Kelly Hong Liu, Professor

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1. EDUCATION

- Ph.D., 1998. Geophysics and Space Physics. Department of Earth and Space Sciences, University of California, Los Angeles (UCLA). Dissertation: Path and site effects on localized damage caused by the 1994 Northridge earthquake. Committee members: Paul Davis (Chair), William Kaula, Leon Knopoff, and John Vidale
- MS, 1993. Geophysics and Space Physics. Department of Earth and Space Sciences, UCLA. Advisor: Paul Davis
- BS, 1984. Exploration Geophysics. China University of Petroleum, P.R. China

2. WORK EXPERIENCE

09/2023-present, Head, Geology & Geophysics Program

09/2022-7/31/2023, Interim Associate Chair for Research, GGPE

09/2022-8/31/2023, Interim Head, Geology & Geophysics Program

09/2010-present, Professor, Geology and Geophysics Program, S&T

08/2006-08/2010, Associate Professor (tenured), Geology and Geophysics Program, S&T

- 2016-Present: Senior investigator, Rock Mechanics and Explosives Research Center
- 07/2005-08/2006, Associate Professor (tenured), Department of Geology, Kansas State University (K-State)
- 08/2000-06/2005, Assistant Professor, Department of Geology, K-State
- 08/1999-08/2000, Research Assistant Professor, Department of Geology, K-State
- 05/1998-08/1999, Post-doctoral Associate, Department of Terrestrial Magnetism, Carnegie Institution of Washington (CIW). Advisor: Paul Silver
- 02/1997-05/1998, Pre-doctoral Fellow, Department of Terrestrial Magnetism, CIW. Advisor: Paul Silver

09/1992-05/1998, Graduate Research Assistant, UCLA

11/1990-08/1992, Visiting Scholar, UCLA

07/1984-10/1990, Faculty of Exploration Geophysics, China University of Petroleum

3. HONORS AND AWARDS

- S&T Faculty Service Award (one of 3), 2022
- Outstanding Educator Award, Society of Exploration Geophysicists, 2021. Established in 1930, SEG is an international organization with over 14,000 members from 114 countries. Every year, SEG only selects 1 or 2 Outstanding Educator recipients.
- S&T College of Engineering and Computing Dean's Educator (one of 3), 2020

- S&T Faculty Teaching Award (one of 7), 2020
- Elected Fellow, Geological Society of America (GSA), 2017. Established in 1888, GSA is an international organization with over 22,000 members from 115 countries. Citation:
 "... has been a leader in using seismic data to determine crust and mantle structure. Especially using shear wave splitting and seismic anisotropy to determine the nature of tectonic environments."
- One of the five S&T Faculty Excellence award recipients, 2016
- S&T Outstanding Teaching Award, 2007-2008, 2015-2016; 2017-2018; 2018-2019
- S&T Mines and Metallurgy Academy Senior Faculty Award, 2016
- Elected to International Professionals for the Advancement of Chinese Earth Sciences (IPACES), 2014

4. <u>AWARDS AND HONORS RECEIVED BY STUDENTS THAT I ADVISED OR CO-</u> <u>ADVISED</u>

- Y. Liao received the Thomas Beveridge Outstanding Graduate Teaching Award from the Geology and Geophysics Program, Missouri S&T, Fall 2023.
- Y. Liao received 1st place prize at the Excellent Student Poster Presentation in Graduate level of The Fifth Biennial Field Conference of the American Association of Petroleum Geologists, Mid-Continent Section, October, 2022.
- C. Shen received 2nd place prize at the Excellent Student Poster Presentation in Graduate level of The Fifth Biennial Field Conference of the American Association of Petroleum Geologists, Mid-Continent Section, October, 2022.
- Q. Zhao received the Thomas Jerris Graduate Student Award for Service, Missouri S&T, Fall 2022.
- Y. Zhang received the Publication Award from the Geology and Geophysics Program, Missouri S&T, Fall 2022.
- Y. Jia received the Jeffrey Spooner Outstanding Graduate Scholar Award (Honorable mention) from the Geology and Geophysics Program, Missouri S&T, Fall 2021.
- Y. Jia, E. Jiang, & A. Shrivastava received the Publication Award from the Geology and Geophysics Program, Missouri S&T, Fall 2021.
- A. Mattmann, with E. Prior, G. Clark, Y. Jia, Y. Liao, & K.H. Liu as co-authors, received a student presentation Honorable Mention at the Geological Society of America North-Central Section Annual Meeting, 2021.
- K. Ba received the Jeffrey Spooner Outstanding Graduate Scholar Award (Runner up) from the Geology and Geophysics Program, Missouri S&T, Fall 2020.
- K. Ba received the Publication Award from the Geology and Geophysics Program, Missouri S&T, Fall 2020.
- T. Wang received the Jeffrey Spooner Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, Fall 2019.

- M. Sun, & T. Wang received the Publication Award from the Geology and Geophysics Program, Missouri S&T, Fall 2019.
- T. Zhang received the Thomas Beveridge Outstanding Graduate Teaching Award from the Geology and Geophysics Program, Missouri S&T, Fall 2019.
- Y. Lin received a 2018-2019 College of Engineering and Computing Dean's Graduate Educator Award, Missouri S&T, May 2019.
- The Society of Exploration Geophysicists (SEG) S&T student chapter (for which I have been the faculty advisor since 2007) won the Ridge Level Award by SEG, Certificate of Excellence, and was recognized as a top 30 student chapter among the 265 student chapters around the world, Fall 2018.
- M. Sun received the Jeffrey Spooner Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, Fall 2018.
- L. Liu, S. Qaysi, & M. Sun received the Publication Award from the Geology and Geophysics Program, Missouri S&T, Fall 2018.
- Y. Lin received the Thomas Beveridge Outstanding Graduate Teaching Award from the Geology and Geophysics Program, Missouri S&T, Fall 2018.
- A. Shrivastava received the SEG Geophysical Society of Tulsa Scholarship with an amount of \$1735, Spring 2018.
- A. Shrivastava received the SEG Earl D. & Beba C. Griffin Memorial Scholarship with an amount of \$1300, Spring 2018.
- D. Wang received an SEG/Chevron Student Leadership Award, Fall 2018.
- Y. Lin received an SEG Annual Meeting Registration Grant, Fall 2018.
- T. Zhang received an SEG Annual Meeting Registration Grant, Fall 2018.
- L. Liu received an Inaugural S&T College of Engineering and Computing Graduate Educator Award, May 2018.
- The Society of Exploration Geophysicists (SEG) S&T student chapter (for which I have been the faculty advisor since 2007) won the Ridge Level Award by SEG, Certificate of Excellence, and was recognized as a top 30 student chapter among the 265 student chapters around the world, 2017.
- Paper presented by T. Zhang, with co-authors Y. Lin, K.H. Liu, A. Alhakeem, S.S. Gao, is recognized as one of the top 39 papers, among a total of more than 1100 papers presented at the 87th Annual Meeting of the Society of Exploration Geophysicists held at Houston, Texas during 9/24/2017-9/29/2017.
- A. Shrivastava received the Anadarko SEG/ Scholarship with an amount of \$10,000, 2017.
- C. Reed received an Inaugural S&T College of Engineering and Computing Ph.D. Scholar, 2017.
- H. Dahm received the Graduate Service Award from the Geology and Geophysics Program, Missouri S&T, Fall 2016.

- L. Liu received the Outstanding Teaching Award from the Geology and Geophysics Program, Missouri S&T, Fall 2016.
- C. Reed received the Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, Fall 2016.
- C. Reed, B. Yang, & F. Kong received the Publication Award from the Geology and Geophysics Program, Missouri S&T, 2016.
- C. Reed won the 1st prize at the Chancellor's Fellows Research Poster Session, 2016.
- F. Kong, & Y. Yu received the Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, 2015.
- F. Kong, A. Lemnifi, & Y. Yu received the Publication Award from the Geology and Geophysics Program, Missouri S&T, 2015.
- C. Reed received the Outstanding Graduate Student Award from the Geology and Geophysics Program, Missouri S&T, 2015.
- M. Sun received an S&T Council of Graduate Students Travel Grant, 2015.
- C. Reed won the 2nd prize at the Chancellor's Fellows Research Poster Session, 2015.
- B. Yang received the Society of Exploration Geophysicists Leadership Award, 2015.
- F. Kong, J. Baldwin, Y. Yu, & Yurong Li, advisors Kelly Liu & Runar Nygaard won the first place at the <u>Schlumberger North American competition</u> (with a \$15,000 prize), 2015. Twenty-six student teams from around North America initially entered the competition.
- Team members: Abdalla Abdelnabi, Mohamed Dushaishi (from Petroleum Engineering), Pin Lin, Bin Sun, & Youqiang Yu, advisors: Kelly Liu & Wan Yang, competed at the AAPG-IBA student competition in 2014. The team received an honorable mention at the Mid-continent section.
- C. Reed received the Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, 2014.
- C. Reed received the Graduate Service Award from the Geology and Geophysics Program, Missouri S&T, 2014.
- A. Elsheikh, C. Reed, & B. Yang received the Publication Award from the Geology and Geophysics Program, Missouri S&T, 2014.
- B. Yang received two Society of Exploration Geophysicists scholarships: Anadarko/SEG Scholarships, with a total amount of \$10,000, 2014.
- B. Yang received the Society of Exploration Geophysicists/ExxonMobil Travel Grant Award for the annual meeting in Denver, 2014.
- M. Sun received a China Scholarship Council Graduate Scholarship, 2014.
- A. Alhakeem awarded a summer internship with SunEdison, 2014.
- A. Alhakeem received an honorable mention at the graduate research showcase, Missouri S&T, 2014.
- A. Abdelnabi, P. Lin, & Y. Yu participated in the AAPG-IBA student competition and received an honorable mention in the Mid-Continent region, 2014.

- F. Kong received a travel grant to attend the EarthScope Institute for Lithospheric Modeling Workshop at Arizona State University, 2014.
- Y. Yu received a travel grant to attend the EarthScope USArray Advanced Data Processing Short Course at Northwestern University, 2013.
- A. Elsheikh received the Dr. Thomas Beveridge Outstanding Graduate Teaching Assistant Award from the Geology and Geophysics Program, Missouri S&T, 2013.
- C. Reed received the Graduate Service Award from the Geology and Geophysics Program, Missouri S&T, 2013.
- B. Yang received the Society of Exploration Geophysicists/Geophysical Society of Oklahoma City Scholarship with an amount of \$5500, 2013.
- Team members: Brock Alldredge, Zhixin Li (from Geology), Jonathan Obrist-Farner (from Geology), Matt Paradeis (from Petroleum Engineering), & Bin Yang, advisors: Kelly Liu & Wan Yang, competed at the AAPG-IBA student competition in 2012. The team received an honorable mention at the Mid-continent section.
- A. Elsheikh received the Graduate Service Award from the Geology and Geophysics Program, Missouri S&T, 2012
- B. Wang received the Publication Award from the Geology and Geophysics Program, Missouri S&T, 2012.
- C. Reed received the best Geology/Geosciences presentation at the Missouri Academy of Sciences, 2012.
- H. Refayee received the Jeffrey Spooner Outstanding Graduate Scholar Award from the Geology and Geophysics Program, Missouri S&T, 2011.
- L. Bashir, & A. Elsheikh received the Publication Award from the Geology and Geophysics Program, Missouri S&T, 2011.
- H. Refayee received the best student poster for the Eastern Section Seismological Society Meeting in Little Rock, Arkansas, Oct. 2011.
- B. Yang received a Vice Provost for Graduate Studies fellowship at S&T, Sept. 2011.
- Team members: Guillermo Rodriguez-Forero (from Geology), Uranbaigal Purevsure, Melissa Ray, Evgeniy Torgashov (from Geological Engineering), & Farag Muhammed (from Petroleum Engineering), advisor: Kelly Liu, competed at the AAPG-IBA student competition in 2010. The team received an honorable mention at the Mid-continent section.
- Team members: Hesham Refayee, Uchenna Aboaja, Lamuail Bashir, Ali Atef, & Rajesh Challa (from Petroleum Engineering), advisor: Kelly Liu, competed at the AAPG-IBA student competition in 2009. The team received an honorable mention at the Mid-continent section.

5. <u>TEACHING</u>

Courses Taught at Missouri S&T

- Geological Engineering 1150/Geology 1110: Physical and Environmental Geology
- Geophysics 3210: Introduction to Geophysics
- Geophysics 3211/286: Introduction to Geophysical Data Analysis
- Geophysics 4231/377: Seismic Interpretation (Proposed and developed by me)
- Geophysics 5096: Global Tectonics (co-listed with Geology 6331)
- Geophysics 5202/385: Exploration and Development Seismology
- Geophysics 5211/380: Seismic Stratigraphy
- Geophysics 5231/389: Seismic Data Processing
- Geophysics/Geological Engineering 5736: Geophysical Field Method
- Geophysics 6211/488: Advanced Seismic Interpretation
- Geophysics 6221: Advanced Geophysical Data Analysis (Proposed and developed by me)
- Geophysics 6231: Advanced Seismic Data Processing
- Geophysics 6241: Theory of Elastic Waves
- Geophysics 6251: Geophysical Inverse Theory
- Geophysics 6001: Advanced Seismology (Proposed and developed by me)
- Geology 6001: Applied Petroleum System and Analysis
- Geology 6331: Geotectonics (co-listed with Geophysics 5096)

Graduate Student Advising at Missouri S&T

Graduated 14 Ph.D. students as the major advisor (A. Atef, 2011: Head of Geophysics Department at King Abdulaziz University, Saudi Arabia; H. Refayee, 2012: dGB Earth Sciences, USA; B. Yang, 2016: Forland Geophysical Services LLC, USA; A. Lemnifi, 2016: Mining Industry, USA; A. Abdalnabi, 2017: Petroleum Industry, Canada; A. Alhakeem, 2018: Petroleum Industry, Saudi Arabia; Y. Peng, 2018: Gbti Solutions, Inc., USA; S. Qaysi, 2018: Chair of Geology and Geophysics at King Saud University, Saudi Arabia; T. Zhang, 2019: Faculty at Chengdu University of Technology, China; Y. Lin, 2019: Faculty at Chengdu University of Technology, China; T. Wang, 2020: Post-doc at Chinese Academy of Sciences; E. Jiang, 2021: China National Oil and Gas Exploration and Development Company Ltd; A. Shrivastava, 2021: Missouri S&T; Y. Jia, 2022: Postdoc at Second Institute of Oceanography, Hangzhou, China.

- Graduated 17 Ph.D. students as a co-advisor (L. Bashir, 2011; B. Wang, 2011; A. Elsheikh, 2014; U. Purevuren, 2014; Y. Yu, 2015; S. Cherie, 2015; F. Kong, 2016; C. Reed, 2017; L. Liu, 2018; H. Dahm, 2017; M. Sun, 2019; D. Wang, 2020; Y. Yang, 2021; Q. Yang, 2021; K. Ba, 2021; T. Xue, 2022, Y. Zhang, 2022).
- Graduated 26 MS students with theses as the major advisor (H. Refayee, 2008; U. Aboaja, 2010;A. Abdalnabi, 2011; A. Alhakeem, 2013; A. Ibrahem, 2013; Z. Karabulut, 2013; O. Tac, 2013; M. Gepek, 2014; D. Mert, 2014; M. Ray, 2014; W. Alotaby, 2015; M. Alotaibi,

2015; E. Ersay, 2015; N. Gocer, 2015; P. Lin, 2015; T. Alzaki, 2016; J. Baldwin, 2016;
G. Yagci, 2016; F. Yagci, 2016; E. Unkaracalar, 2017; Y. Demir, 2018; O. Akturk, 2018;
H. Grabeel, 2018; O. Surek, 2018; B. Algarni, 2019; M. Sarikaya, 2019).

- Advised/hosted 11 post-doc and visiting researchers (Y. Gao, 2010-2011; Y. Shi, 2010-2011; D. Shi, 2011-2012; A. Mohamed, 2013; B. Belgasem, 2014; S.A. Elebaidi, 2014; S.M. Elshari, 2014; A.M. Haman, 2014; J. Wu, 2014; F. Yang, 2014, 2018; F. Kong 2016-2017).
- Ph.D. student committee member for 26 non-advisees (D. Bridges, 2011; S. Almadani, 2011; A. Dera, 2012; A. Khamzin, 2015; P. Hajiani, 2016; A. Alsaaideh, 2017; G. Alsulaimani, 2017; R. Kassim, 2017; E. Siami-Irdemoosa, 2017; N. Bashir, 2018; S. Kidanu, 2018; D. Alfuqara, 2019; M. Ba-Geri, 2019; H. Alzahrani, 2020; M. Alkhamis, 2021; X. Yuan, 2021; M. Abdalla, present; M. Abdulfarraj, present; M. Al-EBayat, present; A. Alhaj, present; A. Aljabbab, present; G. Biheri, present; M. Elturki, present; Y. Guan, present; J. Li, present; W. Zhang, present).
- MS student committee member for 8 non-advisees (K. Abdalkadeer, 2007; G. Rodriguez, 2010; L. Lansbery, 2011; S. Shaniba, 2012; S. Cheng, 2014; S. Wu, 2014; B. Goetze, 2016; J. Clinton, 2020).
- Advised 11 non-thesis MS students (I. Woo, 2008; A. Dera, 2012; A. Mohammed, 2012; D. Leach, 2012; E. Elbileikia, 2014; H. Kutuk, 2014; C. Atmaca, 2015; M. Sun, 2014; S. Dong, 2019; Y. Liu, 2019; A. BaSaloom, 2020; A. Aljabri; 2022; A. Albrrik, 2023).
- Advising 5 Ph.D. students presently (N. Albrrik. A. Aljabri; R. He; Y. Liu; C. Shen).
- Co-advising 4 Ph.D. students presently (C. Karapong; Y. Liao; Z. Miao; Q. Zhao).

Advising one MS student presently (G. Ali)

Note: The graduate students that I advised or co-advised were from 13 different countries (Canada, China, Ethiopia, India, Iraq, Libya, Mongolia, Pakistan, Saudi Arabia, Sudan, USA, Thailand, Turkey, Yemen).

Data for Doctoral Students Advised as the Major Advisor

Student	Degree	Dissertation Title	Present Position
Name	Time		
Atef, A.H.	2011	Geophysics Investigations of Continental Crust of	Head of Geophysics
		Saint Charles-Saint Louis Counties, Missouri and	Department at King
		Egyptian Nile in Egypt, and Apparent Weekly and	Abdulaziz University,
		Daily Earthquake Periodicities in the Western	Saudi Arabia
		United States	
Refayee,	2012	NA-SWS-2.1: An Updated Uniform Database of	Scientist at dGB
H.A.		Teleseismic Shear Wave Splitting Measurements for	Earth Sciences, USA
		North America and Shear Wave Splitting	
		Measurements and Implications for Mantle Structure	

		and Dynamics Beneath the South-central United	
		States	
Yang, B.	2016	Seismic Anisotropy and Mantle Dynamics Beneath	Scientist at Forland
		the Central and Western United States	Geophysical Services
			LLC, USA
Lemnifi, A.	2016	Azimuthal Anisotropy Beneath North Central Africa	Working as a
		from Shear Wave Splitting Analysis	consultant for the
			Mining Industry,
			USA
Abdalnabi,	2017	Geophysical Interpretation and Static Reservoir	Working in the
А.		Modeling of RG Oil Field, Sirte Basin, Libya	Petroleum Industry,
			Canada
Alhakeem,	2018	3D Seismic Attribute Analysis and Machine	Working in the
А.		Learning for Reservoir Characterization in Taranaki	Petroleum Industry,
		Basin, New Zealand	Saudi Arabia
Peng, Y.	2018	Crustal Thickness and Vp/Vs Ratio Beneath the	Gbti Solutions, Inc.,
		Eastern Tibetan Plateau from Receiver Functions	USA
		and Gravity Modeling	
Qaysi, S.	2018	Seismic Anisotropy and the Mantle Dynamics	Chair of Geology and
		Beneath the Arabian Plate	Geophysics
			Department at King
			Saud University,
			Saudi Arabia
Zhang, T.	2019	Fault Imaging Enhancement in Taranaki Basin, New	Faculty at Chengdu
		Zealand and Rock Physics and Inversion Based	University of
		Reservoir Characterization in the Central Gulf Coast	Technology, China
		Region of Texas	
Lin, Y.	2019	Seismic Attribute Assisted Depositional Facies	Faculty at Chengdu
		Identification and Stratigraphic Correlation in the	University of
		Central Gulf Coast Region of Texas	Technology, China
Wang, T.	2020	Seismological Investigations of Lithospheric	Post-doc at Chinese
		Structure Beneath the East African Rift System and	Academy of
		the Kalahari Craton	Sciences, China
Jiang, E.	2021	Spatiotemporal Variations of Upper Crustal	China National Oil
		Anisotropy Along the San Jacinto Fault Zone in	and Gas Exploration
		Southern California and the Fairview Region in	and Development
		Central Oklahoma	Company Ltd, China
Shrivastava,	2021	Spatial Variations of Teleseismic P-Wave	Researcher, Missouri
А.		Attenuation and Scattering Beneath the Southeastern	S&T

		United States and the Malawi and Luangwa Rift	
		Zones in East Africa	
Jia, Y.	2022	Laterally Heterogeneous Seismic Anisotropy	Post-doc, Second
		investigated by Shear Wave Splitting	Institute of
		Analysis	Oceanography,
			Hangzhou, China

Data for Master Students Advised as the Major Advisor

Student Name	Degree	Thesis Title
	Time	
Refayee, H.A.	2008	Seismic Stratigraphic Interpretation and Reservoir Characterization of
		the Mamuniyat Formation in the B-NC115 Field, Murzuk Basin, Libya
Aboaja, U.H.	2010	Seismic Interpretation and Reservoir Characterization of the Middle
		Frio Formation in the Stratton Field Gulf Coast Basin of South Texas
		Using Three-dimensional Seismic and Well Log Data
Abdelnabi, A.	2011	Seismic Interpretation and Reservoir Characterizations of the Middle
		Eocene Gialo Formation, Assamoud Field, Sirte Basin, Libya
Alhakeem,	2013	3D Seismic Data Interpretation of Boonsville Field, Texas
A.A.		
Ibrahem, A.A.	2013	Seismic Interpretation and Petrophysical Analysis of the Upper
		Ordovician and Silurian Sequences, Ghadamis Basin, Libya
Karabulut, Z.	2013	Inversion and Interpretation of 2D Seismic Data from the Kumrular-
		Karachaoglan Fields, Thrace Basin, Turkey
Tac, O.	2013	2D Seismic Stratigraphic and Depositional System Analysis of the
		North-Eastern Thrace Basin, Turkey
Gepek, M.	2014	Post-Stack Processing of Seismic Data in Alasehir Basin and Their
		Structural Interpretation
Mert, D.	2014	Time Migration Processing of 2-D Seismic Data in the Gediz Graben,
		Turkey
Ray, M.	2014	Shear-Wave Splitting Beneath the Western Tibetan Plateau
Alotaby, W.	2015	Fault Interpretation and Reservoir Characterization of the Farewell
		Formation, Taranaki Basin, New Zealand
Alotaibi, M.	2015	3D Seismic Attributes Investigation Structure and Reservoir
		Characterization of Moki Formation in Maar Field, Taranaki Basin,
		New Zealand
Ersay, E.Y.	2015	Seismic Stratigraphic and Attribute Analyses of the Teapot Dome Field,
		Wyoming
Gocer, N.	2015	AVO Gradient Analysis of 2D Seismic Data, Sable Island, Nova Scotia
Lin, P.	2015	Seismic Interpretation and Facies Identification of The Guantao
		Formation, Huagou Gas Field, Bohai Basin, China

Alazki, T.	2016	2d Seismic Data and Gas Chimney Interpretation in the South Taranaki	
		Graben, New Zealand	
Baldwin, J.	2016	Structural Analysis and Fluid Flow Modeling of the Kapuni Field, New	
		Zealand	
Yagci, G.	2016	3D Seismic Structural and Stratigraphic Interpretation of the Tui-3D	
		Field, Taranaki Basin, New Zealand	
Yagci, F.	2016	Reprocessing and Structural Interpretation of Multichannel Seismic	
		Reflection Data from Penobscot, Nova Scotia	
Unkaracalar,	2017	Seismic Interpretation of Submarine Stratovolcano in Kora 3D Field,	
Е.		Taranaki Basin, New Zealand And Comparing with Salt Structures	
Demir, Y.	2018	Reprocessing of 3C-2D Seismic Reflection Data from Spring Coulee,	
		Alberta	
Akturk, O.	2018	Reprocessing of the 2 Hz P-P Data from the Blackfoot 3C-2D Survey	
		with Special Reference to Multicomponent Seismic Processing	
Grabeel, H.	2018	Application of Seismic Attributes for 3-D Seismic Visualization	
		Contributed in Structural and Stratigraphic Interpretation of the	
		Tangahoe and Farewell Formations in the Kupe Field, Taranaki Basin,	
		New Zealand	
Surek, O.	2018	Salt Mobility Under Different Geological Regimes	
Algarni, B.	2019	Reprocessing of the 10 Hz Single-Component Data from the Blackfoot	
		Broadband Seismic Survey	
Sarikaya, M.	2019	Reprocessing and Comparison of the 4 Hz and 10 Hz Vertical	
		Component Data of Blackfoot 3C-2D Survey	

Software and Industry Data Packages Acquired and Maintained

Acquired, renewed, and maintained an array of industry's leading data processing and interpretation software packages for student research and learning. Many of the software packages have been widely used by both undergraduate and graduate students in the Geology & Geophysics and Petroleum Engineering programs for their coursework, thesis research, journal publications, and student competitions.

- IHS Kingdom: 52 licenses with an estimated market value of ~\$4.7 million. Five licenses were acquired initially in 2006, increased to 16 licenses with an market value of \$1.9 million in 2008, and to 52 licenses in 2011; Renewed in 2014, 2017, 2018, 2019, 2020, 2021, 2022. Applications were needed for each renewal.
- Schlumberger Ocean and Petrel software: four licenses with a value of \$450,000, 2014-2016.
- CGG Hampson-Russell seismic data interpretation: five licenses with a value of \$3,000,000, 2014-present. Renewed annually.
- OpendTect seismic data interpretation: five licenses, 2012-present.

• Paradigm seismic data processing software: five licenses, 2015-present. Acquired in April, 2015. Renewed annually. Annual reports and applications were needed for each renewal.

Acquired an Array of Industry Data Sets

- Desperado 3D Seismic Survey in Lavaca County, Texas; \$6.5M. An active field data donated by alumni Mr. Stephen Zeboski.
- The New Zealand petroleum exploration data.

6. <u>RESEARCH ACTIVITIES</u>

My research includes two major areas:

The primary research of my research is to image the internal structure of the Earth, aiming to understand its dynamic processes and the mechanisms behind geohazards such as earthquakes and volcanoes. My specific interests lie in several key subdomains of solid-earth geophysics, including the seismic anisotropy of the Earth's crust and mantle, as well as the stratified composition of the Earth's interior. Together with other researchers in geophysics at S&T, we have established the first uniform shear wave splitting parameter database for North America.

The second research area is utilizing seismic data to image subsurface structure to understand depositional environment and hydrocarbon potential. Seismic attributes associated with time, amplitude, frequency, and attenuation are extracted and integrated with petrophysical information for oil and gas reservoir characterization and property mapping.

REFEREED JOURNAL PUBLICATIONS

- Present or former graduate students/postdocs advised or co-advised are <u>underlined</u>.
- Fan, E., Ai, Y., Gao, S.S., He, Y., Liu, K.H., Jing, M., Hou, G., Yang, S., Mon, C.T., Thant, M., & Sein, K. (2024). Mantle flow and olivine fabric transition in the Myanmar continental subduction zone. *Geology*, https://doi.org/10.1130/G51698.1
- Yu, Y., Tilmann, F., Gao, S.S., Liu, K.H., & Xi, J. (2023). Insights into initial continental breakup of marginal seas from seismic evidence for slab relics in the mid-mantle of the Woodlark rift, southwestern Pacific. *Geology*, *51(12)*, 1117-1121. <u>https://doi.org/10.1130/G51528.1</u>
- Xue, T., Peng, D., Liu, K.H., Obrist-Farner, J., Locmelis, M., Gao, S.S., & Liu, LJ. (2023). Ongoing fragmentation of the subducting Cocos slab, Central America. *Geology*, *51(12)*, 1101-1105.

https://doi.org/10.1130/G51403.1

- Kong, F., Gao, R., Gao, S.S., Liu, K.H., Ding, W., Niu, X., Ruan, A., Tan, P., Fan, J., Lu, S., Tong, Z., Gong, W., Zhao, Y., & Li, J. (2023). Mantle flow underneath the South China Sea revealed by seismic anisotropy. *National Science Review*, 10. https://doi.org/10/1093/nsr/nwad176
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REFERED CONFERENCE PAPERS

- Student authors advised by K. Liu are <u>underlined</u>.
- Lin, Y., T. Zhang, K.H. Liu, and S.S. Gao (2019). Hydrocarbon accumulation analysis by reconstructing the canyon-fill sequence using seismic stratigraphic interpretation in the central Gulf Coastal Plain of Texas, *Society of Exploration Geophysicists Annual Meeting, extended abstract.*
- Zhang, T., Y. Lin, Y., K.H. Liu, and S.S. Gao (2019). Pre-stack simultaneous inversion for petrophysical properties of the Lower Wilcox Erosional remnant sandstone along the

Texas Gulf Coastal Plain, Society of Exploration Geophysicists Annual Meeting, extended abstract.

- <u>Alhakeem, A.</u>, **K.H. Liu**, <u>T. Zhang</u>, and S.S. Gao (2018), Validation of poststack seismic inversion using rock physics analysis and 3D seismic and well correlation, *Society of Exploration Geophysicists annual meeting, extended abstract*.
- Lin, Y., T. Zhang, K.H. Liu, and S.S. Gao (2018),
 Identification of a shelf-edge submarine canyon using seismic attributes and spectral decomposition in the central Gulf Coast region of Texas, *Society of Exploration Geophysicists annual meeting, extended abstract.*
- Zhang, T., Y. Lin, K.H. Liu, and S.S. Gao (2018), Compaction and cement volume analyses of the Lower Wilcox sandstone along the Texas Gulf Coast, *Society of Exploration Geophysicists annual meeting, extended abstract.*
- <u>Abdelnabi, A.</u>, **K.H. Liu**, and S.S. Gao (2017), Seismic attributes aided fault detection and enhancement in the Sirte Basin, Libya, *Society of Exploration Geophysicists annual meeting, extended abstract.*
- <u>Zhang, T., Y. Lin, K.H. Liu, A. Alhakeem</u>, and S.S. Gao (2017), Fault visualization enhancement using ant tracking technique and its application in the Taranaki Basin, New Zealand, *Society of Exploration Geophysicists annual meeting, extended abstract*. Recognized as one of the top 39 papers, among a total of more than 1100 papers presented at the 87th Annual Meeting of the Society of Exploration Geophysicists held at Houston, Texas during 9/24/2017-9/29/2017.
- Yang, B., Y. Liu, H. Dahm, K.H. Liu, S.S. Gao, L. Fu, P. Deng, and Z. Yang (2017), Seismic azimuthal anisotropy and its geodynamic implications-Eastern US case study, *Society of Exploration Geophysicists annual meeting, extended abstract.*
- <u>Abdelnabi, A.</u>, **K.H. Liu**, and S.S. Gao (2016), A full field static model of the RG-oil field, central Sirte Basin, Libya, *Society of Exploration Geophysicists annual meeting, extended abstract*.

NATIONAL AND INTERNATIONAL CONFERENCE ABSTRACTS

Over 200 abstracts. Detailed information can be found at http://www.mst.edu/~liukh/abstracts/

FUNDED RESEARCH GRANTS

At Missouri S&T

Towards the Establishment of an Institute for Catastrophic Event Prediction (iCEP), *Missouri S&T The Ignition Grant Initiative (IGI)*, \$32,000. 1/1/2023-6/30/2023. **PI**. Share: 100%.

- A numerical modeling study of the thermal evolution of young continental rifts, *American Chemical Society Petroleum Research Fund*, \$110,000. 8/1/2022-8/31/2024. PI. Share: 100%. More than \$90,000 budget are for graduate students.
- Nature of a low velocity anomaly in the mantle transition zone beneath the western Great Plains, *National Science Foundation-Geophysics*, \$189,117. 1/1/2022-12/31/2024. **PI**. Share: 100%
- Investigating the pervasiveness of complex seismic anisotropy and its geodynamic significance beneath continents, *National Science Foundation-Geophysics*, \$211,946. 8/1/2018-7/31/2020. **PI**. Share: 50%.
- Investigating the pervasiveness of complex seismic anisotropy and its geodynamic significance beneath continents, supplements, *National Science Foundation-Research Experiences for Undergraduates*, \$16,500. 6/1/2019-7/31/2021. PI. Share: 50%.
- Passive seismic investigations for the formation mechanisms of intracratonic basins, *American Chemical Society Petroleum Research Fund*, \$110,000. 8/1/2015-8/31/2018. **PI**. Share: 100%. More than \$90,000 budget are for graduate students and a postdoc.
- Collaborative Research: Shear-wave splitting and mantle dynamics of the North American Plate, *National Science Foundation-EarthScope*, \$191,512. 7/15/2015-2/28/2018. **PI**. Share: 50%.
- Collaborative Research: Desert Eyes: Origin and evolution of enigmatic domes and basins in the stable platform of Egypt, *National Science Foundation-International Research Experiences for Students (IRES)*, \$86,670, 4/1/2011-6/30/2016. co-PI. Share: 50%.
- Upgrade of geophysics computing facilities at Missouri University of Science and Technology, National Science Foundation-IF, \$74,209. 1/1/2014-12/31/2014. co-PI. Share: 33%.
- A joint study of geology and subsurface structure beneath Libya, *Benghazi University*, \$99,434. 10/1/2012-9/30/2014. **PI**. Share: 75%.
- A uniform and comprehensive shear-wave splitting data set for North America: Western and Central United States, *Incorporated Research Institutions for Seismology*, \$25,000. 7/15/2013-6/30/2014. **PI**. Share: 50%.
- Comprehensive analyses of broadband seismic data recorded in the Afar Depression, Ethiopia, *Statoil*, \$451,684. 10/1/2012-3/30/2015. **co-PI**. Share: 50%.
- Collaborative research: Integrated studies of early stages of continental extension: From incipient (Okavango) to young (Malawi) rifts, *National Science Foundation-CD*, \$1,024,210. 5/1/2011-4/30/2015. **co-PI**. Share: 25%.
- Detection of hidden impact craters using receiver functions, *University of Missouri Research Board*, \$24,000. 6/1/2011-5/31/2012. co-PI. Share: 50%.
- Four-dimensional anatomy of continental rifts transitioning into sea floor spreading, **Statoil**, \$309,312. 2/1/2011-12/31/2013. **co-PI**. Share: 25%.
- Kingdom suite seismic interpretation system site licenses, *Seismic Micro-Tech*, \$4,681,425. 1/1/2011-12/31/2013. **PI**. Share: 75% (Note: in-kind software donations, no reported expenditures).

- Mantle anisotropic structure and dynamics beneath the western United States: Constraints from shear-wave splitting analysis, *National Science Foundation-EarthScope*, \$185,885. 4/1/2010-3/31/2013. PI. Share: 60%.
- Mapping of previously mined ground for infrastructure citing purposes, *Knight Hawk Coal LLC*, \$7000, 7/1/2009-6/30/2011. Plus \$3500 match fund from the Center for Transportation Infrastructure and Safety. Role: **co-PI**. Share: 50%.
- Carbon sequestration project: Reflection seismic data in Springfield, MO, *GeoEngineers, Inc.*, \$3000, 8/1/2009-7/31/2010. Role: **co-PI**. Share: 50%.
- Significant and complex seismic anisotropy beneath the Himalayas and the southern Tibetan Plateau, *National Science Foundation-Geophysics*, \$124,341. 7/15/2009-7/14/2011. PI. Share: 60%.
- Reconstructing the geological history of the Egyptian Nile, *National Science Foundation-International Research Experiences for Students (IRES)*, \$149,817. 4/1/2008-3/31/2011. co-PI. Share: 25%.
- Four-dimensional anatomy of continental rifts transitioning into sea floor spreading, *StatioHydro ASA*, \$430,775. 4/1/2008-3/31/2011. **co-PI**. Share: 25%.
- Kingdom suite seismic interpretation system site licenses, *Seismic Micro-Tech*, \$1,909,200.00. 3/15/2008-5/14/2011. PI. Share: 75% (Note: in-kind software donations, no reported expenditures).
- Continental crustal composition and evolution, *National Science Foundation-Geophysics*, \$17,232.00, 8/24/2006-12/31/2007. co-PI. Share: 50%.
- Testing the hypothesis of pervasive two-layer azimuthal anisotropy beneath North America, *National Science Foundation-Geophysics*, \$122,728, 1/1/2008-12/31/2009, **PI**. 100%.
- A systematic shear-wave splitting measurement procedure, *University of Missouri Research Board*, \$21,000.00, 1/1/2007-12/31/2007, PI. Share: 60%.

At Kansas State University

- Establishing a geophysical test site, *National Science Foundation-Curriculum, and Laboratory Improvement (CCLI)*, \$74,996.00, 9/15/2005-8/15/2006. PI. Share: 50%.
- Geophysical test site on the K-State campus, *Kansas National Science Foundation EPSCoR*, \$16,896.00, 6/1/2005-3/31/2006, PI. Share: 60%.
- An interactive computer tutorial to investigate the link between mineral preferred orientation and seismic anisotropy, *Kansas National Science Foundation EPSCoR*, \$96,799.00, 6/1/2005-3/31/2006. co-PI. Share: 20%.
- Establishing a geophysical test site, *National Science Foundation-Course, Curriculum, and Laboratory Improvement (CCLI)*, \$74,996.00, 9/15/2005-8/15/2006, PI. Share: 50%.
- Geophysical test site on the K-State campus, *Kansas National Science Foundation EPSCoR*, \$16,896.00, 6/1/2005-3/31/2006, PI. Share: 60%.

- An interactive computer tutorial to investigate the link between mineral preferred orientation and seismic anisotropy, *National Science Foundation Kansas EPSCoR*, \$96,799.00, 6/1/2005-3/31/2006, Co-PI. Share: 20%.
- Acquisition of geophysical computing equipment, *National Science Foundation-IF*, (this award was combined with the next two proposals in the NSF system), \$41,355.00, 2/1/2005-1/31/2006, **PI**. Share: 60%.
- Supplement to continental crustal composition and evolution: Constraints from receiver function analysis, *National Science Foundation -Geophysics*, \$53,441.00, 1/15/2005-12/31/2005, Co-PI. Share: 40%.
- Continental crustal composition and evolution: Constraints from receiver function analysis, *National Science Foundation-Geophysics*, \$97,892.00, 1/1/2005-12/31/2007, Co-PI. Share: 40%.
- Searching for seismic discontinuities in the lower mantle using broadband seismic data, *National Science Foundation-Geophysics*, \$186,108.00, 6/1/2002-5/30/2005, PI. Share: 60%.
- USArray and the Great Plains: A Pre EARTHSCOPE workshop proposal, *National Science Foundation-Earthscope*, \$33,622.00, 5/1/2002-4/30/2003, Co-PI. Share: 15%.
- Equipment for undergraduate field geophysics courses, NSF-CCLI, \$27,250.00, 12/1/2001-
 - 11/30/2002, Co-PI. Plus \$27,250.00 match fund from the university. Share: 40%.
- Seismic study of continental Orogenic zones: The Rocky Mountains and the Midcontinent Rift,
 - *NSF-Geophysics*, \$150,110.00, 5/1/2001-4/30/2003, Co-PI. Share: 40%.
- High resolution imaging of mantle discontinuities across South America at 20 degree South, *NSF-Geophysics*, \$63,415.00, 6/1/2000-5/31/2002, **PI**. Share: 60%.

7. <u>SERVICE</u>

SELECTED DEPARTMENT AND UNIVERSITY SERVICE

- Campus Administrative Review Committee, 2017-2018; 2018-2019; 2019-2020 (Chair); 2020-2021; 2021-2022 (Chair); 2022-2023; 2023-present.
- Campus CET Effective Teaching Committee, 2021-2022; 2022-2023; 2023-present.
- Campus Department representative to the Faculty Senate, 2021-2022; 2022-2023; 2023present.
- Campus Budgetary Affairs Committee, 2021-2023.
- Campus departmental ADVANCE advocate, 2023-present.
- Campus Rules, Procedures, and Agenda Committee, 2022-2022.
- Campus Outstanding Teaching Awards Committee, 2021-2022.
- Campus Kummer Institute Center for Advanced and Resilient Infrastructure Director Search Committee, 2021-2022.
- Campus Rules, Procedures, and Agenda Committee, 2019-2020.
- Campus Discipline Specific Curricula Committees (DSCC). Review course and degree proposals, 2010-2019.

Campus Promotion and Tenure Review Committee, 2017-2018.

Campus Midtenure Review Committee for a junior faculty in Physics, 2018.

Campus, Member for High Performance Computing Research Center, 2018-present.

- Campus, Senior investigator for Rock Mechanics & Explosives Research Center, 2016-present.
- Campus, Senior Research Investigator for Center for Research in Energy and Environment, 2011-present.
- Campus, Hosted a delegate from Northeast China Petroleum University, 2018.
- Campus, The initiator and faculty sponsor for the "2+2 program" with China University of Petroleum, Beijing. 2012-present.
- Campus, One of the two initiators and faculty sponsors for the "2+2 program" with China University of Petroleum, Huadong. 2009-present.

Campus & College Promotion and Tenure Review Committee, 2017-2018; 2022-present.

College Promotion and Tenure Review Committee, 2022-2023; 2023-present.

- College Midtenure Review Committee for one junior faculty member in CEC, 2023.
- College CEC Nuclear Engineering Chair Search Committee, 2021-2022, 2022-2022.
- College CEC Woodard Endowment Selection Committee, Fall 2021; Summer 2023.
- College CEC Dean's Ph.D. Scholar Award Committee, Spring 2020; Spring 2021; Spring 2022; Spring 2023.
- College CEC Dean's Ph.D. Graduate Educator Award Committee, Spring 2020; Spring 2021; Spring 2022; Spring 2023.
- College Midtenure Review Committee for two junior faculty members in CEC, 2018.
- College CEC Research Committee, 2018-2020.
- Chair, Robert H. Quenon Chair in Mining Engineering Selection Committee, 12/2023-1/2024.
- Department Promotion and Tenure Committee for one faculty, Chair, 2023.
- Department Promotion and Tenure Committee for two junior faculty, 2021.

Department Promotion Review Committee, 2018.

- Participated in activities for a delegate from Ocean University of China, 2018.
- Faculty advisor for the Society of Exploration Geophysicists (SEG) S&T student chapter, 2008-present.
- Advisor for more than 15 students in the Opportunities for Undergraduate Research Experiences (OURE) project.
- Advisor, 14 completed Ph.D. students in Geology & Geophysics.

Co-Advisor, 16 completed Ph.D. students in Geology & Geophysics.

Advisor/co-Advisor, 7 Ph.D. and two MS students currently.

Advisor, 26 completed thesis-based MS students in Geology & Geophysics.

Advisor, 54 undergraduate students for undergraduate research.

Faculty advisor, Geology & Geophysics freshmen students, 2008-2016, 2019-present.

One of the two initiators and faculty sponsors for the "2+2 program" with China University of

Petroleum, Huadong. 2009-present.

Faculty advisor for the S&T student Schlumberger's Ocean Academic Competition (coadvisor: Runar Nygaard). The team placed the first in North America with a \$15,000 cash prize <u>http://news.mst.edu/2015/03/missouri-st-software-design-team-wins-</u> competition/. Members: Fansheng Kong; Yurong Li; Youqiang Yu; Jarret Baldwin.

Faculty co-advisor (advisor: Jonathan Obrist-Farner) for the S&T AAPG-IBA student competition in 2017. Team members: William Chandonia; Avikant Dayma; Yani Lin; Avery Welker; Tianze Zhang.

Faculty advisor (co-advisor: Wan Yang) for the S&T AAPG-IBA student competition in 2014. The team received an honorable mention at the Mid-continent section. Team members: Abdailla Abdelnabi; Mohamed Dushaishi; Pin Lin; Bin Sun; Youqiang Yu.

Faculty advisor (co-advisor: Wan Yang) for the S&T AAPG-IBA student competition in 2012. The team received an honorable mention at the Mid-continent section. Team members: Brock Alldredge; Zhixin Li; Jonathan Obrist-Farner; Matt Paradeis; Bin Yang.

Faculty advisor for the S&T AAPG-IBA student competition in 2010. The team received an honorable mention at the Mid-continent section. Team members: Guillermo Rodriguez-Forero; Uranbaigal Purevsure; Melissa Ray; Evgeniy Torgashov; Farag Muhammed.

- Faculty advisor for the first S&T AAPG-IBA student competition in 2009. The team received an honorable mention at the Mid-continent section. Team members: Hesham Refayee; Uchenna Aboaja; Lamuail Bashir; Ali Atef; Rajesh Challa.
- Judge, S&T Graduate Research Conference, 2009, 2010, 2011, 2018.
- Judge, S&T Undergraduate Research Conference, 2007, 2008, 2009, 2010, 2011, 2022.
- Campus, Participated in the opening week for new students each year, 2008-2015.
- Advisor for Preview, Registration and Orientation (PRO). Advised incoming undergraduate students in Geology & Geophysics, usually on Saturdays, 2007-2017, 2019-present.
 GGPE Faculty promotion committees, 2011, 2013, 2014, 2015.

GGPE Faculty search committee, 2011, 2014.

Geology and Geophysics weekly seminar series coordinator, 2008-2009, Fall, 2016.

Conducted a workshop, It's a girl thing, 2017.

- Conducted a workshop, Jackling Introduction to Engineering, 2009, 2013, 2022.
- Conducted a workshop, Minority Intro To Engineering (MITE), 2009, 2010, 2011, 2015.
- Conducted a workshop, Expanding your Horizons, 2009, 2013, 2022.
- Conducted a workshop for the STEM day, 2022.
- Conducted a workshop for the Subsurface Engineering Camp, 2022.
- Speaker on STEM, Mark Twain element school, 2007, 2008.
- Speaker on STEM, Boy Scott Troop, Rolla, 2008, 2009.

SELECTED PROFESSIONAL SERVICE

Produced about 30,000 shear wave splitting parameters in different areas on Earth and established the first uniform shear wave splitting database for North America, 2009-present. (https://ds.iris.edu/ds/products/sws-db-mst/).

Panelist, A National Science Foundation Proposal Review Spring Panel, 2022

Co-Editor-in-Chief, Invited as an Editor-in-Chief for the Journal of Applied Geophysics from 1/2023-12/2025.

Associate editor for the Frontier in Earth Science, 8/2023-present.

Associate editor for the Journal of Geophysical Research-Solid Earth, 1/2017-12/2021.

Judge, Best Student Paper, American Geophysical Union Fall Meeting, 2016, 2017, 2018, 2020, 2021.

Judge, Student Travel Grant, American Geophysical Union Fall Meeting, 2021.

Convener and chair a special section at the Joint NC/SC Geological Society of America Meeting, 2021.

Judge, Best student presentations at Joint NC/SC Geological Society of America Meeting, 2021.

Convener a special section at the Asia Oceania Geosciences Society 2020 Annual Meeting. Chair of a technical session at the annual meeting, American Geophysical Union, 2019.

Convener of a special technical session at the Geological Society of America annual meeting held in Indianapolis, Indiana, 2018.

Reviewed proposals for the National Science Foundation, and American Chemical Society. Reviewed manuscripts for the Bulletin of the Seismological Society of America; Data in Brief;

Earth and Planetary Science Letters; Earth-Science Reviews; Frontiers in Earth Science; Geology; Geochemistry, Geophysics, Geosystems; Geophysical Journal International; Geophysical Research Letters; Interpretation; Journal of Geophysical Research; Journal of Applied Geophysics; Journal of Asian Earth Sciences; Data in Brief; Physics of the Earth and Planetary Interiors; Pure and Applied Geophysics; Scientific Reports; Tectonophysics.

Co-chair of a technical session at the Geological Society of America annual meeting, 2018. Dissertation review for Ahmed Diab at Alexandria University, Egypt, 2018.

- Hosted a summer intern from Texas A&M University through the Incorporated Research Institutions for Seismology, 2017.
- Hosted two summer interns from Brown University and University of Houston through the Incorporated Research Institutions for Seismology, 2019.
- Convener of a Geological Society of America North-Central/South-Central joint session meeting on continental rifts held in Branson, MO, 2010.
- Convener of a special session at the Western Pacific Geophysics Meeting on seismic anisotropy held in Taipei, Taiwan, 2010.

Judge, Best Student Paper Selection Committee, Earthscope National Meeting, 2007.

Co-member of Board of Directors/institution representative, Incorporated Research Institutions for Seismology (IRIS, over 100 member institutions in the US), 2006-present.

Organizer, special session on seismic anisotropy beneath East Asia at the Western Pacific Geophysical Meeting, 2006.

8. MEDIA COVERAGE at Missouri S&T

- <u>Missouri S&T gets \$1.9 million grant for geophysics software</u>, 2008
- Chinese university joins S&T in transfer program, 2009
- Scientists make discoveries about the ways oceans form, 2012
- Missouri S&T reaches finals of software design competition, 2015
- Missouri S&T software design team wins competition, 2015
- Missouri S&T scientists study volcanoes, earthquakes, 2015
- Analyzing past earthquakes may be key to predicting future activity, 2019
- <u>Predicting earthquakes by analyzing the past</u>, 2019
- Geophysicist named outstanding educator, 2021

9. <u>SOCIETY MEMBERSHIPS</u>

- American Geophysical Union (AGU) (1992-present)
- Seismological Society of America (SSA) (1993-2023)
- Society of Exploration Geophysics (SEG), Active member (2000-present)
- Geological Society of America (GSA) (2012-present)
- K-State Chapter of Sigma Xi (2002-2003)
- Geophysics Society of Kansas (GSK), *Charter member* (2005-2008)
- International Professionals for the Advancement of Chinese Earth Sciences (IPACES) (2014-present)