Minutes for the 1614th meeting of the Geological Society of Washington

Cosmos Club, John Wesley Powell Auditorium

October 29th, 2025

President Ved Lekić called the meeting to order at 20:06 EST.

Attendance

There were 58 attendees in person and 9 participants online.

Minutes

The meeting began with the reading and approval of the minutes from the previous meeting, the 1613th meeting, which was held on Oct 1st.

Guests and New Members

Seven guests were announced, visiting from the UMD, Carnegie, and JHU. Two new members were announced: Bruce Baganz and Lynn Wardell.

Obituaries

None.

Announcements

President Lekić announced that the next GSW meeting will be held on November 12th at Carnegie Earth and Planets Laboratory and will be preceded by a poster session.

Informal Communications

An audience member shared that the Maine Mineral and Gem Museum has an opportunity for research on a meteorite.

Formal Program - Annual Bradley Lecture

The formal program commenced at 20:24 EST. Barbara Romanowicz (University of California, Berkeley; Collège de France, Paris) delivered the Annual Bradley Lecture, titled "From Hotspots to Mantle Plumes: Insights on Deep Mantle Plumbing and Dynamics from Global Seismic Imaging." Romanowicz discussed advances in global seismic imaging and their implications for understanding mantle plumes and deep Earth structure. She emphasized the need for higher‑resolution imaging to detect plumes and other fine‑scale mantle features. Traditional tomography, which relies on first-arriving seismic waves, provides limited depth and lateral resolution. Incorporating full-waveform tomography and spectral-element methods can significantly improve imaging, particularly for low-velocity, small-scale structures. She highlighted that the LLSVPs (large low shear velocity provinces) are not monolithic piles but internally complex regions. Distinct isotopic compositions in Pacific plume sources support this interpretation. Romanowicz noted that these deep structures may represent bundles of individual mantle plumes and that refining resolution at depth is critical to unraveling their geometry, origin, and evolution.

Nine questions were asked by: Kevin Wong (Carnegie), Liz Cottrell (Smithsonian, furloughed*), Graham Lederer (USGS, furloughed*), Will Frazer (Carnegie), Colin Jackson (DOE, furloughed*), Jonathan Tucker (National Academies), Mong-Han Huang (UMD), Karen Pearson ("almost unaffiliated"), and Dan Doctor (USGS, furloughed*). Topics discussed included the applicability of these findings to settings such as the East African Rift and the Hawaii plume; the complexity of plume bifurcation and rejoining; connections to the slab graveyard concept; the longevity of plumes and what occurs when they cease activity; relationships between plume dynamics and upper-mantle complexity; future directions for improving seismic coverage in the coming decade; and the potential to leverage fiber-optic technology to enhance resolution and coverage.

**Furloughed members attended and participated in a personal capacity, not as representatives of their institutions.*

President Lekić adjourned the meeting at 21:52 EST.

Submitted by Jessie Bersson (Smithsonian, surprisingly not furloughed), GSW meeting secretary