SEPM Research Symposium: Addressing the Three-Dimensionality of the Stratigraphic Record: Implications for Sequence Stratigraphy

Day: Wednesday
Times: 8:00 am–11:50 am and 1:15 pm–3:00 pm
Location: Virtual – Attendees must be registered for the ACE meeting to attend
Co-Chairs: Ashley Harris, Andrew Madof, Wen Lin, Victorien Paumard, and Jinyu Zhang

Although the geometric complexity of the stratigraphic record has long-been noted, until recently, models have not existed to adequately address the three-dimensionality of the subsurface. This SEPM research symposium is aimed at directly addressing three-dimensional stratigraphic variability, particularly in the context of better characterizing sedimentary basins and hydrocarbon systems, and better understanding allogenic and autogenic controls on this variability. The symposium will include a diverse set of topics, and draw from outcrop, core, well-log, and seismic data, as well as from experimental studies, both physical and numerical.

- 8:05 am – **John Holbrook:** The Diachronous Sequence
- 8:45 am – **Christopher Fielding:** Sequence Stratigraphy of Late Paleozoic Cyclothems; A Signal of Sediment Undersupply, Large-Magnitude Sea-Level Changes and Low Accommodation
- 1:20 pm – **Charles Kerans:** Temporal and Lateral Variability in Permian Shelf to Basin Systems of the Permian Basin
- 2:00 pm – **Tetsuji Muto**: Recent Progress in Autostratigraphy: Autogenic Grade in the Context of Shelf Growth

SEPM Featured Speaker: Tackling the Challenge of an Imperfect Stratigraphic Record

Day: Wednesday
Time: 12:15 pm–1:00 pm
Speaker: Dr. Kyle Straub, Associate Professor, Tulane University

Climate, tectonics, and life influence the flux and caliber of sediment transported across Earth's surface. These environmental conditions can leave behind imprints in the Earth's sedimentary archive, but signals of climate, tectonic, and biologic change are not always present in the stratigraphic record. Environmental signals can be transformed by sediment transport through channels and the landscapes that surround them. This transformation impedes the burial and preservation of environmental signals in sedimentary deposits. Such impediments form a central challenge to accurately reconstructing environmental conditions through Earth's history. In this talk I detail how emergent and self-organized patterns and processes in landscapes fundamentally control the likelihood of environmental signal preservation in sedimentary deposits. I highlight recent theoretical developments that allow us to model environmental signal propagation through landscapes and to estimate signal distortion or destruction during the burial process. Properly characterizing these signal distortion processes provide a key avenue for incorporating the known "imperfections" of the stratigraphic record into paleoenvironmental reconstructions

Dr. Kyle Straub joined the faculty of Tulane University in 2009 and is an Associate Professor in their Department of Earth and Environmental Sciences and head of their Sediment Dynamics and Stratigraphy Lab. Kyle's research focuses on the transport of sediment from land through the ocean and into the stratigraphic record. Scales of interest range from the interaction of turbidity currents with channel bends over minutes to the construction and preservation of deltas over millions of years. The sedimentary bodies that arise from these processes are home to millions of people, archives of past Earth conditions, and reservoirs of natural resources. Kyle examines the morphodynamics of these systems using a combination of remote sensing of subsurface sedimentary deposits (visualization and interpretation of seismic data), carefully designed laboratory experiments, field studies of modern and ancient sediment transport systems, and targeted numerical analysis and modeling. He is a past recipient of SEPM's James Lee Wilson Young Scientist Award and holds degrees from The Pennsylvania State University (BS) and The Massachusetts Institute of Technology (PhD).

SEPM President's Awards Ceremony

Day: Wednesday, 7 October 2020
Time: 2:00 pm–3:00 pm
Location: Virtual Session - Attendees do not have to be registered for ACE to attend

SEPM President Michael Blum invites you to an evening of celebration to honor the 2020 award winners of SEPM – Society for Sedimentary Geology – and a great event to network and visit with colleagues old and new. The Twenhofel Medal, the highest award of SEPM given in recognition of a career of outstanding contributions to sedimentary geology, will be presented to Philip Allen. SEPM Honorary Membership, given for both scientific contributions and service to the society, will be awarded to Norman Rosen. The other science award recipients are Miriam Katz, who will receive the Francis P. Shepard Medal in recognition of excellence in marine geology; Mary Droser the Raymond C. Moore Medal in recognition of excellence in paleontology; Gail Ashley, the Pettijohn Medal for excellence in sedimentology & stratigraphy; Lida Xing, the Wilson Award for excellence in sedimentary geology by an early career geoscientist and the William Dickinson Medal for mid-career impact on sedimentary geology going to Carmala Garizone.

SEPM Research Group Meetings

Day: TBA
Time: 5:00 pm–8:00 pm
Location: Virtual Events – Attendees to not have to registered for ACE to attend but must register via GoToWebinar links

Research Group Plans

- See (www.sepm.org/SEPM-Annual-Meeting) for the latest updates.
- Carbonates RG: Tuesday, 29 September 2020, 5:00pm–8:00 pm (www.sepm.org/Carbonates)
- Clastic Diagenesis RG: Wednesday, 30 September 2020, 5:00pm–8:00 pm – (www.sepm.org/Clastic-Diagenesis)
- Deepwater Deposition RG: TBD
- Micropaleo/NAMS RG: TBD