

1600<sup>th</sup> Draft GSW meeting minutes. 24 Apr 2024

The GSW meeting was held for the first time at Carnegie Earth and Planets Lab: Hosted by director and GSW member Michael Walter

President Dan Doctor called the meeting to order at 20:05 ET

There were 74 attendees.

The meeting began with the approval of the minutes from the previous meeting (1599<sup>th</sup>). Those minutes had been posted online and a Minute's Minute was read aloud. No corrections were noted, and the minutes were accepted as read.

There were three new members. They were 1) James Haber (SI), 2) Amanda Rudolph (SI), and 3) Wriju Chowdhury (SI). Guests included many early career scientists of the Carnegie who had previously given posters between 18:30 and 20:00 in an adjacent atrium with gratis drinks/snacks provided by the Carnegie. There were 19 posters in all. A sampling of the poster titles included 1) FeC in planetary cores, 2) Was there life on Mars? 3) Serpentine-Olivine system, 4) Basaltic Shergottite from NW Africa, 5) Freshwater pearl nacre, 6) Tungsten isotopes in the Hawaiian plume, 7) non-traditional stable isotopes, 8) Electrical conductivity and Talc in the Cocos plate, 9) Hf-Nd in the Pilbara craton, 10) Cosmogenic nuclide lab-USGS, 11) Lunar silicic domes, 12) Seismicity in the Ross Ice Shelf, 13) Water in chondrites, 14) M7.3 2017 Iran earthquake, 15) Geologic mapping in Virginia.

Announcements: University of Maryland day at the College Park campus will be held this coming Saturday. All are welcome.

All three speakers from the evening's formal program were early career scientists from the Carnegie Earth and Planets Laboratory

Talk 1: Emmanuel Codillo (Carnegie)

Title: Tracking Carbon-rich magmas in the upper mantle using electrical conductivity

Bio: An experimental petrologist and geochemist.

Summary: Noting the carbon inequality in the subduction zone, Dr. Codillo and others have speculated that some may have ended up in the mantle or core. Experimental approach used a diamond anvil and associated hardware in Dr. A. Pommier's Lab at Carnegie.

20 minutes

Questions were asked by G. Helz (UMD), Megan Newcastle (UMD), Y Martos (GSFC), M. Huang (UMD), V. Lekic (UMD), and K. McLaughlan (Leidos, retired).

Talk 2: Vasilije Dobrosavljevic, Carnegie

Title: Probing Materials at Earth's enigmatic core-mantle boundary landscape

Bio: Yale to Caltech to Carnegie.

Summary: Motivated by a map of the core-mantle boundary B. Romanowicz and student that was published in 2020. Ultra-low velocity zones at the base of mantle plumes may be enriched in iron-rich oxides whereas the bulk of the lower mantle may be enriched in MgO compounds.

20 minutes

Questions were asked by Frank Rossi (Science Magazine), Dave Bodish (GSFC), Laurie Lyrr (UMD), Wriju Chowdhury (SI).

Talk 3: Jennifer Kasbohm, Carnegie (newly minted staff scientist)

Title: Calibrating timescales and measuring pCO<sub>2</sub> to test the role of Columbia River Basalt volcanism (LIP) in the Miocene Climate Optimum

Bio: Yale to Princeton to Yale

Summary: Using U/Pb & Zircon geochronology, and the LIP lore, Dr. Kasbohm tested the novel theory and found it (mostly) wanting. Dr. Kasbohm et al in 2021 wrote an invited review for an AGU Geophysical monograph on the question: Is Large Igneous Province emplacement always to blame? The topics follow up V. Courtillot and P. Renne's ideas from ~2001.

20 minutes

Questions were asked by L. Cotrell (SI), G. Helz (UMD), M. Ackerson (SI), G.Lederer (USGS), M. Weber (U Bonn), V. Lekic (UMD), and M. Huang (UMD)

The meeting was adjourned at 21:50 ET. The next meeting will be held at Cosmos Club on May 8 with speakers E. Moore (USGS), R. Rudnick (UCSB), A. Wallace (Delaware)