

Draft Minutes for the 1611th meeting of the Geological Society of Washington
Cosmos Club, John Wesley Powell Auditorium
May 14th, 2025

President Ved Lekić called the meeting to order at 20:07 EST.

Attendance

There were 29 attendees.

Minutes

The meeting began with the reading and approval of the minutes from the previous meeting, the 1610th meeting, which was held on April 30th.

Guests and New Members

One guest was announced, visiting from the Smithsonian. One new member was announced: Andrew Steele (Carnegie).

Obituaries

The passing of Bevan French (NASA, with affiliations to several local institutions) was announced. A request was made for someone to deliver a proper remembrance at the next meeting.

Announcements

President Ved Lekić made two announcements. First, the Spring GSW Field Trip will take place on Saturday, June 14th at Rock Creek Park, led by Callan Bentley (Piedmont Virginia Community College). The event will run from approximately 8:00 to 11:00-ish AM. Second, he reiterated the upcoming AGU Day of Action on Capitol Hill, taking place on June 3rd and 4th.

Informal Communication

None.

Formal Program

The formal program commenced at 20:14 EST and consisted of three speakers: Ioan Lascu (Smithsonian NMNH), Cecelia Sanders (Smithsonian NMNH), and Daniel Segessenman (George Mason University). The theme of the formal program was Ancient Earth.

1st formal talk: Ioan Lascu presented, “Magnetofossils: Relicts of Deep Time?” Ioan presented research on the search for magnetofossils predating the Late Cretaceous, which marks the oldest robust record of magnetofossils.. His work focused on signatures preserved in the Gunflint Chert. Magnetic signals were detected in bulk rock FORC (First Order Reversal Curve) diagrams, though their source was initially unclear. Ioan shared 3D tomography of Fe-rich layers in the chert, revealing interacting magnetite nanoparticles that likely produce the observed magnetic signature. *Talk length: 20 minutes.*

Eight questions were asked by: Mike Purucker (NASA), Mike Ackerson (Smithsonian), Ved Lekić (UMD), Cecelia Sanders (Smithsonian), Dave (Towson University), James (George Mason University), Bobbi (George Mason University), and Vic (*unknown institution*). Topics included ancient bacterial biosignatures, the role of uniformitarianism in interpreting early life, fossil preservation potential, magnetic field strength, and molecular clocks.

2nd formal talk: Cecelia Sanders presented, “Relating Paleoecology and Phosphorite Formation across Deep Time.” Cecelia discussed the underexplored diversity of phosphorite deposits, focusing on their classification and characterization. Her approach combined textural analysis using microscopy with chemical analysis, employing both non-destructive techniques (Raman and fluorescence spectroscopy) and destructive methods (mass spectrometry). She illustrated her research with exceptional graphics, including original artwork. *Talk length: 24 minutes.*

Six questions were asked by: Anne Pommier (Carnegie), Mike Ackerson (Smithsonian), Sajjad Akam (Smithsonian), Kuan-Yu Lin (Smithsonian), Mike Purucker (NASA), and *unknown name*. Questions addressed Raman spectral interpretations, REE anomalies, the distinction between authigenic and early diagenetic origins, and phosphate deposits near Aurora, NC.

3rd formal talk: Daniel Segessenman presented, “Geology’s Greatest Hits: The North American Rock Record Remastered.” Daniel used a musical analogy to explore the rock record through a digital lens, leveraging the Macrostrat data platform to investigate spatial and compositional trends. He emphasized the interpretive power of compiled geologic datasets and shared insights on the Ediacaran using this approach. *Talk length: 24 minutes.*

Four questions were asked by: Bobbi (George Mason University), Mike Ackerson (Smithsonian), Sajjad Akam (Smithsonian), and Kuan-Yu Lin (Smithsonian). Questions touched on use of this approach as a standard for referencing, connections to detrital zircons in the Ediacaran, and approaches to age dating across different rock types.

President Lekić adjourned the meeting at 22:03 EST.

Submitted by Jessie Bersson (Smithsonian), GSW meeting secretary