CHEMISTRY DEPARTMENT SEMINAR

Natural Clay Ceramics for the Abatement of Uranyl in Aqueous Environments

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Postdoctoral Research
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Host: Gayan Rubasinghege, PhD

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Lopez 106

Abstract

Access to potable water is becoming increasingly difficult for many communities around the world. Uranium-contaminated drinking water is of growing concern due to its heavy metal toxicity and association with negative impacts on human health. Modern water purification techniques are inappropriate for resource-restricted communities, and there is a need for the development of alternative solutions. Clay is a reasonable alternative due to its abundance, availability, and well-documented capability to remove heavy metal cations from aqueous systems. Clay has not been fully realized to produce potable water due to the difficulty in managing muddy suspensions. Transforming natural clay into a low-fired ceramic mitigates the manageability issues and maintains the clay's ability to sequester uranium from aqueous environments.

Bio

Dr. Jeremy Jones received his Ph.D. from New Mexico State University (NMSU) in chemistry with a focus on analytical chemistry, under the mentorship of Dr. Antonio Lara. While under the tutelage of Dr. Lara, he studied clay's natural ability to sequester uranyl form aqueous systems and clay's transformation from a powder to a semi-ceramic material. Currently, he is a postdoctoral researcher for Dr. Cory Windorff at NMSU where they are interested in making precise measurements on salt volatility in air and water-free environments. Dr. Jones's research interests are in the use of clay and clay minerals for pollution mitigation and removal. He is also interested in green energy and nuclear waste containment and recycling.