EUROPEAN CONFERENCE ON SOLID STATE CHEMISTRY 2023

FINAL PROGRAMME

SUNDAY, JULY 9, 2023

13:00 - 19:00 **Registration**

chairperson: David Sedmidubský

16:00 - 16:20	**Opening Session** Tomas Wagner, Barbara Albert, Paul Attfield, David Sedmidubský
16:20 - 17:00 **PL 01**	**Metal-organic frameworks for sustainable separations and reactions: A computational perspective** J. Jiang
17:00 - 17:30 **InvL 01**	**Designer's metal-organic materials and interfaces through ALD/MLD** M. Karppinen
17:30 - 18:00 **InvL 02**	**Exploring model catalysts through the integration of in-situ near-ambient pressure XPS and STM** P. Matvija, M. Vorokhta, F. Pchálek, S. Oveysipoor, L. Piliai, T.N. Dinhová, B. Šmíd, I. Matolínová

18:00 - 18:30 **Welcome Drink**

chairperson: Tomas Wagner

18:30 - 18:50 **L 01**	**Negative linear compressibility of the hybrid perovskite [C(NH2)3]Er(HCO2)2(C2O4)** T. J. Hitchings, A. B. Cairns, D. Allen, P. J. Saines
18:50 - 19:10 **L 02**	**Complex modulations of the crystal structure of functional oxides with perovskite-related structure** S. García-Martín, R. Marín-Gamero, E. Urones-Garrote, X. Martínez de Irujo-Labalde
19:10 - 19:30 **L 03**	**Perovskite-type RbNbO3 as a high-pressure polymorphism** A. Yamamoto, K. Murase, K. Sugiyama, T. Kawamata
19:30 - 19:50 **L 04**	**Chemical and physical pressure effects on structural and magnetic properties of R2CuTiO6 perovskite series with R ranging from La to Lu** L. Sederholm, A. Yamamoto, M. Karppinen

MONDAY, JULY 10, 2023

8:00 - 12:00 **Registration**

chairperson: Barbara Albert

9:00 - 9:40 **PL 02**	**Solid-state batteries – at the edge between Solid State Chemistry and Materials Science** J. Janek

SESSION I

chairperson: Duncan H. Gregory

9:40 - 10:10 **InvL 03**	**Prediction of electrical conductivity of porous composites using 3D equivalent electronic circuit network model. Solid oxides fuel cell electrode case study** D. Budáč, V. Miloš, M. Carda, M. Paidar, K. Bouzek
10:10 - 10:30 **L 05**	**Critical current density of Li6PS5Cl powder pellets and processed films** A. Tron, A. Beutl

SESSION II

chairperson: Ivan Khalakhan

9:40 - 10:10 **InvL 04**	**Synthesis-dependent structure-property relationships of quantum materials** L. Clark, J. N. Graham, J. R. Stewart, J. A. Cooley, M. Songvilay, G. Confalonieri, D. Fortes, P. Manuel, A. R. Wildes
10:10 - 10:30 **L 06**	**Quantum spin liquids in cation ordered perovskites** M. J. Milton, P. Manuel, J. P. Attfield

10:30 - 11:00	Coffee Break

SESSION I

chairperson: Maarit Karppinen

11:00 - 11:20	**Lithium transport mechanisms characterised by ssNMR and ToF-SIMS in hybrid electrolytes for solid-state batteries**
L 07	T. Meyer, T. Gutel, M. Bardet, H. Manzanarez, E. De Vito
11:20 - 11:40	**Packings of sphere packings - a new path to solid state ionic conductors?**
L 08	M. Petrik, W. Hornfeck
11:40 - 12:00	**Growth of metal oxide film electrodes for electrochemical capacitor by electrospray deposition**
L 09	M. P. Chavhan
12:00 - 12:20	**New tungsten bronzes via electrochemical intercalation**
L 10	B. Rasche, I. Neumann, Y. Chen, M. Yang
12:20 - 12:40	**Composition-activity-stability relationship in Pt-Au alloys for oxygen reduction reaction**
L 11	X.X. Xie, V. Briega-Martos, R. Farris, M. Vorokhta, T. Skála, I. Matolínová, K. M. Neyman, S. Cherevko, I. Khalakhan

SESSION II

chairperson: Lucy Clark

11:00 - 11:20	**Metal-insulator transitions in hollandite vanadate and chromate**
L 12	M. Isobe, P. Puphal, H. Takagi
11:20 - 11:40	**Fluoridoargentates(II) as potential analogues to superconducting cuprates**
L 13	M. Dragomir, M. Belak Vivod, M. Lozinšek, Z. Jagličić, G. King
11:40 - 12:00	**FeMn3Ge2Sn7O16: a “partial” spin-liquid candidate with a perfectly isotropic 2-D Kagomé Lattice**
L 14	C. D. Ling, M. C. Allison, S. Wurmehl, B. Büchner, J. L. Vella, T. Söhnel, S. A. Bräuninger, H.-H. Klauss
12:00 - 12:20	**Hidden orders in 2D van der Waals materials: The example of magnetic crossover in the mixed-anion compound CrSBr**
L 15	S. A. López-Paz, Z. Guguchia, V. Y. Pomjakushin, C. Witteveen, A. Cervellino, H. Luetkens, N. Casati, A. F. Morpurgo, F. O. von Rohr
12:20 - 12:40	**Solid-state synthesis of carbon-coated lithium vanadate Li3VO4- as anodes for High-Performance Li-ion Capacitors**
L 16	S. Lonkar, C. Busa

12:40 - 13:40	Lunch

chairperson: Jürgen Janek

13:40 - 14:20	**Fast cation conductivity in complex metal halides & hydrides; Prospects for solid state electrolytes**
PL 03	D. H. Gregory

SESSION I

chairperson: Peter Matvija

14:20 - 14:50	**Probing fuel cell catalysts degradation under simulated operational environment by advanced in situ techniques**
InvL 05	I. Khalakhan
14:50 - 15:10	**Elucidating catalytic performance of a family of low-valent metal nitrides for the hydrogen evolution reaction from water**
L 17	A. Y. Ganin, Y. Sun, O. Guselnikova, Y. Zhou, N. López
15:10 - 15:30	**Understanding the performance of high power niobium oxide based Li ion battery materials**
L 18	A. Green, E. Driscoll, P. Slater

SESSION II

chairperson: Karel Bouzek

14:20 - 14:50	**Discovery of quantum materials by combining chemical and physical design principles**
InvL 06	F. O. von Rohr
14:50 - 15:10	**Supraparticles as identifiers or temperature indicators with spectral magnetic readout**
L 19	S. Müssig, J. Reichstein, S. Wintzheimer, K. Mandel
15:10 - 15:30	**Crystal and electronic structure of the lanthanide dibismuthides REBi2 (RE = La, Ce, Pr, Nd, Sm)**
L 20	A. Ovchinnikov, M. Ruck

15:30 - 16:00	Coffee Break

SESSION I

chairperson: Fabian von Rohr

16:00 - 16:20	**New nickel-based lithium rich layered/disordered rock salt cathode materials for lithium ion batteries**
L 21	B. Dong, J. Castells-Gil, P. Zhu, L. Driscoll, P. Allan, E. Kendrick, P. Slater
16:20 - 16:40	**Operando investigation of Ir-Ru-based catalyst for Proton Exchange Membrane Water Electrolysis**
L 22	T. Hrbek, P. Kúš, M. G. Rodriguez, H. Nedumkulam, M. Mirolo, J. Drnec, V. Matolín, I. Matolínová
16:40 - 17:00	**The influence of Al and Ga doping on the chemical and electrochemical cycling of T-LiFeO2**
L 23	S. Mahato, X. M. De Irujo Labalde, S. Booth, M. Hayward
17:00 - 17:20	**Designing new lithium layered oxides from sodium layered oxides to stabilize oxygen redox**
L 24	M. Guignard, V. Saïbi, L. Castro, I. Sugiyama, C. Delmas
17:20 - 17:40	**Sodium insertion into TiO2 hollandite: structural and electrochemical study**
L 25	F. García-Alvarado, A. Duarte, P. Díaz-Carrasco, A. Kuhn, A. Basa
17:40 - 18:00	**F. García-Alvarado, A. Duarte, P. Díaz-Carrasco, A. Kuhn, A. Basa**
L 26	A. Kuhn, J. C. Pérez-Flores, M. Hoelzel, V. Díez-Gómez, I. Sobrados, J. Sanz, F. García-Alvarado

SESSION II

chairperson: Jianwen Jiang

16:00 - 16:20	**Evidence for a disorder-induced spin liquid in the tuneable spin ladder-chain system Ba2CuTe1-xWxO6 (0 ≤ x ≤ 0.3)**
L 27	O. Mustonen, C. Pughe, A. Gibbs, A. Yaresko, P. Baker, L. Mangin-Thro, H. C. Walker, E.J. Cussen
16:20 - 16:40	**Structural variations of the magnetic topological insulators Mn1+xSb2-2x/3Te4**
L 28	E. Kochetkova, O. Renier, A. Isaeva, M. Sahoo, L.T. Corredor
16:40 - 17:00	**2D-Metals with locked charge density wave, in the novel layered monophosphate tungsten bronzes [Ba(PO4)2]WmO3m-3**
L 29	H. Nimoh, R. Glaum, A. Cano, A. M. Arévalo-López, O. Mentré
17:00 - 17:20	**Experimental investigation of magnetic dilution effect on the frustrated quantum antiferromagnet SrCu2(BO3)2**
L 30	L. Šibav, G. King, Z. Jagličić, M. Koblar, M. Otoničar, D. Arčon, M. Dragomir
17:20 - 17:40	**Magnetic structures of Dirac nodal-line semimetals LnSbTe**
L 31	I. Plokhikh

18:00 - 20:00	**POSTER SESSION I**
P 01	**Nitridooxorhenate and -technetate anions [MO3N]2- (M = Tc, Re) from reactions in highly alkaline media**
	D. Badea, E. Strub, J. Bruns
P 02	**Ternary Alkali metal Thallides ATl (A=K/Rb, Cs/Rb)**
	V. F. Schwinghammer, S. Gärtner
P 03	**Solution combustion synthesis of thermodynamically metastable oxide-phosphates with rutile- and anatase-related structures**
	S. Früchtnicht, M. Weber, R. Glaum
P 04	**Ferroelectric Properties on Ba0.975Ln0.017 (ZrxTi0.95-x) Sn0.05O3 Materials**
	K. Taibi, S. Zemouri-Smail, A. Lahmar
P 05	**Electrocrystallisation of Ternary Amalgams**
	D. Kraut, C. Hoch
P 06	**Cs2O as a strong oxidiser - A new synthetic route towards oxometalates**
	I. Zaytseva, C. Hoch
P 07	**Novel representatives of the structure type Na7RbTl4 with the lighter homologue Indium**
	M. Janesch, S. Gärtner
P 08	**High-pressure Synthesis of Alkaline Metal Niobates with Tetragonal Tungsten Bronze-type Structure**
	K. Murase, T. Sato, A. Yamamoto, K. Sugiyama
P 09	**Anion Redox in Lithium Main-group Metal Oxides**
	Z. Chen, S. Mahato, X. M. De Irujo Labalde, M. Hayward
P 10	**Synthesis and characterisation of lanthanum zirconate as a candidate filler material for polymer derived ceramic coatings**
	P. N. Moghaddam, M. Parchovianský, I. Parchovianská, A. Pakseresht
P 11	**Investigation of structure and luminescence properties of bismuth-based coordination polymers with N-donor ligands**
	K. V. Borysova, J. R. Sorg, E. A. Mikhalyova, K. Müller-Buschbaum

P 12	**Tin-Boroxines-Based Inorganic-Organic Macrocycles: Synthesis, Characterization and Hydrophobicity** M. Novák, M. Bouška, Š. Podzimek, R. Jambor
P 13	**High-Pressure Synthesis of SmSi3** T. Neziraj, S. Wirth, Y. Grin, U. Schwarz
P 14	**Mixed-metal monophosphate tungsten bronzes containing divalent transition metal ions (MII: Fe, Co, Ni) and tungsten(VI)** L. K. Aymans, R. Glaum
P 15	**Amino acid crystals as high-performance, eco-friendly structural health monitors** K. Hari, S. Bhattacharya, S. Guerin
P 16	**High temperature magnetic ordering in new quadruple perovskites Sr4NaM3O12 (M = Ru and Os)** G. S. Thakur, T. Doert, T. Hansen, E. Osmic, W. Schnelle, T. Herrmannsdörfer, M. Ruck
P 17	**Effect of concentration of conductive polymers in zinc-pigmented epoxy-ester based anticorrosive coatings** Y. Raycha, M. Kohl, A. Kalendová
P 18	**Oligothiophene Dendron-Modified CdS Nanoparticles and Their Optical Properties** A. Yoshida, R. Nozawa, Y. Sakagami, M. Matsubara, A. Mori, A. Muramatsu, K. Kanie
P 19	**Synthesis and characterization of glass and crystalline compositions in the (Na2Se)x(As2Se3)1-x chalcogenide system** A. Sammoury, M. Kassem, M. Bokova, T. Hamieh, J. Toufaily, E. Bychkov
P 20	**Influence of twill fabric topography on bloodstain pattern shape** S. Brnada, A. Kalazic
P 21	**Assessing the local structure and quantifying defects in Ca4Fe9O17 combining STEM and FAULTS** J. Oró-Solé, J. Serrano-Sevillano, J. Gázquez, C. Frontera, A. P. Black, M. Casas-Cabanas, M. Rosa Palacín
P 22	**Resonant Properties of Polycrystalline Biomolecular Assemblies** T. E. Ryan, S. Guerin
P 23	**Polysulfide in-situ characterization with 3D electron diffraction for Lithium-Sulfur batteries** S. Rahimi, A. Hajizadeh, J. Hadermann
P 24	**In-situ 3D ED to study the structural transformation of NMC during electrochemical reactions** A. Hajizadeh, S. Rahimi, J.Hadermann
P 25	**Bloodstain pattern analysis using shape descriptors** A. Kalazic, S. Brnada
P 26	**The effects of alkali metal intercalation on the structure and superconductivity of Niobium Selenide.** K. Steele, S. J. Clarke
P 27	**Discovery of superconductivity in Nb4SiSb2 with a V4SiSb2-type structure and implications of interstitial doping on its physical properties** M. D. Balestra, O. Atanov, O. Blacque, R. Lefèvre, Y. H. Ng, R. Lortz, F. O. von Rohr

TUESDAY, JULY 11, 2023

chairperson: Spyros Yannopoulos

9:00 - 9:40 **PL 04**	**Phase change optical memory materials: Why are alloys of Ge, Sb, and Te almost the only materials of choice?** R. O. Jones

SESSION I

chairperson: Jiří Orava

9:40 - 10:10 **InvL 07**	**Chalcogenide glasses and fibers for photonic applications in the infrared** J.-L. Adam, J. Trolès, C. Boussard-Plédel, X.H. Zhang
10:10 - 10:30 **L 32**	**Light-induced surface microstructures on Ge-As-S glasses** E. Samsonova, P. Kutálek, E. Černošková, P. Knotek, J. Schwarz

SESSION II

chairperson: Joke Hadermann

9:40 - 10:10 **InvL 08**	**Polymorphism and magnetic properties in high pressure A-site manganites** E. Solana-Madruga
10:10 - 10:30 **L 33**	**Locking any magnetization by freezing of magnetic domains in a transient soft to super-hard magnet** O. Mentré, B. Leclercq, A. Pautrat, A.M. Arevalo-Lopez, S. petit, V. Stolyarov

10:30 - 11:00	Coffee Break

SESSION I

chairperson: Miroslav Vlček

11:00 - 11:20	**Er3+-doped TeO2-ZnO-La2O3 optical glasses**
L 34	J. Suský, S. Šlang , L. Beneš , B. Frumarová , R. Svoboda , T. Wágner, L. Střižík
11:20 - 11:40	**Structural analyses and properties of complex sulphides in the Cr-Sn-S system**
L 35	F. Guiot, V. Dorcet, E. Guilmeau, B. Malaman, T. Schweitzer, P. Lemoine, C. Prestipino
11:40 - 12:00	**Holmium-doped TeO2–ZnO–La2O3 tellurite glasses for photonics applications and fibre optics**
L 36	J. Hrabovsky, F. Desevedavy, L. Strizik, J. Oswald, L. Nowak, T. Wagner, F. Smektala, M. Veis
12:00 - 12:20	**Gold(I)-thiolate coordination polymers as transparent glasses and cyclic phase-changing materials**
L 37	S. Vaidya, O. Veselska, Z. Fan, A. Zhadan, A. Fateeva, P. Bordet, S. Horike, A. Demessence
12:20 - 12:40	**Tuning the metallic glasses properties via ultrafast heating/cooling**
L 38	J. Orava, Y. H. Sun, I. Kaban

SESSION II

chairperson: Elena Solana-Madruga

11:00 - 11:20	**Cation ordered doping of ferrite perovskites: influence on redox behaviour, magnetism, and mixed ionic electronic conductivity**
L 39	A. J. Brown, O. Wagstaff, A. Manjón-Sanz, H. Brand, M. Avdeev, I. Evans, C. D. Ling
11:20 - 11:40	**Understanding the texture degree on zinc aluminate Nd, Ce sub-micrometer films by screen printing for NIR emitting applications**
L 40	R. E. Rojas-Hernandez, F. Rubio-Marcos , J. F. Fernandez, I. Hussainova
11:40 - 12:00	**Many body localisation in CeMnAsO1-xFx?**
L 41	A. C. Mclaughlin, G. Lawrence, S. Simpson, E. J. Wildman
12:00 - 12:20	**V-V dimerization in MnVO3 ilmenite low-pressure polymorph: Crystal and magnetic structures and properties**
L 42	A. M. Arévalo-López, D. Khalyavin, O. Mentré
12:20 - 12:40	**Multifunctional coordination polymers for fluorescent sensing of VOCs and hazardous ions from contaminated water**
L 43	K. A. Siddiqui

12:40 - 13:40	Lunch

chairperson: Paul Attfield

13:40 - 14:20	**New possibilities in in situ and ex situ crystal structure determination based upon 3D ED**
PL 05	R. Poppe, D. Vandemeulebroucke, M. Quintelier, A. Hazijadeh, S. Rahimi, S. Gholam, M. Batuk, J. Hadermann

SESSION I

chairperson: Olivier Mentré

14:20 - 14:50	**In-situ characterization of gas-solid interfaces by near-ambient pressure X-ray photoelectron spectroscopy**
InvL 09	M. Vorokhta, L. Piliai, T.N. Dinhová, P. Matvija, I. Matolinová
14:50 - 15:20	**Bias-free graphene-based in situ TEM observation of electrode materials for batteries**
InvL 10	J. Y. Cheong, J. H. Chang
15:20 - 15:40	**Structural investigation of new Li ion containing oxides using combined diffraction and NMR and EXAFS spectroscopy**
L 44	F. N. Sayed, Q. Jacquet, P. Groszewicz, S. P. Emge, P. C. M. M. Magusin, C. O'Keefe, S. Dey, C. Kocer, A. Morris, C. P. Grey

SESSION II

chairperson: Martin Sahlberg

14:20 - 14:50	**Investigating the catalytic potential of iron-doped calcium titanate: a study of oxide vacancy structures and microstructures**
InvL 11	M. Amano Patino, M. Ibrahim, N. Frederich, H. Kaper, M. Ceretti, W. Paulus
14:50 - 15:10	**Theoretical insights into the monolayer adsorption and characterization of HB238 merocyanine on Ag(100) surface**
L 45	R. Tomar, A. Kny, M. Sokolowski, T. Bredow
15:10 - 15:30	**Understanding the synthetic reliability of NaxMnO2 and similar layered phases**
L 46	J. Beecham-Lonsdale, D. C. Arnold, S. Ramos-Perez

15:30 - 16:00	Coffee Break

SESSION I

chairperson: Claus Feldmann

16:00 - 16:20	**X-ray photoelectron spectroscopy: a key tool for assessment of 2D molybdenum dichalcogenides synthesized by ALD**
L 47	J. Rodriguez-Pereira, R. Zazpe, J. Charvot, F. Bures, J.M. Macak
16:20 - 16:40	**Charge density refinement on inorganic crystals using electron diffraction**
L 48	E. Yörük, A. Suresh, P. Brázda, M. K. Cabaj L. Palatinus
16:40 - 17:00	**Chemistry at the nanoscale: AFM meets IR spectroscopy**
L 49	J. Horák
17:00 - 17:20	**CeScSi-type intermetallics: Modulation of magnetic properties through light elements insertion and catalysis of ammonia**
L 50	E. Gaudin, K. Alabd, C. Croisé, F. Can, X. Courtois, N. Bion, A. Villesuzanne, S. Tencé
17:20 - 17:40	**Analysis of ground particle behavior in wet ball milling by DEM-CFD simulation**
L 51	K. Kushimoto, J. Kano

SESSION II

chairperson: Helmer Fjellvag

16:00 - 16:20	**Optomagnetic composites by combination of strong magnetic and luminescent components**
L 52	K. Müller-Buschbaum, M. Seuffert, T. Wehner
16:20 - 16:40	**Exploring structure-property correlations in the frustrated layered material, Mn2Mo3O8**
L 53	D. C. Arnold, H. L. McPhillips, S. Ramos
16:40 - 17:00	**Developments in high-pressure growth of rare earth nickelates single crystals**
L 54	D. J. Gawryluk
17:00 - 17:20	**Tuning physicochemical properties in TbMgNi4-xCox-(H,D)2 system**
L 55	V. Shtender
17:20 - 17:40	**Magnetic properties controlled by short-range structural and spin order in layered materials**
L 56	J. D. Bocarsly, S. E. Dutton, C. P. Grey

18:00 - 20:00	**POSTER SESSION II**
P 28	**Selective ion transport of catalytic hybrid aerofilm Li-S batteries** C. Senthil, S.S. Kim, H.S. Kim, J.W. Hong, H.Y. Jung
P 29	**Solid-state electrolytes for Na-ion batteries: exploring the synergy between metal-organic frameworks and ionic liquids** A. Mirandona-Olaeta, E. Goikolea, S. Lanceros-Mendez, A. Fidalgo-Marijuan, I. Ruiz de Larramendi
P 30	**Understanding Fe-cation migration in LiFe2-xInxSbO6 Cathode Materials** X. Martinez de Irujo-Labalde, S. Mahato, M. Hayward
P 31	**Synthesis of Low-Pt-Based Electrocatalyst Derived from Porous MOF-808(Zr)-NH2 Nanoparticles Towards Oxygen Reduction Reaction** T. M. Pham, J. Kim
P 32	**Upcycling Lithium Titanate (LTO) Anodes into the Next Generation of High Power Ti Doped Nb2O5 Anodes (TNO).** A. J. Green, E. H. Driscoll, P. R. Slater
P 33	**Investigation of electrochemical properties of Zn-ion batteries based on ZnMo6S8 cathodes** Y. Wang, A. Y. Ganin
P 34	**Crystal chemistry of Argyrodite type Li-ion conductors** D. Shanbhag, J. Auvergniot, V. Viallet, C. Masquelier
P 35	**Boosting the electrochemical performance of TNO anode material through structural and compositional modifications** E. García-González, A. Solana-Bello, F. García-Alvarado
P 36	**Fe-substituted LiTi2O4 ramsdellite as electrode material in lithium batteries** P. Díaz-Carrasco, A. Kuhn, N. Menéndez, F. García-Alvarado
P 37	**Fabrication and characterization of Cu, Zn-doped Li4Ti5O12 anode nanomaterials for energy conversion applications** J. Dhairat, B. A. Albiss, A. Bozeya
P 38	**Alloy Nanowire Arrays With Controlled Compositions Templated by Block Copolymers** O. Burg, R. Shenhar
P 39	**Local Structure Insight into Hydrogen Evolution Reaction with Bimetal Nanocatalysts** Q. Li, X. Xing

P 40	**Impact of Surfactant-Assisted Downsizing to Luminescent nanoMOFs on Morphological and Photophysical Properties** M. Maxeiner, L. Wittig, A. Sedykh, T. Kasper, K. Müller-Buschbaum
P 41	**Hydrophobic materials based on heteroboroxines** R. Jambor, M. Srb, M. Novák
P 42	**Preparation of GeTe nanoparticles by low temperature synthetic method** M. Bouška, Y. Milasheuskaya, R. Jambor, P. Němec
P 43	**High-spin vs low-spin Ni2+ ions in highly distended octahedral environments: Sr2NiO2Cu2Se2, Sr2NiO2Cu2S2 and the solid solution Sr2NiO2Cu2(Se1-xSx)2** R. D. Smyth, J. N. Blandy, Z. Yu, S. Liu, C. V. Topping, S. J. Cassidy, C. F. Smura, D. N. Woodruff, P. Manuel, C. L. Bull, N. P. Funnell, J. E. McGrady, S. J. Clarke
P 44	**Complex magnetic ordering of the mixed-valent layered oxychalcogenides Ca2Fe2.6O3S(2-x)Se(x) (x=0, 0.5, 1, 1.5)** A. Gillette, B. Sheath, S. J. Clarke
P 45	**Tuning magnetism and superconductivity in transition metal chalcogenides as a function of composition** L. Taskesen, S. J. Clarke
P 46	**Lattice Dynamics of Cs2[Mo2O7]*CsX (X = Cl, Br, I)** A. K. Weber, K. Denisova, P. Lemmens, A. Möller
P 47	**Novel Oxochloridoselenites(IV) with Cuban-derived Structural Motives** M. A. Bonnin, C. Feldmann
P 48	**Wurtzite-Type Be2PN3 - a new and hard-type material** G. Krach, M. Pointner, K. Witthaut, W. Schnick
P 49	**Ionic-liquid-based synthesis of Ge3N4 nanoparticles** F. Jung, C. Feldmann
P 50	**Structural Influence of Lone Pairs in GeP2N4, a Germanium(II) Nitridophosphate** S. J. Ambach, C. Somers, T. de Boer, L. Eisenburger, A. Moewes, W. Schnick
P 51	**Ca5AsSb(NH)2 – a cation-deficient Antiperovskite with A-site ordering** T. Chau, S. Rudel, D. Han, F. Wolf, T. Bein, H. Ebert, W. Schnick
P 52	**Morin transition in beta-Fe2SeO** N. Qureshi, R. Morrow, S. Eltoukhy, V. Grinenko, Y. A. Onykiienko, D. S. Inosov, M. Valldor
P 53	**Electron-Electron and Electron-Phonon Interactions in van-der-Waals compounds: MOX, M = Sc, Ti, V, Fe and X=Cl, Br** F. Predelli, F. Büscher, P. Lemmens, V. P. Gnezdilov, Yu. G. Pashkevich, T. N. Shevtsova, S. Berinskat, A. Möller
P 54	**Intercalation chemistry of excitonic insulator candidate Ta2NiSe5** P. A. Hyde, J. Cen, S. J. Cassidy, N. H. Rees, P. Holdship, R. I. Smit, D. O. Scanlo, S. J. Clarke
P 55	**Functionalisation of CaAl2O4:Eu2+, Nd3+ phosphors with Fe3O4 magnetic nanoparticles** S. T. Tsantis, G. Kastrinaki, V. Zaspalis, C. Sarafidis, C. Chatzidoukas, S. N. Yannopoulos
P 56	**Transition metal doping strategy for the reversible anion redox process** A. Wang, Z. Chen, M. Hayward

WEDNESDAY, JULY 12, 2023

chairperson: Robert Jones

9:00 - 9:40 **PL 06**	**Exploring new transition metal nitride materials** A. Fuertes

SESSION I

chairperson: Midori Amano Patino

9:40 - 10:10 **InvL 12**	**Compositionally complex alloys for the hydrogen society** M. Sahlberg
10:10 - 10:30 **L 57**	**Crystal growth of new uranium and transuranic phases via high temperature solution and mild hydrothermal methods: Exploration of new materials as potential nuclear waste forms** H.-C. zur Loye, T. K. Deason, A. T. Hines, H. Tisdale, T. M. Besmann, J. Amoroso, D. P. DiPrete

SESSION II

chairperson: Jean-Luc Adam

9:40 - 10:10 **InvL 13**	**Mineral-inspired sulphides for thermoelectric energy harvesting** A.V. Powell

10:10 - 10:30 **L 58**	**In-situ XRD and PDF investigation of battery fluoride materials MF3.3H2O (M = Fe, Cr) in controlled atmosphere: accessing new phases with controlled chemistry** G. Nénert, L. Ding, K. Forsberg, C. V. Colin

10:30 - 11:00 Coffee Break

SESSION I

chairperson: Amparo Fuertes

11:00 - 11:20 **L 59**	**A facile preparation of Y2O2S nanoparticles through sulfidation under a CS2 atmosphere** Y. Kanazawa, M. Matsubara, R. Ohsuga, A. Muramatsu, K. Domen, K. Kanie
11:20 - 11:40 **L 60**	**Mechanochemical process to prepare amorphous oxides precursor with isomorphous substitution of Si(IV) by heteroatoms and successive hydrothermal synthesis to crystalize zeolites** A. Muramatsu, H. Kobayashi, G. Tanaka, M. Yabushita, R. Osuga, K. Ninomiya, M. Matsubara, S. Maki, M. Nishibori, K. Kanie
11:40 - 12:00 **L 61**	**Alkali shuffling in honeycomb layered oxides** E. Mumba-Mpanga, R. Berthelot
12:00 - 12:20 **L 62**	**Inorganic materials synthesis in ultra-alkaline hydroflux** H. He, Y. Li, R. Albrecht, M. Ruck
12:20 - 12:40 **L 63**	**Anion redox as a means to derive layered manganese oxychalcogenides with exotic intergrowth structures** S. Giri, S. Sasaki, S. Cassidy, S. Dey, G. Cibin, C. Grey, S. Clarke

SESSION II

chairperson: Flaviano Garcia-Alvarado

11:00 - 11:20 **L 64**	**Quadrature frequency resolved spectroscopy on green upconversion photoluminescence in GeGa(As)S:Er3+ CHALCOGENIDE GLASSES** L. Strizik, T. Aoki, V. Prokop, J. Hrabovsky, T. Wagner
11:20 - 11:40 **L 65**	**TESCAN's Analytical Solutions for Lithium-Ion Battery Research** J. Honč, T. Šamořil, J. Dluhoš, T. Sui, X. Yao
11:40 - 12:00 **L 66**	**Local structure and high performance catalysts** X. Xing, Q. Li
12:00 - 12:20 **L 67**	**Defect enginnering: Eu3+ emission enhancement via induced local distortion** S. C. S. Lemos, M. Assis, L. Gracia, L. K. Ribeiro, A. F. Gouveia, Y. G. Galvão, E. Cordoncillo, R. C. Lima, E. Longo, J. Andrés
12:20 - 12:40 **L 68**	**Urinary oxidative stress sensor based on zinc oxide nanorods** A. Ejaz, D. Gibson, C. Garcia Nuñez

12:40 - 13:40 Lunch

SESSION I

chairperson: Anthony V. Powell

13:40 - 14:10 **InvL 14**	**Reaction mechanisms in molten salts for the design of solid-state materials at the nanoscale** D. Portehault, F. Igoa Saldaña, E. de Rolland Dalon, M. Baron, A. Ghoridi, A. Séné, E. Defoy, Y. Song, P.-O. Autran, D. Thiaudière
14:10 - 14:30 **L 69**	**Tecto-borosulfates–syntheses, structures and properties** E. Turgunbajew, P. Netzsch, M. Hämmer, G. Buchner, H. A. Höppe
14:30 - 14:50 **L 70**	**Crystal structures of new phosphidosilicates and its homologuos** D. Johrendt, A. Haffner, V. Weippert, J. Aicher, K. Witthaut
14:50 - 15:10 **L 71**	**Exploring trirutile materials as a platform for energy storage** E. Djafri, D. Arnold, O. Mentré
15:10 - 15:30 **L 72**	**Understanding the formation mechanism of intermetallic nanoparticles in polyol processes** M. Smuda, J. Ströh, N. Pienack, A. Khadiev, H. Terraschke, M. Ruck, T. Doert

SESSION II

chairperson: Mirela Dragomir

13:40 - 14:10 **InvL 15**	**Nanostructured thin-film catalysts for hydrogen production via PEM water electrolysis** P. Kúš, T. Hrbek, H. Nedumkulam, M. Mirolo, I. Martens, J. Drnec, I. Matolínová
14:10 - 14:30 **L 73**	**Structural trends and ion diffusion mechanisms in the postspinel-type NaFe1+xRu1-xO4 system** L. Benincasa, M. Duttine, M. Suchomel, M. Guignard
14:30 - 14:50 **L 74**	**Base-metal nanoparticles as reactants at room temperature** C. Feldmann

14:50 - 15:10 **L 75**	**Functionalization of chalcogenide IR photonic sensor by polymer membrane for the purpose of detecting aromatic hydrocarbon pollutants in water** M. Vrazel, R. K. Ismail, M. Baillieul, P. Nemec, P. Loulergue, A. Szymczyk, K. Boukerma, R. Courson, A. Hammouti, L. Bodiou, J. Charrier, T. Halenkovic, M. Bouska, V. Nazabal
15:10 - 15:30 **L 76**	**Soft chemistry of layered titanium and vanadium oxytellurides** N. D. Kelly, S. J. Clarke

15:30 - 16:00 Coffee Break

SESSION I

chairperson: Peter Kúš

16:00 - 16:20 **L 77**	**Thermal transformations and cation redistribution on A2B2O6 oxides** K. Ji, E. Solana-Madruga, M. A. Patino, Y. Shimakawa, J. P. Attfield
16:20 - 16:40 **L 78**	**Photoluminescence properties of nanocrystalline multicomponent garnet Gd3ScxGa5-xO12 doped with Er3+** T. Netolicky, L. Benes, S. Slang, B. Frumarova, J. Oswald, T. Wagner
16:40 - 17:00 **L 79**	**Borosulfates – silicate analogue anions with the potential to stabilize polycations** J. Bruns
17:00 - 17:20 **L 80**	**Characterisation of Rh4+ oxides, an unusual case of pyrochlore stabilisation under high pressure, high temperature synthesis conditions** S. D. Injac, B. Mullens, F. Denis Romero, M. Avdeev, C. Barnett, A. K. L. Yuen, B. J. Kennedy, Y. Shimakawa
17:20 - 17:40 **L 81**	**Alkali metal oxide mercurides with isolated mercuride anions** L. Nusser, S. Feldl, C. Hoch

SESSION II

chairperson: Jun Young Cheong

16:00 - 16:20 **L 82**	**Synthesis and characterization of a novel oxychloride, SrTe2FeO6Cl** J. A. Sannes, B. Gonano, Ø. S. Fjellvåg, S. Kumar, O. Nilsen, M.Valldor
16:20 - 16:40 **L 83**	**The absence of expected paramagnetic behavior in Ba6Fe2Te3S7** E. H. Frøen, P. Adler, M. Valldor
16:40 - 17:00 **L 84**	**Oxides as Pt catchment materials in the ammonia oxidation process - methodology and mechanistic insight** J. Hessevik, A. S. Fjellvåg, O. Iveland, C. S. Carlsen, H. Sønsteby, T. By, J. Skjelstad, D. Waller, H. Fjellvåg, A. O. Sjåstad
17:00 - 17:20 **L 85**	**Probing for dynamics in a strongly frustrated magnet** L. Kubíčková, A. K. Weber, M. Panthöfer, A. Möller
17:20 - 17:40 **L 86**	**Chemical pressure driving phase transition and morphology in Eu3+-doped KY3F10: An experimental and theoretical insight** P. Serna-Gallén, S. C. S. Lemos, L. Gracia, E. O. Gomes, H. Beltrán-Mir, E. Cordoncillo, J. Andrés

17:40 - 18:00	**Closing Ceremony** Tomas Wagner