



NSF SEES
SYNCHROTRON EARTH AND ENVIRONMENTAL SCIENCE



Monday, August 19th

11:15-11:30 am – Presentation by Maksim Yakovlev “Tomographic Image Correction and Feature-Specific Segmentation in Laboratory Simulation of Degassing-Induced Volcanic Eruptions”

Salon A1 (Lower level, Hilton Chicago)

2:30-5:30 pm – 6eO1 Advanced Experimental and Analytical Techniques at Large Scale Facilities for Geochemistry and Deep Planetary Interiors Studies

- [4:15-4:30 pm] Presentation by Dongzhou Zhang “Constraining atomic dynamics in rock-forming minerals with in-situ X-ray diffraction and its application in silicon isotope fractionation”

Salon A5 (Lower level, Hilton Chicago)

5:30-7:30 pm – 6eP1 Advanced Experimental and Analytical Techniques at Large Scale Facilities for Geochemistry and Deep Planetary Interiors Studies

- Poster #180 by Vitali Prakapenka “Advanced Upgrade of Diamond Anvil Cell Program at GSECARS”
- Poster #181 by Stella Chariton “Exploring diamond inclusions via combined microtomography and single-crystal X-ray diffraction at GSECARS”

Salon C (Lower Level, Hilton Chicago)

Tuesday, August 20th

8:30-11:30 am – 6eO2 Advanced Experimental and Analytical Techniques at Large Scale Facilities for Geochemistry and Deep Planetary Interiors Studies

- [8:30-8:45 am] Presentation by Andrew Campbell – “SEES : New Opportunities and Developments in Synchrotron Earth and Environmental Science”
- [8:45-9:00 am] Presentation by Mark Rivers – “In-situ Capabilities for Computed Microtomography at SEES Facilities at the APS”
- [9:00-9:15 am] Presentation by Brandy Toner – “SYSTER: a program to support Earth and environmental science applications of scanning transmission X-ray microscopy, spectromicroscopy, and ptychography”
- [11:00-11:15 am] Presentation by Eleanor Spielman-Sun – “Integrating synchrotron x-ray fluorescence mapping with complementary imaging techniques to obtain multi-modal datasets for the earth and environmental sciences at SSRL”

Salon A1 (Lower level, Hilton Chicago)

Wednesday, August 21st

9:30-9:45 am – Presentation by Sarick Matzen “Carbon matrices support transport of nanoparticulate iron from hydrothermal vents to open ocean waters”

Williford C (3rd floor, Hilton Chicago)

5:30-7:30 pm – Poster #358 by Brandy Toner “SYnergy of Soft and Tender X-rays for Earth Research (SYSTER)”

Salon C (Lower Level, Hilton Chicago)

Date	Time	Presenter	Type	Title	Location	Session
Mon 8/19	3:45-4:00 pm	Bin Chen	Oral Presentation	Recent Advances in Hardware and Software for Determining Mineral Elasticity under Extreme Conditions	Salon A5 (Lower level)	6e
	5:30-7:30 pm	Luisa Chavarria	Poster #183	Lower mantle ferropericlasite as a major reservoir for sodium	Salon C (Lower Level)	6e
		Amanda Patsis	Poster #219	The role of organosulfur in coupled Fe-S cycles in the deep terrestrial subsurface	Salon C (Lower Level)	9g
Tue 8/20	9:00-9:15 am	Jinhyuk Choi	Oral Presentation	A role for iron hydrogenation in the layered redox processes of the post-giant impact Earth	Salon A5 (Lower level)	1d
	9:30-9:45 am	Megan Holycross	Oral Presentation	Fe K α XANES, Fe K β HERFD XANES and EPMA flank method determinations of the oxidation state of Fe in garnet	Salon A1 (Lower level)	6e
	10:45-11:00 am	Adriana Heimann Rios	Oral Presentation	Synchrotron-Based Micro-XRF Spectroscopy Investigation of Zoned Aquamarine and Emerald Crystals	Salon A1 (Lower level)	6e
	2:30-2:45 pm	Isabel Baker	Oral Presentation	The chemical footprint of an iron-oxidizing bacterium and its impacts on iron oxidation and mineralization	Waldorf (3rd floor)	9e
	4:45-5:00 pm	Qi Chen	Oral Presentation	PGEs transport in hydrous sodium silicate melts: a study from X-ray absorption spectroscopy	Salon A3 (Lower level)	5e
	5:30-7:30 pm	Elizabeth Paulus	Poster #278	The influence of oscillating redox cycles on colloid composition and stability	Salon C (Lower Level)	10l
Wed 8/21	11:00-11:15 am	Adam Brooks	Oral Presentation	Crack Analysis of Neutron Irradiated Aggregate Using Dragonfly Microtomography Image Processing	Continental B (Lobby level)	5h
	5:15-5:30 pm	Yihang Fang	Oral Presentation	Controls of rare earth elements fractionation during competitive adsorption on corundum surfaces	Marquette (3rd floor)	11c
	5:30-7:30	Mauritz van Zyl	Poster #113	Elasticity and Raman study of CaTi ₂ O ₄ phase chromite under high pressure	Salon C (Lower Level)	2f
		Lawrence Anovitz	Poster #247	The Role of Annealing and Grain Boundary Controls on the Mechanical Properties of Limestones and Marbles	Salon C (Lower Level)	8i
Thu 8/22	9:00-9:15 am	Daniel Frost	Oral Presentation	Experimental constraints on the composition of the Martian core	Salon A2 (Lower level)	2f
	10:45-11:00 am	Vincent Noël	Oral Presentation	A critical look at colloid generation, stability, and transport in redox-dynamic environments: a pilot study in mountain watershed (CO)	Williford AB (3rd floor)	10l
	11:00-11:15 am	Brandy Stewart	Oral Presentation	Separation and Characterization of Colloids from an Alpine Floodplain	Williford AB (3rd floor)	10l
	4:00-4:15 pm	Matthew Marcus	Oral Presentation	STXM studies of samples from Asteroid Bennu	Salon A2 (Lower level)	1c
	4:45-5:00 pm	Benjamin Maki	Oral Presentation	Assessing Inadvertent Trace Metal Mobilization During Distributed Stormwater Collection - Managed Aquifer Recharge: The Influence of Alternating Anoxic-Oxic Cycling and Carbon Availability	Williford AB (3rd floor)	10l