

Tuo Zhang

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OBJECTIVE

Seeking a summer internship focusing on geoscience in 2017

EDUCATION

Rice University, Houston, TX Expected 12/2017

Ph.D. Candidate in Geophysics GPA: 3.88/4.0

Advisor: Richard. G. Gordon (Keck Professor of Geophysics, former Dean of Department of Earth Science)

Thesis: Oblique seafloor spreading and structural modeling of oceanic crust.

Peking University, Beijing, China 07/2012

B. S. in Geology, with distinction (top 3%) GPA: 3.63/4.0

PROFESSIONAL EXPERIENCE

Shell, *Summer Intern*, Houston, TX 05/2015 - 08/2015

- Utilized GeoSigns nDI to interpret faults and seismic horizons in Gulf of Mexico.
- Investigated the imprints of different seismic acquisition and processing methods on amplitude and position of seismic reflectors using ray tracing methods.
- Proposed a new workflow for subsalt seismic illumination and interpretation, helped reduce 50% of the cost.
- Analyzed seismic attributes of fractured carbonate reservoirs in Gulf of Mexico.

Schlumberger, *Summer Intern*, Houston, TX 05/2014 - 08/2014

- Developed new algorithms for 1D Multiple Modeling Petrel plug-in, a ray tracing based method that models seismic multiple reflections. Improved the efficiency of the plugin by 400% and helped reduce \$1M operating cost.
- Designed a prestack seismic data processing workflow in Petrel for 2D multiple modeling with offsets and process the seismic data based on a real well log for validation.
- Qualification and performance tests of proprietary Schlumberger toolboxes in Petrel.

PetroChina, *R&D Intern*, Beijing, P. R. China 07/2011 - 12/2011

- Collected more than 1000 paleomagnetic samples (in corporation) from Eocene and Neogene strata in Qaidam Basin and measured their magnetic anisotropy to examine rotations of the Qaidam Basin in Eocene and Neogene.
- Translated into English and published an original Chinese paper on 3-D seismic interpretation.
- Co-authored two papers on the paleomagnetism of Qaidam Basin on *Geochemistry*, *Geophysics*, *Geosystems*.

ACADEMIC EXPERIENCE

Rice University, *Research Assistant*, Houston, TX 08/2012 - Present

- Investigated oblique spreading of mid-ocean ridges by building quantitative models from paleomagnetic records. Analyzed geomechanics properties such as the stress and strain field of the oceanic lithosphere. (PhD thesis)
- Conducted structural modeling of North America and South America plate, applied thin viscous sheet models, estimated stress and strain rate, and investigated deformation of oceanic lithosphere in the diffuse plate boundaries.
- Performed structural interpretation of Snark Basin in Petrel. Identified potential prospects and determined well location.

Rice University, *Teaching Assistant*, Houston, TX 08/2012 - Present

- Mentored several junior graduate students in my research group on their own research projects.
- Trained 70 undergraduate and graduate students in *ESCI 101 General Geology* and *ESCI 558 3D Seismic Interpretation*.

COMPUTER SKILLS

- More than 4 years' experience of MATLAB programing, software development for several toolboxes.
- One year's experience of C# development in Visual Studio.

- Five years' experience of Petrel in seismic interpretation, seismic processing, and earth modeling.
- Programming Language: C#, C, Matlab, Unix Shell, Fortran
- Software: GeoSigns nDI, Petrel, Landmark, Omega, Visual Studio, GMT, Microsoft Office, CorelDraw

LADERSHIP EXPERIENCE

President, Chinese American Petroleum Association (CAPA) Rice Chapter 2015 - Present

- Led a group of 20 volunteers to help CAPA organize monthly events with a total attendance of 2000+ in 2015.
- Expanded membership of the Rice Chapter from 20 to 100 by networking events.
- Invited senior staff from the oil and gas industry to give lectures and seminars at Rice University, discussing entrepreneurship opportunities with students.

Executive Committee Member, Peking University Alumni Association 2015 - Present

- Help organize regular events and expand membership.

HONORS & AWARDS

- Dean's Fellowship for 4 consecutive years, Rice University (2013 - present, top 1%)
- Award for excellent presentation on intern project, Schlumberger (2014, top 10%)
- Sam and Helen Worden Fellowship, Rice University (2012 – 2013, top 10%)
- Geology Fellowship, Peking University (2008 - 2012, top 5%)
- Dean's Award for Excellent Academic Performance, Peking University (2009 - 2011, top 1%)
- President's Undergraduate Research Fellowship (PURF), Peking University (2010, top 1%)
- 1st Prize in National Physics Contest (2009, top 1%)
- Top 50 out of 650,000+ in College Entrance Exam (2008)
- 1st Prize in Chinese Chemistry Olympiad (2007, top 1%)

PUBLICATION

Zhang, Tuo, R. G. Gordon, "Deformation of North America – South America diffuse plate boundary: Where is the pole of relative rotation currently located?" Submitted to *Journal of Geophysical Research*.

Zhang, Tuo, R. G. Gordon, "Reexamination of the Cocos-Nazca-Pacific Plate Circuit Non-closure." Submitted to *Journal of Geophysical Research*.

Zhang, Tuo, R. G. Gordon, "Non-Orthogonality of Seafloor Spreading: A New Look at Fast Spreading Centers Building on the MORVEL Plate Motion Project." Submitted to *Tectonics*.

Yu, Xiangjiang, Suotang Fu, Shuwei Guan, Baochun Huang, Feng Cheng, Xiang Cheng, **Tuo Zhang**, and Zhaojie Guo. "Paleomagnetism of Eocene and Miocene sediments from the Qaidam basin: Implication for no integral rotation since the Eocene and a rigid Qaidam block." *Geochemistry, Geophysics, Geosystems* (2014).

Yu, Xiangjiang, Baochun Huang, Shuwei Guan, Suotang Fu, Feng Cheng, Xiang Cheng, **Tuo Zhang**, and Zhaojie Guo. "Anisotropy of magnetic susceptibility of Eocene and Miocene sediments in the Qaidam Basin, Northwest China: Implication for Cenozoic tectonic transition and depocenter migration." *Geochemistry, Geophysics, Geosystems* (2014).

RLATED COURSES

- Rice University: 3D Seismic Interpretation, Digital Signal Processing, Exploration Geophysics, Global Tectonics, Geodynamics, Seismology, Sequence Stratigraphy, Tectonophysics, Well Logging and Petrophysics.
- Schlumberger: Petrel Geophysics - Advanced, Petrel Structural Modeling, Ocean Software Development Framework Fundamentals for Petrel, and Omega Fundamentals.
- Shell: Fundamentals of GeoSigns nDI

FIELD TRIPS

- Structural geology field trip in Grand Canyon and Death Valley (7 days in NV, CO, and CA), 2016
- Rice AAPG field trip, Structure and stratigraphy evolution of Eagle Ford (4 days in TX), 2013
- Structure and stratigraphy of Pedernales Falls and Enchanted Rock (2 days in TX), 2012