The Clay Minerals Society

www.clays.org

THE PRESIDENT'S CORNER

Dear CMS community,

I would like to invite your efforts to expand the scope of our Society to a wider range of clay-related questions. Historically, the CMS has had strong connections to fundamental science in soil mineralogy and petroleum geology. In the last few decades, additional themes have emerged—and have been increasingly highlighted at the CMS annual meeting—including the role of clays and clay minerals in materials science, soil redox properties, contaminant fate and transport, human health, isotopic geochemistry, and space exploration.

Clays and clay minerals play important roles in many other areas worthy of additional exposure at our annual meeting and in our journal. These include, for example, studies of clays in soil mechanics (including their important role in erosion and debris flows), their uses in construction (for example, in geopolymers or in 3-D printed clays casts), their role in sustainable subsurface energy systems (e.g., enhanced geothermal systems), and their importance in mineral dust aerosols, in the preservation of DNA and other biomarkers in sediments, in the transport properties and mechanics of faults, and in the dynamics of soil carbon. In all these areas, and others not listed above, detailed understanding of clay minerals pioneered by CMS members plays an important role in guiding scientific advances.

For those of us whose work encompasses areas of clay science that remain under-represented within the CMS, I invite you to take advantage of opportunities to expand the scope of our Society. Possible ways to do this include inviting colleagues to join the CMS, convening a session at our annual meeting to highlight themes that are less frequently represented, or assembling a special issue of *Clays and Clay Minerals*. If interested, please reach out to me or to others within the CMS Executive Committee.

Warm regards,

Ian C. Bourg, CMS President

CMS STUDENT RESEARCH AWARD 2024 SPOTLIGHT

Among the five recipients of the 2024 Student Research Grant, we featured **Faisal Gread** in the October issue. This month, we highlight **Amber Yu** from the University of Alberta, Canada, and **Oluwaseye Oyetade** from Texas Tech University, USA. **Hector Garza** from the University of Texas at Austin, USA and **Chiawei Lin** from Texas A&M University, USA will be spotlighted on our next issue.

Amber Jie Yu's research focuses on using nitrogen isotopes to reconstruct nitrogen cycling and Earth surface environments in deep time. Her CMS research grant will support her in conducting laboratory experiments to investigate nitrogen isotope fractionation during ammonium adsorption onto clay minerals under varied environmental conditions. This nitrogen isotope fractionation is pivotal for interpreting nitrogen data preserved in clay minerals. These data will then be used in quantitative modeling of ammonium content and isotopic data of Archean clay-bearing pillow lava samples to reconstruct the ammonium signature in Earth's early oceans. The results are expected to provide new insights into the paleoenvironments in the early oceans.

Oluwaseye Peter Oyetade's research focuses on understanding hydrothermal chlorite and its trace-element retention capabilities. His study aims to explain the nature of the rare earth element (REE)-chlorite association, examining whether the REE are present as adsorbates, structurally integrated, or a combination of both. His research will also provide insights into the mechanisms involved in the recovery of REE hosted by chlorite. Finally, his study will contribute to a scientific understanding of the impact of chlorite's charge distribution, mineral chemistry, polytypes, particle size, microtexture, and cation exchange capacity (CEC) on REE fractionation in hydrothermal environments.

IMPORTANT ANNOUNCEMENT

The Awards Committee of CMS is soliciting nominations for the Marilyn and Sturges W. Bailey, Marion L. and Chrystie M. Jackson Mid-career Clay Scientist, and George W. Brindley Clay Science Lecture awards for 2025.

Please consider nominating one of your colleagues and/or sharing this invitation with others. Additional information can be found at the following websites.

- https://www.clays.org/awards_bailey_award/
- https://www.clays.org/awards_jackson_award/
- https://www.clays.org/awards_brindley_lecture/

Also, keep an eye on our website for the student research grant and travel grant application deadlines.

PAPER ALERT: CLAYS AND CLAY MINERALS

1. Microscopic observations of smectite cation exchange in the absence of free water: implications for the evolution of Mars sediments, by Geyer et al.
2. Smectite–brine–CO_2 interactions: effects of interlayer chemistry, brine concentration, CO_2 pressure, and temperature, by Benavides and Guggenheim.
3. Physico-chemical properties and microstructure of bentonite in highly alkaline environments, by Harrou et al.
4. Kinetics of Mg-Ni saponite crystallization from precursor mixtures, by Zhang et al.

Read these and the other latest papers in https://www.cambridge.org/core/journals/clays-and-clay-minerals

SAVE THE DATE!

INTERNATIONAL CLAY CONFERENCES
aipea

XVIII ICC
Dublin, Ireland
13-18 JULY 2025

JOIN CMS

Join us with new types of membership! Please visit www.clays.org or contact the Business Office at cms@clays.org.