

# MLZ Conference 2021: Neutrons for Life Sciences

Tue 08/06

10:00	
	<b>Welcome of the MLZ directors: Welcome of the MLZ directors</b> 10:15 - 10:30
	<b>Antibacterial toxin binding to receptor lipids revealed by neutron reflection</b> <i>Dr Nicolo Paracini</i> 10:30 - 10:50
11:00	<b>New insights into the interaction of Class II dihydroorotate dehydrogenases with ubiquinone in lipid bilayers as a function of lipid composition</b> <i>Juan Manuel Orozco Rodriguez</i> <b>Protein Dynamics in Complex Environments</b> <i>Frank Schreiber</i> 11:10 - 11:40 <b>The structure of KRas at the membrane – simulation and experiment.</b> <i>Frank Heinrich</i> 11:40 - 12:00
12:00	<b>Lunch Break</b> 12:00 - 13:00
13:00	<b>Mechanical plasticity of the ECM directs branch elongation in human mammary gland organoids</b> <i>Prof. Andreas Bausch</i> 13:00 - 13:30 <b>Retrieving Myelin/Nerve Fibers in a Brain Section by Small Angle Scattering</b> <i>Dr Santanu Maiti</i> 13:30 - 13:50
14:00	<b>XFEL and Neutron Diffraction Studies allow Determination of the Binding Environment of an Iron Binding Protein</b> <i>Ivo Tews et al.</i> <b>Life Science at the SNS Second Target Station</b> <i>Dr Leighton Coates</i> 14:10 - 14:30 <b>Coffee Break</b> 14:30 - 15:30
15:00	<b>Biological Research in Russia: Neutron Research as Essential Part of a Multidisciplinary Approach</b> <i>Prof. Andrey L. Konevga</i> <b>Life sciences with neutrons at IFR-2 reactor</b> <i>Yulia Gorshkova</i> 15:50 - 16:10 <b>Coffee Break</b> 16:10 - 16:40
16:00	<b>Neutrons reveal (some of) the secrets of heme peroxidases</b> <i>Peter Moody</i> 16:40 - 17:10 <b>Neutron structures of Leishmania mexicana triosephosphate isomerase complexes with reaction intermediate mimics shed light on the proton shuttling steps</b> <i>Esko Oksanen</i> <b>Neutron Crystallography of the carbon fixing enzyme Rubisco</b> <i>Marvin Seibert</i> 17:30 - 17:50
17:00	

Wed 09/06

09:00	<b>Structural Investigation of Lipid Nanoparticles is key for Successful mRNA Delivery</b> <i>Dr Marianna Yanez-Arteta</i> 09:00 - 09:30 <b>Structural characterization of mRNA - lipid nanoparticle upon pH changes: a SANS study</b> <i>Federica Sebastiani</i> 09:30 - 09:50 <b>Neutron capture produced radioisotopes for diagnostics and therapy - opportunities and challenges.</b> <i>Winfried Petry</i> 09:50 - 10:10 <b>Treating cancer with neutrons – Options for Boron Neutron Capture Therapy</b> <i>Wolfgang Sauerwein</i> 10:10 - 10:30 <b>Coffee Break</b> 10:30 - 10:50 <b>High-resolution structure studies of NADH-cytochrome b5 reductase</b> <i>Dr Yu Hirano</i> 10:50 - 11:10 <b>Integrative approach to structure of huge protein complex in Kai-clock protein system</b> <i>Masaaki Sugiyama</i> 11:10 - 11:30 <b>Structural dynamics of substrate processing by the PAN-proteasome complex studied by TR-SANS</b> <i>Frank Gabel</i> 11:30 - 11:50 <b>Lunch Break</b> 11:50 - 13:00
13:00	<b>Poster Session</b> 13:00 - 15:00
14:00	
15:00	<b>Coffee Break</b> 15:00 - 15:30 <b>Strong Adverse Contribution of Conformational Dynamics to Streptavidin–Biotin Binding</b> <i>Mona Sarter</i> 15:30 - 15:50 <b>Conformational Changes of IDP under Influence of Guanidinium Chloride: Integrative Approach using X-ray/Neutron Scattering and Single Molecule Spectroscopy</b> <i>Andreas Stadler</i> <b>Towards time-resolved protein dynamics on nanoscopic scales</b> <i>Olga Matsarskaia</i> 16:10 - 16:30 <b>Protein short-time diffusion in polydisperse crowding</b> <i>Tilo Seydel</i> 16:30 - 16:50 <b>Coffee Break</b> 16:50 - 17:10 <b>Modelling the collective dynamics of membrane multilayers and complex membranes</b> <i>Dominic Hayward</i> 17:10 - 17:30 <b>JCNS Deuteration Service: What can we do for life sciences?</b> <i>Lisa Fruhner</i> 17:30 - 17:50
17:00	

# MLZ Conference 2021: Neutrons for Life Sciences

Thu 10/06

09:00	Neutron Scattering Experiments Under (in-situ) Illumination <i>Jörg Pieper</i> 09:00 - 09:30
	Fusion mechanisms of small extracellular vesicles with model membranes <i>Valeria Rondelli</i> 09:30 - 09:50
10:00	Changes in chromatin organization induced by macromolecules and protein complexes as a possible mechanism for epigenetic regulation <i>Dmitry Lebedev</i>
	Phytochrome function: structural changes and protonation dynamics <i>Prof. Jan Hughes</i> 10:10 - 10:30
	Coffee Break 10:30 - 10:50
11:00	Temperature-induced reorganization of influenza A nucleoprotein complex <i>Dr Vladimir Egorov</i> 10:50 - 11:10
	Structure of lipoprotein fractions associated with hypercholesterolemia <i>Nejet Mahmoudi</i> 11:10 - 11:30
	Neutron Scattering Experiments and Multi-Scale Simulations Reveal Dynamical Properties of the Bacterial Cytoplasm Near Cell-Death Temperature <i>Daniele Di Bari</i>
12:00	Lunch Break 11:50 - 13:00
13:00	History of FRM II & MLZ: Prof. W. Petry 13:00 - 14:00
14:00	Not just a fluidifying effect: omega-3 phospholipids induce formation of non-lamellar structures in biomembrane <i>Luigi Paduano</i>
	Translocation of non-ionic synthetic polymers through lipid membranes <i>Ekaterina Kostyurina</i> 14:20 - 14:40
	Endocytosis across scales <i>Amando Maestro</i> 14:40 - 15:00
15:00	Coffee Break 15:00 - 15:30
	Neutron crystallography in the fight against COVID-19: Drug Design Targeting SARS-CoV-2 Main Protease <i>Andrey Kovalevsky</i>
16:00	Structure of SARS-CoV-2 papain-like protease PLpro reveals a framework for antiviral inhibitor design <i>Dr Vasundara Srinivasan</i>
	Small-angle Neutron Scattering Studies of the Replicase Cofactor Nsp7/8 Complex from SARS-CoV-2 <i>Wellington Leite</i> 16:20 - 16:40
	Combining small-angle scattering with computational modelling to reveal structural details of Hepatitis B virus <i>Wojciech Potrzebowski</i>
17:00	Coffee Break 17:00 - 17:20
	Linking cell uptake to self-assembled block co-polymer nanoparticle morphology – small angle scattering studies <i>Christopher Garvey</i>
	Nanoscale morphology of thermoresponsive double hydrophilic block copolymers in aqueous solutions: impact of block length asymmetry and temperature effects <i>Dr Apostolos Vagias</i>
18:00	

Fri 11/06

09:00	Combining NMR, SAXS and SANS in integrative structural biology to study dynamics and allostery in protein complexes <i>Michael Sattler</i>
	Complementary Methods: Molecular Dynamics and SANS <i>Dr Alexey Shvetsov</i> 09:30 - 09:50
10:00	ANSTO's National Deuterium Facility (NDF): A Molecular Deuteration Platform for Characterisation Studies in the Life Sciences <i>Karyn Wilde</i>
	DEMAX: the DEuteration and MAcromolecular Xtallation platform of the ESS. <i>Zoe Fisher</i> 10:10 - 10:30
	Coffee Break 10:30 - 10:50
11:00	Round Table Discussion & Farewell 10:50 - 12:00
12:00	