of a permeation enhancer (Sodium Caprate) within intestinal fluid by coarse-grained simulations and small-angle scattering	Shahina Akter
6	The effect of different counter ions on the shape, size and interactions of perfluorooctanoate micelles	Njelama Sanga
7	Dynamics-function correlation in photosynthetic water oxidation	Nicholas Croy
8	Utilizing NUrF to investigate assembly mechanisms in reconstituted silkworm fibroin	Juanita Francis
9	Unravelling structure and interactions of complex lipid bilayers with myoglobin	Marshall Machingauta
10	Water mobility in cellulose nanofiber dispersions	Hanno Holzinger
11	Bio-Friendly Non-Aqueous Gels composed of Deep Eutectic Solvent and Cellulose Nanofibrils and Their Applications	Krishnaiah Damarla
12	Self-assembled Nanoparticle scaffolds, for membrane curvature effect studies	Filip Mehler
13	Rheo-NSE for the study of polymer dynamics under shear	Aastha Tejasvi
14	SAGA: A surface scattering beamline for ESS	Max Wolff
15	The reflectometer Super ADAM at ILL	Max Wolff
16	HOBEN: A tool for optimizing experimental design for neutron reflectometry	Sjoerd Stendahl
17	DREAM: The future neutron diffractometer for Crystallography at the ESS	Florence Porcher
18	Extending the service life of stainless steels - insights using SANS and neutron total scattering	Monika Rolinska
19	Single crystal neutron diffraction study on the $\text{Ho}_{13.6}\text{Au}_{61.1}\text{Al}_{25.3}$ quasicrystal approximant	Karthika Kariattukarakaran-Thilakan
20	Magnetic structure as a function of magnetic and electric field in the Y-type hexaferrite $\text{Ba}_{0.4}\text{Sr}_{1.6}\text{Mg}_2\text{Fe}_{12}\text{O}_{22}$	Oskar Stepancic
21	Co-Tb films with out-of-plane anisotropy as magnetic patterned substrates for the deposition of nanoparticles	Elizaveta Lazareva
22	Quantifying local lattice distortion in a HfNbTaTiZr RHEA using neutron total scattering	Yao Hu
23	Rotational Dynamics of Methylbenzylammonium Cations in Novel Low-Dimensional Chiral Metal Halide Composites	Kanming Shi
24	Pressure effects on the magnetic properties of honeycomb quasi two-dimensional antiferromagnet $\text{BaNi}_2\text{V}_2\text{O}_8$	Ekaterina Klyushina
25	Spin Cross-over in Prussian Blue Analogues	Elina Eivelo
26	Optimization of multilayer substrate assemblies for more effective neutron reflectivity measurements	Ivan Yakymenko

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