# Wolfcampian Shelf-to-Basin Stratigraphic Framework of the Central Basin Platform and Midland Basin, Andrews County, Texas

**Cody Draper**[1]
[1]University of Texas at Austin, Stratigraphy, Austin, TX USA
cody.draper@utexas.edu

## ABSTRACT

The Lower Permian (Wolfcampian) is an exploration and production target on the Central Basin Platform, its eastern Slope, and in the Midland Basin. Shelf-to-basin stratigraphic frameworks can aid in understanding basinal trends by delineating the timing and mechanisms of sediment bypass and accumulation across the slope. However, efforts at correlating the stratigraphy between the platform, slope, and basin have been frustrated by ambiguous stratigraphic boundaries and the complexity of the slope. This project aims to understand the platform stratal architecture during peak icehouse as well as the link between sequence patterns and deposition on the slope and in the basin by utilizing 500 mi2 of high-resolution 3D seismic data, well-logs, core lithofacies data and fusulinid biostratigraphic data from North Cowden, Midland Farms, and Mabee fields. Detailed facies and stratigraphic analysis of cores from the Wolfcamp platform and slope strata will provide critical understanding of lithofacies, cyclicity, and larger sequence-scale facies organization. Fusilinid biostratigraphic data provided by Dr. Greg Wahlman are available to the project and will be used to constrain the timing of sequence development and key phases of shelf-to-basin shedding of reservoir-quality allochthonous carbonates. This core-based framework will be extended using wireline log and seismic integration, leading to a well-constrained shelf-to-basin model that is much needed for the Wolfcampian. The developed stratigraphic model will answer questions about the evolution and development of the eastern slope of the Central Basin Platform from the end of the Pennsylvanian through the Wolfcampian as well as an improved understanding of syndepositional tectonics that control sweet spots in hydrocarbon production.

AAPG Search and Discovery Article #90321  2018 Grants-in-Aid Projects