

Cole M. Speed

Bureau of Economic Geology
The University of Texas at Austin

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EDUCATION

The University of Texas at Austin

Ph.D., Geological Sciences

May 2023 (Expected)

Research focus: Remote sensing and planetary surface processes

Co-Supervisors: Dr. Zoltan Sylvester, Dr. David Mohrig

Cumulative GPA: 4.00/4.00

B.S., Geophysics (with High Honors)

May 2017

Honors Thesis Title: *High-resolution seismic stratigraphic analysis of the East Texas*

Inner-continental shelf offshore the Brazos River, Texas

Supervisor: Dr. Sean Gulick

Cumulative GPA: 3.73/4.00

Energy Management Program Certificate, McCombs School of Business

May 2017

RELEVANT GEOSCIENCE COURSEWORK

Applied Geocomputation, Python in Geoscience Research, Intro. Remote Sensing for Geoscientists, Scientific Programming (C++/Fortran), Scientific/Technical Computing, Machine Learning Applications, Scientific Computing, High Performance Computational Engineering

TEACHING EXPERIENCE

Introduction to Remote Sensing for Geoscientists

Spring 2022

GIS/GPS Applications in Earth Sciences

Fall 2021

GIS/GPS Applications in Earth Sciences

Fall 2020

Sedimentary Rocks

Fall 2019

PROFESSIONAL AND RESEARCH EXPERIENCE

Earth Science Intern

Chevron, GOMBU, Exploration & Appraisal, Houston, TX

June 2021 – Aug. 2021

- Identified and characterized resource and potential of two prospects in the deepwater Gulf of Mexico
- Worked with SMEs to analyze reservoir, seal, and charge and constructed risk profiles for prospects
- Develop scoping-level economics for prospects and provided final recommendation to exploration team

Earth Science Intern

June 2020 – Aug. 2021

Chevron, GOMBU, G&G Operations - NOJV Wells, Covington, LA

- Constructed structural and petrophysical models of key fields across the U.S. Perdido Fold Belt in the Alaminos Canyon protraction area, Gulf of Mexico, using 3-D seismic and petrophysical log data
- Performed model refinement and quality control using blind well test to ensure model accuracy for petrophysical property prediction
- Applied model results to generate pore pressure and fracture gradient curves to support current and upcoming well planning and drilling

Imperial Barrel Award Participant (2nd Place Team in Gulf Coast Conference)

Jan. – Mar. 2019

The Woodlands, TX

- Developed a hydrocarbon exploration portfolio for both the shelf and deep-water Taranaki Basin, NZ
- Collaborated with team members to synthesize seismic, well log, and geochemical data, identify play-types and prospects, finalize and risk volumetrics, and develop a drilling recommendation
- Specific contributions included seismic reflection data interpretation, seismic-well ties, time-depth conversion, and volumetric calculations

Geophysical Intern

May 2017 – Aug. 2017

EOG Resources, San Antonio, TX

- Integrated 3D seismic data, well logs, and seismic inversion products to characterize the morphology, distribution, and lithologic properties of key subsurface formations across acreage
- Performed statistical analysis of fracture parameters and well performance in the Eagle Ford Fm., TX
- Combined geophysical characterization with well performance data to identify future drilling locations

Undergraduate Research Assistant (Senior Honors Thesis Research)

Nov. 2015 – May 2017

University of Texas Institute for Geophysics, Dr. Sean Gulick

- Interpreted high-resolution 2-D multi-channel seismic reflection and CHIRP data using Landmark DecisionSpace software to investigate fluvial and marine processes on the Texas continental shelf throughout the Pleistocene and Holocene

Summer Student Researcher

June 2016 – July 2016

Summer of Applied Geophysical Experience (SAGE) REU, Santa Fe, NM

- Acquired and analyzed seismic reflection/refraction, magnetotelluric, gravity, and EM data in the Española Basin and Jemez Caldera, New Mexico to better constrain crustal structure

Undergraduate Research Assistant

Dec. 2014 – May 2016

University of Texas Institute for Geophysics, Gulf Basin Depositional Synthesis (GBDS) Project

- Editing, geo-referencing, and digitizing in the construction of map products in ArcGIS
- Digitizing raster well log data to LAS format using Neuralog software

SOFTWARE AND TECHNICAL SKILLS

- Python 3 (Intermediate-Advanced), ArcGIS (Advanced), ENVI (Intermediate), C++ (Novice)

PEER-REVIEWED PUBLICATIONS

Speed, C.M., Sylvester, Z., Morris, P. (In prep). Styles of cutoff-related channel migration and depositional patterns in meandering rivers: Examples from the Trinity River, Texas. *GSL Special Publ.*

Speed, C.M., Sylvester, Z., Flaig, P.P., Durkin, P.R., Goudge, T.A. (In prep). Recognition, Characterization, and Interpretation of a River Avulsion Node in the Cretaceous Cedar Mountain Formation, Utah, USA: Implications for Stratigraphic Preservation of Avulsion Processes

Speed, C.M., Swartz, J.M., Gulick, S.P.S., Goff, J.A., (2022) Seismic expression and stratigraphic preservation of a coastal plain fluvial channel belt and floodplain channels on the Gulf of Mexico inner continental shelf. *Sedimentology*. (In Revision)

PRESENTATIONS

Speed, C.M., Sylvester, Z. Flaig, P.P, Durkin, P.R., Goudge, T.A., Relating the Geomorphology and Stratigraphy of an Ancient Fluvial Avulsion Node: An example from the Cretaceous Cedar Mountain Formation, Eastern Utah, USA, SEPM ISGC Meeting, 2020 (Postponed).

Speed, C.M., Sylvester, Z. Flaig, P.P, Durkin, P., Cardenas, B.T., Goudge, T.A., Stratigraphic Architecture of Exhumed Fluvial Channel-belts: Anatomy of an Avulsion, AAPG ACE Annual Meeting, 2019.

Speed, C.M., Swartz, J.M., Gulick, S.P.S, Goff J.A., New Insights into Valley Formation and Preservation: Geophysical Imaging of the Offshore Trinity River Paleovalley, Session #EP33A, AGU, 2017.

FIELD EXPERIENCE

- Stratigraphic section mapping and surveying in the Cedar Mountain Fm., Utah 10/18
- Shallow marine and continental slope sedimentary systems, Cape Arago, Oregon 10/18
- Geophysical surveying in the Valles Caldera, Northern New Mexico 07/16
- Marine Geology and Geophysics (MG&G) field course, R/V Manta 06/16

LEADERSHIP

President, American Assoc. of Petroleum Geologists, UT-Austin Chapter	2018 – 2020
Treasurer, Society of Exploration Geophysicists, UT-Austin Chapter	2016 – 2017

HONORS AND AWARDS

AAPG Outstanding Section Student Chapter Award as President (2018-Present)	2020
Imperial Barrel Award, Gulf Coast Conference Finalist (2 nd Place)	2019
Jackson School Research Symposium 2nd Place Best Poster Award	2019
Jackson School Undergraduate Honors Research Program	2015 – 2017
Chevron Energy Management Program Scholarship	2016

RESEARCH GRANTS

Graduate Student Seed Grant, National Center for Airborne Laser Mapping	Mar. 2019
The Institut Français du Pétrole Grant, AAPG Grants-in-Aid	Feb. 2019

SHORT COURSES

• Salt and Extensional Tectonics in the Paradox Basin, Dr. Michael Hudec	Sept. 8-13, 2019
• Deep-water Depositional Environments: Processes and Products, SEPM	May 17-19, 2019
• Petroleum System Analysis and Exploration Short Course, Dr. Fred Schroeder	Feb. 16, 2019
• Petrel E&P Software, Basic and Advanced Courses, Schlumberger	Apr. 19, 2018