

**Biological Macromolecules (Function)**

MS-009	Enzymes, mechanism and drug design	22 August 2017	1030-1305
MS-018	Ion transport	22 August 2017	1455-1730
MS-027	Engineered proteins for industry and medicine	23 August 2017	1030-1305
MS-036	Structural immunology and receptor signalling	23 August 2017	1455-1730
MS-054	Mechanisms of bacterial resistance	24 August 2017	1455-1730
MS-063	Cell signalling, ubiquitination and cell death	25 August 2017	1030-1305
MS-072	Solving the phase problem without experimental phasing	25 August 2017	1455-1730
MS-081	Macromolecular machinery	26 August 2017	1030-1305
MS-090	Spectroscopy applications in biologically relevant systems	26 August 2017	1455-1730

**Biological Macromolecules (Structure)**

MS-001	Analysis and validation of protein ligand structures	22 August 2017	1030-1305
MS-010	Membrane proteins, lipid-protein interactions and membrane fusion	22 August 2017	1455-1730
MS-019	Interactions between proteins and nucleic acids	23 August 2017	1030-1305
MS-028	Long wavelength applications in macromolecular crystallography	23 August 2017	1455-1730
MS-037	Macromolecular structures by hybrid methods	24 August 2017	1030-1305
MS-046	Macromolecular structure determination at XFEL sources	24 August 2017	1455-1730
MS-055	New challenges in interpretation of structural data	25 August 2017	1030-1305
MS-064	Time and motion resolved imaging and diffraction	25 August 2017	1455-1730
MS-073	Minimizing radiation damage	26 August 2017	1030-1305
MS-082	Techniques and insights into macromolecular crystallization	26 August 2017	1455-1730
MS-091	Expression of macromolecular complexes	27 August 2017	1030-1305
MS-100	Structure determination of biological macromolecule complexes by Cryo-EM	27 August 2017	1455-1730

**Crystal Engineering of MOFs & Open Framework Compounds**

MS-002	Crystallographic approach for designing new metal organic frameworks	22 August 2017	1030-1305
MS-011	Applications of post-synthesis modified metal-organic frameworks	22 August 2017	1455-1730
MS-020	Controlling dimensions of porous crystalline polymers	23 August 2017	1030-1305
MS-029	Porous framework materials for gas adsorption	23 August 2017	1455-1730
MS-038	Porous framework materials for separation	24 August 2017	1030-1305
MS-047	Crystalline materials characterization with combined techniques	24 August 2017	1455-1730
MS-056	Direct observation of reactions and labile species within porous frameworks	25 August 2017	1030-1305
MS-065	New structures for natural and synthetic open framework materials	25 August 2017	1455-1730
MS-074	Porous framework materials for catalysis and renewable energy	26 August 2017	1030-1305
MS-083	Polyoxometalates as building blocks for functional materials	26 August 2017	1455-1730
MS-092	Bio-compatible porous materials for drug delivery	27 August 2017	1030-1305
MS-101	Porous framework materials for sensing	27 August 2017	1455-1730
MS-110	Phase transition in alloys and molecular solids	28 August 2017	1030-1305
MS-119	Interactions in solids under stress	28 August 2017	1455-1730

**Crystal Engineering of Organic & Pharmaceutical Compounds**

MS-003	Crystal engineering solutions to improve pharmaceutical tableting	22 August 2017	1030-1305
MS-012	Structure-property correlation in pharmaceutical solids	22 August 2017	1455-1730
MS-030	Crystallization mechanisms of small molecule organic materials	23 August 2017	1455-1730
MS-039	Structural chemistry in 2-D: Crystal growth, surface structure and morphology	24 August 2017	1030-1305
MS-048	Supramolecular synthons at the confluence of theory and practice	24 August 2017	1455-1730
MS-057	Charge density studies in crystal and cocrystal engineering	25 August 2017	1030-1305
MS-066	Bending, jumping and rotating: Motion and movement in crystalline solids	25 August 2017	1455-1730
MS-075	Tailored properties of molecular co-crystals	26 August 2017	1030-1305

MS-084	Soft organic and inorganic materials: Gelation and crystallization	26 August 2017	1455-1730
MS-093	Halogen bonding in crystal engineering	27 August 2017	1030-1305
MS-102	Halogen bonding at the interface between small molecules and macromolecules	27 August 2017	1455-1730
MS-111	Structural chemistry at non-ambient conditions	28 August 2017	1030-1305
MS-115	Polymorphism and structural transformations in crystalline materials	28 August 2017	1030-1305

### Instrumentation techniques and/or Computation

MS-004	Novel direct methods for electron diffraction and imaging	22 August 2017	1030-1305
MS-005	Total scattering	22 August 2017	1030-1305
MS-006	Computational materials design	22 August 2017	1030-1305
MS-013	Quantitative electron imaging and tomography	22 August 2017	1455-1730
MS-014	Advanced neutron sources in biological and materials sciences	22 August 2017	1455-1730
MS-015	In-situ and in-operando characterization of energy materials	22 August 2017	1455-1730
MS-022	Surface reactivity in inorganic and magnetic materials	23 August 2017	1030-1305
MS-023	Synchrotron and XFEL for materials at ambient and extreme conditions	23 August 2017	1030-1305
MS-024	NMR Crystallography and related methods	23 August 2017	1030-1305
MS-031	Nanoparticles / nanostructures	23 August 2017	1455-1730
MS-033	Magnetic diffuse scattering and magnetic PDF analysis	23 August 2017	1455-1730
MS-040	Microstructure, defects, stress and strain determination and modelling with powder diffraction data	24 August 2017	1030-1305
MS-041	Advances in computational methods for powder diffraction	24 August 2017	1030-1305
MS-042	High-resolution spectroscopy	24 August 2017	1030-1305
MS-049	In-situ and in-operando characterization of catalytic and functional materials	24 August 2017	1455-1730
MS-050	Small-Angle Scattering studies of biomacromolecular kinetics	24 August 2017	1455-1730
MS-051	Recent developments in XAFS spectroscopy: Theory, instrumentation and data analysis	24 August 2017	1455-1730
MS-058	Powder diffraction & polymorphism. Search, phase transformations and new polymorph identification	25 August 2017	1030-1305
MS-059	Quantitative electron diffraction	25 August 2017	1030-1305
MS-060	XAS at extreme conditions	25 August 2017	1030-1305
MS-067	Grain mapping and spatially-resolved diffraction - reaching the ppm scale.	25 August 2017	1455-1730
MS-068	New X-ray sources: Storage rings – FELs- laser-based	25 August 2017	1455-1730
MS-069	High-pressure crystallography as the ultimate interdisciplinary tool	25 August 2017	1455-1730
MS-076	Diffuse scattering in crystalline structures	26 August 2017	1030-1305
MS-077	Coherence, spectroscopy and time resolved crystallography with new sources	26 August 2017	1030-1305
MS-078	Advances in high-pressure crystallographic methods	26 August 2017	1030-1305
MS-085	Dynamic phenomena and material functionality from inelastic x-ray scattering	26 August 2017	1455-1730
MS-086	Accurate high resolution diffraction studies at high pressure	26 August 2017	1455-1730
MS-094	Phase-plates: Improving resolution in CryoEM	27 August 2017	1030-1305
MS-096	XAFS of materials for clean energy	27 August 2017	1030-1305
MS-103	Methods for characterizing commensurate and incommensurate magnetic structures	27 August 2017	1455-1730
MS-105	New instrumental developments for electron crystallography	27 August 2017	1455-1730
MS-112	Laboratory sources vs. large scale facilities for charge density studies	28 August 2017	1030-1305
MS-121	Synchrotron-based X-ray techniques and the environment	28 August 2017	1455-1730

## Materials and Minerals

MS-007	Topology and symmetry of modular structures	22 August 2017	1030-1305
MS-025	Crystallography of battery materials	23 August 2017	1030-1305
MS-034	Synthesis and properties of multi ferroics and multi-functional materials	23 August 2017	1455-1730
MS-052	Minerals/gems in industrial applications	24 August 2017	1455-1730
MS-061	Perovskites, perovskites and perovskites!	25 August 2017	1030-1305
MS-070	Superconducting materials	25 August 2017	1455-1730
MS-079	Topological insulators	26 August 2017	1030-1305
MS-088	Hybrid perovskites	26 August 2017	1455-1730
MS-097	Functional magnetic materials	27 August 2017	1030-1305
MS-106	Functional materials on the nanoscale	27 August 2017	1455-1730
MS-108	Charge and spin density in molecular and supramolecular magnets	27 August 2017	1455-1730
MS-122	Crystallography of materials for energy	28 August 2017	1455-1730

## Physical and/or Fundamental

MS-008	Magnetic order and its consequences	22 August 2017	1030-1305
MS-017	Extending the boundaries of crystallography	22 August 2017	1455-1730
MS-026	A bridge between two worlds: Graphs as structural descriptors	23 August 2017	1030-1305
MS-035	Crystal structure relationships and their applications	23 August 2017	1455-1730
MS-043	Models for refining the electron density from elastic scattering - <i>Bob Stewart's legacy</i>	24 August 2017	1030-1305
MS-062	Topological magnetic structures: monopoles, skyrmions, etc.	25 August 2017	1030-1305
MS-089	Chemistry and physics of modulated and composite crystals	26 August 2017	1455-1730
MS-098	Recent advances in quasicrystal research	27 August 2017	1030-1305
MS-123	Magnetic structures at extreme conditions	28 August 2017	1455-1730
MS-124	Beyond conventional topological analysis of electron density	28 August 2017	1455-1730
MS-125	Small-Angle Scattering data formats, standards and repositories	28 August 2017	1455-1730

## Special Activities

MS-016	New approaches in crystallographic teaching	22 August 2017	1455-1730
MS-021	Terminology issues in crystal engineering	23 August 2017	1030-1305
MS-032	Crystallography courses around the world	23 August 2017	1455-1730
MS-044	Structural databases as teaching tools - <b>Part A</b> (macromolecules)	24 August 2017	1030-1305
MS-045	Structural data bases as teaching tools - <b>Part B</b> (organics, minerals)	24 August 2017	1030-1305
MS-053	Scientific value of raw data	24 August 2017	1455-1730
MS-071	Crystallographic patterns in art and cultural heritage	25 August 2017	1455-1730
MS-080	Emerging science in the emerging world	26 August 2017	1030-1305
MS-087	How does crystallography help you in your career?	26 August 2017	1455-1730
MS-095	Crystallography for Space Sciences	27 August 2017	1030-1305
MS-099	Crystallographic data and structure validation from data collection to publication - IUCr setting standards	27 August 2017	1030-1305
MS-104	Synchrotron measurement in conservation and cultural heritage	27 August 2017	1455-1730
MS-107	Robust programming for CIF, NeXus, and related file structures	27 August 2017	1455-1730
MS-109	CryoEM: Method of the decade	28 August 2017	1030-1305
MS-113	Anticipating the Harvest: Post IYCr	28 August 2017	1030-1305
MS-114	Crystallography and cultural heritage: From microsampling to noninvasive techniques	28 August 2017	1030-1305