

Todd J. Greene

Professor and Chair

**Department of Earth and Environmental Sciences
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Research Interests

Broad areas: Tectonics and sedimentation, aquifer framework, sequence stratigraphy and depositional systems

Specific topics: Basin scale questions using a variety of technologies to address paleogeographic and tectonic histories of basins. I mainly work with core, outcrop, shallow 3-D seismic data, and modern analogs to piece together depositional facies models for volcanic-derived deposits, shallow marine clastic sequences as well as deep-water sediment gravity flows.

Professional Preparation

- California State University-Chico Department of Earth and Environmental Sciences
Assistant Professor- 2007-2012
Associate Professor- 2012-2017
Full Professor- 2017-present
Department Chair- 2019-present
- Anadarko Petroleum Corporation Geological Technology Senior Geologist – 2006
Corporate Geosciences Group: Serving as company specialist on clastic sedimentology and stratigraphy as part of a team of subject matter experts that support company-wide projects. Current projects mainly include building deep-water facies models in the Gulf of Mexico, teaching courses within the in-house training program, and representing the company in various university research consortia. Co-taught “Applied Clastic Sedimentology and Stratigraphy” class three times for professional geoscientists and engineers as part of the Nautilus USA teaching alliance program and the Anadarko in-house training program.
Basin Studies Group: Studied and evaluated geophysical and geologic data of Java, Indonesia, and provided recommendation to enter new international area.
Regional Studies of Rocky Mountains: Evaluated petroleum systems of Rocky Mountain basins and assessed potential for further exploration.
Coalbed Methane Exploration: Explored and tested frontier areas for coalbed methane projects throughout Rocky Mountains.
- Montgomery Community College Geology Department Adjunct Faculty- 2005-2006
Taught two Physical Geology courses at night.
- Stanford University Geological and Environmental Sciences Ph.D. – 2000
Dissertation: “Tectonics, basin analysis and organic geochemical attributes of Permian through Mesozoic deposits and their derivative oils of the Turpan-Hami Basin, northwestern China”

Advisors: Dr. Stephan A. Graham and Dr. J. Michael Moldowan

Other Committee Members: Dr. W. Gary Ernst (Stanford), Dr. Norman Sleep (Stanford), Dr. Alan Carroll (University of Wisconsin)

Conducted research towards the completion of dissertation. Organized and led two field parties to northwest China to conduct field mapping of non-marine stratigraphy and subsurface core description in conjunction with the University of Wisconsin, the Chinese National Petroleum Corporation, and the Turpan-Hami Petroleum Exploration and Development Bureau.

- Texaco Exploration Basin Studies Staff Geologist (intern) – 1998
Compiled all available geochemical/biomarker data for Trinidad/Tobago area, and used oil geochemistry to map regional maturity and facies trends in offshore Trinidad.
- Chevron U.S.A. Production Production Team Staff Geologist (intern) – 1998
Constructed a porosity/permeability model for Lower Green River Formation reservoirs based on interpreted lacustrine facies in cores, and correlated flooding surfaces using well log analysis in the Red Wash Field, NE Uinta Basin.
- University of California, Santa Cruz Earth Sciences B.S. – 1994
Highest Honors and College Honors, Earth Sciences
Primary Advisor: Dr. Robert E. Garrison
Senior Thesis: “Cement stratigraphy and diagenetic history of Upper Miocene sediments in the Cuyama Basin, California”
University of Adelaide, South Australia (2/1992-1/1993)
Education Abroad Program, studies contributed to B.S. in Earth Sciences

Peer-reviewed Publications

- 2021 Kang, S., Knight, R., **Greene, T.J.**, Buck, C., and Fogg, G., Exploring the Model Space of Airborne Electromagnetic Data to Delineate Large-Scale Structure and Heterogeneity Within an Aquifer System: *Water Resources Research*, v. 57, e2021WR029699. <https://doi.org/10.1029/2021WR029699>.
- 2017 **Greene, T.J.**, and Surpless, K.D., Facies architecture and provenance of a boulder-conglomerate submarine channel system, Panoche Formation, Great Valley Group: A forearc basin response to middle Cretaceous tectonism in the California convergent margin: *Geosphere*, v. 13, p. 838 – 869, doi:10.1130/GES01422.1.
- 2012 **Greene, T.J.**, Gingras, M.K., Gordon, G., and McKeel, D.R., The significance of deep-water cryptic bioturbation in slope-channel massive sand deposits of the lower Rio Dell Formation, Eel River basin, California: *Marine and Petroleum Geology*, v. 29, p. 152-174.
- 2012 Monet, J., and **Greene, T.J.**, Using Google Earth and satellite imagery to foster place-based teaching in an introductory physical geology course: *Journal of Geoscience Education*, v. 60, p. 10-20.
- 2005 **Greene, T.J.**, Carroll, A.R., Wartes, M., Graham, S.A., and Wooden, J.L., Integrated provenance analysis of a complex orogenic terrane: Mesozoic uplift of the Bogda Shan and inception of the Turpan-Hami basin, NW China: *Journal of Sedimentary Research*, v. 75, p. 251-267.
- 2004 **Greene, T.J.**, Zinniker, D., Moldowan, J.M., Cheng, K., and Su, A., Controls of oil family distribution and composition in nonmarine petroleum systems: a case study from the Turpan-Hami basin, northwestern China: *American Association of Petroleum Geologists Bulletin*, v. 88, p. 447-481.
- 2003 Johnson, C., **Greene, T.J.**, Zinniker, D., Carroll A.R., and Hendrix, M.S., Geochemical characteristics and correlation of oils and lacustrine source rocks from Mongolia: *American Association of Petroleum Geologists Bulletin*, v. 87, p. 817-846.

- 2002 Wartes, M.A., Carroll, A.R., and **Greene, T.J.**, Permian sedimentary record of the Turpan-Hami basin and adjacent regions, northwest China: constraints on postamalgamation tectonic evolution: *Geological Society of America Bulletin*, v. 114, p. 131-152.
- 2001 **Greene, T.J.**, Carroll, A.R., Hendrix, M.S., Graham, S.A., Wartes, M.A., and Abbink, O., Sedimentary record of Mesozoic deformation and inception of the Turpan-Hami basin, northwest China, in *Paleozoic and Mesozoic tectonic evolution of central Asia-from continental assembly to intracontinental deformation*, Hendrix, M.S. and Davis, G., eds., *Geological Society of America Special Memoir* 194, p. 317-340.
- 2000 **Greene, T.J.**, Carroll, A.R., Hendrix, M.S., Cheng, K., and Zeng X.M., Sedimentology and paleogeography of the Middle Jurassic Qiketai Formation, Turpan-Hami basin, NW China, in *Lake basins through space and time*, Gierlowski-Kordesch, E., and Kelts, K., eds., *American Association of Petroleum Geologists Studies in Geology* 46, p. 141-152.
- 2000 Wartes, M.A., Carroll, A.R., **Greene, T.J.**, Cheng, K., and Ting, H., Permian lacustrine deposits of northwest China, in *Lake basins through space and time*, Gierlowski-Kordesch, E., and Kelts, K., eds., *American Association of Petroleum Geologists Studies in Geology* 46, p. 123-132.

Non-peer-reviewed Publications, Abstracts, and Field Guides

- 2019 Kang, S., Knight, R., and **Greene, T.J.**, Interrogating the model space of airborne electromagnetic inversion to answer hydrogeologic questions: *American Geophysical Union 2019 Fall Meeting*, v. 2019, NS44A-02.
- 2018 **Greene, T.J.**, Maloney, D.F., Hilton, R.P., and Shapiro, R.S., Introduction to Late Cretaceous through Pliocene fill of the northern Sacramento Valley field trip, in *From Shorelines to Aquifers: Late Cretaceous through Pliocene Fill of the Northern Sacramento Valley, California*, **Greene, T.J.**, Shapiro, R.S., Maloney, D.F., and Hilton, eds., *Pacific Section-SEPM (Society of Sedimentary Geology)*, Book 121, p. 1-12.
- 2018 **Greene, T.J.**, Erling, A., and Gonzalez, M., Field Trip Day 1: Big Chico Creek Ecological Reserve, in *From Shorelines to Aquifers: Late Cretaceous through Pliocene Fill of the Northern Sacramento Valley, California*, **Greene, T.J.**, Shapiro, R.S., Maloney, D.F., and Hilton, eds., *Pacific Section-SEPM (Society of Sedimentary Geology)*, Book 121, p. 13-41.
- 2018 Gonzalez, M., **Greene, T.J.**, Erling, A., Stratigraphy of the Tuscan Formation along the western margin of Big Chico Creek Canyon, Chico, California, in *From Shorelines to Aquifers: Late Cretaceous through Pliocene Fill of the Northern Sacramento Valley, California*, **Greene, T.J.**, Shapiro, R.S., Maloney, D.F., and Hilton, eds., *Pacific Section-SEPM (Society of Sedimentary Geology)*, Book 121, p. 73-116.
- 2016 **Greene, T.J.**, Field Trip: Anatomy and provenance of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California, *Stanford University, Stanford Project on Deep-water Depositional Systems (SPODDS)*, 23 p.
- 2015 **Greene, T.J.**, Field Trip: Anatomy and provenance of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California, *Northern California Geological Society*, 23 p.
- 2015 **Greene, T.J.**, Melosh, M.T., and Surpless, K.D., Anatomy and provenance of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California: *Pacific Section-American Association of Petroleum Geologists Annual Meeting, Abstracts and Programs*.

- 2015 *Continental Extension Old and New at the Edge of the Mojave*, Pacific Section-SEPM (Society of Sedimentary Geology) Fall Field Trip Field Guide, eds. Shapiro, R.S., **Greene, T.J.**, Dehler, C., 44 p.
- 2015 **Greene, T.J.**, and Calzia, J.P., 2015, Miocene-aged megabreccia deposits in the northern Salt Spring Hills, eastern Mojave Desert, California, in *Continental Extension Old and New at the Edge of the Mojave*: Pacific Section-SEPM (Society of Sedimentary Geology) Fall Field Trip Field Guide, eds. Shapiro, R.S., **Greene, T.J.**, Dehler, C., p. 36-44.
- 2014 **Greene, T.J.**, and Hoover, K., Hydrostratigraphy and Pump-test Analysis of the Lower Tuscan/Tehama Aquifer, Northern Sacramento Valley, CA: California State University-Chico, Center for Water and the Environment, Chico, CA, 105 p. (non-peer-reviewed).
- 2013 **Greene, T.J.**, and Kato, T., Field Trip: Convergent Margin Tectonics across the Central California Coast Ranges: Pacific Section American Association of Petroleum Geologists Annual Meeting.
- 2013 **Greene, T.J.**, Fluvial architecture of a Cascades-sourced “paleo-Sacramento River” system within the Lower Tuscan Formation in the northern Sacramento Valley, CA: Pacific Section American Association of Petroleum Geologists Annual Meeting, Abstracts with Programs.
- 2013 **Greene, T.J.**, and Shapiro, R.S., Deep-water boulder conglomerate deposits in the Upper Cretaceous Panoche Formation (Campanian) of the Great Valley Group, San Luis Reservoir, central California: Pacific Section American Association of Petroleum Geologists Annual Meeting, Abstracts with Programs.
- 2010 **Greene, T.J.**, Gingras, M.K., and Gordon, G., 2010, Ichnologic fabrics in deep-water slope channel deposits, Pliocene Rio Dell Formation, onshore Eel River Basin, northwestern California: Geological Society of America, Annual Meeting, Abstracts with Programs, v. 42, p. 528-529.
- 2010 **Greene, T.J.**, Shervais, J., and Ritts, B.D., The Coast Range Orogen of California: Field Guide for the 25th Himalaya-Karakoram-Tibet workshop, San Francisco State University, 40 p.
- 2009 **Greene, T.J.**, and Gordon, G., Lithofacies prediction for “linked-debrites” in a mud-rich deep-water setting, onshore Eel River Basin, northwestern California: American Association of Petroleum Geologists Pacific Section Meeting, Ventura.
- 2009 **Greene, T.J.**, and Gordon, G., A multi-faceted approach for recognizing discrete bioturbation episodes in massive deep-water sediment gravity flows, Pliocene Rio Dell Formation, onshore Eel River Basin, CA: Geological Society of America Annual Meeting, Abstracts with Programs, v. 41, p. 122.
- 2008 **Greene, T.J.**, Ketterer, K., and Shapiro, R.S., Living on the Edge: Geology and Paleontology of the Great Valley Group: *in* Convergent Margin Tectonics in and Around Chico, Northern California, (**ed. Greene, T.J.**). Field Trip Guidebook for the National Association of Geoscience Teachers Far Western Section 2008 Fall Field Conference p. 31-41.
- 2008 **Greene, T.J.**, and Teasdale, R., A geologic tour of Big Chico Creek Canyon- The Miocene Lovejoy Basalt and Pliocene volcanoclastic Tuscan Formation: *in* Convergent Margin Tectonics in and Around Chico, Northern California, (**ed. Greene, T.J.**). Field Trip Guidebook for the National Association of Geoscience Teachers Far Western Section 2008 Fall Field Conference p. 55-68.
- 2008 **Greene, T. J.**, O’Neill, B.E., Drumheller, R.E., Butaud, T., and Rodriguez, A., Challenges when predicting reservoir quality in the subsalt K2/K2-North Field, Green Canyon, Gulf of Mexico: October, 2008 Gulf Coast Association of Geological Societies (GCAGS) Transactions, v. 58, p. 327-337.
- 2008 **Greene, T. J.**, and Shapiro, R. S., Student-based learning using Google Earth in Sedimentology and Stratigraphy courses: Geological Society of America Rocky Mountain and Cordilleran Sectional Meeting, Las Vegas, Abstracts with Programs, v. 40, p. 90.

- 2008 Carlton, A.E., Wohletz, A., **Greene, T.J.**, and Teasdale, R., Volcaniclastic debris flow deposits inferred from sedimentary textures of the southern Tuscan Formation, California: Geological Society of America Rocky Mountain and Cordilleran Sectional Meeting, Las Vegas, Abstracts with Programs, v. 40, p. 93
- 2008 Smith, M.R., **Greene, T.J.**, and Teasdale, R., Geologic mapping and flow identification of the Tuscan Formation, northern California: Geological Society of America Rocky Mountain and Cordilleran Sectional Meeting, Las Vegas, Abstracts with Programs, v. 40, p. 43.
- 2008 Geddes, R. T., Teasdale, R., and **Greene, T.J.**, Interpretation of a primary (?) volcaniclastic flow deposit in the Tuscan Formation, Chico, CA: Geological Society of America Rocky Mountain and Cordilleran Sectional Meeting, Las Vegas, Abstracts with Programs, v. 40, p. 94.
- 2008 Gordon, G., and **Greene, T.J.**, Deepwater siliciclastic deposits and anticlinal growth at Grizzly Bluff, Humboldt County, California: American Association of Petroleum Geologists Pacific Section Meeting, Bakersfield, digital.
- 2005 **Greene, T.J.**, O'Neill, B., Gamwell, P., Butaud, T., Pink, A., Golden, M., Jones, D., Parr, J., Taylor, M., and Barany, I., Depositional model for deepwater Miocene reservoirs in the Jubilee and Spiderman gas fields, eastern Gulf of Mexico: Houston Geological Society Bulletin, v. 48, p. 23-25.
- 2005 **Greene, T.J.**, and O'Neill, B.E., Building a facies-based permeability model for deep-water Miocene reservoirs, eastern Gulf of Mexico: Transactions - Gulf Coast Association of Geological Societies, v. 55, p. 268-277.
- 2005 **Greene, T.J.**, Gamwell, P., Butaud, T., Pink, A., Golden, M., Jones, D., Parr, J., and Barany, I., Depositional model for deep-water Miocene reservoirs in the Jubilee and Spiderman gas fields, eastern Gulf of Mexico: American Association of Petroleum Geologists Annual Convention Official Program, Abstracts and Programs, v. 89, digital.
- 2002 **Greene, T. J.**, and Cheng, K., Depositional controls on oil family composition based on a biomarker calibrated rock-to-oil correlation model from the Turpan-Hami basin, NW China, American Association of Petroleum Geologists Annual Convention Official Program, Abstracts and Programs, v. 11, p. A67.
- 2000 **Greene, T. J.**, Tectonic evolution of the Turpan-Hami basin, northwestern China, as recorded by detrital sandstone compositions, Geological Society of America Abstracts with Programs, v. 32, p. 9.
- 1999 **Greene, T. J.**, and Graham, S. A., Isotopic provenance of Devonian-aged granitic cobbles and geochemistry of Bogda Shan granitoids marking the inception of the Turpan-Hami basin, NW China: Geological Society of America Abstracts with Programs, v. 31, p. A374.
- 1999 Carroll, A. R., Wartes, M. A., and **Greene, T. J.**, Sedimentary evidence for Early Permian normal faulting, southern Bogda Shan, northwest China: Geological Society of America Abstracts with Programs, v. 31, p. A369-370.
- 1999 Wartes, M. A., Carroll, A. R., and **Greene, T. J.**, Permian sedimentary evolution of the Junggar and Turpan-Hami basins, northwest China: Geological Society of America Abstracts with Programs, v. 31, p. A291.
- 1998 Wartes, M. A., **Greene, T. J.**, and Carroll, A. R., Permian lacustrine paleogeography of the Junggar and Turpan-Hami basins, northwest China: American Association of Petroleum Geologists Annual Convention, Extended Abstracts, v. 2, p. A682.
- 1998 Zinniker, D., Moldowan, J. M., **Greene, T. J.**, Ritts, B. D., Hanson, A. D., Graham, S. A., Carroll, A. R., Hendrix, M. S., and Wood, G. D., Permian through Jurassic nonmarine source rocks of Central Asia: inter-basinal correlation of geological age and depositional environment using higher plant and algal biomarkers: Geological Society of America Abstracts with Programs, v. 30, p.83.

- 1997 **Greene, T. J.**, Petroleum geochemistry of Upper Permian and Middle Jurassic source rocks and oils of the Turpan-Hami basin, northwest China, American Association of Petroleum Geologists Bulletin, v. 81, p. 1774.
- 1997 **Greene, T. J.**, Carroll, A. R., Hendrix, M. S., and Li, J., Permian-Triassic basin evolution and petroleum system of the Turpan-Hami Basin, Xinjiang Province, northwest China, American Association of Petroleum Geologists Annual Convention Official Program, Abstracts and Programs, v. 6, p. 42.
- 1997 **Greene, T. J.**, Ritts, B. D., Webb, L., Graham, S., Hourigan, J., and Johnson, C., Progress on the Mesozoic geology of Asia at Stanford University: Geological Society of America Abstracts with Programs, v. 29, p. 228-229.
- 1997 Hendrix, M. S., **Greene, T. J.**, Carroll, A. R., Moldowan, J. M., and Graham, S. A., Uppermost Triassic-lowermost Jurassic lacustrine shale as a possible source rock interval for southern Mongolian sedimentary basins: American Association of Petroleum Geologists Annual Convention Abstracts with Programs, v. 6, p. A49.
- 1994 **Greene, T. J.**, and Hoppie, B. W., Relationships between deformation and carbonate diagenesis in the Cuyama depositional basin, California: Geological Society of America Abstracts with Programs, v. 26, p. 467.

Invited Presentations

- 2019 Greene, T.J., Anatomy of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California: Invited presentation to the Department of Geological and Environmental Sciences, California State University, Chico.
- 2018 California Naturalist Program course on Geology, Climate, and Soils. I also led a 4-hour hike with class participants in Upper Bidwell Park.
- 2018 Greene, T.J., San Joaquin Geological Survey on published research from the San Luis Reservoir.
- 2018 Greene, T.J., Sacramento State's Geology department on published research from the San Luis Reservoir.
- 2016 Greene, T.J., Hydraulic fracturing (fracking) and its potential impacts to groundwater resources: Butte College, Sustainability course.
- 2016 Greene, T.J., and Hoover, K.A., Hydrostratigraphy and Pump-test Analysis of the Lower Tuscan/Tehama Aquifer, Northern Sacramento Valley, CA: AquAlliance Water for Seven Generations: Will California Squander or Protect It?
- 2016 Greene, T.J., Hydrostratigraphy of the Lower Tuscan/Tehama Aquifer, Northern Sacramento Valley, CA: Sacramento Petroleum Association.
- 2016 Greene, T.J., The Lower Tuscan/Tehama Aquifer: what have we learned and where should we be headed? League of Women Voters.
- 2016 Greene, T.J., MEGA-DEPOSITS! A catastrophic journey through some of California's extraordinary sedimentary rocks: Department of Geological and Environmental Sciences, University of the Pacific.
- 2015 Greene, T.J., Anatomy of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California: Invited presentation to the Department of Geological and Environmental Sciences, Stanford University.
- 2015 Greene, T.J., What is fracking? What isn't fracking? Invited presentation to the Butte County Board of Supervisors.

- 2015 Greene, T.J., Hydraulic fracturing (fracking) and its potential impacts to groundwater resources: Geological and Environmental Sciences Seminar Series, co-sponsored by the Center for Water and Environment (CWE).
- 2014 Greene, T.J., Anatomy of a deep-water boulder conglomeratic submarine canyon in the Upper Cretaceous Panoche Formation (Cenomanian), Great Valley Group, San Luis Reservoir, central California: Invited presentation to the Department of Geosciences, Trinity University (San Antonio, TX).
- 2013 Keeping Tabs on Our Groundwater: Where is it and Where Does it Go? Presented with Christina Buck (Department of Water Resource Conservation): MWOW (Museum Without Walls) presentation: Gateway Science Museum, California State University, Chico, CA.
- 2013 Deep-water boulder conglomerate deposits in the Upper Cretaceous Panoche Formation (Cenomanian) of the Great Valley Group, San Luis Reservoir, central California, GEOS-AGES-Speaker Series (GASS), California State University, Chico, CA.
- 2012 Hydrostratigraphy of the Lower Tuscan Potential Aquifer Using Well-logs and Sandstone Composition within Portions of Glenn and Butte Counties: Associated Students of Geological and Environmental Students (AGES) bi-monthly meeting, California State University, Chico, CA.
- 2012 Hydrostratigraphy of the Lower Tuscan Potential Aquifer Using Well-logs and Sandstone Composition within Portions of Glenn and Butte Counties: AquaAlliance presents Water for Seven Generations: Will California Prepare For It?, Sierra Nevada Brewing Company, Chico, CA.
- 2011 Ichnologic fabrics in deep-water slope channel deposits, Pliocene Rio Dell Formation, onshore Eel River Basin, northwestern California: Association of Geological and Environmental Students (AGES) bi monthly meeting, California State University, Chico, CA.
- 2010 STEM Education--Reigniting the Excitement of Inquiry and Exploration: Examples of how to engage students in science, technology, engineering, and math (STEM), Center for Excellence and Learning and Teaching (CELT), California State University, Chico, CA.
- 2010 Ichnologic fabrics in deep-water slope channel deposits, Pliocene Rio Dell Formation, onshore Eel River Basin, northwestern California: Associated Students of Geological and Environmental Students (AGES) bi-monthly meeting, California State University, Chico, CA.
- 2010 Making learning meaningful: using technology to foster place-based teaching in an introductory Physical Geology course: Distinguished Speaker Series at San Francisco State University, CA.
- 2008 Predicting deep-water depositional facies; examples using sedimentology, 3-D seismic, and outcrop analogs. Shasta College, Science Colloquium.
- 2007 Methodology of predicting deep-water depositional facies; examples using sedimentology, 3-D seismic, and outcrop analogs: Associated Students of Geological and Environmental Students (AGES) bi-monthly meeting, California State University, Chico, CA.
- 2007 Use of core, logs, and outcrop to predict facies within shallow marine successions in the Mesaverde Group, NW Colorado. Sedimentary Group, Department of Geological and Environmental Sciences, Stanford University, Stanford, CA.
- 2005 Depositional model for deep-water Miocene reservoirs in the Jubilee and Spiderman gas fields, eastern Gulf of Mexico. 9th Annual Deepwater Technical Symposium, New Orleans, LA.
- 2005 Depositional model for deep-water Miocene reservoirs in the Jubilee and Spiderman gas fields, eastern Gulf of Mexico. Anadarko Petroleum Company Technical Conference, The Woodlands, TX.

- 2005 Building a facies-based permeability model for deep-water Miocene reservoirs, eastern Gulf of Mexico, Anadarko Petroleum Company Technical Conference, The Woodlands, TX.
- 2004 Methodology of predicting deep-water depositional facies in Gulf of Mexico Miocene reservoirs; examples using sedimentology, 3-D seismic, and outcrop analogs in Anadarko's gas fields. Utah State University Department of Geology Distinguished Lecturer Series, Logan, UT.
- 2004 Application of Biomarkers to Solve Geologic Problems: A Case Study from the Turpan-Hami Basin, Northwestern China. University of Houston, Department of Geology, Petroleum Systems course, Houston, TX.

Honors

- Pacific Section, American Association of Petroleum Geologists Distinguished Educator Award 2021
- A.I. Levorsen award for giving the best oral presentation at the PS-AAPG annual meeting in Monterey, CA: Fluvial architecture of a Cascades-sourced 'paleo-Sacramento River' system within the Lower Tuscan Formation in the northern Sacramento Valley, CA
Pacific Section-American Association of Petroleum Geologists 2013
- First Place: Grover E. Murray Award for best paper-GCAGS Transactions
Gulf Coast Association of Geological Societies (GCAGS) Convention 2008
- Elected member of Graduate Student Advisory Committee
School of Earth Sciences, Stanford University 1996 – 1997
- Awarded third place in the Student Oral session
American Association of Petroleum Geologists Annual Convention. 1997
- Highest Honors, College Honors, and awarded "Most Outstanding Geologist"
Earth Sciences Dept., University of California at Santa Cruz 1994

Service to Community

- Stakeholder Advisory Committee (SHAC) member for the SGMA Vina Sub-basin, CSU, Chico representative 2021-present
- Peer Reviewer: *Journal of Marine and Petroleum Geology* 2018
- Science Director for the Center of Water and the Environment (CWE) 2016-18
- Member, Technical Advisory Committee for Water Commission, Butte County Board of Supervisors 2016-present
- Northern Sacramento Valley-Groundwater Resources Association: Executive Committee, Secretary 2016-present
- Peer Reviewer: *Journal of Marine and Petroleum Geology* 2017
- Peer Reviewer: *Journal of Petroleum Science and Engineering* 2015
- Peer Reviewer: *AAPG Bulletin* 2015
- Peer Reviewer: *Essentials of Geology* textbook chapter review 2014
- Peer Reviewer: *Essentials of Geology* on-line material review 2013
- Peer Reviewer: *Essentials of Geology* textbook chapter review 2013
- Member of Gateway Science Museum Commission Board 2013-2014
- President of Pacific Section-SEPM (Society of Sedimentary Geology) 2013-present
- Peer Reviewer, *Marine and Petroleum Geology* 2013
- Peer Reviewer, National Science Foundation-Sedimentary Geology and Paleobiology Program 2011
- Member, Faculty Board for Center for Water and the Environment (CWE) 2011-present

- Peer Reviewer, Journal of Geoscience Education 2011
- Peer Reviewer, chapter in Elsevier proposed book 2011
- Chair, Geology Curriculum Committee, CSU-Chico 2010-2015
- Member, Research and Sponsored Programs university committee, CSU-Chico 2010-2012
- Member, Technical Steering Committee for the Lower Tuscan Monitoring,
Recharge and Data Management Project, Butte County, CA 2010-2012
- Peer Reviewer, *Marine and Petroleum Geology* 2010
- Peer Reviewer, *GSA Bulletin* 2010
- Member, Technical Advisory Committee, Big Chico Creek Ecological Reserve 2009-present
- Peer Reviewer, *Journal of Asian Earth Sciences* 2009
- Peer Reviewer, *GSA Bulletin* 2009
- Peer Reviewer, *Marine and Petroleum Geology* 2008
- Peer Reviewer, *Journal of Geodynamics* 2008
- Peer Reviewer, *Basin Research* 2008
- Peer Reviewer, *Basin Research* 2008
- Peer Reviewer, *SEPM Special Publication* 2007
- Peer Reviewer, *Facies Models, 4th edition* 2006
- Peer Reviewer, *Geological Society of London* 2004
- Peer Reviewer, *Journal of Sedimentary Research* 2004
- Member, American Association of Petroleum Geologists 1994-present
- Member, Geological Society of America 1994-present

Funding

- Big Chico Creek Watershed Tour-funded by a \$16,000 Student Learning Fee grant. 2019-20
- Big Chico Creek Watershed Tour-funded by a \$12,000 Student Learning Fee grant. 2018
The tour involved 44 students and 7 faculty from across the campus designing and implementing research activities involving the Big Chico Creek Watershed.
- Disadvantaged Community Center grant for \$132,297 2018
Received sub-award (as Project Director) funded by the State Water Resources Control Board for a fund two feasibility studies and one grant application for the City of Portola.
- Received \$30,000 sub-contract award from Butte County 2018
Aeroelectromagnetic (AEM) mapping project in conjunction with Stanford University, Butte County, Department of Water Resources, CSU-Sacramento, and other consultants and companies.
- EDMAP Proposal-USGS 2016
\$18,187 to support graduate student project: *Geologic mapping of the Tuscan Formation and related rocks within the 7.5' Richardson Springs Quadrangle, Butte County, California*
- Internal Research Grant-Research Foundation Scholars-California State University, Chico 2014
\$2500 for Summer 2014 to work on project: *Coarse-grained deep-water deposition in Cretaceous-aged boulder-conglomerate, San Luis Reservoir, CA: a high-resolution record of Sierran-derived sedimentation.*
- Internal Research Grant-Faculty Development, California State University, Chico 2013
Assigned Time for the Fall 2013 semester to work on project: Using sand grain composition and well-logs to understand the structure of the Lower Tuscan Aquifer in Butte, Glenn, and Tehama counties.
- National Science Foundation-Division of Earth Sciences (EAR) 2013
Funded for Petrel software support by PI Russell Shapiro
- Department of Water Resources settlement case 2011

\$35,959 for: *Proposal to analyze Tuscan aquifer well-cuttings and well-logs from test wells installed near Hamilton City, CA*

Internal Research Grant-Faculty Development, California State University, Chico	2011
<i>Assigned Time for the Fall 2011 semester to work on project: "Constraining the top of the Tuscan aquifer using trends in sandstone compositions across the Tuscan/Red Bluff formation boundary"</i>	
Internal Research Grant-Faculty Development, California State University, Chico	2009
<i>Assigned Time for the Fall 2009 semester to work on project: "Predicting internal structures in deep-water Mass Transport Complexes (MTCs), western Gulf of Mexico"</i>	
Internal Research Grant-Faculty Development, California State University, Chico	2008
<i>Assigned Time for the Spring 2009 semester to work on project: "Outcrop and aquifer characterization of the Tuscan Formation, Chico, California"</i>	
Internal Research Grants-Faculty Development, California State University, Chico	2007
<i>\$5,000 towards research on Tuscan Formation</i>	
Center for Excellence and Learning in Teaching (CELT), Instructional Grant, California State University, Chico	2007
<i>\$1,555 towards implementing Terrain Navigator Pro software in the curriculum.</i>	
American Chemical Society-Petroleum Research Fund	1996 – 1998
<i>\$50,000 toward Ph.D. project in NW China</i>	