



## GEOLOGY LECTURE: MUD &#38; BUGS UNDER STRESS: COMPRESSION OF MARINE SEDIMENTS BENEATH THE SEAFLOOR

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### Body

COOS BAY, Ore., March 27 -- Southwestern Oregon Community College issued the following news release:

Southwestern's geology lecture series continues when Dr. Julia Reece comes to SWOCC on Saturday, April 13, 2019 at 7:00 pm. Dr. Reece will present a lecture on "Mud &#38; Bugs Under Stress: Compression of Marine Sediments Beneath the Seafloor". Dr. Julia Reece is an Assistant Professor in the College of Geosciences at Texas A &#38; M University where she studies the hydromechanical behavior of marine sediments. Dr. Reece earned her B.S. and M.S. from the University of Bremen, Germany and Ph.D. from University of Texas at Austin. She held post-doctoral positions at the **Bureau of Economic Geology** at the University of Texas and at Stanford University. Dr. Reece comes to Coos Bay as an Ocean Discovery Lecturer as part of the U.S. Science Support Program.

Fine-grained sediments such as mudstones are the most common sedimentary rocks preserved close to Earth's surface. Mudstones are very susceptible to developing significant amounts of overpressure because their low permeability and high compressibility prevent pore fluids from draining. This can result in seepage, submarine landslides, or damage to offshore infrastructure. Additionally, mudrocks are fundamentally important as source, seal, and shale gas/oil reservoirs in petroleum systems or as seals for anthropogenic-related storage. In spite of the importance of mudstones to significant hazards and industry endeavors, a systematic, process-based understanding of the controls on hydromechanical properties in mudstones remains elusive. To study these questions Dr. Reece fabricates mudstones in her laboratory from natural, marine sediments, acquired through the International Ocean Discovery Program and its predecessors, using a technique called resedimentation. Resedimentation simulates the natural process of deposition and shallow burial under controlled conditions, is repeatable, and eliminates the problem of coring disturbance associated with testing on intact cores. Therefore, resedimentation is an ideal method for the study of fundamental mechanical behavior of marine sediments. In combination with microscale imaging techniques it also reveals how porosity, permeability, and fabric evolve with burial. Dr. Reece particularly focuses on the interactions between fine-grained detrital particles, microorganisms, microfossils, and pore fluid and their roles in early diagenesis. Here, Dr. Reece will present results from investigations of early chemical and physical diagenesis using mudstones from the Gulf of Mexico (IODP Expedition 308) and offshore Japan (IODP Expedition 322).

Geology Lecture Series talks are free and are held in the Hales Center for the Performing Arts on Southwestern's Coos Campus, 1988 Newmark Ave., Coos Bay. For those not able to attend in person, this lecture will be Livestreamed and archived, with access from the College's web site at <https://livestream.com/SWOCC/geology2018-19>. The final talk in the series for this academic year will be Dr. Stephen Palumbi (Stanford) on extreme life in the sea on May 17, 2019. Lecture series sponsors include DB Western, The Mill Casino, the Southwestern Foundation and the College, IRIS/SSA and the Ocean Discovery Program.

For additional information, please contact Ron Metzger at 541-888-7216. For any query with respect to this article or any other content requirement, please contact Editor at [contentservices@htlive.com](mailto:contentservices@htlive.com)

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