



Pre-IRESS Workshop on Whole Earth Evolution

Glasscock School of Continuing Studies
The Anderson-Clarke Center
Rice University, Houston, TX

All talks will be in room 115

8:00 – Breakfast (Dean's Commons)

8:45 – 9:00 – Opening remarks: *Cin-Ty Lee*

9:00 – 10:10 – Talks (8 minutes talk + 2 minutes discussion)

9:00-9:10 - “Origin of volatile elements on Earth and other terrestrial bodies” (*Damanveer Grewal*)

9:10-9:20 – “3 great ways to melt the mantle” (*Robert Stern*)

9:20-9:30 – “Volcanic carbon and the future of volcanic gas monitoring” (*Emily Mason*)

9:30-9:40 – “The role of volcanoes in cycling of metals” (*Marie Edmonds*)

9:40-9:50 – “Mass transfer of volatiles between melt and fluid phases during nucleation” (*Sahand Hajimirza*)

9:50-10:00 – “Volatile flux through the forearc: from passive (fossil) to active systems” (*Jaime Barnes*)

10:00-10:10 – “Carbon transit in arcs” (*Jade Star Lackey*)

10:10 – 10:30 – Coffee break

10:30 – 11:20 – Talks

10:30-10:40 – “Advances in models of skarn formation and future research directions” (*Evan Ramos*)

10:40-10:50 – “The importance of continent-ocean transitions on carbon sinks” (*Cin-Ty Lee*)

10:50-11:00 – “C, O and tectonics” (*James Eguchi and Johnny Seales*)

11:00-11:10 – “Expanding our horizons: Sedimentary and volatile cycling on Mars” (*Kirsten Siebach*)

11:10-11:20 – “Deep Carbon Observatory” (*Andrea Mangum*)

11:20 – Noon – Discussion

Noon – 1:30 – Lunch break

1:30 – 2:40 – Talks

1:30-1:40 - “Microbes as gadgets: new applications of synthetic biology in Earth System Science” (*Caroline Masiello*)

1:40-1:50 – “Tracing trace element cycles” (*Mark Torres*)

1:50-2:00 – “Earth’s atmospheric composition (C and O) through the Phanerozoic” (*Daniel Breecker*)

2:00-2:10 - “Carbon cycling with insights from Zealandia” (*Jerry Dickens*)

2:10-2:20 – “Whole Earth carbon-climate aberrations: A lesson from the past” (*Richard Zeebe*)

2:20-2:30 – “Nevertheless, they persisted: understanding the resiliency of evolving landscapes” (*Emma Harris*)

2:30-2:40 – “Trace elements and U-Pb ages in terrestrial agate as indicator of paleo-hydrologic event and regional tectonics” (*Hehe Jiang*)

2:40 – 3:10 – Discussion

3:10 – 3:30 – Coffee break

3:30 – 3:50 – Research tools/Data science and infrastructure for interdisciplinary science

3:30-3:40 – “Interfaces to data in structural geology” (*Daven Quinn*)

3:40-3:50 – “TBD” (*Weidong Sun*)

3:50 – 4:30 – Discussion: Opportunities for interdisciplinary research proposal

4:30 – 5:00 – Wrap up