AUC2019 Symposium programme

	Gender		Level		
	Female	Male	Student	Emerging	Established
Registrations	26% (19)	74% (54)			
Session chairs	38% (6)	62% (10)	0	3	13
Talks	31% (13)	69% (28)	5	13	23
Full talks	42% (8)	58% (11)	1	5	13
Short talk	20% (5)	80% (17)	4	8	10

Tuesday 27 August

1600 - 1900	Symposium registration
1900 - 1910 E5 Engineering	**Welcome address** Ren Dobson, Chair AUC2019
1910 - 2000 E5 Engineering	**Session 1: Svedberg Lecture** Chair Ren Dobson

Wednesday 28 August - E5 Engineering Core.

0930-1055	**Session 2: Complementary methods: Scattering techniques (room E5)** **Chairs: Karen Fleming & Grant Pearce**
0930-0950	**Jill Trewhella -** *Reliable biomolecular structural modelling with small-angle scattering*
0950-1005	**Christine Ebel** - *Development of a SANS strategy for the study of membrane proteins: application to a prokaryotic NADPH oxidase homolog*
1005-1020	**Ivo Nischang** - *Hydrodynamic and light scattering study of very disperse and non-ideal macromolecule populations - Example of sodium carboxymethyl celluloses*
1020-1035	**Elizabeth Rodriguez** - *Higher order structure and conformational changes in biotherapeutics*
1035-1055	**Olwyn Byron** - *The spins: bacterial aldehyde-alcohol dehydrogenase forms spiral complexes critical for activity*
1055-1125	Morning Break
1125-1315	**Session 3: Method, hardware & software development (room E5)** **Sponsored by Beckman Coulter** **Chairs: Borries Demeler & Akash Bhattacharya**
1125-1145	**Tom Laue** - *High concentration IgG solutions*
1145-1205	**Walter Stafford** - *SEDANAL v7.1; Non-ideality at high concentrations, new features, and improvements*
1205-1225	**John Correia** - *Analysis of nonideality: Insights into fitting of high concentration therapeutic proteins in human serum*
1225-1240	**John Philo** - *Dealing with strong non-ideality in self-association: lessons learned from teduglutide*
1240-1255	**Wenqi Li** - *Analytical ultracentrifugation reveals poly acidic or basic amino acids sequence alters protein's hydrodynamic properties*
1255-1315	**Karen Fleming** - *HullRad: a fast, new tool for prediction of hydrodynamic parameters from structure*
1315-1405	Lunch
1325-1400	**Izon Workshop (room E6)**
1405-1530	**Session 4: Nanoparticles (room E5)** **Chairs: Helmut Cölfen & Johannes Walter**
1405-1425	**Helmut Cölfen** - *Emulsification of ultra-flexible microemulsions (UFME) triggered by soft Centrifugation*
1425-1440	**Guillermo González-Rubio** - *Analytical ultracentrifugation for understanding the role of cluster nature in the seed-mediated growth of gold nanocrystals*
1440-1500	**Johannes Walter** - *Accessing core-shell properties and functionalization of nanoparticles by means of analytical ultracentrifugation*
1500-1515	**Louis Weber** - *Analysis of Ti/NbCN nanoparticles extracted from microalloyed steels by SV-AUC*
1515-1530	**Xufeng Xu** - *Concentrated colloidal nanoparticles in analytical ultracentrifugation*
1530-1555	Afternoon Break (in the atrium)
1555-1730	**Session 5: Biological applications: Protein-ligand/nucleic acid interactions (room E5)** **Sponsored by Izon** **Chairs: Grant Pearce & Philipp Koldewey**
1555-1615	**Luitgard Nagel-Steger** - *Ligand interactions of amyloid-β protein studied by analytical ultracentrifugation in concert with microscale thermophoresis*
1615-1630	**Fareeda Barzak** - *Modelling APOBEC3-ssDNA bound complexes using small-angle X-ray scattering*
1630-1645	**Richard Kingston** - *Models for the site-specific treatment of cooperative ligand binding by proteins*
1645-1700	**Vlad Dinu** - *Sedimentation velocity studies of two salivary glycoproteins: possible structure-function effects of food flavour*
1700-1715	**Chris Horne** - *The repressor, depressor of sialic acid catabolism*
1715-1730	**Sarah Atkinson** - *Biophysical characterisation of novel Flavivirus antivirals that target host nuclear transport*
1730-1900	Mixer & Poster session
1900-2300	Symposium dinner – Riccarton House (buses from UC)

Thursday 28 August

0900-1020	**Session 6: Polymers (room E5)** **Chairs: Trushar Patel & Walter Stafford**
0900-0925s	**Simon Wawra** - *Determination of two-dimensional size distributions of plasmonic nanoparticles via the optical back coupling method*
0925-0950	**Igor Perevyazko** - *Hydrodynamic analysis of co-polymers with a gradient structure: solution properties, molar mass and conformation*
0950-1005	**Xiaodong Ye** - *Characterization of linear and cyclic polystyrene sulfonates using analytical ultracentrifugation*
1005-1020	**Jennifer Wakefield** - *AUC analysis of chitosan and aminocellulose for use in archaeological wood conservation*
1020-1050	Morning Break (in the atrium)
1050-1300	**Session 7: Biological Applications: Protein complexes (room E5)** **Chairs: Tatiana Soares da Costa & Sarah Atkinson**
1050-1110	**Davide Comoletti** - *A proteomic screen of neuronal cell surface molecules reveals IgLONs as structurally conserved interaction modules at the synapse*
1110-1130	**Trushar Patel** - *Towards studying nano-scale structures of Flaviviral non-coding RNAs-host protein complexes.*
1130-1150	**Ute Curth** - *E. coli primase and DNA polymerase III holoenzyme are able to bind concurrently to a primed template during DNA replication*
1150-1210	**Yee Mok** - *Tracking polyglutamine and polyalanine aggregates in cells using fluorescence-detected analytical ultracentrifugation*
1210-1230	**Grant Pearce** - *How does Rubisco activase activate Rubisco?*
1230-1245	**Akash Bhattacharya** - *What happened to the hiv capsid? A tale of armored viruses, goldilocks zones, molecular staples and traitorous co-factors*
1245-1400	Lunch (in the atrium)
1300-1355	**Beckman Coulter workshop (room E6)**
1400-1530	**Session 8: Novel uses of AUC (room E5)** **Chairs: Olwyn Byron & Jill Trewhella**
1400-1420	**Alexander Bepperling** - *High concentration AUC analysis of biopharmaceuticals*
1420-1435	**Tess Malcolm** - *Metal-dependent dynamic equilibrium: A mechanism for regulation of the Plasmodium M17 aminopeptidases?*
1435-1450	**Arthur Gadon** - *Characterisation of high molecular weight hop proanthocyanidins using analytical ultracentrifugation*
1450-1505	**Grzegorz Piszczek** - *Single molecule versus bulk detection: Interferometric light scattering (iSCAMS) and AUC applied to study protein-protein interactions*
1505-1525	**Chad Brautigam** - *Modern approaches to the detection of ligand-induced protein conformational changes using AUC*
1525-1545	Afternoon Break (in the atrium)
1544-1800	**Session 9: Biological Applications: Protein structures (room E5)** **Chairs: Ren Dobson & Luitgard Nagel-Steger**
1545-1605	**David Goldstone** - *Structural and biophysical characterisation of the master regulator TRIM28*
1605-1625	**Beata Wielgus-Kutrowska** - *Adenylosuccinate synthetase from Helicobacter pylori: biochemical and biophysical characteristics including comparison of C- and N-terminal His-tag variants*
1625-1645	**Stephen Perkins** - *The solution structure of the human IgG2 subclass is distinct from those for human IgG1 and IgG4, providing an explanation for their discrete functions*
1645-1700	**Valentina Spiteri** - *Unravelling the solution structures and stabilities of therapeutic antibodies with and without glycans*
1700-1720	**Mike Griffin -** *TBA*
1720-1800	**Closing comments and business meeting**