



# San Joaquin Geological Society

**Date:** Tuesday, December 12, 2017

**Time:** 6:00 PM Social Hour  
7:00 PM Dinner  
8:00 PM Lecture

**Place:** Eagles Lodge  
1718 17<sup>th</sup> Street, Bakersfield, CA 93302

**PSAAPG Members**  
\$25 with reservation  
\$30 without reservation

**Non PSAAPG Members**  
\$30 with reservation

**Full-time Students with ID:**  
\$10 - Courtesy of  
California Resources Corporation

**\* RSVP \***

**By: noon Monday,  
December 11, 2017**

Register online:  
<http://www.SanJoaquinGeologicalSociety.org/>

Pay online or at the door

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<http://www.SanJoaquinGeologicalSociety.org/>

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## Applying scaling relationships to enable better reservoir prediction in submarine depositional systems: Bridging the gap between geomorphology and the stratigraphic record

Presented by: Zane Jobe, Colorado School of Mines

**Abstract:** Submarine depositional systems are an integral segment of source-to-sink sediment-routing systems and host large reserves of hydrocarbons. The linkages between modern geomorphic seascapes and the complexity of the stratigraphic record are, however, sometimes unclear. My research focuses on the intersection between geomorphology and the stratigraphic record, and using one to understand the other. In order to enable more accurate hydrocarbon reservoir prediction, we must understand how depositional processes sculpt the geomorphic seafloor into stratigraphic architecture. Scaling relationships are used to predict the absolute scale and spatial distribution of reservoir-forming elements (i.e., channels or lobes). In particular, the spatial arrangement and evolution (i.e., the kinematics) of reservoir forming elements and barriers to flow are not only critical for successful field development, but also help to constrain the formative depositional processes. While these relationships are well-known for river systems, the scaling and kinematics of submarine depositional systems are still poorly understood. I will present new work that helps constrain the scaling relationships and kinematics for (1) submarine channels and (2) between submarine channels and the lobes/fans that they construct. This methodology links stratigraphic architecture and scaling relationships in a source-to-sink framework, leading to a more holistic understanding of submarine depositional systems and has tremendous power for hydrocarbon reservoir prediction.

**Biography:** Zane Jobe is a research professor at Colorado School of Mines and the Director of the Chevron Center of Research Excellence (CoRE). Prior to Mines, Zane spent 6 years in the Clastics Research Team at Shell Oil Company. His research interests aim to better understand the stratigraphic architecture, scaling relationships, and sediment budgets for sedimentary systems, with an emphasis on submarine environments. He also enjoys cycling and hunting and thinks that copious amounts of yard work can be cathartic. Zane received a B.S. in Geology from the University of Texas at Arlington in 2004, and a Ph.D. in Geology from Stanford University in 2010 (advisor - Don Lowe).

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