

 ACA 2020 American Crystallographic Association August 1-7, 2020 ACA@xray.cryst.ox.ac.uk <i>TRAINING THE NEXT GENERATION</i>																		
Sunday, August 2, 2020																		
Time (EDT)	Event	Old Session	Session Title	Sponsor/SG	Co-Sponsor/SGs	Session Description	Chair 1	Chair 1 Email	Chair 2	Chair 2 Email	Chair 3	Chair 3 email	Chair 4	Chair 4 email	Chair 5	Chair 5 email		
12:4 PM EDT	Regular Session	1.1 & 1.2	Microcrystal Electron Diffraction (MicroED) – Small Molecule & Macromolecules	Small Molecule/SG	Co-EM/ VMS	The field of microcrystal electron diffraction has rapidly progressed over the past 5 years. Recent advances have placed microED at the forefront of small molecule structural determination. Several recent publications have demonstrated the process of successful sampling of diffraction patterns from microcrystallized crystals while a sample is held in a transmission electron microscope. This session will be focused on advances in infrastructure and discussion of the results from microED experiments on small molecules.	Benjamin Marston	benjamin.marston@lsu.edu	Tamir Green	tgreen@ucla.edu	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	1.2	From Materials to Crystallographic Analysis: A Neutrons/Materials/Powder Session	Neutrons/Materials/Powder	NA	Functional inorganic materials are of great technological importance. These materials are used for electronics, computing, energy, as well as in energy generation, storage, transport, conversion, delivery and more. With increasing concerns over climate change and depletion of natural energy resources, research efforts have blossomed in search of more efficient and sustainable materials. The synthesis and characterization of inorganic solids are at the core of materials science, with the relationship between the structural motif and properties. Unraveling the future design of materials will require a multidisciplinary approach, combining the fields of materials science, chemistry, physics, and engineering. This session will highlight recent efforts in the synthesis and characterization of inorganic materials, utilizing advanced in situ and operando X-ray, Electron, and Neutron scattering.	Chris Thomson	thomcr22@post.ox.ac.uk	Greg Bridger	gbridger@kent.gov	NA	NA	NA	NA	NA	NA	NA	
12:4 PM EDT	Regular Session	5.12	Hot Structures 2	NA	NA	NA	George Loucas	loucas@post.ox.ac.uk	NA	NA	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	12.4	Advances in Fiber Diffraction	Fiber	NA	NA	Joseph Chalil	jchalil@gmail.com	Tom Irving	tvirvg@leeds.ac.uk	NA	NA	NA	NA	NA	NA		
4:5 PM EDT	Poster Session	PS1	Poster Session I	NA	NA	NA	Lucas Demer	demer@post.ox.ac.uk	Timothy Kitching	kitching@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
Monday, August 3, 2020																		
11 AM - 12 PM EDT	Plenary Award	PL1	Elter Award (Ando)	NA	NA	NA	Brian Toby	toby@post.gov	NA	NA	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	2.14	Frontiers in SAS	SAS	Light Sources	Recent advances in light sources, experimental methods and computational algorithms have enabled exciting new experiments using small angle scattering (SAS). This session is devoted to discussing the latest advances in methods and applications of X-ray and neutron SAS. The primary aim is to bring together cutting-edge advances utilizing SAS on both well-established facilities, including time-resolved studies, contrast matching, synchrotron and facilities systems, hybrid modeling, novel experimental apparatus and methods, and new computational algorithms. The session will state the art of SAS methods.	Tom Grant	grant@the-hufflab.edu	Jason Hayburn	hayburn@lsu.edu	NA	NA	NA	NA	NA	NA	NA	
12:4 PM EDT	Regular Session	2.3	General Interest I	SGS	SGS	NA	Benjamin Marston	benjamin.marston@post.ox.ac.uk	Mark Chivers	chm@post.ox.ac.uk	Keith Chivers	chivers@post.ox.ac.uk	NA	NA	NA	NA		
12:4 PM EDT	Education Session	12.1	Remote Access Facilities: What, Where & How?	Light Sources	VMS	NA	Julie Seal	seal@the-hufflab.edu	Janey Whelan	whelan@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	2.12	Advances in Software Methods and Tools for Cryo-EM	Co-EM	NA	NA	Michael Bell	bell@post.ox.ac.uk	Thomas Chappard	chappard@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
4:5 PM EDT	Poster Session	PS2	Poster Session II	NA	NA	NA	Lucas Demer	demer@post.ox.ac.uk	Timothy Kitching	kitching@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
Tuesday, August 4, 2020																		
11:30 - 3 PM EDT	Plenary Plenary Session	02.3	Structural Contributions to SARS-CoV2 and the COVID-19 Pandemic	Structural	VMS/ Canadian	The Hot Structures session will feature talks selected from submitted abstracts describing the newest results from structural studies of biologically important macromolecules. Submitters are welcome that describe high-impact structures which provide insights into structure-function relationships, new biological insights and mechanisms, and methods development. Studies may include use of X-ray crystallography, XFEL, hybrid methods, and cryo-electron microscopy.	George Loucas	loucas@post.ox.ac.uk	Nicole Fraser	nfraser@uwa.edu.au	David Ross	ross@post.ox.ac.uk	NA	NA	NA	NA	NA	
4:5 PM EDT	Other		All Members Business Meeting	General	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Wednesday, August 5, 2020																		
11 AM - 12 PM EDT	Plenary Award	PL2	Popple Award (Nelson)	NA	NA	NA	Joseph Tanski	tanski@post.ox.ac.uk	Andrew Waterhouse	waterhouse@post.gov	Christina Jenkins	jenkins@post.ox.ac.uk	NA	NA	NA	NA	NA	
12:3 PM EDT	Transition	T1	Structural Science: New Ways to Teach the Next Generation (Part 1)	NA	NA	NA	Joseph Tanski	tanski@post.ox.ac.uk	Andrew Waterhouse	waterhouse@post.gov	Christina Jenkins	jenkins@post.ox.ac.uk	NA	NA	NA	NA	NA	
12:4 PM EDT	Regular Session	4.1.2	Structural Dynamics I: Protein Collective Motions Studied by X-ray Scattering	Structural	NA	The macromolecules of life are often forced to elaborate motions, with many moving parts that must work collectively to achieve biological function. However, it has proven exceedingly difficult to understand how these motions work from "traditional, static" snapshots of structure alone. Thus, a new field of dynamic structural biology has emerged at the intersection of a diverse set of disciplines and techniques. In Part I of this two-part session sponsored by Structural Dynamics, we focus on collective motions illuminated by X-ray scattering and diffraction. How are signals translated within a protein? How are enzymatic activities coordinated in multi-subunit systems? Are collective vibrational modes important for activity? This session highlights how cutting-edge X-ray methods, especially time-resolved SAXS/WAXS and diffraction, are providing insights into the dynamic behavior of proteins.	Steve Mutsaers	smutsaers@post.ox.ac.uk	Julie Seibel	seibel@post.ox.ac.uk	NA	NA	NA	NA	NA	NA	NA	
12:4 PM EDT	Regular Session	4.2.4	Physics and Chemistry of Matter Under Extreme Conditions	Materials/Neutrons/Powder	NA	The application of extreme conditions such as pressure, temperature and field results in dramatic changes in all forms of matter. Under these conditions, matter undergoes phase transitions, displays rich new physical and chemical phenomena and can even self-organize into novel materials and structures not accessible in any other way. The aim of this session is to bring together the most recent advances and techniques in both experimental and theoretical research that highlight these unique behaviors. Therefore, the session will address the most interesting and most advanced extreme conditions. It will cover structural, electronic and magnetic properties, phonon and other properties, new materials synthesis, phase transitions and ordering. In addition, the session will also provide a forum for highlighting the state-of-the-art synthesis and reaction techniques that enable experimental research opportunities. Finally, it will also provide a platform for developmental ideas to expand the range of future materials research under extreme conditions.	Tao Wang	wang@post.gov	Reina Hubert	hubert@post.gov	NA	NA	NA	NA	NA	NA	NA	NA
12:4 PM EDT	Regular Session	3.1.1	CryoEM in Pharma: Structure-based drug design beyond X-ray crystallography	Structural	Co-EM	For long, X-ray crystallography had been the backbone of structure based drug design. However, since the advent of direct electron detectors in 2012 and development in data processing algorithms in the field, single particle cryoEM has become a widely and routinely used structure solution method for difficult targets including integral membrane proteins. Pharmaceutical companies lead them in part by the development of the technique and heavily supported drug design projects by cryoEM facilities. In this session, we are going to learn about the latest advances with cryo-EM and pharmaceutical companies that have led in the last few years. This session will also talk about challenges and paths forward with the technique.	Joseph Fan	fan@post.ox.ac.uk	Rob Sharma	rob.sharma@du.com	NA	NA	NA	NA	NA	NA	NA	NA
4:5 PM EDT	Poster Session	PS3	Poster Session III	NA	NA	NA	Lucas Demer	demer@post.ox.ac.uk	Timothy Kitching	kitching@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
Thursday, August 6, 2020																		
11 AM - 12 PM EDT	Plenary Award	PL3	Patterson Award (Petrifika)	NA	NA	NA	Brian Toby	toby@post.gov	NA	NA	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Transition	T2	Structural Science: New Ways to Teach the Next Generation (Part 2)	NA	NA	NA	Joseph Tanski	tanski@post.ox.ac.uk	Andrew Waterhouse	waterhouse@post.gov	Christina Jenkins	jenkins@post.ox.ac.uk	NA	NA	NA	NA	NA	
12:4 PM EDT	Regular Session	4.2.2	Structural Dynamics II: Conformational Ensembles of Proteins Studied by Cryo-EM	Co-EM	SGS	The macromolecules of life are often forced to elaborate motions, with many moving parts that must work collectively to achieve biological function. However, it has proven exceedingly difficult to understand how these motions work from "traditional, static" snapshots of structure alone. Thus, a new field of dynamic structural biology has emerged at the intersection of a diverse set of disciplines and techniques. In Part II of this two-part session sponsored by Structural Dynamics, we focus on the analysis of conformational and heterogeneity by cutting-edge approaches to cryo-electron microscopy (cryo-EM) and solution X-ray scattering. Recent developments in cryo-EM bring us closer to understanding the structural dynamics that alter in structure and function. Meanwhile, X-ray scattering provides complementary views on a protein's conformational ensemble. We will review advances of analysis reveal meaningful structural information. This session highlights new cryo-EM and SAXS approaches to understand the interplay between conformational changes, vibrational character, and structural context play in protein function.	Stef Kallberg	kallberg@post.ox.ac.uk	William Thomas	wthomas@post.ox.ac.uk	NA	NA	NA	NA	NA	NA	NA	NA
12:4 PM EDT	Regular Session	4.3	General Interest II	SGS	SGS	NA	Benjamin Marston	benjamin.marston@post.ox.ac.uk	Mark Chivers	chm@post.ox.ac.uk	Keith Chivers	chivers@post.ox.ac.uk	NA	NA	NA	NA	NA	
4:5 PM EDT	Poster Session	PS4	Poster Session IV	NA	NA	NA	Lucas Demer	demer@post.ox.ac.uk	Timothy Kitching	kitching@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
Friday, August 7, 2020																		
11 AM - 12 PM EDT	Award		Wood Award (Alan Alde Center)	NA	NA	NA	Brian Toby	toby@post.gov	NA	NA	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	3.1.4 & 3.2.4	Cool Structures: Important Science from Small Molecules	Small Molecule	VMS/ Canadian	This session aims to both highlight interesting structures of small molecules (<100 atoms per molecule) and bring to the forefront the advances enabled by small molecule structure analysis. Speakers will be selected from contributed abstracts. Submitters have priority are encouraged.	Julian Drenth	drenth@post.ox.ac.uk	Matthew Brown	mb2@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
12:4 PM EDT	Regular Session	3.3	Hot Structures	Structural/ Biotech/ Co-EM	NA	With the technological advancements in both X-ray crystallography and Cryo-EM, structural biology has become a highly interdisciplinary field. Although the two techniques may appear similar in the field, the main bottleneck for both methods is the preparation of high quality protein samples. In this session, we will highlight the latest methods and techniques for protein sample preparation for both crystallography and Cryo-EM experiments.	John Drenth	drenth@post.ox.ac.uk	Julian Mifsud	mifsud@post.ox.ac.uk	NA	NA	NA	NA	NA	NA		
12:1 PM EDT	Regular Session	12.3	Communicating Science to the Public	Communications	Canadian	Whether it be discussing climate change, public health policies, or simply conveying the impact of their research to the public, scientists need to communicate effectively. This session aims to bring together researchers and engage a broad audience. This session aims to bring together researchers discussing their experiences and approaches to scientific communication.	Brian Patrick	patrick@post.ox.ac.uk	Rishi Majumdar	rishi.majumdar@gmail.com	NA	NA	NA	NA	NA	NA		