

Annual Report 2017-2018

PHYSICAL CHEMISTRY | FACULTY OF SCIENCE | LUND UNIVERSITY

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Cover picture:

Amyloid fibril and vesicles
by Professor Emma Sparr.

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Physical Chemistry: Still going strong and with a bright future.

In 1978 Björn Lindman was appointed chair professor at the division of Physical Chemistry 1 (there was also a Physical Chemistry 2, at the engineering faculty). Within a few years he had built up a team of theoreticians and experimentalists, working very much together on a focused area: surface and colloid science in general, and association colloids in particular. It was a highly collaborative atmosphere, with everyone more or less publishing together with everyone. In a way a bit similar to the famous Orsay Liquid Crystal Group (see e.g. Sonin, A. A. Pierre-Gilles De Gennes and Physics of Liquid Crystals. *Liq. Cryst. Rev.* **2019**, *6*, 109–128). I was a PhD student in the division in the mid 80's. Half of the papers in my thesis were published together with my main supervisor, the other half together with others. In the beginning, the main (if not only) experimental technique was nuclear magnetic resonance, NMR, as it evolved from Physical Chemistry 2. But in the mid 80's the toolbox had grown to include ellipsometry, deriving from a collaboration with the division of Food Technology. This marked the beginning of a long standing research program on the structure and dynamics, and molecular processes at interfaces, something that remains a major activity still at the division.

Today, 40 years later, Physical Chemistry has undergone a significant rejuvenation, and is still going strong. We dropped the "1" some time ago. We are currently 8 full professors, 4 women and 4 men. Our research activities are still focused on surface and colloid science although we more frequently use the label soft matter when we describe our research topic today. Experimentally we have become significantly broader, having expertise not only in NMR and surface techniques, but also in various scattering methods, various microscopy methods, rheology and calorimetry. And we are still strong in theory. We work closely with the SAXS beamline CoSAXS at MAX IV and are highly active in a GISANS beamline project for ESS.

Together with our instrumentation, our research portfolio has also developed and broadened over the years. There has been a gradual shift in our research towards addressing more biological questions, and we coined the term "colloidal biology" some years ago. The two latest recruitments, both at the assistant professor level, also brought new science to the division. Peter Jönsson studies biomolecular interactions at cell surfaces and Joakim Stenhammar is working on active matter. Particularly gratifying is the fact that our younger PIs are so very successful in their research, and already capable of attracting large funding. Clearly the future looks bright for the Physical Chemistry division.

Professor Ulf Olsson
Head of the Division of Physical Chemistry

Conferences attended

Maxime Bergman, PhD Student:

- Gave an oral presentation at the SoftComp Annual Meeting in Ancona, Italy, 2016
- Gave an oral presentation at ECIS, Rome, Italy, 2016
- Gave an oral presentation at the SoftComp Annual Meeting in Venice, Italy, 2017
- Presented a poster at the Liquid Matter conference in Ljubljana, Slovenia, 2017
- Half-time seminar was given on 26 September 2017
- IACIS conference 21-25 May, 2018 in Rotterdam, Netherlands. Oral presentation

Guanqun Du, PhD Student:

- 15th Nordic workshop on scattering from soft matter, 17-18 January, 2018

Rebecca Frankel, PhD Student:

- ADAM6, Norrköping, Sweden, 2017. Poster
- International meeting for Centre for Misfolding Disease, Taormina, Italy, 2018. Five min lecture/presentation
- 7th Wroclaw-Prague Seminar on Biophysics of Lipids, Wroclaw, Poland, 2018. 15 min lecture/presentation

Jasper Immink, PhD Student:

- SoftComp Annual Meeting, Ancona, Italy, September 6-9, 2016, Oral presentation
- International Soft Matter Conference, Grenoble, France, September 12-16, 2016, Oral presentation
- Annual European Rheology Conference, Copenhagen, Denmark, April 3-6, 2017, Poster presentation
- SoftComp Annual Meeting, Venice, May 6-9, 2017, Oral presentation
- Liquid Matter Conference, Ljubljana, Slovenia, July 17-21, 2017, Poster presentation
- Conference of the International Association of Colloid and Interface Scientists, Rotterdam, the Netherlands, May 21-25, 2018, Oral presentation

Victoria Junghans, PhD Student:

- ECIS, Rome, 2016, Poster
- EMBO, Siena, 2018, Poster
- ECI, Amsterdam, 2018, Poster

Peter Jönsson, Senior Lecturer:

- Membrane imaging workshop, Denmark, 2018, invited (oral)
- TethMem 2017, Austria, 2017, invited (oral)
- EMBO/ESF - Biological Surfaces and Interfaces, Spain, 2017, invited (oral)

Mohammad Arif Kamal, Postdoc:

- Membrane Imaging workshop, Odense, Denmark, 2018, Poster Presentation
- Workshop – Scattering and dynamics of Flowing Soft Materials, Lund, Sweden, 2018
- Workshop – Dynamics of membranes and their constituents, Lund, Sweden, 2018
- Workshop – Dynamics of biological macromolecules, Lund, Sweden, 2018
- 32nd Conference of The European Colloid and Interface Society (ECIS), Ljubljana, Slovenia, 2018, Oral Presentation

Björn Lindman, Professor Emeritus:

- BIBAFOODS workshop, Gent, January 2017
- COST meeting Cellulose, Stockholm, March 2017
- Workshop Institute of Surface Chemistry, Stockholm, April 2017
- American Chemical Society Meeting, San Francisco, April 2017, two invited talks
- International Symposium on Advanced Nanomaterials (ISAN 2017), S:t Petersburg, June 2017, keynote lecture
- Symposium in Honour of Piero Baglioni's 65th birthday, Florence, June 2017, opening lecture
- ECIS, Madrid, September 2017, scientific committee
- CP Kelco Fibre conference, Milan, September 2017, keynote lecture
- Celebrations for the 50th anniversary of Inst Chem – UNICAMP, Brazil, October 2017, plenary talk
- FOREC workshop, Storhogna, February 2018
- International Workshop on Polyelectrolytes in Chemistry, Biology and Technology 2018, Singapore, March 2018, keynote lecture
- INL International Nanotechnology Laboratory, Braga, Portugal, workshop talk
- Camurus Lipid Award symposium, Lund, April 2018, invited talk
- International Association of Colloid and Interface Scientists (IACIS), Rotterdam, May 2018, Chairman award committee
- ECIS, Ljubljana, September 2018, Chairman of memorial symposium
- Adv School on Colloids, Campinas, Brazil, October-November 2018, teacher
- Brazilian Colloid Meeting (AutoOrg), S:t Pedro, Brazil, November 2018, plenary lecture
- 8th Workshop on Cellulose, 13-14 November 2018, Karlstad, keynote lecture

Enamul Mojumdar, Postdoc:

- 19th IUPAB congress and 11th EBSA congress, Edinburgh, UK, 2017, Poster presentation

Linda Månsson, PhD Student:

- 30th Conference of the European Colloid and Interface Society (ECIS), Rome, September 4-9 2016. Poster presentation
- 91st annual meeting of the American Chemical Society Division of Colloid and Surface Chemistry, New York, July 9-12 2017. Oral presentation
- 16th conference of the International Association of Colloid and Interface Scientists, Rotterdam, May 21-25 2018. Oral presentation

Henrik Nordanger, PhD Student:

- 1st National Meeting of the Swedish Chemical Society, Lund, 2018, Poster

Ulf Olsson, Professor:

- SING 20 years Celebration, Paul Scherrer Institute, Villigen, Switzerland, 2017, Invited talk
- ACS National Meeting "Self-Assembly of Synthetic and Biological Surfactants: Translating Fundamentals into Applications", Washington DC, 2017, Invited talk
- Troedsson seminarium, Gothenburg, 2017, Invited talk
- "40 years of soft matter in Florence" – in honour of Piero Baglioni's 65th birthday, Florence, Italy, 2017, Invited talk
- ECI Conference "Association in Solution IV", St. John's Newfoundland, Canada, 2017, talk
- LINXS kick-off, Lund, 2017, Invited talk
- ACS Award in Colloid Chemistry: Symposium in honour of Håkan Wennerström, New Orleans, 2018, talk
- ECIS conference, Ljubljana, Slovenia, 2018, Keynote talk
- LINXS workshop "Dynamics of membranes", Lund, 2018, talk
- Hedda Andersson Symposium: Peptide Hydrogels, Lund, 2018, Invited talk

Antara Pal, Postdoc:

- Workshop - Scattering and dynamics of Flowing Soft Materials, Lund, Sweden, December 2018, talk
- XVII International Small Angle Scattering Conference (SAS), Traverse City, Michigan, USA, October 2018, talk
- MaxIV User Meeting, Lund, Sweden, September 2018, talk
- Workshop - Dynamics of membranes and their constituents, Lund, Sweden, September 2018
- 32nd Conference of The European Colloid and Interface Society (ECIS), Ljubljana, Slovenia, September 2018, poster
- Workshop - X-ray Photon Correlation Spectroscopy, Lund, Sweden, June, 2018
- Workshop - Dynamics of biological macromolecules, Lund, Sweden, June 2018
- 15th Nordic Workshop on Scattering from Soft Matter, Lund, Sweden, January 2018, poster
- SoftComp Annual Meeting, Venice, Italy, May 2017, talk

Feifei Peng, PhD Student:

- Synthesis of thermoresponsive colloidal molecules using droplet-based microfluidics, in 7th International Colloids Conference, Sitges, Spain, 18-21 June 2017, poster
- Thermoresponsive colloidal molecules prepared using droplet-based microfluidics, in 8th International Colloids Conference, Shanghai, China, 10-13 June 2018, poster

Lennart Piculell, Professor Emeritus:

- ACS Spring meeting April 2-6, 2017, San Francisco, USA; oral presentation
- 16th conference of IACIS May 21-25, 2018, Rotterdam, the Netherlands; poster
- 12th International Symposium on Polyelectrolytes August 27-31, 2018, Wageningen, the Netherlands; poster

Felix Roosen-Runge, Researcher and Postdoc:

- Workshop “Dynamic structures: from atomic to cellular length scales”, Lund, Sweden (05/2017); Invited Talk: Protein Dynamics in Crowded Solutions Studied by Scattering Methods
- 10th Liquid Matter Conference 2017, Ljubljana, Slovenia (07/2017): Talk: Salt-controlled phase behavior and crystallization pathways in protein solutions; Poster: Motion in diffusivity landscapes: Towards analytic correlation functions
- Nordic Workshop on Scattering from Soft Matter, Lund, Sweden (01/2018): Keynote lecture: Dynamics of Proteins in Solution Studied by Quasi-Elastic Neutron Scattering
- Spring Meeting of the German Physical Society, Berlin, Germany (03/2018): Talk: On effective sphere models for self-diffusion of nonspherical particles; Talk: Dramatic influence of anisotropic interaction and shape on short-time protein diffusion
- KAW midterm workshop “Anisotropic Forces in Colloid Chemistry”, Lund, Sweden (05/2018): Invited talk: Dynamics of crystallin proteins in crowded solutions
- Annual Niels Bohr International Academy Workshop “Deciphering the hidden dynamics of Soft Matter”, Copenhagen, Denmark (06/2018); Invited lecture: Analytical modeling of complex and hierarchical dynamics
- LINXS workshop “Dynamics of Biological Macromolecules”, Lund, Sweden (06/2018); Talk: Towards crowding in the eye lens: dynamics in aqueous solutions of crystallin proteins
- LINXS workshop “X-ray Photon Correlation Spectroscopy”, Lund, Sweden (06/2018)
- RACIRI 2018 Summer School “From Basic Science and Applications to Technologies inspired by Nature”, Rügen, Germany (08/2018); Invited lecture: Dynamics of soft matter using neutron spectroscopy
- LINXS workshop “Dynamics of Membranes and their Constituents”, Lund, Sweden (09/2018); Talk: Anomalous and anisotropic diffusion of hydration water in fluid lipid membranes
- German Conference for Research with Synchrotron Radiation, Neutron and Ion Beams at Large Facilities, Garching, Germany (09/2018): Talk: Towards crowding in the eye lens: dynamics in aqueous solutions of crystallin proteins; Price keynote talk: Integrative Perspectives on Crowded Protein Solutions
- LINXS workshop “Scattering and Dynamics of Flowing Soft Material”, Lund, Sweden (12/2018)
- ILL/ESS User Meeting, Grenoble, France (10/2018); Talk: Towards crowding in the eye lens: dynamics in mixed solutions of crystallin proteins

Axel Rüter, PhD Student:

- Association in Solution IV (Engineering Conferences International), St. John's, Newfoundland, Canada, 2017, poster presentation
- 1st National Meeting of the Swedish Chemical Society, Lund, Sweden, 2018, oral presentation
- Annual Conference for the European Colloidal and Interface Society, Ljubljana, Slovenia, 2018, oral presentation

Karin Schillén, Professor:

- 14th Nordic workshop on Scattering from Soft Matter, Oslo, Norway, January 2017, oral presentation
- Symposium on 40 years of Soft Matter Science in Florence, Florence, Italy, June 2017, oral presentation
- 31st European Colloid and Interface Society Conference, Madrid, Spain, September 2017, poster
- International SAXS Symposium, Graz, Austria, September 2017, oral
- LINXS Kickoff, Lund, Sweden, September 2017, attended
- Annual Surface and Material Chemistry Symposium: Materials and Interfaces – Smart, Functional, Sustainable?, Stockholm, Sweden, October 2017, invited talk
- 15th Nordic workshop on Scattering from Soft Matter, Oslo, Norway, January 2018, attended
- 1st National Meeting of The Swedish Chemical Society, Lund, Sweden, 2018, poster, co-organizer
- Satellite Meeting – The Future of Chemistry with MAX IV and ESS, Lund, Sweden, June 2018, attended
- 32nd European Colloid and Interface Society Conference, Ljubljana, Slovenia, September 2018, keynote lecture

Peter Schurtenberger, Professor:

- Conference on “40 Years of Soft Matter Science in Florence”, Florence, Italy, 22-24 June 2017, Invited Lecture
- ECI Conference on “Association in Solution IV”, Memorial University, St. John's, Newfoundland, Canada, 31 July-4 August 2017, Invited Lecture
- 9th Workshop of the Department of Chemical and Biomolecular Nanotechnology, CID Research and Development Center, Barcelona, Spain, 14 September 2017, Invited Plenary Lecture
- APS March Meeting, Los Angeles, USA, 5-8 March 2018, Invited Lecture
- ACS National Meeting, New Orleans, USA, 18-22 March 2018, two Invited Lectures
- 14th Annual PEGS conference, Boston, USA, 30 April-4 May, 2018, Invited Lecture
- Symposium on ‘Anisotropic Particles – Tailoring Shape, Interactions and Structures’, Konstanz, Germany, 25-28 September 2018, Invited Lecture
- Workshop on neutron spin-echo spectroscopy (NSE2018), Grenoble, France, 9-12 October 2018, Invited Keynote Lecture

Emma Sparr, Professor:

- CNRS symposium “Drying Days”, Toulouse, France, 2017, Invited talk
- DEUNET Workshop “Deuteration for Neutron Scattering”, Oxford, UK, 2017, Invited talk
- Inauguration Workshop – LEO Foundation Center for Cutaneous Drug Delivery, Copenhagen, Denmark, 2017, Invited talk
- Transport in nanostructured materials – design and characterization, Varberg, 2017, Invited talk
- CECAM workshop Insights into skin permeation: from theory to practice. Lausanne, Switzerland, 2017, Invited talk
- 7th Prague-Wrocław Seminar on Biophysics of Lipids, Wrocław, Poland, 2018, Invited talk

Joakim Stenhammar, Associate Senior Lecturer:

- 8th Nordic Workshop on Statistical Physics, Stockholm, 2017 (invited talk)
- 10th Liquid Matter Conference, Ljubljana, 2017 (contributed talk)
- From Active Matter to Complex Fluids, Nice, 2018 (invited talk)
- 9th Nordic Workshop on Statistical Physics, Stockholm, 2018
- 1st National Meeting of the Swedish Chemical Society, Lund, 2018
- LINXS workshop Scattering and Dynamics of Flowing Soft Material, Lund, 2018

Anna Stradner, Professor:

- ACS March Meeting 2018, New Orleans, Louisiana, USA, 19-22 March 2018
Invited Lecture: “Protein aggregation and gelation – insight from combining scattering, rheology and computer simulations”
- APS March Meeting 2018, Los Angeles, California, USA, 5-9 March 2018
Oral Presentation: “Diffusion of anisotropic proteins with patchy interactions – insight from combining scattering, rheology and computer simulations”
- LINXS Kick-off Conference (Lund Institute of Advanced Neutron and X-Ray Science), Lund, Sweden, 27-29 September 2017
Invited Lecture: “Understanding Protein Crowding”
- ECI (Engineering Conferences International) Association in Solution IV – Memorial University, St. John’s, Newfoundland, Canada, 31 July-4 August 2017
Invited Lecture: “Self-assembly in patchy proteins: from transient networks to attractive glasses”
- MLZ Conference: Neutrons for Health – Bad Reichenhall, Germany, 27-30 June 2017
Invited Keynote Lecture: “Dynamics of concentrated protein solutions: from presbyopia to pharmaceutical formulations”

Olle Söderman, Professor Emeritus:

- Australian & New Zealand Society of Magnetic Resonance Conference 2017, Invited speaker

Daniel Topgaard, Professor:

- Radiological Society of North America (RSNA) 104th Scientific Assembly and Annual Meeting, Chicago, Illinois, USA. Contributed lecture: 5D relaxation-diffusion tensor correlation MRI for model-free quantification of microscopic heterogeneity of brain tissue, 2018.
- 8th biennial Western Sydney University Symposium on NMR, Sydney, Australia (via Zoom from Rehovot, Israel). Invited lecture: Multidimensional diffusion MRI, 2018
- Gordon Research Conference – In Vivo Magnetic Resonance, Andover, New Hampshire, USA. Invited lecture: Multidimensional diffusion MRI, 2018
- EUROMAR 2018, Nantes, France. Contributed lecture: Characterizing the microscopic heterogeneity of the living human brain with spatially resolved 5D diffusion-relaxation distributions
- Brain Connectivity Workshop 2018, Stanford, California, USA. Invited lecture: Mapping fibers in heterogeneous brain tissues
- XL Finnish NMR Symposium, Helsinki, Finland. Invited lecture: Multidimensional diffusion MRI, 2018
- AMPERE NMR School, Zakopane, Poland. Invited lecture: Relaxation-diffusion correlation in the human brain, 2018
- NMR**2 72nd New Mexico Regional NMR Meeting, Albuquerque, New Mexico, USA. Invited lecture: Solid-state NMR methods for soft matter - From lipid membranes to the living human brain, 2018
- 59th Experimental Nuclear Magnetic Resonance Conference (ENC), Orlando, Florida, USA. Poster: Characterizing the microscopic heterogeneity of the living human brain with spatially resolved 5D diffusion-relaxation distributions, 2018
- 24th Conference of National Magnetic Resonance Society (India), Mohali, Punjab, India. Invited lecture: Multidimensional diffusion MRI, 2018
- Diffusion DeKay 2017 Meeting, University of Copenhagen. Lecture: Multidimensional diffusion MRI, 2018
- 20th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2017, Quebec City, Quebec, Canada. Keynote lecture: Multidimensional diffusion MRI
- International Conference on Magnetic Resonance Microscopy (ICMRM), Halifax, Nova Scotia, Canada. Contributed lecture: Diffusion tensor distribution imaging, 2018
- AMPERE NMR School, Zakopane, Poland. Invited lecture: Diffusion encoding – from gradient pulse pairs to q-vector trajectories and b-tensors, 2018
- International Society for Magnetic Resonance in Medicine (ISMRM) Nordic Chapter meeting, Kuopio University, Finland. Lecture: Multidimensional diffusion MRI, 2018
- 18th Kuopio Bio-NMR Workshop: MRI of Brain Plasticity, Kuopio University, Finland. Lecture: Basics of diffusion MRI, 2018
- Dynamic structures: from atomic to cellular length scales, Lund University – University of Maryland Research Workshop, Pufendorf Institute for Advanced Studies, Lund University, 2017. Lecture: Lipid dynamics in complex biomaterials
- Surfactants and polymers and how they interact, Kemcentrum, Lund, Sweden. Lecture: Diffusion in porous materials, 2018
- International Society for Magnetic Resonance in Medicine (ISMRM) 25th Annual Meeting & Exhibition, Hawai'i Convention Center, Honolulu, Hawaii. Contributed lecture: Diffusion tensor distribution imaging, 2018

- 253rd American Chemical Society (ACS) national meeting & exposition, San Francisco, California. Invited lecture: ^{13}C NMR method for characterization of partially dissolved cellulose in aqueous media, 2018
- 58th Experimental Nuclear Magnetic Resonance Conference (ENC), Asilomar Conference Center, Pacific Grove, California. Poster: Diffusion tensor distribution imaging, 2018

Maria Valldeperas, PhD Student:

- ECIS, Madrid, 2017, oral presentation
- ASMCS, Stockholm, 2017, poster
- Biophysical Society 62nd Annual Meeting, San Francisco, 2018, oral presentation
- NanoLund Annual meeting, Lund, 2018, oral presentation

Outreach activities

Peter Jönsson, Senior Lecturer:

- 2017 – 2018: NMT lectures (“Från förstoringsglas till superupplösta fluorescensmikroskop”.)
- 2017: Invited presentation at Astra Zeneca, Gothenburg, Sweden

Björn Lindman, Professor Emeritus:

Company visits to

- Expancel, Stockvik, March 2017
- Perstorp AB, May 2017
- Clariant, Frankfurt, August 2017
- COMEX, Mexico City, August 2017

Linda Månsson, PhD Student: Popular science oral presentation at “Forskare sommarpratar”, Vattenhallen, Lund, August 16 and August 18, 2017

Ulf Olsson, Professor: Lectures at NMT days in 2017. “MAX IV och ESS och konsten att se små saker”

Lennart Piculell, Professor Emeritus: Participation in the visit of the Brazilian delegation to Lund University, February 16, 2017

Peter Schurtenberger, Professor:

Seminars at

- Department of Physics Seminar, Norwegian University of Science and Technology, Trondheim, Norway, 28 February 2017, Invited Seminar
- NanoLund “Nanoscience for Dummies” Seminar, Lund University, Lund, 17 May 2017, Invited Seminar
- Department of Physics, University of Cambridge, Cambridge, England, 22 November 2017, Invited Seminar
- Chemical Society Lund, Lund, Sweden, 19 April 2018, Invited Lecture

Emma Sparr, Professor:

- Lectures at NMT days, 2017 and 2018
- Writing of a book chapter in new (electronic) school book for secondary school chemistry (project supported by KVA, National Committee for Chemistry & MAW), 2018
- Research presentation and discussions at Essity, Mölndal, 2017
- Research presentation and discussions at L’Oréal Paris, 2017 and 2018

Joakim Stenhammar, Associate Senior Lecturer:

- Popular science article in Kemivärlden Biotech, 5/2017, “En bakterie simmar aldrig ensam”
- Seminar at the Nordic Institute for Theoretical Physics (NORDITA), Stockholm, 2017
- Seminar at the Centre for Interdisciplinary Mathematics, Uppsala, 2017

Daniel Topgaard, Professor:

Company visits to

- Synaptive Medical, Toronto, Canada (via Skype from Boston). Lecture: Fiber tracking through heterogeneous voxels, 2018
- Siemens Healthineers, Erlangen, Germany. Lecture: Multidimensional diffusion MRI, 2018
- Star Imaging, New Delhi, India. Lecture: Multidimensional diffusion MRI, 2018
- Mahajan Imaging, New Delhi, India. Lecture: Multidimensional diffusion MRI, 2018
- GE Global Research, Munich, Germany. Lecture: Multidimensional diffusion MRI, 2017
- Toshiba Medical Systems, Zoetermeer, Netherlands. Lecture: Multidimensional diffusion MRI, 2017
- Philips Medical Systems, Best, Netherlands. Lecture: Multidimensional diffusion MRI, 2017
- DOTY Scientific, Columbia, South Carolina. Lecture: Solid-state NMR methods for soft matter – From lipid membranes to the living human brain, 2017

Visits to academic institutions

- Cuban Neuroscience Center (CNEURO), Havana, Cuba. Seminar: Brain microstructure by multidimensional diffusion MRI, 2018
- National High Magnetic Field Laboratory, Tallahassee, Florida, USA. Seminar: Solid-state NMR methods for soft matter - From lipid membranes to living brains, 2018
- Center for Structural Biology, University of Florida, Gainesville, Florida, USA. Seminar: Solid-state NMR methods for soft matter - From lipid membranes to living brains, 2018
- Applied Mathematics, Tel-Aviv University, Tel-Aviv, Israel. Seminar: Inverse problems in multidimensional relaxation-diffusion MRI, 2018
- Department of Chemistry, Weizmann Institute, Rehovot, Israel. Seminar: Diffusion MRI methods derived from solid-state NMR spectroscopy, 2018
- Biomedical Engineering, Tel-Aviv University, Tel-Aviv, Israel. Seminar: Multidimensional diffusion MRI, 2018
- BrainMap, Athinoula A. Martinos Center, Massachusetts General Hospital, Boston, Massachusetts, USA. Lecture: Fiber tracking through heterogeneous voxels, 2018
- Department of Radiology and Radiological Science, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA. Lecture: Multidimensional diffusion MRI, 2018
- Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, New York, USA. Lecture: Multidimensional diffusion MRI, 2018
- Pines lab, College of Chemistry, University of California at Berkeley, Berkeley, California, USA. Lecture: Solid-state NMR methods for soft matter - From lipid membranes to the living human brain, 2018
- Department of Chemistry, Umeå University, Umeå, Sweden. Seminar: Solid-state NMR methods for soft matter - From lipid membranes to the living human brain, 2018
- MR-Physik, Universitätsklinikum Erlangen, Erlangen, Germany. Lecture: Multidimensional diffusion MRI, 2018

- Mind Research Network, Albuquerque, New Mexico, USA. Lecture: Multidimensional diffusion MRI, 2018
- Christian Medical College, Vellore, India. Lecture: Multidimensional diffusion MRI, 2018
- AIIMS – All India Institute of Medical Science, New Delhi, India. Lecture: Multidimensional diffusion MRI, 2018
- Institute of Imaging Science, Vanderbilt University, Nashville, Tennessee, USA. Lecture: Multidimensional diffusion MRI, 2017
- Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York. Seminar: Multidimensional diffusion MRI, 2017
- Materials Science Division, University of Illinois at Urbana-Champaign. Seminar: Solid-state NMR methods for soft matter – From lipid membranes to the living human brain, 2017

Awards and distinctions

Maxime Bergman, PhD Student:

- Winner of the 2016 Young Investigator Training Program (awarded within the ECIS conference), financed by ACRI (Italian Banking Foundation Association) which facilitated a one month secondment at La Sapienza University (Rome, Italy) to collaborate with Dr. E. Zaccarelli.

Jasper Immink, PhD Student:

- Soft Matter Poster prize – AERC2017 Copenhagen, Denmark,
- Travel Grant from the Crafoord Foundation, 5,000 SEK.

Björn Lindman, Professor Emeritus:

- Elected memberships to Swedish Royal Academy of Sciences, Swedish Royal Academy of Engineering Sciences, foreign member of science academies in Portugal and Romania.

Linda Månsson, PhD Student:

- "Bitter Lemon Award" for best oral presentation, Bombannes Summer School: Scattering Methods Applied to Soft Condensed Matter, June 20-27 2016.

Felix Roosen-Runge, Researcher and Postdoc:

- Wolfram-Prandl-Preis 2018: "For development of methodology in neutron scattering"; Committee Research with Neutrons, Germany (price money: 2500 EUR).

Axel Rüter, PhD Student:

- ECIS-Substantia 2018

Karin Schillén, Professor:

- Guest Professorship at the Department of Chemistry, Sapienza University of Rome from the Sapienza Visiting Professor Programme, 9,000 Euro, 2018.

Emma Sparr, Professor:

- Elected memberships of the Royal Physiographic Society of Lund, Academy for the Natural Sciences, Medicine and Technology.

External professional activities

Victoria Junghans, PhD Student:

- Membership in ADMIRE Research School Board since Autumn 2015
- Membership in NDR student union, Working Group Board, since Autumn 2016

Peter Jönsson, Senior Lecturer:

- Member of the organizing committee for the LINXS workshop (“Dynamics of membranes and their constituents”) at Lund University, 2018
- Member of the organizing committee for the workshop (“Superresolution techniques 2018”) at Lund University, 2018
- PhLic opponent, Damiano Verardo, Div. of Solid State Physics, Lund University, 2017
- PhLic opponent, Karin Norling, Dept. of Applied Physics, Chalmers, 2017
- Board member of the research graduate school ADMIRE at Lund University, 2014-

Björn Lindman, Professor Emeritus:

- Member of committee at Poonam Singh’s PhD defense, University of Coimbra, PhD supervisor, January 2018
- Panel member for evaluation, European Commission, Brussels, March 2017
- Slovenian Research Council, 2017, 2018
- Board memberships at Adv. Colloid Interface Sci., Colloid & Polymer Science, J. Dispersion Sci. and Technology
- Co-chairman at International Workshop on Polyelectrolytes in Chemistry, Biology and Technology 2018, Singapore, March 2018
- Guest Professor at Mid Sweden University, Sundsvall
- Visiting Professor at Nanyang Technological University, Singapore
- Professor Emeritus at Coimbra University, Portugal

Ulf Olsson, Professor:

- 2017 PhD thesis reviewer, Alessandra Del Guidice, University of Rome “La Sapienza”
- 2018 PhD thesis committee member, Jonas Evertsson, Physics Dept. Lund University
- 2017 Review panel evaluating the “Partnership for Soft Condensed Matter (PCSM)” at ILL & ESRF, Grenoble, France
- 2017 & 2018 Board member of Lund Institute for Advanced Neutron and X-ray Science, LINXS
- 2018 Board member Chemistry Department
- 2017 & 2018 Member of the Scientific Advisory Council of the Swiss Spallation Source SINQ, Paul Scherrer Institute, Switzerland
- 2017 & 2018 Member of the Strategic Advisory Committee of Bristol Centre for Functional Nanomaterials, Bristol University, UK
- 2017 Co-organizer of ECI Conference “Association in Solution IV”, St. John’s Newfoundland, Canada
- 2018 Co-organizer of ACS Award in Colloid Chemistry: Symposium in honor of Håkan Wennerström, New Orleans
- 2018 Co-organizer of MAX4ESSFUN Summer School: “Neutrons and X-rays in Biomedical Sciences”, Mölle, Sweden

Lennart Piculell, Professor Emeritus:

- Co-supervisor of the PhD student Guilherme A. Ferreira, UNICAMP, Campinas, Brazil; participation in his PhD defense at UNICAMP, December 2018

Karin Schillén, Professor:

- External grant reviewer of research proposals to the Swedish National Space Board (SNSB), 2017
- Guest editor of the conference proceedings of 30th European Colloid and Interface Society (ECIS) conference in Colloids and Surfaces A, 2017
- Co-organizer of 1st National Meeting of The Swedish Chemical Society, Lund, Sweden, 2018
- Member of the board of the Surface Chemistry and Material Chemistry Section at the Swedish Chemical Society
- Committee member at PhD half-time evaluation (“Polymeric Nanoparticles as Carriers for Antimicrobial Peptides”), Department of Pharmacy, Uppsala University, 2017
- Deputy committee member and chair at PhD defense (“ α -Synuclein Fibril Formation and the Effects of Lipid Membranes”), Physical Chemistry, Lund University, 2018
- Committee member at PhD defense (“Improving Tröger’s Base Chemistry. Developing the Chemistry of Tröger’s base”), Centre for Analysis and Synthesis, Department of Chemistry, Lund University, 2018
- Swedish coordinator of a Joint China-Sweden Mobility Programme in collaboration with Institute of Chemistry, Chinese Academy of Sciences, Beijing, China from The Swedish Foundation for International Cooperation and Higher Education (STINT), 2018
- Invited seminar at the Institute of Chemistry, Chinese Academy of Sciences, Beijing, China, 2018

Peter Schurtenberger, Professor:

- Director, Lund Institute of advanced Neutron and X-ray Science LINXS
- Member of the Scientific and Technical Advisory Panel for SANS at ESS

Emma Sparr, Professor:

- Opponent Uppsala University, 2018. Thesis committee at Uppsala University, 2018 and Lund University, 2017
- Chairing the review panel for analytical, theoretical and physical chemistry at the Swedish Research Council, 2017 and 2018
- Guest editor for special issue on “Amyloid-Lipid interactions” in Biochim-Biophys Acta Proteins and Proteomics, 2018
- Member of the Science Faculty Board (2018-2020)
- Scientific committee for LINXS conference on Biomembranes together with Tommy Nylander and Peter Jönsson
- Steering group for Multipark (strategic research area in neuroscience at Lund University) 2017

Joakim Stenhammar, Associate Senior Lecturer:

- Advisory board member, Soft Matter (RSC Publishing), since 2018
- Guest editor for special issue of Soft Matter, on Electrostatics and Soft Matter, 2018
- PhD committee member for Natasha Kamerlin, Uppsala University, 2017

Anna Stradner, Professor:

- Committee member PhD Defense Tomasz Koslowski, Department of Biology, Lund University, Sweden, February 2018
- Opponent PhD Defense Andreas Haahr Larsen, Niels Bohr Institute, University of Copenhagen, November 2018
- Member of the Networking Review Panel of the European infrastructure project EUSMI (European Soft Matter Infrastructure), a project of the European Union's Horizon 2020 Research and Innovation Programme, 2017-
- Member of the International Advisory Board of the "5th Neutrons and Food Conference" in Sydney/Australia, October 2018
- Organization of LINXS workshop on "Dynamics of biological macromolecules" (2 days, 90 participants) in Lund, Sweden, 2018
- University of Trondheim (NTNU), Department of Physics, Trondheim, Norway, 28 April 2017, "Concentrated protein solutions: from local dynamics to macroscopic arrest" (Invited guest lecture)

Olle Söderman, Professor Emeritus:

- Member of VR review panel 2018.

Daniel Topgaard, Professor:

- PhD opponent at Umeå University, 2018
- Member of the NT-5 review panel of the Swedish Research Council, 2016 and 2017
- Member of the Ampere Committee 2017-
- Vice Chair of the Spatially Resolved Magnetic Resonance (SRMR) division of the Ampere Society, 2017-
- Member of the Scientific Committee for the International Conference of Magnetic Resonance Microscopy (ICMRM)
- Organization of the Swedish NMR meeting, Gothenburg, Sweden, 2018
- Organization of the Diffusion symposium 2018: free gradient waveforms, q-trajectories, and fat b-tensors, Mölle, Sweden, 2018

Public defenses

2016

Carin Hagsten

Cleaning of ultra-high temperature milk fouling – Structural and compositional changes
Opponent: Professor Ian Wilson, University of Cambridge, Cambridge, U.K.

Stefanie Eriksson

Development of Novel Diffusion NMR Methods – Preclinical Applications in Colloidal Model Systems
Opponent: Dr. Itamar Ronen, Leiden University Medical Center, Leiden, the Netherlands

Sanna Gustavsson

Structure and dynamics of complex materials in the water-poor regime
Opponent: Professor Martin Malmsten, Department of Pharmacy, Uppsala University

Emelie J. Nilsson

Aqueous behaviour of characteristic molecules in the synthesis of porous silica materials – an atomistic description
Opponent: Professor Ferdi Schüth, Max-Planck-Institut für Kohlenforschung, Mülheim, Germany

Solmaz Bayati

Mixed Block Copolymer Solutions: Self-Assembly and Interactions
Opponent: Professor Kell Mortensen, Niels Bohr Institute, University of Copenhagen, Denmark

Weimin Li

Attractive Patchy Protein Interactions – Understanding of protein dimerization
Opponent: Professor Abraham M. Lenhoff, University of Delaware, Newark, USA

Quoc Dat Pham

Foreign molecules in biomembranes – Molecular effects on intact stratum corneum and model lipid systems
Opponent: Professor Michel Lafleur, Department of Chemistry, Université de Montréal, Canada

Sofi Nöjd

Structure, Dynamics and Phase Behaviour of Charged Soft Colloidal Dispersions
Opponent: Prof. Dr. Stefan U. Egelhaaf, Heinrich Heine University Düsseldorf, Germany

Ruiyu Lin

The Co-Structure Directing Agent (CSDA) Approach to Mesoporous Silica Formation – Exploring the Assembly Characteristics
Opponent: Prof. Dr. Mika Lindén, Institute of Inorganic Chemistry II, Ulm University, Ulm, Germany

2017

Jenny Algotsson

Ions in models of articular cartilage: The importance of electrostatic interactions for transport and equilibrium distribution

Opponent: Dr. Mikko J. Nissi, University of Eastern Finland, Kuopio, Finland

Alexei Abrikosov

Modelling anisotropic interactions in colloidal systems

Opponent: Associate Professor Sofia Kantorovich, Computational Physics, Faculty of Physics, University of Vienna, Austria

2018

Jenny M. Andersson

Self-Assembly in Lipid-Protein Systems – Lung Surfactant, Stratum Corneum and Model Membranes

Opponent: Professor Katarina Edwards, Uppsala Universitet

Ricardo Lourenco Gaspar

α -Synuclein Fibril Formation and the Effects of Lipid Membranes

Opponent: Professor Roland Riek, Department of Chemistry and Applied Biosciences, ETH, Zürich, Switzerland

Staff

Scientists/Teachers

Viveka Alfredsson, Professor
Arash Azari, Researcher
Johan Bergenholtz, Visiting Professor
Niels Boon, Postdoc
Anna Carnerup, Researcher
Jerome Crassous, Researcher
Aleksandra Dabkowska, Postdoc
Luigi Gentile, Researcher
Somnath Ghosh, Researcher
Marta Gubitosi, Researcher
Alessandro Gulotta, Postdoc
Joel Hagman, Postdoc
Peter Holmqvist, Researcher
Ilaria Idini, Postdoc
Thiago Ito, Postdoc
Andrew Jackson, Adjunct Associate Professor
Brijitta Joseph, Researcher
Peter Jönsson, Senior Lecturer
Mohammad Arif Kamal, Postdoc
Ola Karlsson, Adjunct Professor
Stefan Kuczera, Researcher
Alfredo Lanzaro, Postdoc
Björn Lindman, Professor Emeritus
Per Linse, Professor
Najet Mahmoudi, Postdoc
Sarah Mailhot, Postdoc
Birte Martin-Bertelsen, Postdoc
Janne-Mieke Meijer, Researcher
Viktoria Meklesh, Postdoc
Maria da Graca Martins Miguel, Visiting Professor
Adriana Mihut-Crassous, Researcher
Priti Mohanty, Researcher
Enamul Mojumdar, Postdoc
Carola Müller, Researcher
Jin Suk Myung, Postdoc
Tommy Nylander, Professor
Marc Obiols-Rabasa, Researcher
Ulf Olsson, Professor
Antara Pal, Postdoc
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Felix Roosen-Runge, Postdoc
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Peter Schurtenberger, Professor
Emma Sparr, Professor
Joakim Stenhammar, Associate Senior Lecturer
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Anna Stradner, Professor
Olle Söderman, Professor Emeritus
Fredrik Tiberg, Adjunct Professor
Daniel Topgaard Professor
Hanna Wacklin-Knecht, Adjunct Senior Lecturer
Ingemar Wadsö, Professor Emeritus
Meina Wang, Postdoc
Håkan Wennerström, Professor Emeritus
Malin Zackrisson Oskolkova, Assistant Professor

Technical and Administrative personnel

Christopher Hirst, Engineer
Helena Persson, Administrator
Maria Södergren, Engineer
Christopher Ward, Engineer

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