

2022 IUCr High Pressure Workshop – Presenters' Titles

Participants in **RED** and **BLUE** are attending remote and in-person, respectively.

Type	Last Name	First Name	Abstract Title
Oral	Adler	Peter	High-Pressure Magnetism in Correlated Electron Systems Studied by Synchrotron Mössbauer Spectroscopy
Poster	Angellotti	Antonio	Investigation of bridgmanite-like mineral inclusions trapped in a sublithospheric diamond: mechanisms of diamond formation in the lower mantle and breakdown reactions occurring during their ascent
Tutorial	Aslandukov	Andrii	Domain Auto Finder (DAFi) program: the analysis of single-crystal X-ray diffraction data from polycrystalline samples
Oral	Bi	Wenli	Pressure-induced evolution of magnetism, valence, and crystal lattice in topological magnets
Poster	Bogdanov	Nikita	The effect of hydrostatic compression on the glycinium phosphite crystal structure
Oral	Bove	Livia	Looking for plastic phases in water and ammonia ices by HP-QENS
Plenary	Bykov	Maxim	Single-crystal X-ray diffraction in high-pressure chemical synthesis
Oral	Bykova	Elena	Applying methods of high-pressure crystallography in studies of high-pressure chemistry of metal borides
Oral	Caracas	Razvan	Supercritical points and the supercritical state of silicate systems from first-principles simulations
Poster	Celeste	Anna	Local Structural Evolution and Vibrational Properties of Halide Perovskites Under Pressure
Oral	Ceppatelli	Matteo	High pressure chemistry of arsenic and nitrogen: synthesis and characterization of single-bonded cubic AsN
Oral	Chen	Bin	Pushing the temperature limit: Externally-Heated Diamond Anvil Cell Experimentation
Oral	Chuvashova	Irina	Chemistry of halogens under high pressure
Poster	Coppiari	Federica	The interior structure of rocky exoplanets from laser-compression and x-ray diffraction of iron and magnesium oxides
Oral	Cordier	Patrick	Stress-induced amorphization in olivine and grain boundary sliding
Poster	Dayaratne	Wedage Lakna	Investigating the effect of pressure on hybrid organic-inorganic molybdenum oxide
Tutorial	Dera	Przemyslaw	History and evolution of high pressure crystallography
Oral	Dias	Ranga	Towards ambient superconductivity
Oral	Dorfman	Susannah	Effect of spin state transitions on the mechanical properties of alloys relevant to planetary interiors
Oral	Dos Reis	Ricardo	Evidence of ferromagnetism collapse and a valence instability in the EuB ₆ at high pressures
Oral	dos Santos	Antonio	Neutron Scattering investigation on a Giant Barocaloric: The Spin Crossover Example

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Oral	Dubrovinsky	Leonid	High Pressure Chemical Crystallography and It Application in Mineral Physics
Oral	Duffy	Thomas	In situ X-ray diffraction studies of shock-compressed minerals
Poster	Dunning	Samuel	Elucidating the Structure of Heteroatom-Doped Carbon Nanothreads
Poster	Dziubek	Kamil	Phase diagram: from a conceptual definition to practical approaches
Oral	Eastmond	Tyler	Exploring High-Pressure Effects on the Local Structure of Polyurea via Pair Distribution Functions
Oral	Eremets	Mikhail	Superconductivity in superhydrides. New experimental developments
Poster	Gaydamaka	Anna	Changes of the crystal structures of the guanine, xanthine and adenine salts induced by high-pressure and low-temperature
Oral	Ghosh	Maitrayee	Elucidation of the mechanism of cooperative diffusion in bcc iron in Earth and super-Earths' inner core conditions
Oral	Gleason	Arianna	Visualizing atomistic deformation mechanisms during shock compression: case studies in Fe and Si
Oral	Goncharov	Alexander	High pressure hydrides and nitrides
Oral	Haberl	Bianca	Neutron diffraction of superconducting superhydrides and other metal hydrides
Oral	Han	Minkyung	Machine Learning Study of a Perovskite Solar Cell Material γ -CsPbI ₃ under High Pressure and Strain
Poster	Heinen	Benedict	LiquidDiffract: User-Friendly Software for X-Ray Total Scattering Analysis
Poster	Huang	Shengxuan	Experimental constraints on the fate of subducted sedimentary nitrogen in the reduced mantle
Oral	Hunt	Simon	Continuous peak fit: a new algorithm for fitting spotty, noisy or incomplete x-ray diffraction data.
Oral	Husband	Rachel	Time-resolved MHz diffraction coupled with dynamic compression in the diamond anvil cell
Oral	Jackson	Jennifer	Dual-technique approach to melting: Implications for Earth's core-mantle boundary
Oral	Jing	Zhicheng	Partitioning of hydrogen between solid and liquid Fe-alloys at 330 GPa and implications to the compositions of the Earth's core
Oral	Katsura	Tomoo	Determination of the H ₂ O-content dependence of the dislocation mobility in olivine by means of the dislocation recovery technique
Poster	Khainovskiy	Mark	Evolution of elastic properties and electronic structure of β -glycine under the external hydrostatic pressure
Oral	Kim	Jinkwang	Persistent magnon in Sr ₃ Ir ₂ O ₇ at high pressures observed by resonant inelastic X-ray scattering
Oral	Lai	Xiaojing	Thermal equation of state of ice-VII revisited by single-crystal X-ray diffraction
Oral	Laniel	Dominique	High-Pressure Synthesis of Ultraincompressible and Recoverable Carbon Nitrides

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Oral	Ledoux	Estelle	Multigrain crystallography (3D-XRD) in the diamond anvil cell (DAC): application to the olivine to wadsleyite phase transition
Oral	Lee	Sung Keun	Glasses above multi-Megabar Pressures via Inelastic X-ray Scattering and High-resolution Solid-state Nuclear Magnetic Resonance
Oral	Lee	Yongjae	Super-hydration and reduction of manganese oxide minerals at shallow terrestrial depths
Oral	Li	Baosheng	Ultrasonic Velocity Measurements at High Pressure and Temperature: Past, Present, and the Future
Oral	Mao	Zhu	Origin of the 520-km Discontinuity from the Elasticity Measurements of Garnets
Plenary	Mao	Wendy	X-ray studies of materials at extreme conditions for understanding planetary interiors
Oral	McBride	Emma	Direct measurement of temperature from laser compressed matter using high-resolution inelastic X-ray scattering
Oral	Meera	FNU	Time-resolved X-ray diffraction studies on the non-equilibrium structural dynamics of silicate glasses at ultrahigh pressures
Oral / Poster	Moldovan	Nicolaie	High-Pressure Fluid Cells for the 3-30 MPa Domain
Oral	Mookherjee	Mainak	Structure and properties of silicate melts at extreme conditions
Oral	Morard	Guillaume	Experimental determination of the local structure of liquid silicates up to 350 GPa
Oral	Nestola	Fabrizio	Recent advances in super-deep diamonds
Oral	Officer	Timothy	From the lab to the slab: Transformational faulting at high pressure and temperature in Fe-rich olivine (Mg _{0.25} ,Fe _{0.75}) ₂ SiO ₄ and implications for deep-focus earthquakes
Oral	Okuchi	Takuo	Laser-driven shock experiments of planetary silicate minerals for finding evolution history of the solar system
Oral	Pagan	Darren	Measuring individual grain stress tensors during in situ thermomechanical loading
Oral	Pakhomova	Anna	Mineralogy of large ocean worlds: in situ high-pressure studies of hydrates
Poster	Pardo	Olivia	High Pressure Vibrational Properties of Szomolnokite
Poster	Pease	Allison	Structural variation between perovskites in the Mn-Fe-Ca-Mg system
Oral	Ravikumar	Shradhanjli	A Potential Mechanism for Nitrogen Storage in the Earth's Mantle Transition Zone
Oral	Rivers	Mark	APS-U upgrade
Poster	Rue	Kelly	Crystal Structure, Hirshfeld Analysis, and DFT Calculations of Three Trinuclear Cu(II) Polymorphs
Tutorial	Ruf	Michael	Advanced Processing of High-Pressure Data from Home-Laboratory Systems

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Oral	Salamat	Ashkan	Seeing the unseen. Refining probes for hydrogen containing materials under pressure.
Oral	Semenok	Dmitrii	Single-crystal XRD of superconducting tin polyhydrides and their Non-Fermi-liquid behavior
Poster	Sharaya	Svetlana	Structural studies of organic ferroelectrics at different pressures and temperatures
Oral	Shieh	Sean	Synthesis and elasticity of iron nitrides and chromite at high pressure and temperature conditions
Oral	Shim	Sang-Heon	Hydrogen May Play a Key Role for the Fine-Scale Structures at the Earth's Core-Mantle Boundary
Poster	Spears	Daniel	Characterization of Synthetic Uranus up to 40 GPa Through X-Ray Diffraction and Raman Studies
Poster	Strozewski	Benjamin	Hydrogen bonding and spin state of (Al,Fe)-bearing phase H at high pressure
Oral	Tang	Minxue	Ultrafast visualization of elastic-plastic deformation in single crystals under dynamic compression
Poster	Tartaglia	Rodolfo	Search for the Kitaev quantum spin liquid state in Na ₂ IrO ₃
Poster	Torres-Cadena	Raúl	Probing structure-property relationships of hybrid organic-inorganic tungsten oxides with high pressure
Oral	Tse	John	An investigation into mixed valency in compressed EuO
Plenary	Tsuchiya	Jun	First principles investigations of proton dynamics in hydrous phases at high pressure conditions
Poster	Tyson	Trevor	Pressure and Temperature Structural Phase Diagram of ABX ₃ Perovskites Related to Electronic Properties
Oral	Verma	Ashok	Role of Theory in Synthesis of Novel Hydrogen-rich Superconductors
Oral	Walsh	James	Synthesis of metastable transition metal carbides using high pressure
Oral	Wang	Xiancheng	A ferrotoroidic candidate with well-separated spin chains
Poster	Wei	Xuehui	Phase Relationship of Fe-S-H for Martian Core
Oral / Poster	Wozniak	Krzysztof	Combining Quantum Crystallography with High Pressure Research
Oral	Wu	Sikai	High-Pressure Carbon Nanothread Synthesis from a Crystallographic Perspective
Oral	Wu	Christine	Development of multiphase iron (Fe) equation of state (EOS) and consistency assessment on high-P Fe melt curves
Oral	Xiao	Yuming	Synchrotron spectroscopies to study electronic and magnetic materials under high pressure at HPCAT

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Oral	Xie	Tianqi	High-pressure high-temperature study of plagioclase feldspar: implications for shock metamorphism
Poster	Yang	Hong	Transition metal-water reaction at high pressure: Implications for planetary habitability
Oral	Zeng	Qiaoshi "Charles"	Novel metallic glass states synthesized from extreme conditions
Tutorial	Zhang	Dongzhou	High pressure single crystal diffraction at the synchrotron: real-world strategy
Oral	Zhao	Jiyong	High Pressure Applications of the Nuclear Resonant X-ray Scattering at 3ID, APS
Oral	Zheng	Haiyan	Synthesis of carbon materials under high pressure and its chemical reaction
Oral	Zhou	Wenyi	Experimental constraints on the effect of water on viscosity of the mantle incipient basaltic melt
Poster	Zhou	Dongyuan	Eutectic composition of Fe-C binary system at high pressures
Oral	Zhu	Qiang	Machine learning potential applied to phase transition studies
Poster	Zoller	Charles	Accurate Equation of State of Fluid H ₂ -He Mixtures.
Oral	Zurek	Eva	Theoretical Design of Light Element Superconductors
Tutorial	Zurkowski	Claire	Using synchrotron multigrain X-ray diffraction techniques to determine the thermodynamics of iron-rich sulfides at Earth and planetary core conditions