# Röntgen-Ångström International Summer School 2022

## X-rays and Neutrons for a Sustainable Future - Advanced Materials, Climate Crisis, Human Health

**August 14 - 21, 2022, Varberg, Sweden**

RÅC INTERNATIONAL SUMMER SCHOOL 2022
Advanced Materials Design at X-ray and Neutron Facilities

Final Program, August 09th, 2022

| Time | Sunday, 14.8. | Monday, 15.8. | Tuesday, 16.8. | Wednesday, 17.8. | Thursday, 18.8. | Friday, 19.8. | Saturday, 20.8. | Sunday, 21.8. |
|---|---|---|---|---|---|---|---|---|
| | **Arrival** | **Where do we stand? Advanced Techniques and Applications** | **Advanced Techniques and Applications** | **Quantum Materials & Technical Materials** | **Thought-provoking Impulses Cultural Excursion** | **Climate Crisis & Environment** | **Human Health & Biomaterials** | **Departure** |
| 08:00-09:00 | | **Breakfast** | | | | | | |
| 09:00-10:00 | | ***Opening Ceremony*** | L6: **Helmut Schober** Meeting high expectations: How ESS will provide unprecedented opportunities for materials research | L11: **Yasmine Sassa** From ESCA to ARPES – Various Levels to Probe Electrons in Materials | L16: **Maxence Thévenet** Future world of plasma X-ray sources | L19: **Wolfgang Eberhardt** Designing the Energy System of the Future | L23: **Trevor Forsyth** Biomedical Research with Neutrons and X-rays | |
| 10:00-11:00 | | L1: **Martin Månsson** Intoductory Lecture Large-scale research for a sustainable society | L7: **Anders Nilsson** Water - the Most Mysterious Liquid | L12: **Jan-Dierk Grunwaldt** Catalysis for a Sustainable Future: The Key Role of Large Scale Facilities | L17: **Ralf Röhlsberger** When X-rays go Quantum: From Cavity QED to Quantum Imaging | L20: **Lars Kloo** New Solar Cell Technologies - The Role of Materials Interfaces and Application of Synchrotron-based Techniques | L24: **Kartik Ayyer** Diffractive Imaging of Ultrafast Dynamics in Nanoscale Systems | |
| 11:00-11:30 | | **Coffee & Tea** | | | | | | |
| 11:30-12:30 | | L2 : **Anders Flodström** Perspectives on Synchrotron Radiation Enabled Research | L8: **Christian Gutt** X-ray Photon Correlation Spectroscopy | L13: **Jens Birch** X-rays and Neutrons in Nano Materials Science | L18: **Stephan Förster** Future World of Compact Neutron Sources | **Free Time** | | |
| 12:30-13:30 | | **Lunch** | | | **Cultural Excursion with outside dinner** | **Lunch** | | |
| 13:30-14:30 | **Arrival & Check-in (rooms available from 15:00)** | L3: **Frank Schreiber** Fundamentals of X-ray scattering | L9: **Per Eng-Johnsson** Attosecond sources and applications | L14: **Anders Ynnerman** Inside Insights - Volumetric Visual Exploration of Scanned Subjects and Objects | | L21: **Claire Villevieille** Advanced Operando Investigation of Batteries Using Neutrons and X-rays | L25: **Lizbé Koekemoer** XChem to COVID Moonshot: a fragment-based drug discovery story | **Check-out (please vacate rooms before 11:00)** |
| 14:30-15:30 | | L4: **Harald Reichert** First Science from the ESRF-EBS | L10: **Felix Roosen-Runge** Dynamics of Proteins and Antibodies studied by Neutron Scattering | L15: **Heinz-Eberhard Mahnke** Highlights in cultural-heritage research with X-rays and neutrons | | L22: **Robert Schlögl** Hydrogen Technology - Energy Storage and Green Fuel | L26: **Eva Malmström Jonsson** Wood as a Feed-Stock for Sustainable Materials beyond Paper and Cardboard | |
| 15:30-16:00 | | **Coffee & Tea** | | | | **Coffee & Tea** | | |
| 16:00-17:00 | | L5: **Frank Schreiber** Fundamentals of Neutron Ncattering | **Tutorials day II** | **Tutorials day III** | | **Tutorials days IV & V** | **Tutorials day VI** | |
| 17:00-18:00 | | **Tutorials day I** | **Preparation of SCIENCE SLAM & Cultural Evening** | **CAROTS** | | **SCIENCE SLAM Presentations** | L27: **Lars Lejonborg** Keynote Lecture International Collaboration in Research as a Tool for Peace and Development | |
| 18:00-19:00 | | **Free Time** | | | | | **Free Time** | |
| 19:00-20:00 | **Welcome Barbecue & Social Gathering** | **Dinner** | | | | **Dinner** | **Closing Dinner & Awards** | |
| 20:00-22:00 | | **Poster Session I** | **Poster Session II** | **Free Time** | | **Cultural Evening** arranged by participants | | |

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Vetenskapsrådet