EMPG XIX: Orléans, June 16-19, 2025

Program of Presentations and Posters

General Schedule:

Monday, June 16:

- 14h00 - 17h00: Welcome to participants, Booths & Poster installations
- 17h00 - 17h20: Meeting kick-off by F. Gaillard
- 17h20 - 17h40: Sponsors and Booths
- 17h40 - 18h40: **Inaugural talk by Carmen Sanchez**
- 19h00 - 21h15: Ice Breaker Party

Tuesday, June 17:

- 08h30 - 12h30: Oral sessions with one coffee break
- 12h30 - 14h00: Lunch
- 14h00 - 17h00: Oral sessions
- 17h00 - 19h30: Poster session

Wednesday, June 18:

- 08h30 - 12h30: Oral sessions with one coffee break
- 12h30 - 14h00: Lunch
- 14h00 - 17h00: Oral sessions
- 17h00 - 19h15: Poster session
- 19h30 - 22h30: Gala Dinner
- 22h30 - 23h30: "Son et Lumière" on the Sainte-Croix Cathedral of Orléans

Thursday, June 19:

- 08h30 - 12h30: Oral sessions with one coffee break
- 12h30 - 14h00: Lunch
- 14h00 - 16h30: Oral sessions
- 16h30 - 17h00: **Closure Talk by Michel Pichavant**
- 17h00 - 18h30: Awards, Who's next and general discussion

Tuesday in Auditorium

Keynote by G. Morard (Chair A. Rosa, T. Boffan-Ballaran)

8:30	**G. Morard**	*Study of high-pressure properties of geomaterials using time-resolved diagnostics*

Magma & Volatiles (Chair B. Horanyi, A. Gion)

9:00	**H. O'Neill**	*Activity-composition systematics of oxide components in silicate melts*
9:15	**M. Rusiecka**	*Chlorine Solubility in Hydrous Silicate Melts*
9:30	**S. Aqdim**	*Deciphering the Role of Composition in Sulfur Solubility and Glass Structure*
9:45	**R. Thomas**	*The stability and speciation of sulfur in silicate melts*
10:00	**V. Clesi**	*Density of high SiO2 carbonatite liquids in the upper mantle*
10:15	**B. Wood**	*Volatility of mercury and related metals at magmatic temperatures*
10:30	***Coffee break***	

Keynote by Z. Zajacz (Chair G. Pokrovski, M. Sieber)

11:00	**Z. Zajacz**	*Halogens and metals in fluids in transcrustal magmatic systems: implications for porphyry ore genesis*

Magma & Ores (Chair B. Horanyi, M. Sieber)

11:30	**S. Hsu**	*Monazite solubility in carbonated nephelinitic melts at 1 GPa*
11:45	**H. Guo**	*Apatite unravels volatile and metal concentrations in carbonatite melts*
12:00	**R. Parthiban**	*The partition coefficients of tantalum and niobium between cassiterite and volatile rich melts*
12:15	**V. Maneta**	*Crystallization Dynamics of Lithium Enriched Hydrous Granitic Melts*
12:30	***Lunch***	

Keynote by P. Cordier (Chair J. Précigout, G. McGill)

14:00	**P. Cordier**	*The role of amorphization on minerals and rocks deformation*

Partitionning and Melt Properties (Chair M. Rusiecka, M. Sieber)

14:30	**M. Pimenta Silva**	*H2O partitioning between plagioclase and dacitic melt: experimental determination at crustal conditions*
14:45	**B. Horányi**	*Mineral-Melt Partitioning of Lithium in Granitic Systems and Implications for Ore Formation*
15:00	**V. Stopponi**	*Viscosity, differential scanning calorimetry and vibrational properties of haplogranitic melts*
15:15	**D. Di Genova**	*Recent observations of melt and glass dynamics: a materials science approach to measuring magma properties (solicited)*
15:30	***Break***	

Methodological Developments (Chair M. Louvel, A. Rohrbach)

16:00	**A. Mina**	*Experimental growth of titanite, apatite, and zircon for the calibration of a new geothermometer*
16:15	**A. Berry**	*Fluorescence tomography of basaltic melt in equilibrium with olivine*
16:30	**B. Langerome**	*High pressure - high temperature PLANEX platform for in situ studies of geological materials: technical overview and proof of concept*
16:45	**S. Marre**	*Multi-scale laboratory experimental approaches for studying the use of deep underground environments and the deep biosphere*

17:00 **Poster Session**

Tuesday in Room A

Mineral Physics in Earth's Mantle (Chair A. Rosa, T. Boffan-Ballaran)

9:00	**T. Katsura**	*Grain growth kinetics of bridgmanite coexisting with ferropericlase as a function of pressure*
9:15	**L. Canet**	*Iron effects on the structure and density of silicate melts under extreme conditions*
9:30	**Q. Hu**	*Multivalent calcium silicate and sulfide in Earth's lower mantle*
9:45	**A. Pantousas**	*Shedding light on high-pressure calcium carbonates*
10:00	**P. Carrez**	About the effect of strain rates on the deformation creep mechanisms in deep mantle
10:15	**J. Buchen**	*Stresses and strains in polycrystalline MgO at high pressures and seismic frequencies*
10:30	***Coffee break***	

Mineral Physics in Earth's Mantle (Chair A. Rosa, T. Boffan-Ballaran)

11:30	**M. Schulze**	*Oxygen self-diffusion in Davemaoite studied by machine learning molecular dynamics simulations*
11:45	**S. Demouchy**	*Effect of pressure on hydrogen diffusivity in iron-bearing olivine*
12:00	**C. Trubowitz**	*The electrical conducitvity of the lower mantle from impedance spectroscopy measurements in a diamond anvil cell*
12:15	**X. Yang**	*Does mineral grain size affect the electrical conductivity of a partially molten system?*
12:30	***Lunch***	

Rock Deformation (Chair S. Demouchy, G. McGill)

14:30	**T. Ferrand**	*Electrical conductivity measurements during controlled deformation at upper-mantle conditions: First experimental achievements in a Griggs-type apparatus*
14:45	**L. Airaghi**	*Transition from dominant crystal plastic deformation to dissolution precipitation creep (DPC) in experimentally deformed phlogopite-quartz aggregates with increasing mica content*
15:00	**Y. Boneh**	*Mechanical properties and deformation mechanisms of hornblende through nanoindentation and triaxial experiments*
15:15	**H. Raimbourg**	*Deciphering deformation processes using Raman spectroscopy on carbonaceous material: the insights from slow strain-rate experiments*
15:30	***Break***	

Rock Deformation (Chair W. Zhan, G. McGill)

16:00	**N. Walte**	*Simulation of metal-graphite textures in ureilite meteorites by high strain-rate deformation experiments*
16:15	**G. Serrano Lopez**	*Weakening mechanisms in experimentally deformed quartz-muscovite assemblages with increasing deformation*
16:30	**M. Alvaro**	*Investigating Mineral Rheology Through Host-Inclusion Systems*
17:00	**Poster Session**	

Tuesday poster sessions

Deep biosphere and Environmental Geology

M. Sarr	*Coupling microfluidics and Raman spectroscopy to understand water-rock interactions in the critical zone*
M. Fastelli	*Influence of nano Mg-Al layered double hydroxides (LDHs) on the chemical and physical properties of hydrated cement*
C. Lagardere	*Investigating the relationship of permeability and electrical conductivity for the geothermal potential of Crustal Fault Zones (Pontgibaud, French Massif Central): an experimental approach*
N. Horáková	*Mineralogy of calcium oxalate hydrates in plants of the Araceae family*
Q. Duan	*Permeability architecture at the base of the seismogenic zone: Experimental studies on cataclasite- and pseudotachylyte-bearing mylonitic rocks along the Red River Fault, China*
D. Foustoukos	*High-Pressure Microbiology: Life at the Extreme*
V. Milesi	*Where Land Meets Sea: A Lava-Induced Ephemeral Hydrothermal System Supports Chemosynthesis in the Deep-Sea*

Fluids and Ore Processes

A. Siciliano	*Ab-initio molecular dynamics simulations of brines*
R. Ackland	Can monomineralic ores form by reactive flow? Investigating mineral growth across sharp chemical potential gradients
A. Gion	*Dissolution of a Natural Multi-Element Glass*
F. Huang	*Experimental determination of tin partitioning between titanite, ilmenite, and granitic melts using improved capsule designs*
C. Tiraboschi	*Experimental evidence for abiotic organic aqueous species at high-pressure conditions*
E. Topalović	*Formation and REE Distribution in the Gljev Bauxite Deposit: Insights from Mineralogy and Geochemistry*
M. Louvel	*Metals speciation in (magmatic-)hydrothermal fluids from in-situ Raman spectroscopy*
B. Hu	*Novel In-situ XAS Carbon-Free Reactor Advances Hydrothermal Iron Speciation and IOCG Deposits Insights*
M. Kokh	*Rhenium complexes in supercritical fluids: implications for Re enrichment in porphyry Cu-Au-Mo-W deposits*
C. Singer	*A novel experimental approach to investigate element transport and isotope fractionation during melt fluid interaction*
B. Filgueiras	*Trace Element Incorporation in Willemite: Implications for understanding Zinc Deposits*

Magma & Ores

C. Haupt	*Advances in analysing the partitioning behaviour of base metals between hydrothermal fluids and melts*
Y. Xu	*Experimental constraints on Nb solubility in carbonatitic melts: Implications for magmatic Nb ore formation*
J. Michaud	*Influence of volatiles (H2O-CO2, F) on rare metal distribution during partial melting: magmatic preconcentration in granitic melts and implication for ore-deposits*
V. Virtanen	*Komatiite-anhydrite interaction experiments and exploration of Cu-Ni-PGE deposits in Finnish Lapland*
M. Sieber	*Origin of rare-metal enriched granites constrained from fluid-absent mica schist melting experiments*
B. Horányi	*The Partitioning of Lithium into Quartz in Granitic Pegmatites: Deviation from Henry's Law*
G. Yaxley	*The solubility of monazite in carbonate melts - implications for monazite formation in carbonatites*
W. Sun	*The solubility of pyrochlore in carbonatite melts at crustal conditions*
M. Bach	*Trace element partitioning between fluorapatite and carbonatite melt*

Methodological Developments

M. Walter	*Pulsed Joule Heating of Iron to >1.5 Mbar and >4000 K*
P. Wiegel	*An Improved Electron Probe Microanalysis (EPMA) Technique for Accurate $Fe^{3+}/\sum Fe$ Measurements of Natural and Experimental Silicate Glasses*
J. Berndt	*Analysis of Carbon in Silicate Materials Using Electron Microprobe*
V. Schoettler	*Application of Machine Learning Tools in Experimental Mineralogy: Trainable Weka Segmentation*
S. Klemme	*Determining partition coefficients in experimental run products with very small crystals using LA-ICPMS trace element mapping*
A. Slodczyk	High pressure technology in Experimental Mineralogy, Petrology and Geochemistry : presentation of French High Pressure Network
D. Sifré	*Paterson Press developments: in-situ measurements of electrical conductivity with NaCl solution*
J. Précigout	*Rheological perspective using the new generation Griggs-type apparatus: New constraints from general shear experiments of Carrara marble*
A. Kurnosov	*Self-consistent acoustic wave velocity measurements at simultaneous high pressure and high temperature*
A. Blum	*Swift heavy ion-induced amorphization in zircon under high pressure and temperature using a Paris Edinburgh Press with a large-volume Diamond Anvil Chamber*
C. Dalou	*Synthesis and characterization of metallic (Fe-Ni, Fe-Ni-Si) reference materials for C and S contents and 13C/12C and 34S/32S analyses by SIMS*
K. G. Terranova	*Testing a new experimental approach for measuring Fe-Mg interdiffusion in clinopyroxene*
V. Giatros	*Testing experimental and analytical approaches to characterize Cr-Al interdiffusion in spinel.*

Mineral Physics

N. Miyajima	*Direct view of ferric iron distribution in an iron and aluminium-bearing bridgmanite by scanning transmission electron microscopy*
V. Trautner	*Investigating the effect of iron content on the elastic behaviour of ferropericlase using machine learning*
T. Boffa Ballaran	*Crystal-chemistry of perovskite-structured Ca-oxides*
M. Wood	*Density of Ti-rich Silicate Liquids within the Lunar Interior*
G. Spiekermann	*Elastic tensor of Na-K feldspars from ab initio computations*
Y. Wu	*Equation of state, refractive index and sound velocity of tetragonal Ti-bearing calcium perovskite*
N. Satta	*Experimental deformation of δ-(Al,Fe)OOH at lower mantle conditions*
P. Comodi	*Influence of Fe content on the mineral physics of ordered and disordered ankerites*
T. Weidner	*Mixed Climb of Dislocations in Naturally Deformed Quartz Revealed by Electron Tomography*
L. Pennacchioni	*New perspectives in simultaneous XES and XRD at ID27, ESRF: Investigating the spin transition of magnesiosiderite*
C. Traisnel	*Relaxation volume of charged point defects in silicate and oxide*
A. Yoshiasa	*Single crystal structure analyses and systematic changes in Debye temperatures of pyrite-type compounds*
B. Kasumov	*Smectite dehydration reactions in pressure and temperature monitored by in situ X-ray diffraction*
C. Le Losq	*Structural and dynamic properties of hydrous magmatic liquids in a diamond anvil cell, up to 21 GPa*
C. Qian	*The effect of grain size and distribution on the acoustic velocities of polycrystalline MgSiO3 bridgmanite*
A. D. Rosa	*The thermal equation of state of xenon: Implications for noble gas incorporation in serpentine minerals and their transport to depth*
S. Miao	*Thermal Conductivity of Rocks and Its Relationship with Ultrasonic Velocity-Constraints from Experiments*
S. Khan	*Water solubility limit of the solid lower mantle*
J. Chen	*Experimental investigation of the electrical behavior of fault rocks from the Red River fault zone, Southwestern China*

Rock Deformation

X. Su	*An experimental study on frictional sliding of fault rocks from Xianshuihe fault zone under hydrothermal conditions*
X. Ma	*Brittle-Ductile Transition in Shear Experiments of Plagioclase-Pyroxene Assemblages: The Role of Fluid Assisted Mineral Reactions*
B. Meher	*Deformation of textured hornblendite in the semi-brittle regime: an experimental investigation*
J. Dang	*Experimental study on the brittle-ductile transition of natural mafic granulite*
F. Lazari	*Fluid chemistry effect on localized and ductile deformation of porous sandstone.*
H. Lei	*Frictional properties of natural granitic gouge at hydrothermal conditions*
Y. Zhou	*High-temperature deformation of clinopyroxene-plagioclase aggregates under wet conditions*
C. Molines	*In-situ stresses distribution and deformation mechanisms in eclogites at ultrahigh pressure*
P. Pongrac	*Innovative sample geometries in experimental rock deformation coupled with the numerical models*
X. Ma	*Laboratory Fault Friction Investigations for the Asperity of Fault and Nucleation*
N. Hilairet	*Layered or interconnected ? in-situ fabric, connectivity and topology in serpentine+olivine aggregates from X-Ray tomography*
L. Baudry	*Melt segregation and strain localization in oceanic mafic mushes: an experimental approach*
D. Silva Souza	*Microstructural aspects of incipient serpentine dehydration*
F. Robbiano	*Physical and mechanical characterization of veined rocks*
G. Mcgill	*Shear deformation of monomineralic quartzite to produce micro-porosity in the viscous realm*
L. K. Alaoui	*Shear zone weakening and the dual role of phlogopite: experimental insights from quartz-mica assemblages*
P. Zverev	*Syn-kinematic partial melting: providing in situ experimental data*
W. Zhan	*The Effect of Water on the Semi-Brittle Deformation of Simulated Quartz-Mica Fault Gouge*
K. Hofer-Apostolidis	*Strain partitioning in carbonate rocks at the brittle-ductile transition: insights from experimental Deformation*

Wednesday in Auditorium

Keynote by P. Sossi (Chair J. Siebert, C. Renglii)

8:30	**P. Sossi**	*Experimental constraints on the constitution of rocky (exo)planets and their atmospheres*

Fluids and Ore Processes (Chair C. Haupt, C. Sanchez)

9:00	**F. Décossin**	*Experimental and numerical thermo-kinetic modelling of hydrothermal alteration of volcanic rocks - Example of La Soufrière de Guadeloupe (Eastern Caribbean, France)*
9:15	**A. Stefansson**	*Solubility of salts, sulfates and oxides in water vapor at 400-800°C*
9:30	**M. Ackerson**	*Mutual Solubilities of Water and Haplogranite Observed in Bassett-type Hydrothermal Diamond Anvil Cell*
9:45	**D. Sverjensky**	*Integrating experiment, theory, & field studies to understand fluid-rock interactions in the upper mantle*
10:00	**M. Hlede**	*The contributions of subducted sediments to the formation of magmatic-hydrothermal deposits*
10:15	**A. Prasad**	*Implications of the liquid-liquid phase transition in water on mass transfer in hydrothermal systems.*
10:30	***Coffee break***	

Fluids and Ore Processes (Chair A. Stefansson, C. Sanchez)

11:00	**D. Diagileva**	*In situ experimental studies of realgar solubility and As speciation in magmatic-hydrothermal fluids*
11:15	**T. Chatelin**	*In situ investigation of Zn speciation in hydrothermal fluids using X-ray absorption and Raman spectroscopies*
11:30	**P. Valsera Moreno**	*Insights into tin mobility in magmatic-hydrothermal systems from in situ studies in diamond anvil cells*
11:45	**G. Pokrovski**	*Quantifying sulfur speciation in geological fluids at elevated temperatures and pressures*
12:00	**R. Vuilleumier**	*Speciation of Gold and Platinum in Sulfur Rich Hydrothermal Solutions From First-Principle Simulations*
12:15	**S. Jahn**	*Molecular simulations of fluids and minerals in ore-forming environments*
12:30	***Lunch***	

Keynote by J. Andùjar (Chair R. Botcharnikov, A. Gion)

14:00	**J. Andùjar**	*Experimental overview of magma storage & differentiation beneath alkaline volcanoes*

Magmatic Petrology (Chair R. Botcharnikov, A. Gion)

14:30	**C. Shu**	*Global Distribution of Intraplate Strongly Alkaline Volcanism Controlled by the Stability of Hydrous Minerals (Amphibole ± Phlogopite)*
14:45	**F. Marxer**	*In-situ generation of rhyolitic melts in a basaltic crystal mush below Cordón Caulle volcano (Chile) - an experimental study*
15:00	**E. Melekhova**	*A tale of three basaltic andesites*
15:15	**L. Koch**	*Experimental insights into liquid lines of descent of evolved high- and low-Si boninites from the Izu-Bonin-Mariana fore-arc*
15:30	***Break***	

Redox in magmas (Chair V. Virtanen, Z. Zajacs)

16:00	**E.-E. Cacciatore**	*Tracking redox dependent magma differentiation in subduction zones: Experimental calibration of new oxybarometers along fractional crystallization series*
16:15	**N. Dygert**	*An Eu-in-Plagioclase-Clinopyroxene Oxybarometer for Cumulate Rocks*
16:30	**E. Cottrell**	*The relationship between Fe3+/FeT of melts and peridotite minerals*
16:45	**Poster Session**	

Wednesday in Room A

Planetary Volatiles (Chair J. Siebert, C. Renglii)

9:00	**A. Elsaesser**	*Exploring exoplanetary atmospheres in the laboratory with the Berlin Atmospheric Simulation Experiment (BASE)*
9:15	**R. Caracas**	*Large-scale hydrogen dissolution in silicate magma oceans*
9:30	**D. Foustoukos**	*H-C-N-S Molecular Species in Silicate and Carbonate Melts*
9:45	**O. Namur**	*Carbon Solubility in Reduced Silicate Melt*
10:00	**R. Dasgupta**	*The Fate of Nitrogen During Differentiation of Rocky Planetary Bodies*
10:15	**D. Huang**	*The fate of nitrogen during planetary formation and differentiation*
10:30	*Coffee break*	

Planetary Volatiles (Chair C. Dalou, B. Charlier)

11:00	**M. Chavanieu**	*Experimental study of sulfur evaporation under reduced conditions - Implications for sulfur diffusion and isotopic fractionation within magma oceans*
11:15	**R. Erftemeijer**	*Silicate sulfidation kinetics on Mercury's surface investigated using evacuated silica glass tube experiments*
11:30	**F. Saracino**	*The influence of sulfur on the liquidus temperature and mineral equilibria in reduced magmas*
11:45	**L. Perruchon-Monge**	*Experimental determination of the melting curve of FeS, FeO and Fe-FeO binary system under Mars core conditions*
12:00	**A. Néri**	*On the peculiar separation of Fe-Ni and FeS pockets in acapulcoites*
12:15	**G. Bromiley**	*Liquid immiscibility in planetesimal cores: volatile loss and differentiation processes in the early solar system*
12:30	*Lunch*	

Planetary Sciences: Small Bodies (Chair C. Haupt, B. Charlier)

14:30	**Y. Li**	*Diffusion of Ga, Mo and W in vestan basaltic melt*
14:45	**J. Villamizar Blanco**	*Experimental constraints on the role of silicate liquid immiscibility in controlling the isotopic makeup of urKREEP*
15:00	**H. Li**	*The origin of high sulfur contents in lunar apatite: implications for the volatile inventory of the Moon*
15:15	**C. Delarue**	*Carbonaceous organic matter transformation under pressure and temperature: application to icy bodies*
15:30	*Break*	

Planetary Sciences: Magma Oceans (Chair E. Kubik, R. Dasgupta)

16:00	**H. Gendre**	*Constraining the Crystallisation of the Earth's Primitive Molten Mantle Combining Experiments and Thermodynamic Modelling*
16:15	**A. S Wolf**	*Modeling Silicate Melts & their Role in Rocky Planet Evolution*
16:30	**J. Biren**	*Radiative properties of molten Earth rock analogs for Characterizing Lava Worlds*
16:45	**Poster Session**	

Wednesday poster sessions

Earth's Mantle

G. Kovalskii *Basaltic glasses and melts in the lower mantle: trace elements as markers of local structure changes*

G. Manthilake *Chemical speciation of carbon-bearing aqueous fluids in the Earth's deep interior*

N. Sharapova *Chemical stability and reactivity of iron sulfides in presence of CO2*

P. Fumagalli *Experimental Insights into the Distribution of Hydrous Carbonate Melts in Dunite*

H. Do *Experimental production of redox water by reduction of Fe in olivine with molecular hydrogen*

G. Borghini *High-pressure crystallization experiments on a MORB-type basalt at 1-2.5 GPa: insights on clinopyroxenite generation*

H. Bureau *Hydrogen in Diamonds*

C. Beyer *Influence of Pressure and Silicate Host Composition on Matte Mobility in the Earth's Mantle*

S. Poli *Olivine melilitites and olivine nephelinites: experimental constraints on their mantle source*

E. Ledoux Stishovite behaviour under cyclic loading using the dynamic diamond anvil cell

V. Kovalev *High-pressure synthesis of hydrous iron sp3-carbonate Fe5[CO4]3(OH) with an apatite-type crystal structure*

A. Woodland *The influence of Al substitution on the high-P phase relations of magnesioferrite and other Mg-Fe3+ oxides*

N. Paneva *Tracking Highly Si-Undersaturated, CO_2-Rich Ocean Island Magmas from the Surface to Redox Melting Depths: A Reverse Experimental Approach to Mantle Upwellings*

M. E. Krona *Volatile solubility in haplogranitic melts under graphite-buffered conditions*

Magma, Melts and Volcanoes

S. Erdmann *A new experimental olivine-melt hygrometer to search for H2O-rich arc melts*

E. Médard *Accurate petrologic imaging of magmatic reservoirs below the Chaîne des Puys monogenetic field by combining barometry and high-pressure experiments on clinopyroxenes*

A. Altermatt *Amphibole stability and chemistry in mafic calc-alkaline systems: an experimental study*

C. Mikaelian *Cristobalite Formation in Synthetic Glasses: Insights from Alteration Experiments*

M. Boulanger *Crystal mush evolution in oceanic reservoirs: disequilibrium piston cylinder experiments at 300 MPa*

T. Shea *Does melt (dry or hydrous) influence cation diffusion in plagioclase?*

M. Knuever Experimental insights into magma-carbonate interactions of a dry phonolitic melt at magma chamber conditions

L. Gorojovsky *Experimental insights into sulfur solubility in high to low temperature silicate melts*

S. Guégan *Experimental Insights into the Storage Depths of Fani Maoré Magmas, Mayotte*

C. F Faranda *Experimental investigation of CO2 diffusion in hydrous silicate melts*

L. Cheng *Experimental investigation on the crystallization condition of tourmaline in granitic melts*

S. Prabha *Mohan Experimental study of the Effects of Pressure and Volatiles on Sulfur Concentration at Anhydrite Saturation (SCAS) in Silicic Magmas*

A. F. Salazar-Naranjo *Experimental study of trace element partitioning between olivine and alkali melts at 1-atm and variable oxygen fugacity*

S. Marioni *Experimentally determined apatite-carbonatite melt partition coefficients for sodium: new insights in carbonatite magmatism*

I. Gauthier *Experimentally determining controls on H2O and CO2 solubility in silica undersaturated melts*

E. Núñez-Guerrero *Exploring the Impact of Magma Degassing on Neon Isotope Fractionation: Insights from Experimental Petrology on Earth's Volatile Evolution*

P. Marks *From Fine to Coarse: The Coalescence-Driven Transition of Vesicle Textures in Sodium-Rich Phonolite Melt*

E. Schettino *Geochemical signatures of carbonated silicate melts ascending through the low-velocity zone: mantle/melt partitioning in four phase-saturated peridotites down to the redox melting front*

T. Bissbort *Glass Transition and Viscosity of CaCO3 - Exploring the carbonate melt system*

S. Abeykoon *Investigating the melt structure and viscosity of the Agnano-Monte Spina trachyte, Campi Flegrei caldera, Italy*

Magma, Melts and Volcanoes (continued)

P. Richert *Liquidus phase relations in the system CaCO3 - MgCO3 - Na2CO3*

A. Goltz *Magmatic processes at Shiveluch Volcano, Kamchatka: Insights from Experiments*

M. Laumonier *Melt characterization at the onset of partial melting in lower crustal mafic rock*

Z. Tardres *Nitrogen isotopic ratios in basaltic silicate melt*

R. Buso *Origin of carbonate microcrystals in melt inclusion-hosted bubbles: insight from natural samples and experiments*

K. Koga *Potential variation of sulfur incorporation in reduced mafic silicate magma*

M. Masotta *Reactive dissolution of plagioclase in a basaltic melt: a chronometer for pre-eruptive volcanic processes*

P. Condamine *Synthesizing primary melt inclusions under high pressure to decipher the significance of their volatile content*

A. Loppin *The effects of temperature and oxygen fugacity at 1 GPa on the behaviour of chromium and its isotopes during the generation and differentiation of mantle melts*

L. Luenenschloss *The Hybrid Zone of a Bimodal Rhyolitic-Basaltic Melt System: A Trigger Point for H_2O Degassing?*

S. H. Schaak *The influence of halogens on amphibole stability - an experimental approach*

L. Miller *The oxidation state of europium in carbonate melts*

S. Lambart *Trace element partitioning along the liquid lines of descent of Mg-nephelinite and melilitite.*

R. Nugraheni *Trace element partitioning between zircon-hafnon and silicate melt*

A. Ashley *Viscosity and electrical conductivity of silicate melts at high pressures*

A. Yakimenko *Zircon as a tracer of mantle processes and kimberlite magmatism*

D. Frascerra *An experimental study of sulfur distribution between apatite and silicate melts: application to volcanic degassing*

M. Gaborieau *Stone wool manufacturing: using an experimental approach to determine dissolution rates of raw materials in E-melter slags*

Planetary Sciences

F. Bernadou *New data on the nitrogen solubility in silicate melt under controlled hydrogen fugacity*

E. Kubik *Nickel isotope fractionation during core formation on large terrestrial planets*

Y. Lin *Extreme temperatures at the bottom of a reduced terrestrial magma ocean*

J. Badro *Geochemical consequences of the solidification of Earth's magma ocean*

C. Renggli *A new experimental laboratory facility for high-temperature planetary processes at the Max Planck Institute for Solar System Research*

E. Edmund *Chemistry of Ice with Simple Molecules in Icy Planets and Moons*

S. Willemyns *High-Pressure Experiments on Proto-Mercury's Magma Ocean: Insights into Formation and Composition*

B. Charlier *Highly reduced magmas and some implications for Mercury*

C. Ferté *Infrared opacity spectras of lava-worlds' atmospheric gases, using an Aerodynamic Laser-heated Levitation Furnace*

G. Shuchang *Liquid immiscibility in the Fe-Si-SÂ±C system: Implications for the structure of Mercury's core*

Y. Li *N2 solubility in basaltic to peridotitic melts*

C. Dantas Cardoso *Neon solubility in ultramafic melts and its implication for the formation of the early Earth*

G. Confortini *Preliminary Thermodynamic Modeling of Phase relations and Fluid Composition in Carbon-rich Icy Bodies of the Outer Solar System*

N. Li *Redox State of Lunar Mantle: Constraints from the Recalibrated Olivine Oxybarometer*

L. Jennings *Refining the mantle composition of Venus: an investigation using thermodynamic modelling*

C. Peignaux *Synthesis of large plagioclase feldspars to guide spectral analyses of planetary surfaces*

K. Bormann *The fate of Venusian chlorine*

U. Zaveri *Unveiling the Interiors of Carbon-Rich Exoplanets: Phase Equilibria and Element Partitioning*

Thursday in Auditorium

Keynote by M. Violay (Chair L. Airaghi, J. Précigout)

8:30	**M. Violay**	*Permeability at the Brittle-Ductile Transition: Implications for Deep Geothermal Energy Extraction*

Mantle (Chair V. Virtanen, P. Fumagalli)

9:00	**R. Rodrigues**	*Comparative phase relations of garnet lherzolite derived from partial melting experiments and thermodynamic modelling at 5 GPa*
9:15	**C. F. Crotti**	*Trace elements mantle refertilization through melt-harzburgite interaction: insights from experiments at 1-2 GPa*
9:30	**A. Secchiari**	*A novel high-precision protocol for quantifying sulfur volatiles in high-pressure high temperature experimental fluids*
9:45	**L. Toffolo**	*High-pressure, high-temperature molecular hydrogen absorption in crystalline silica: Implications for the deep hydrogen cycle*
10:00	**B. Debret**	*Carbonate reduction in solid organic compounds at high pressure and temperature*
10:15	*Coffee break*	

Keynote by N. Bolfan (Chair P. Fumagalli, V. Virtanen)

10:45	**N. Bolfan**	*H-D fractionation betwen nominally anhydrous minerals at high pressure*

Deep Carbon (Chair V. Virtanen, P. Fumagalli)

11:15	**B. Wang**	*CO2 Solubility in Calcite-Saturated Slab Melts: Implications for Carbon Transfer in Subduction Zones*
11:30	**T. Hammouda**	*Monitoring carbonatite magma degassing by combining acoustic emission detection and x-ray tomography*
11:45	**S. Tumiati**	*Graphite/carbonate ratios in subducted sediments: Experimental insights and a revised model for carbon isotopic composition of arc emissions*
12:00	**Y. Wang**	*Variable mantle redox states driven by deeply subducted carbon*
12:15	**L. Besognet**	*Experimental investigations of a deep organic carbon cycle promoted by carbonate reduction in subduction zones*
12:30	*Lunch*	

Keynote by Ali Bouhifd (Chair R. Dasgupta, C. Dalou)

14:00	**M. Ali Bouhifd**	*Partitioning of Hydrogen during core formation on the Earth and Mars*

Diffusion and Kinetics in Magmas (Chair D. Di Genova, T. Shea)

14:30	**Y. Zhang**	*Diffusive hydrogen isotope fractionation in silica glass and silicate melts: The role of speciation*
14:45	**M. Nowak**	*Deciphering Vesicle Formation in Hydrous Silicate Melts: A Step Toward Understanding Explosive Volcanism*
15:00	**M. Billon**	*Impact of superheating and cooling path on plagioclase nucleation-growth kinetics*
15:15	**F. Colle**	*Kinetics of clinopyroxene crystallization in a basaltic melt from Stromboli volcano*
15:30	*Break*	

Closure Talk by M. Pichavant (Chair F. Holtz, T. Shea)

16:00	**M. Pichavant**	*Some experimental observations of an unexpected behavior of crystals in magmas*

Thursday in Room A

Rock Deformation (Chair J. Précigout, K. Alaoui)

9:00	**J. Jacob**	*Heterogeneous stress distribution during quasi-static loading of sandstone revealed by in-situ scanning three-dimensional X-ray diffraction*
9:15	**J. Gasc**	*Investigating Deep Earthquakes and Tremors Through the Scaling Laws of Acoustic Emissions Collected During High Pressure Experiments*
9:30	**L. Eberhard**	*Rock-buffered deformation behavior of ultramafic faults during carbonation reactions*
9:45	**M. Pec**	*Constraining the full energy budget of laboratory earthquakes*

Diffusion and Kinetics in Magmas (Chair K. Rusiecka, D. Di Genova)

10:00	**M. Dias**	*Experimental determination of the rates and mechanisms of Lu, Ce and Eu diffusion in orthopyroxene*
10:15	*Coffee break*	

Diffusion and Kinetics in Magmas (Chair K. Rusiecka, D. Di Genova)

11:15	**R. Dohmen**	*The coupling of trace element diffusion with major components in plagioclase*
11:30	**M. Oeser**	*Diffusion rates and kinetic isotope fractionation of Li in alkali feldspar*
11:45	**G. Georgeais**	*Journey to the center of the crystal: investigating the impact of the proton-polaron mecanism*
12:00	**H. Ni**	*Contribution of OH to water diffusion in rhyolitic melt*
12:15	**Y. Li**	Unravelling water diffusion mechanism in silicate melts via dynamic bonding analysis
12:30	*Lunch*	

Earth's mantle and core (Chair C. Dalou, R. Dasgupta)

14:30	**S. Flemetakis**	*Phosphorus in the Mantle: Redox-Driven Behavior and Its Geochemical Significance*
14:45	**J. Siebert**	*Accretion of volatile elements on Earth without late veneer*
15:00	**L. Calvo**	*Experimental Tracing of the Origin of Volatile Elements on Earth Through Sulfur Isotopes*
15:15	**B. Le Bellego**	*Experimental constraints on germanium diffusivity in metal and silicate phases during planetary core*
15:30	*Break*	