

## Randall Alan Marrett

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### PERSONAL DATA:

Birth date:	26 April, 1960	Marital status:	Divorced, two children
Citizenship:	U.S.A.	Foreign languages:	Fluent in Spanish
Social Security No.:	556-43-3421		

### EDUCATION:

Doctorate	Cornell University; Ithaca, New York Major in Structural Geology Minors in Geophysics and Solid Mechanics Conferred: January, 1990 Dissertation Title: "Late Cenozoic tectonic evolution of the Puna plateau and adjacent foreland, northwestern Argentine Andes" Supervisory Committee: Richard W. Allmendinger (supervisor), Bryan L. Isacks, Andy L. Ruina
Bachelor of Science	University of California at Santa Cruz; Santa Cruz, California Major in Earth Sciences Highest Honors in Earth Sciences and College Honors Conferred: March, 1984

### PROFESSIONAL EXPERIENCE:

2007 - present	Professor (with tenure), University of Texas at Austin
2002 - present	Research professor, Bureau of Economic Geology, UT
2000 - 2007	Associate professor (with tenure), University of Texas at Austin
1994 - 2000	Assistant professor, University of Texas at Austin
1990 - 1994	Research scientist, Amoco Production Company
1989 - 1990	Research consultant, Amoco Production Company
1988	Profesor visitante, Universidad Nacional de Salta, Argentina
1984 - 1989	Research assistant, Cornell University

**SCIENTIFIC RESEARCH:**

General research interests include: structural geology of the upper continental crust, tectonics, regional seismicity, fluid flow in fractured rock, field geology.

Specific research projects have included: development of graphical and numerical methods for kinematic analysis of fault-slip data and development of associated field techniques, 1984-1989; structural analysis of kinematics and structural geometry associated with the development of the Puna plateau (Argentina), 1984-1989; mechanics of Quaternary mafic volcanism in the Puna plateau (Argentina), 1985-1989; size distributions of brittle fault populations and their relationships with finite strain and the b-value of earthquakes, 1989-1992; structural interpretation in fold-dominated contractional terranes, 1990-1992; regional structure of the Rocky Mountain foothills (Canada), 1991-1992; regional structure of the Neuquén basin (Argentina), 1992; regional structure of the Atlas Mountains (Tunisia), 1992; regional structure and tectonics of the Sierra Madre Oriental (Mexico), 1992-1993; fracture analysis of the Rocky Mountain foothills (Canada), 1993-1994; relationship of active tectonics to mass wasting processes in the Cordillera Oriental of northwestern Argentina, 1995-1998; scaling of extension fracture systems and fluid flow, 1994--; kinematics and mechanisms of detachment folding in the Sierra Madre Oriental (Mexico), 1995--; comparison of intracontinental kinematics and plate motions at different time scales in the Central Andes, 1996--; kinematics of fold-thrust belt salients at two scales in the Sierra Madre Oriental (Mexico), 1997--; comparison of extension rates determined from faults, earthquakes and geodesy at Yucca Mountain (Nevada), 1998--; kinematics and mechanisms of detachment folding at Reed Wash (Utah), 1999--.

**MEMBER OF PROFESSIONAL SOCIETIES:**

Geological Society of America  
American Geophysical Union  
American Association of Petroleum Geologists  
Sociedad Geológica Mexicana  
International Association of Structural/Tectonic Geologists  
Geyser Observation and Study Association

**AWARDS AND HONORS:**

Fractured reservoirs: A compendium of influential papers (AAPG), 2008: reprint of Marrett, R., Laubach, S.E. Olson, J.E., 2007, Anisotropy and beyond: geologic perspectives on geophysical prospecting for natural fractures. *The Leading Edge*, 26/9, 1106-1111.  
AAPG Energy Minerals Division Best Poster Award, 2006  
SEPM Excellence in Oral Presentation Award, Honorable Mention, 2001  
Knebel Distinguished Teaching Award (University of Texas at Austin), 1999  
Big XII Faculty Fellowship (University of Texas at Austin), 1998

Fulbright Fellowship for field research in Argentina, 1987 - 1988  
 Harold T. Stearns Fellowship Award (GSA) for field research in Argentina, 1986  
 AAPG Grant-in-Aid for field research in Argentina, 1986  
 Sigma Xi Grants-in-Aid for field research in Argentina, 1986  
 Sage Graduate Fellowship (Cornell University) for Ph.D. research, 1984 - 1985  
 Eleanor Tatem Fellowship (Cornell University) for Ph.D. research, 1984 - 1985  
 Outstanding Graduating Senior Award (University of California at Santa Cruz), 1984  
 ARCS Foundation Fellowship (University of California at Santa Cruz), 1980 - 1981  
 Priscilla Parkins Memorial Award (University of California at Santa Cruz), 1979  
 Amoco Foundation Fellowship (University of California at Santa Cruz), 1978 - 1982

## RESEARCH GRANTS:

### Principal or co-principal investigator:

- 2008-2009 GDL Foundation (\$24,000): “Field symposium on structural diagenesis: Cambrian Mesón Group sandstones, Quebrada Humahuaca, Argentina”, sole Principal Investigator
- 2007-2010 American Chemical Society, Petroleum Research Fund (\$90,000): “Evaporite deformation in the Sierra Madre Oriental, northeastern Mexico: Decollement kinematics in an evaporite-detached thin-skinned fold belt”, sole Principal Investigator
- 2006-2009 Department of Energy, Office of Basic Energy Sciences (\$750,800): “Predicting fracture porosity evolution in sandstone”, Co-Principal Investigator with Stephen Laubach (BEG), Robert Lander (Geocosm), Jon Olson (P&GE), Peter Eichhubl (BEG), and Linda Bonnell (Geocosm)
- 2004-2006 Jackson School of Geosciences, research initiative (\$600,000): “Fracture opening processes: Chemical/mechanical evolution of fracture systems”, Co-Principal Investigator with Stephen Laubach (BEG); collaborating scientists: Kitty Milliken (DGS), Jon Olson (P&GE), and Robert Lander (Geocosm)
- 2004-2005 Jackson School of Geosciences, seed grant (\$30,000): “Radical questioning of carbonate diagenesis paradigms: Predicting fracture and porosity evolution in dolostone”, Julia Gale (BEG), Principal Investigator; with collaborating scientists: Stephen Laubach (BEG), Robert Reed (BEG), and Jerry Lucia (BEG)
- 2004-2005 Jackson School of Geosciences, seed grant (\$30,000): “Advanced undergraduate field seminar: Recruiting elite graduate students”, Co-Principal Investigator with Stephen Laubach (BEG), Sharon Mosher (DGS), and Donald Blankenship (UTIG)

- 2003-2006 Department of Energy, Office of Basic Energy Sciences (\$620,800): “Predicting fracture porosity evolution in sandstone”, Co-Principal Investigator with Stephen Laubach (BEG), Robert Lander (Geocosm), Jon Olson (P&GE), Julia Gale (BEG), and Linda Bonnell (Geocosm)
- 2000-2003 Department of Energy, Office of Fossil Energy (\$900,700): “Combining a new 3-D seismic S-wave propagation analysis for remote fracture detection with a robust subsurface microfracture-based verification technique”, Co-Principal Investigator with Stephen Laubach (BEG), Bob Hardage (BEG), and James Simmons (BEG)
- 1999-2010 Fracture Research and Application Consortium (\$1,515,900) industrial associates program funded by industry sponsors (BG Group, Chevron USA, Conoco Inc., Devon Energy Corporation, Enron Global, Japan National Oil Corp., Lariat Petroleum Incorporated, Marathon Oil, Pemex Exploración y Producción, Petroleos de Venezuela, Petrobras, Repsol-YPF-Maxus, Sanchez Oil and Gas, Total-Fina-Elf, Tom Brown Incorporated): “Geological, geophysical, and engineering studies of fractures in reservoirs and reservoir analogs”, Principal Investigator with Stephen Laubach (BEG) and Jon Olson (P&GE)
- 1999-2000 Petroleos de Venezuela subcontract from BEG (\$15,100 DGS portion of total): “Optimizing hydrocarbon recovery from the Mara Este field, Maracaibo basin, Venezuela”
- 1998-2000 Texas Higher Education Coordinating Board, Advanced Research Program (\$137,716): “Scaling of fractures in carbonate reservoirs and relations with sequence-stratigraphic framework”, Principal Investigator with Stephen Laubach (BEG)
- 1997-1999 National Science Foundation (\$129,310): “Three-dimensional kinematics of fold-thrust belt salients at two scales: Sierra Madre Oriental, Mexico”, sole Principal Investigator
- 1996-1998 Department of Energy, Office of Fossil Energy (\$500,000): “Using microstructure observations to quantify fracture properties and improve reservoir simulations”, Principal Investigator with Stephen Laubach (BEG) and William Rossen (P&GE)
- 1996-1998 Industry co-funding in cash (\$80,000) for Department of Energy grant (industry sponsors: Chevron Petroleum Technology Co., Conoco Inc., Exxon Production Research, Maxus Energy Corp., Mobil Technology Co., Sanchez Oil and Gas, Tom Brown Inc., Union Pacific Resources): “Using microstructure observations to quantify fracture properties and improve reservoir simulations”, Principal Investigator with Stephen Laubach (BEG) and William Rossen (P&GE)

1994-2004 Unrestricted funds from Pemex Exploration and Production, Instituto Mexicano del Petroleo, Amoco Production, British Petroleum (\$28,400): funds to support structure/tectonic research in the Sierra Madre Oriental of Mexico and the Andes of Argentina, Chile and Colombia

Other projects:

1996-1998 German Science Foundation (DM 300,000): “Neotectonics and mass wasting in northwestern Argentina”, Research Associate with Manfred Strecker (University of Potsdam) Principal Investigator

**LEADER OF TECHNICAL SHORT-COURSES AND FIELD TRIPS:**

Observaciones y Entendimientos Nuevos de Fracturas Extensionales: short course for Pemex Exploración y Producción, Saltillo, México, May 2006

Métodos Cinemáticos en Geología Estructural: short course for Universidad Nacional Autónoma de México, Mexico City, México, September 2005

Fabrics, Kinematics, Scaling, and Growth of Brittle Faults: short course for Universidade Federal do Rio Grande do Norte, Natal, Brazil, May 2004

Fractured Reservoir Characterization and Modeling (with S. Laubach and J. Olson): short course for American Association of Petroleum Geologists, Austin, Texas, November 2003

Observaciones y Entendimientos Nuevos de Fracturas Extensionales: short course for Universidad Nacional de Salta, Salta, Argentina, May 2003

Genesis and Controls of Reservoir Scale Carbonate Deformation, Monterrey Salient, Mexico (with F. Monroy-Santiago): field trip for Fracture Research and Applications Consortium, Monterrey, México, February 2002

Genesis and Controls of Reservoir Scale Carbonate Deformation, Monterrey Salient, Mexico (with S. Eguiluz de Antuñano and F. Monroy-Santiago): field trip for joint international conference of Asociación Mexicana de Geólogos Petroleros and American Association of Petroleum Geologists, Veracruz, México, November 2001

Fractured Reservoir Characterization and Modeling (with S. Laubach and J. Olson): short course for American Association of Petroleum Geologists, Austin, Texas, November 2000

Fractured Reservoir Characterization and Modeling (with S. Laubach and J. Olson): short course for American Association of Petroleum Geologists, Austin, Texas, November 1999

Stratigraphy and Structure of Jurassic and Cretaceous Rocks of the Sierra Madre Oriental, Northeastern Mexico (with J. Wilson, W. Ward, R. Camerlo, and M. Aranda-García): field trip for American Association of Petroleum Geologists annual meeting, San Antonio, Texas, April 1999

Análisis Geológico de Yacimientos Naturalmente Fracturados: short course for Ecopetrol, Bogotá, Colombia, November 1998

Structure and Sequence Stratigraphy of the Sierra Madre Oriental (with J. Wilson and W. Ward): field trip for Mobil Technology Corp., Monterrey, México, May 1998

- Fractures in central Texas (with S. Laubach): field trip for Amoco Production Co., Austin, Texas, July 1996
- Construcción de Secciones Balanceadas: short course for Instituto Mexicano del Petroleo, Mexico City, México, March 1996
- Análisis Geológico de Yacimientos Naturalmente Fracturados: short course for Pemex Exploración y Producción, Poza Rica, México, August 1995
- Structure and Tectonics of the Sierra Madre Oriental (with G. Prost): field trip for Amoco Production Co., Monterrey, México, March 1995
- Construcción de Secciones Balanceadas: short course for Pemex Exploration and Production, Poza Rica, México, March 1995
- Construcción de Secciones Balanceadas: short course for Pemex Exploration and Production, Poza Rica, México, November 1994

### **CONVENER OF TECHNICAL MEETINGS AND SYMPOSIA:**

- Late Cenozoic Evolution of the Central Andes: Special Session at AGU fall meeting, December 1999, with M. Strecker
- Scale effects of fluid flow and fractures: Theme Session at GSA annual meeting, October 1996, with S. Laubach
- Fractured aquifers and petroleum reservoirs: Symposium at GSA South-Central Section meeting, March 1996, with S. Laubach

### **INVITED TECHNICAL LECTURES:**

#### Keynote lectures:

- Second Congreso Nacional de Ingeniería en Geociencias, Ciudad Madero, México, May 2005
- Centennial meeting of the Sociedad Geológica Mexicana, Querétaro, México, November 2004
- First National Meeting of Earth Sciences, sponsored by the Sociedad Geológica Mexicana, Mexico City, México, September 1998
- Tectonic Studies Group special meeting on *Fault populations*, Edinburgh, Scotland, October 1994
- Geological Society of America Penrose Conference on *Applications of strain, from microstructures to mountain belts*, Halifax, Canada, September 1992

#### External to UT Austin (academic):

- Facultad de Ingeniería, Universidad Nacional Autónoma de México, México City, México, May 2013
- Seismological Laboratory, California Institute of Technology, Pasadena, California, January 2012
- Department of Geology, University of California, Davis, California, February 2008
- Centro de Geociencias, Universidad Nacional Autónoma de México, Querétaro, México, January 2004

Desert Research Institute, University of Nevada, Reno, Nevada, September 2002  
 School of Geological Sciences, Freie Universität Berlin, Berlin, Germany, May 2001  
 Department of Geological Sciences, Cornell University, Ithaca, New York, September 2000  
 Department of Geosciences, University of Houston, Houston, Texas, November 1999  
 Department of Geological Sciences, University of Tennessee, Knoxville, Tennessee, October 1999  
 Department of Geology, Imperial College, University of London, London, England, April 1999  
 Department of Geosciences, University of Tulsa, Tulsa, Oklahoma, October 1998  
 Department of Geological Sciences, University of Colorado at Boulder, Boulder, Colorado, January 1998  
 Department of Geological Sciences, University of Texas at El Paso, El Paso, Texas, March 1996  
 Facultad de Ciencias Naturales, Universidad Nacional de Salta, Salta, Argentina, January 1996  
 Instituto de Geofísica, Universidad Nacional Autónoma de México, Mexico City, Mexico, July 1995  
 Southwest Research Institute, San Antonio, Texas, March 1995  
 Programs in Geosciences, University of Texas at Dallas, Dallas, Texas, February 1995  
 Department of Geology, University of Southampton, Southampton, England, May 1991  
 Department of Earth Sciences, University of Liverpool, Liverpool, England, April 1991

External to UT Austin (professional society):

Foro de Caracterización de Yacimientos Naturalmente Fracturados, Asociación Mexicana de Geólogos Petroleros, Villahermosa, México, November 2013  
 American Rock Mechanics Association forum on New Directions for U.S. Rock Mechanics, Pacific Grove, California, October 1998  
 Tulsa Geological Society, Tulsa, Oklahoma, October 1998  
 Houston Geological Society symposium on *Thrust tectonics*, Houston, Texas, June 1998  
 Rocky Mountain Association of Geologists symposium on *Fractured reservoirs, practical exploration and development strategies*, Denver, Colorado, January 1998  
 American Association of Petroleum Geologists annual meeting, session on *New technology in the exploration and exploitation of fractured reservoirs*, Dallas, Texas, April 1997  
 Geological Society of America South-Central Section meeting, symposium on *Fractured aquifers and petroleum reservoirs*, Austin, Texas, March 1996  
 Sociedad Geológica Mexicana, Chihuahua, Mexico, June 1994  
 Asociación Mexicana de Geólogos Petroleros, Poza Rica, Mexico, January 1994

External to UT Austin (industry):

Shell Canada Limited, Calgary, Canada, December 2008  
 Shell International Exploration and Production, Houston, Texas, January 2006  
 Repsol-YPF-Maxus, Denver, Colorado, August 2000  
 Conoco Inc., Houston, Texas, March 2000  
 Pemex Exploración y Producción, Villahermosa, Mexico, June 1999

Marathon Oil Co., Denver, Colorado, May 1999  
 Maxus Energy Corp., Dallas, Texas, March 1998  
 Chevron Petroleum Co., Midland, Texas, January 1997  
 British Petroleum Exploration Co., Bogotá, Colombia, August 1995

Internal to UT Austin:

Institute for Geophysics (Brownbag Seminar), University of Texas at Austin, Austin, Texas, March 2013  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, March 2012  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, February 2009  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, April 2007  
 Department of Geological Sciences (Technical Sessions), University of Texas at Austin, Austin, Texas, September 2006  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, March 2006  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, March 2004  
 Department of Geological Sciences (Technical Sessions), University of Texas at Austin, Austin, Texas, September 2003  
 Department of Petroleum and Geosystems Engineering, University of Texas at Austin, Austin, Texas, February 2002  
 Department of Geological Sciences (Technical Sessions), University of Texas at Austin, Austin, Texas, January 2002  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, February 2001  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, October 2000  
 Department of Geological Sciences (Technical Sessions), University of Texas at Austin, Austin, Texas, September 1999  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, March 1999  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, September 1998  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, November 1997  
 Institute for Geophysics, University of Texas at Austin, Austin, Texas, January 1997  
 Department of Energy users group for project studying *Using microstructure observations to quantify fracture properties and improve reservoir simulations*, Austin, Texas, July 1996  
 Gas Research Institute users group for project studying *New methods to quantify natural fracture attributes*, Austin, Texas, March 1996  
 Department of Geological Sciences (Hardrock/Structure Seminar), University of Texas at Austin, Austin, Texas, November 1995

Gas Research Institute users group for project studying *New methods to quantify natural fracture attributes*, Dallas, Texas, May 1995

Institute for Geophysics, University of Texas at Austin, Austin, Texas, February 1995

Department of Geological Sciences (Technical Sessions), University of Texas at Austin, Austin, Texas, October 1994

### **EDITORIAL SERVICE FOR JOURNALS:**

Editorial Board, *Revista Mexicana de Ciencias Geológicas*, Sociedad Geológica Mexicana (2003-present)

Editorial Board, *Geology*, Geological Society of America (2002-2004)

### **REVIEWER OF TECHNICAL PAPERS FOR JOURNALS:**

Nature

Geology

Geological Society of America Bulletin

Journal of the Geological Society of London

Journal of Structural Geology

Tectonics

Journal of Geophysical Research

Geophysical Research Letters

Mathematical Geology

SPE Formation Evaluation

Ore Geology Reviews

Rocky Mountain Association of Geologists Guidebook

Journal of African Earth Sciences

Revista Mexicana de Ciencias Geológicas

Boletín de la Sociedad Geológica Mexicana

Geofísica Internacional

### **REVIEWER OF TECHNICAL RESEARCH PROPOSALS:**

National Science Foundation

Division of Earth Sciences

American Chemical Society

Petroleum Research Fund

Department of Energy

Office of Basic Energy Sciences

### **GEOLOGICAL FIELD EXPERIENCE:**

Fold-related strain in the San Rafael monocline, Utah; research (October 2014)

Fault-related strain adjacent to the Forellen Fault, Grand Teton National Park, Wyoming; research (August 2014)

Temporal scaling and interaction of geyser eruptions, Yellowstone National Park, Wyoming; research (July 2014)

Field mapping in the San Rafael swell, Utah; Río Grande rift, New Mexico; San Juan Mts., Colorado; teaching departmental field camp Geo 660 (May – June 2014)

Fold-related strain in the San Rafael monocline, Utah; research (May 2014)

Field mapping in Big Bend Ranch state park, west Texas; class trip for Geo 391 led by myself (April 2014)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (March – May 2014)

Field trip on Structure of the Big Bend region, west Texas; class trip for Geo 391 led by myself (February 2014)

Field trip on Structural geology in Arches NP, Canyonlands NP, San Rafael swell, and Wasatch plateau, Utah; class trip for Geo 381E led by myself (October 2013)

Field mapping in the Big Horn basin, Wyoming; Big Belt Mts., McCarthy Mts., and Pioneer Mts., Montana; teaching departmental field camp Geo 660 (May – June 2013)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (March – May 2013)

Field trip on Structural geology in A-bomb canyon, Arizona, and Death Valley, California; class trip for Geo 381E led by myself (October 2012)

Field mapping in the Río Grande rift, New Mexico; Big Belt Mts., McCarthy Mts., and Pioneer Mts., Montana; teaching departmental field camp Geo 660 (May-June 2012)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (March – May 2012)

Spatial scaling of faults in siliciclastic strata, Buckskin Mts., Arizona; research (December 2011)

Field trip on Deformation mechanisms, strain measurement, and rheological evolution in the Río Grande rift, New Mexico; class trip for Geo 380C led by myself (October 2011)

Field mapping in the Río Grande rift, New Mexico; San Juan Mts., Colorado; teaching departmental field camp Geo 660 (June 2011)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (March – May 2011)

Spatial scaling of faults in siliciclastic strata, Buckskin Mts., Arizona; research (February-March 2011)

Spatial scaling of fractures in modern saltpan, Death Valley, California; research (November 2010)

Field mapping in the McCarthy Mts. and Pioneer Mts., Montana; teaching departmental field camp Geo 660 (June 2010)

Field mapping in the Big Horn basin, Wyoming; McCarthy Mts., Big Belt Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June 2009)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (October – December 2009)

Field trip on Deformation mechanisms, strain measurement, and rheological evolution in the Sierra Madre Oriental, Mexico; class trip for Geo 380C led by myself (October 2008)

Fractures in Cambrian and Devonian sandstones of the Andean fold-thrust belt, southern Bolivia and northwestern Argentina; research (August 2008)

Field mapping in the Big Horn basin, Wyoming; McCarthy Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June 2008)

Field mapping in the Llano uplift, Texas; teaching core undergraduate course in field methods Geo 420K (March – May 2008)

Field trip on Deformation and magmatism in the Central Andes, northern Chile; trip for undergraduate honors group led by myself, Phillip Bennett, Mark Helper (March 2008)

Interaction of deformation and magmatism in the volcanic arc of southwestern Bolivia; research (December 2007-January 2008)

Field trip on Deformation mechanisms, strain measurement, and rheological evolution in the Sierra Madre Oriental, Mexico; class trip for Geo 380C led by myself (October 2007)

Deformation within the evaporite decollement of the Sierra Madre Oriental fold-thrust belt, Mexico; research (August 2007)

Field mapping in the Big Horn basin, Wyoming, McCarthy Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June 2007)

Fracture arrays in the Cambrian Eriboll Group sandstones, NW Scotland; research (May 2007)

Field trip on Structure of the Sierra Madre Oriental fold-thrust belt, Mexico; class trip for Geo 381E led by myself (February 2007)

Field trip on Deformation mechanisms, strain measurement, and rheological evolution in the Sierra Madre Oriental, Mexico; class trip for Geo 380C led by myself (October 2006)

Kinematic history of the Sierra de Chiapas, Mexico; research (July-August 2006)

Deformation within the evaporite decollement of the Sierra Madre Oriental fold-thrust belt, Mexico; research (July-August 2006)

Field mapping in the Big Horn basin, Wyoming, Big Belt Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June-July 2006)

Field trip on Tectonics of the Sierra Madre Oriental fold-thrust belt, Mexico; class trip for Geo 371c/391 led by myself (February 2006)

Fracture arrays in the Cambrian Eriboll Group sandstones, NW Scotland; research (August 2005)

Field trip on Fractures in the Huizachal Group, Galeana, Mexico; led by myself and M. Ward for Fracture Research and Application Consortium, Monterrey, Mexico (July 2005)

Field mapping in the Big Horn basin, Wyoming and McCarthy Mts., Big Belt Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June 2005)

Field trip on Structure of the Sierra Madre Oriental fold-thrust belt, Mexico; class trip for Geo 381E led by myself (March 2005)

Interaction of deformation and magmatism at the southern end of the Altiplano-Puna plateau, Cerro Blanco caldera, Argentina; research (January 2005)

Fracture development and scaling in siliciclastic strata, Quebrada de Humahuaca, Argentina; research (December 2004)

Field trip on Amazcala and Amealco calderas, Querétaro, México; led by G. Aguirre-Díaz (October 2004)

Scaling of deformation bands, Arches National Park, Utah; research (July 2004)

Field mapping in the Big Horn basin, Wyoming and McCarthy Mts., Big Belt Mts., and Pioneer Mts., Montana; teaching at departmental field camp Geo 660 (June-July 2004)

- Scaling of deformation bands, Tucano basin, Brazil; research (May 2004)
- Spatial scaling of faults in siliciclastic strata, Buckskin Mts., Arizona; research (January 2004)
- Field trips on Fracture development in the Austin area; led by myself for American Association of Petroleum Geologists course on Fractured Reservoir Characterization and Modeling (November 2003)
- Field trip on Deformation mechanisms, strain measurement, and rheological evolution in the Sierra Madre Oriental, Mexico; class trip for Geo 380C led by myself (October 2003)
- Fracture development and scaling in carbonate strata, Sierra Madre Oriental, Mexico; research (August 2003)
- Fracture development and scaling in siliciclastic strata, Teton Mts., Wyoming; research (July 2003)
- Field mapping in the Paradox basin, Utah, San Juan basin and San Juan Mts., Colorado, and Rio Grande rift, New Mexico; teaching at departmental field camp Geo 660 (June 2003)
- Kinematics of active deformation in the Central Andean volcanic arc, Chile; research (May 2003)
- Regional structural traverse of the Altiplano-Puna plateau, Argentina; research (April 2003)
- Structure and kinematic development of the Fraile depression, Altiplano-Puna plateau, Argentina; research (March 2003)
- Interaction of deformation and magmatism at the southern end of the Altiplano-Puna plateau, Sierra de San Buenaventura, Argentina; research (February 2003)
- Temporal complexity of eruptions at proximal geysers, El Tatio geyser field, Chile; research (January 2003)
- Field trip on Structure of the Sierra Madre Oriental fold-thrust belt, Mexico; class trip for Geo 381E led by myself (October 2002)
- Field mapping in the Big Horn basin, Wyoming and McCarthy Mts. and Big Belt Mts., Montana; teaching at departmental field camp Geo 660 (June 2002)
- Field trip on Genesis and controls of reservoir scale carbonate deformation, Monterrey Salient, Mexico; led by myself and F. Monroy-Santiago for Fracture Research and Application Consortium, Monterrey, Mexico (February 2002)
- Field trip on Genesis and controls of reservoir scale carbonate deformation, Monterrey Salient, Mexico; led by myself, S. Eguiluz de Antuñano, and F. Monroy-Santiago for joint international conference of Asociación Mexicana de Geólogos Petroleros and American Association of Petroleum Geologists, Veracruz, Mexico (November 2001)
- Fracture development and scaling in carbonate strata, Sierra Madre Oriental, Mexico; research (July-August 2001)
- Field mapping in the Big Horn basin, Wyoming and Big Belt Mts. and McCarthy Mts., Montana; teaching at departmental field camp Geo 660 (June 2001)
- Field trip on Structure of the Sierra Madre Oriental fold-thrust belt, Mexico; class trip for Geo 381E led by myself (February 2001)
- Field trip on Stratigraphy and structure of Sierra Madre Oriental, Mexico; led by myself and R. Goldhammer for Devon Energy Corporation (January 2001)
- Field trips on Fracture development in the Austin area; led by myself for American Association of Petroleum Geologists course on Fractured Reservoir Characterization and Modeling (November 2000)
- Field mapping in the Big Horn basin, Wyoming and Big Belt Mts., Montana; teaching at

departmental field camp Geo 660 (June 2000)  
Origin of sand pipes, Lake Powell, Utah; research (March 2000)  
Fracture development and scaling in carbonate strata, Sierra Madre Oriental, Mexico;  
research (February-March 2000)  
Field trips on Fracture development in the Austin area; led by myself for American  
Association of Petroleum Geologists course on Fractured Reservoir Characterization and  
Modeling (November 1999)  
Kinematics of salient development in the Monterrey salient, Sierra Madre Oriental fold-thrust  
belt, Mexico; research (July-August 1999)  
Field mapping in the Big Horn basin, Wyoming and Big Belt Mts., Montana; teaching at  
departmental field camp Geo 660 (June 1999)  
Fold geometries in the Carmel Fm., San Rafael swell, Utah; research (June 1999)  
Field trip on Stratigraphy and structure of Jurassic and Cretaceous rocks of the Sierra Madre  
Oriental, northeastern Mexico; led by myself, J. Wilson, W. Ward, R. Camerlo, and M.  
Aranda-García for American Association of Petroleum Geologists annual meeting (April  
1999)  
Kinematics of folding and salient development in the Monterrey salient, Sierra Madre  
Oriental fold-thrust belt, Mexico; research (November 1998)  
Fracture development and scaling in carbonate strata, Sierra Madre Oriental, Mexico;  
research (October 1998)  
Faulting in the Yucca Mountain area, Nevada; research (June 1998)  
Field mapping in the Big Horn basin, Wyoming and Big Belt Mts., Montana; teaching at  
departmental field camp Geo 660 (June 1998)  
Fracture development and scaling in the Weber sandstone, Uinta Mountains, Utah; research  
(May 1998)  
Field trip on Structure and tectonics of Sierra Madre Oriental, Mexico; led by myself, J.  
Wilson and W. Ward for Mobil Technology Corp. (May 1998)  
Structure and tectonics of the southern Andes, Argentina; research with M. Strecker and P.  
Blisniuk (February-March 1998)  
Fracture development and scaling in the Marble Falls Limestone, Pedernales Falls State Park,  
Texas; research (November-December 1997)  
Fold geometries in the Carmel Fm., San Rafael swell, Utah; research (October 1997)  
Field trip on Fault-related rocks of the Wasatch normal fault, Utah; led by J. Evans, A.  
Yonkee, and R. Bruhn (October 1997)  
Kinematics of folding in the San Julian uplift, Sierra Madre Oriental fold-thrust belt, Mexico;  
research (September 1997)  
Fracture development and scaling in the Weber sandstone, Uinta Mountains, Utah; research  
(July 1997)  
Field mapping in the Big Horn basin, Wyoming and Big Belt Mts., Montana; teaching at  
departmental field camp Geo 660 (June 1997)  
Kinematics of folding and salient development in the Monterrey salient, Sierra Madre  
Oriental fold-thrust belt, Mexico; research (February 1997)  
Field trip on Structure of the Monterrey salient, Sierra Madre Oriental fold-thrust belt,  
Mexico; class trip for Geo 391 led by myself (November 1996)  
Field trip on Fractures in central Texas; led by myself and S. Laubach for Amoco Production  
Co. (July 1996)

Field trip on Fractures in the Sawtooth Mts., Montana; led by D. Stearns (July 1996)  
Field mapping in the San Juan Mts., Colorado and Big Belt Mts., Montana; teaching at departmental field camp Geo 660 (June 1996)  
Fracture analysis in the San Juan basin, New Mexico; research (May-June 1996)  
Structure and tectonics of the Central Andes, Chile and Argentina; research with M. Strecker (January-February 1996)  
Field trip on Structure of the Big Bend and Marathon regions, west Texas; class trip for Geo 380C led by myself (December 1995)  
Kinematics of the Sierra Madre Oriental, Mexico; research (June-July 1995)  
Field mapping in the San Juan Mts., Colorado and Big Belt Mts., Montana; teaching at departmental field camp Geo 660 (June 1995)  
Field trip on Structure and tectonics of Sierra Madre Oriental, Mexico; led by myself and G. Prost for Amoco Production Co. (March 1995)  
Field trip on Faulting at Flamborough Head, England; led by D. Peacock (November 1994)  
Fracture analysis in the northern Canadian Rocky Mt. Foothills; research (July 1994)  
Fracture analysis in the southern Canadian Rocky Mt. Foothills; research (May 1994)  
Field trip on Structure and stratigraphy of the southern Pyrenees Mts., Spain; led by J. Vergés, J. Pueyo, M. Sans, M. Zamorano, and Z. Teixell (November 1993)  
Fracture analysis in the northern Canadian Rocky Mt. Foothills; research (August 1993)  
Faulting at Landers and the Volcanic Tableland, California; research (April 1993)  
Field trip on Geology and tectonics of the southern San Andreas fault system, California; led by A. Sylvester (April 1993)  
Structure of the Sierra Madre Oriental, Mexico; research (November-December 1992)  
Field trip on Turner Valley structure of the southern Alberta Foothills, Canada; led by P. MacKay (September 1992)  
Field trip on Structure of the Meguma terrane in the Lunenburg and Ecum Secum areas, Nova Scotia, Canada; led by T. Wright, J. Henderson, and M. Henderson (September 1992)  
Structural styles of the Atlas Mts., Tunisia; research (August-September 1992)  
Structure of the Sierra Madre Oriental, Mexico; research (May 1992)  
Structural styles of the Neuquén foreland basin, Argentina; research (March 1992)  
Fold geometries and mechanisms in the northern Canadian Rocky Mt. Foothills; research (August 1991)  
Field trip on Rocky Mt. thrust belt in southern Canada; led by P. Simony and I. Halliday (August 1991)  
Field trip on Thrust/foreland structures in the northern U.S. Rocky Mts., Wyoming and Montana; led by D. Wiltschko and J. Spang (July 1991)  
Field trip on Ouachita Mts. thin-skinned fold and thrust belt, Oklahoma; led by B. Tapp (May 1991)  
Field trip on Fault geometries along the Somerset coast, England; led by D. Peacock and D. Sanderson (April 1991)  
Fault kinematics and paleomagnetic rotations in the Salar de Antofalla, Puna plateau, Central Andes, Argentina; research (September-October 1990)  
Structure and kinematics of the Puna plateau, Quebrada Humahuaca, and Quebrada Pucará, Central Andes, Argentina; research (September 1987 - July 1988)  
Structure and kinematics of the Quebrada del Toro, Central Andes, Argentina; research

(August -December 1986)  
 Field trip on Structure of the central Appalachian foreland fold-thrust belt; led by N. Woodward (March 1986)  
 Structure and kinematics of the Valle Calchaquí, Central Andes, Argentina; research (May-July 1985)  
 Field mapping in the northern Sierra Nevada Mts., California; field assistant to Y. Dilek (July-August 1983)  
 Field mapping in the Coast Ranges, California; undergraduate course work at University of California, Santa Cruz (1982-1983)  
 Numerous field trips in the Coast Ranges and Sierra Nevada, California; undergraduate course work at University of California, Santa Cruz (1980-1983)

### UNIVERSITY TEACHING:

#### Organized courses taught:

Fall, 2014	Fractals and Dynamic Systems on Earth (Geo 391); 2 graduates overall instructor rating: xx / 5.0
Summer, 2014	Field Geology (Geo 660A); 55 undergraduates overall instructor rating: 4.3 / 5.0 Field Geology (Geo 660B); 56 undergraduates overall instructor rating: 3.7 / 5.0
Spring, 2014	Introduction to Field and Stratigraphic Methods (Geo 420K); 69 undergraduates overall instructor rating: 4.5 / 5.0 team-taught with Mark Helper, Charles Kerans, and Joel Johnson Advanced Field Geology (Geo 391); 6 graduates overall instructor rating: 4.2 / 5.0 Tectonic Problems (Geo 381K); 11 graduates team-taught with Mark Cloos, Daniel Stockli, and Whitney Behr
Fall, 2013	Brittle Structure (Geo 381E); 9 graduates overall instructor rating: 4.8 / 5.0
Summer, 2013	Field Geology (Geo 660A); 23 undergraduates overall instructor rating: 4.8 / 5.0 Field Geology (Geo 660B); 26 undergraduates overall instructor rating: 4.8 / 5.0
Spring, 2013	Introduction to Field and Stratigraphic Methods (Geo 420K); 112 undergraduates overall instructor rating: 4.7 / 5.0 team-taught with Gregory Frebourg, Mark Helper, Charles Kerans Advanced Field Geology (Geo 391); 1 graduate team-taught with Daniel Stockli Tectonic Problems (Geo 381K); 13 graduates team-taught with Mark Cloos, Daniel Stockli, and Whitney Behr
Fall, 2012	Brittle Structure (Geo 381E); 10 graduates overall instructor rating: 4.7 / 5.0

	Advanced Structural Geology (Geo 380C); 19 graduates overall instructor rating: 4.2 / 5.0 team-taught with Peter Eichhubl
Summer, 2012	Field Geology (Geo 660A); 31 undergraduates overall instructor rating: 4.3 / 5.0 Field Geology (Geo 660B); 33 undergraduates overall instructor rating: 4.3 / 5.0
Spring, 2012	Introduction to Field and Stratigraphic Methods (Geo 420K); 55 undergraduates overall instructor rating: 4.6 / 5.0 team-taught with Mark Helper, Brian Horton, Charles Kerans
	Tectonic Problems (Geo 381K); 9 graduates team-taught with Mark Cloos and Daniel Stockli
Fall, 2011	Advanced Structural Geology (Geo 380C); 12 graduates overall instructor rating: 4.6 / 5.0 team-taught with Peter Eichhubl
Summer, 2011	Field Geology (Geo 660A); 52 undergraduates overall instructor rating: 4.0 / 5.0 Field Geology (Geo 660B); 59 undergraduates overall instructor rating: 3.6 / 5.0
Spring, 2011	Introduction to Field and Stratigraphic Methods (Geo 420K); 71 undergraduates overall instructor rating: 4.6 / 5.0 team-taught with Mark Helper, Brian Horton, Charles Kerans
Summer, 2010	Field Geology (Geo 660A and B); 60 undergraduates overall instructor rating: 4.3 / 5.0
Summer, 2009	Field Geology (Geo 660A); 32 undergraduates overall instructor rating: 3.2 / 5.0 Field Geology (Geo 660B); 40 undergraduates overall instructor rating: 3.8 / 5.0
Spring, 2009	Fractals and dynamic systems on Earth (Geo 391); 8 graduates overall instructor rating: 4.7 / 5.0
Fall, 2008	Advanced Structural Geology (Geo 380C); 11 graduates overall instructor rating: 4.4 / 5.0 team-taught with Peter Eichhubl
	Introduction to Field and Stratigraphic Methods (Geo 420K); 10 undergraduates overall instructor rating: 4.4 / 5.0 team-taught with Brian Horton
Summer, 2008	Field Geology (Geo 660A and B); 30 undergraduates overall instructor rating: 4.6 / 5.0
Spring, 2008	Introduction to Field and Stratigraphic Methods (Geo 420K); 83 undergraduates overall instructor rating: 4.3 / 5.0 team-taught with Mark Helper, Brian Horton, Charles Kerans
Fall, 2007	Advanced Structural Geology (Geo 380C); 7 graduates

overall instructor rating: 4.6 / 5.0  
 Summer, 2007 Field Geology (Geo 660A and B); 39 undergraduates  
 Spring, 2007 Brittle Structure (Geo 381E); 15 graduates  
 overall instructor rating: 4.5 / 5.0  
 Fall, 2006 Advanced Structural Geology (Geo 380C); 17 graduates  
 overall instructor rating: 4.4 / 5.0  
 Summer, 2006 Field Geology (Geo 660A and B); 37 undergraduates  
 Spring, 2006 Earth, Wind and Fire (Geo 302E); 244 undergraduates  
 overall instructor rating: 3.8 / 5.0  
 Tectonics I (Geo 371c); 12 undergraduates  
 overall instructor rating: 4.4 / 5.0  
 Tectonics I (Geo 391); 14 graduates  
 overall instructor rating: 3.9 / 5.0  
 Summer, 2005 Field Geology (Geo 660A and B); 33 undergraduates, 2 graduates  
 Spring, 2005 Brittle Structure (Geo 381E); 19 graduates  
 overall instructor rating: 4.6 / 5.0  
 Technical Sessions (Geo 193); 43 graduates  
 Fall, 2004 Tectonics I (Geo 371c/391); 11 graduates, 5 undergraduates  
 overall instructor rating: 3.5 / 5.0  
 Technical Sessions (Geo 193); 66 graduates  
 Summer, 2004 Field Geology (Geo 660A and B); 36 undergraduates, 1 graduate  
 Spring, 2004 Earth, Wind and Fire (Geo 302E); 283 undergraduates  
 overall instructor rating: 4.1 / 5.0  
 Technical Sessions (Geo 193); 30 graduates  
 Fall, 2003 Advanced Structural Geology (Geo 380C); 11 graduates, 1 undergraduate  
 overall instructor rating: 4.8 / 5.0  
 Technical Sessions (Geo 193); 53 graduates, 1 undergraduate  
 Summer, 2003 Field Geology (Geo 660A and B); 16 undergraduates  
 Fall, 2002 Brittle Structure (Geo 381E); 14 graduates  
 overall instructor rating: 4.8 / 5.0  
 Technical Sessions (Geo 193); 51 graduates  
 Summer, 2002 Field Geology (Geo 660A and B); 22 undergraduates, 4 graduates  
 Spring, 2002 Earth, Wind and Fire (Geo 302E); 289 undergraduates  
 overall instructor rating: 3.5 / 5.0  
 Technical Sessions (Geo 193); 44 graduates  
 Fall, 2001 Advanced Structural Geology (Geo 380C); 3 graduates  
 overall instructor rating: 4.7 / 5.0  
 Technical Sessions (Geo 193); 42 graduates  
 Summer, 2001 Field Geology (Geo 660A and B); 30 undergraduates, 3 graduates  
 Spring, 2001 Brittle Structure (Geo 381E); 13 graduates, 1 non-degree  
 overall instructor rating: 4.3 / 5.0  
 Fall, 2000 Structural Geology (Geo 428); 50 undergraduates, 1 non-degree  
 overall instructor rating: 4.1 / 5.0  
 Summer, 2000 Field Geology (Geo 660A and B); 30 undergraduates, 1 graduate  
 Fall, 1999 Structural Geology (Geo 428); 62 undergraduates  
 overall instructor rating: 4.4 / 5.0

	Advanced Structural Geology (Geo 380C); 20 graduates overall instructor rating: 4.5 / 5.0
Summer, 1999	Field Geology (Geo 660A and B); 30 undergraduates, 1 graduate
Spring, 1999	Physical Geology (Geo 401); 109 undergraduates overall instructor rating: 3.7 / 5.0
	Brittle Structure (Geo 381E); 26 graduates overall instructor rating: 4.8 / 5.0
Summer, 1998	Field Geology (Geo 660A and B); 26 undergraduates
Fall, 1997	Advanced Structural Geology (Geo 380C); 13 graduates, 1 non-degree overall instructor rating: 4.4 / 5.0
Summer, 1997	Field Geology (Geo 660A and B); 24 undergraduates, 1 graduate
Spring, 1997	Earth, Wind and Fire (Geo 302E); 360 undergraduates overall instructor rating: 3.6 / 5.0 team-taught with Gary Kocurek
Fall, 1996	Brittle Structure (Geo 391); 12 graduates, 1 non-degree overall instructor rating: 4.7 / 5.0
	Regional Tectonics (Geo 391D); 7 graduates, 1 undergraduate overall instructor rating: 4.9 / 5.0 team-taught with Mark Cloos, Sharon Mosher, James Connelly
Summer, 1996	Field Geology (Geo 660A and B); 32 undergraduates
Spring, 1996	Earth, Wind and Fire (Geo 302E); 342 undergraduates overall instructor rating: 2.4 / 4.0 team-taught with Gary Kocurek
Fall, 1995	Advanced Structural Geology (Geo 380C); 6 graduates, 2 non-degree overall instructor rating: 3.6 / 4.0
	Regional Tectonics (Geo 391D); 12 graduates overall instructor rating: 3.3 / 4.0 team-taught with Mark Cloos, Sharon Mosher, James Connelly
Summer, 1995	Field Geology (Geo 660A and B); 24 undergraduates
Spring, 1995	Physical Geology (Geo 401); 74 undergraduates overall instructor rating: 2.4 / 4.0 team-taught with Martin Lagoe
Fall, 1994	Folding in Sedimentary Rocks (Geo 391); 6 graduates overall instructor rating: 3.2 / 4.0

Formal graduate student conference/thesis/dissertation course supervision:

Fall, 2014: Lauren Copley, Peter Laciano

Spring, 2014: Lauren Copley

Fall, 2012: John Hooker

Spring, 2012: Gareth Cross, John Hooker, Faustino Monroy-Santiago

Fall, 2011: Gareth Cross, John Hooker, Faustino Monroy-Santiago

Fall, 2008: Brandon Barber, Gareth Cross, John Hooker, Juan Iñigo, Faustino Monroy-Santiago, Carlos Venegas

Spring, 2008: David Contreras, Ryan Coppersmith, Gareth Cross, Faustino Monroy-Santiago, Ephraim Taylor, Carlos Venegas

Fall, 2007: Gareth Cross, Ankur Roy, Faustino Monroy-Santiago

Spring, 2007: Younis Altobi, Gareth Cross, Leonel Gómez, Faustino Monroy-Santiago, Edgar Pinzón

Fall, 2006: Younis Altobi, Gareth Cross, Christine Fox, Leonel Gómez, Faustino Monroy-Santiago, Aysen Ozkan, Kira Diaz-Tushman

Spring, 2006: Younis Altobi, Gareth Cross, Christine Fox, Timothy Gibbons, Leonel Gómez, Faustino Monroy-Santiago, Aysen Ozkan, Edgar Pinzón, Meghan Ward

Fall, 2005: Younis Altobi, Austin Baldwin, Christine Fox, Timothy Gibbons, Leonel Gómez, Faustino Monroy-Santiago, Edgar Pinzón

Summer 2005: Younis Altobi, Timothy Gibbons, Leonel Gómez

Spring, 2005: Younis Altobi, Austin Baldwin, Matt Davis, Christine Fox, Timothy Gibbons, Leonel Gómez, Richard Kilby, Faustino Monroy-Santiago

Fall, 2004: Younis Altobi, Austin Baldwin, Matt Davis, Christine Fox, Timothy Gibbons, Leonel Gómez, Faustino Monroy-Santiago, Meghan Ward

Summer 2004: Leonel Gómez, John Hooker

Spring, 2004: Younis Altobi, Austin Baldwin, Matt Davis, Christine Fox, Timothy Gibbons, Leonel Gómez, John Hooker, Faustino Monroy-Santiago, John Perri

Fall, 2003: Christine Fox, Timothy Gibbons, Leonel Gómez, John Hooker, Faustino Monroy-Santiago, Timothy Pierce, Robert Rogers

Summer 2003: Leonel Gómez, John Hooker

Spring, 2003: Austin Baldwin, Christine Fox, Leonel Gómez, John Hooker, Faustino Monroy-Santiago, Timothy Pierce, Robert Rogers

Fall, 2002: Christine Fox, Leonel Gómez, Christopher Hare, John Hooker, Faustino Monroy-Santiago, Timothy Pierce, Robert Rogers

Summer 2002: Leonel Gómez, John Hooker, Robert Rogers

Spring, 2002: Christine Fox, Leonel Gómez, Christopher Hare, John Hooker, Joël LeCalvez, Faustino Monroy-Santiago, Orlando Ortega-Pérez, Timothy Pierce, Robert Rogers

Fall, 2001: Christine Fox, Leonel Gómez, Christopher Hare, John Hooker, Joël LeCalvez, Faustino Monroy-Santiago, Orlando Ortega-Pérez, Thandar Phyu, Robert Rogers

Summer 2001: Leonel Gómez, Joël LeCalvez, Orlando Ortega-Pérez

Spring 2001: Eloise Doherty, Christine Fox, Leonel Gómez, Joël LeCalvez, Tip Meckel, Faustino Monroy-Santiago, Orlando Ortega-Pérez, Robert Rogers

Fall 2000: Eloise Doherty, Christine Fox, Joël LeCalvez, Faustino Monroy-Santiago, Orlando Ortega-Pérez, Robert Rogers, Patrick Walsh

Summer 2000: Joël LeCalvez, Orlando Ortega-Pérez, Robert Rogers, Vickye Vélez, Patrick Walsh

Spring 2000: Jorge Barrios, Eloise Doherty, Joël LeCalvez, Faustino Monroy-Santiago, Orlando Ortega-Pérez, Robert Rogers, Vickye Vélez, Patrick Walsh

Fall 1999: Eloise Doherty, April Hoh, Joël LeCalvez, Faustino Monroy-Santiago, Javier Moros-Otero, Orlando Ortega-Pérez, Robert Rogers, Vickye Vélez

Summer 1999: Eloise Doherty, Christine Martinez, Javier Moros-Otero, Orlando Ortega-Pérez, Laura Rico

Spring 1999: Mario Aranda-García, Eloise Doherty, Mulugeta Feseha, Joël LeCalvez, Faustino Monroy-Santiago, Javier Moros-Otero, Orlando Ortega-Pérez, Laura Rico

Fall 1998: Mario Aranda-García, Rion Camerlo, Eloise Doherty, Joël LeCalvez, Faustino Monroy-Santiago, Javier Moros-Otero, Orlando Ortega-Pérez, Laura Rico

Summer 1998: Mario Aranda-García, Rion Camerlo, Eloise Doherty, Joël LeCalvez  
 Spring 1998: Mario Aranda-García, Rion Camerlo, Eloise Doherty, Joël LeCalvez, Ryan Mann, Orlando Ortega-Pérez, Laura Rico  
 Fall 1997: Mario Aranda-García, Rion Camerlo, Eloise Doherty, Juan Carlos Jiménez, Joël LeCalvez, Orlando Ortega-Pérez, Laura Rico  
 Summer 1997: Joël LeCalvez, Roy Luck, Ryan Mann, Orlando Ortega-Pérez  
 Spring 1997: Rion Camerlo, Roy Luck  
 Fall 1996: Rion Camerlo, Roy Luck, Jose Guzmán, Ronald Oribio, Orlando Ortega-Pérez  
 Summer 1996: Juan Carlos Jiménez  
 Spring 1996: Martha Beltrán, Fanchen Kong, Orlando Ortega-Pérez  
 Spring 1995: Benyamin Sapiie, Hye Won Kim, David Edgerton  
 Fall 1994: Danielle Carpenter, Martha Beltrán, David Edgerton, Theodore Steinke

Formal undergraduate student conference/thesis/dissertation course supervision:

Spring 2001: Claudia Robinson  
 Spring 1998: Bradley Reid

**RESEARCH SUPERVISION:**

Best Speaker Awards in Technical Sessions by graduate supervisees:

2004-2005: Matthew Davis (MS), Leonel Gómez (PhD)  
 2002-2003: Christopher Hare (MS)  
 2001-2002: Faustino Monroy (PhD, honorable mention)  
 2000-2001: Orlando Ortega-Pérez (PhD)  
 1999-2000: Vickye Vélez (MS)  
 1998-1999: Laura Rico (MS)  
 1997-1998: Juan Carlos Jiménez (MS, honorable mention)

Post-doctoral research supervisor:

Julia F.W. Gale (previously Stowell), Spatial architecture of natural fracture arrays; 1998-2000 (currently at BEG)

Ph.D. dissertation supervisor:

John N. Hooker, Fracture scaling and diagenesis (co-supervised with S. Laubach); December 2012 (currently at Oxford University)  
 Faustino Monroy-Santiago, Interrelationships between carbonate diagenesis and fracture development: Example from Monterrey salient, Mexico and implications for hydrocarbon reservoir characterization; May 2012 (currently at Pemex)  
 Gareth E. Cross, Evaporite deformation in the Sierra Madre Oriental, northeastern Mexico: Decollement kinematics in an evaporite-detached thin-skinned fold belt; May 2012 (currently at BHP Billiton)  
 Leonel A. Gómez, Characterization of the spatial arrangement of opening-mode fractures; May 2007 (currently at ExxonMobil Research)  
 Younis K. Altobi, Sequence stratigraphic controls on structural deformation and dolomite distribution in carbonate strata, Cupido Formation, northeastern Mexico; May 2007

- (currently at Chevron)
- Orlando J. Ortega-Pérez, Fracture-size scaling and stratigraphic controls on fracture intensity; May 2002 (currently at Shell)
- Joël H. LeCalvez (co-supervised with B. Vendeville), Physical modeling of normal faults and graben relays above salt; May 2002 (currently at Schlumberger)

M.S. thesis supervisor:

- Christine R.Z. Fox (co-supervised with B. Vendeville), Physical modeling of particle trajectories, strain, and vertical-axis rotations during salient development; December 2006
- Timothy D. Gibbons, Spatial arrangement of deformation bands and processes of formation within porous sandstone: Arches National Park, Utah; August 2006 (currently at El Paso)
- Austin K. Baldwin, Pliocene-Quaternary deformation and magmatism at the southern margin of the Puna plateau, Argentine Andes; December 2005 (currently at UNAVCO)
- Matthew H. Davis, Contemporaneous deposition and deformation of Triassic and Jurassic siliciclastic and evaporite strata at Galeana, Sierra Madre Oriental, Mexico; May 2005 (currently at Encana)
- John N. Hooker, Syn-depositional faulting of Cretaceous carbonate strata in the Sierra Madre Oriental, Mexico; August 2004 (currently at Oxford University)
- Christopher M. Hare, Analysis of fracture clustering using the continuous wavelet transform: An example from the Marble Falls Limestone; December 2002 (currently at Shell)
- Patrick Walsh (co-supervised with D. Schultz-Ela), Mechanics of graben evolution in the Needles District of Canyonlands National Park, Utah; December 2000 (currently at Shomaker and Associates)
- Vickye R. Vélez, Geometric analysis of the Reed Wash detachment fold train, west flank of San Rafael Swell, Utah; August 2000 (currently at Hocol)
- Javier G. Moros-Otero, Relationship between fracture aperture and length in sedimentary rocks; December 1999 (currently at Ecopetrol)
- Laura Rico, Geometric and kinematic evolution of a complete detachment fold in a natural cross-section; August 1999 (currently teaching at Wilbur Wright College)
- Mario Aranda-García, Evolution of Neogene contractional growth structures, southern Gulf of Mexico; May 1999 (currently at Pemex)
- Rion H. Camerlo, Geometric and kinematic evolution of detachment folds, Monterrey salient, Sierra Madre Oriental, Mexico; December 1998 (currently at Chevron)
- Christopher K. Zahm (co-supervised with J. Sharp), Fracture control of groundwater flow in Edwards aquifer; August 1998 (currently at BEG)
- Ryan J. Mann (co-supervised with D. Schultz-Ela), Finite element modeling of salt tongues in the Gulf of Mexico; May 1998 (currently at Amerada Hess)
- Orlando J. Ortega-Pérez, Prediction of macrofracture properties using microfracture information, Mesaverde Group sandstones, San Juan basin, New Mexico; December 1997 (currently at Shell)
- Juan Carlos Jiménez, Structural styles of Andean foothills, Putumayo basin, Colombia; December 1997 (currently at Shell)

M.S. thesis supervisor—thesis in progress:

- Carlos Venegas, Active faulting in the Altiplano-Puna volcanic complex, southwestern Bolivia
- Peter Laciano, Characterization of Laramide deformation in the San Rafael monocline, Utah
- Lauren Copley (co-supervised with S. Laubach), Fracture development in the Flathead Sandstone near the Forellen Fault, Grand Teton National Park, Wyoming
- Hal Hundley, topic to be determined

Senior thesis supervisor:

- Emily Lu, Orientation, timing, kinematics, and genesis of veins and stylolites in seven anticlines, Sierra Madre Oriental, Mexico; August 2000 (currently at Exxon)
- Bradley H. Reid, Structural analysis of the transverse zone, part of the San Julian uplift, northern Zacatecas, Mexico; May 1998 (currently at Ground Water Quality Bureau, New Mexico)

Ph.D. dissertation committee member:

- Paul Betka, Structure of the Patagonian fold-thrust belt in the Magallanes and Tierra del Fuego regions of Chile, 53° - 55° S Lat.; December 2013 (S. Mosher)
- John S. Singleton, Structural evolution of the Buckskin-Rawhide metamorphic core complex, west-central Arizona; December 2011 (S. Mosher)
- Robert M. Forkner, Depositional cyclicity and local subsidence: Observations from the Dolomia Principale, the Dolomites, northern Italy; May 2007 (M. Cloos)
- Terence T. Garner, Characterization transport properties in granitic fractures skins; May 2007 (J. Sharp)
- Bryan C. Wilbur, A revision of Helicoplacoids and other Early Cambrian echinoderms from North America; December 2005 (J. Sprinkle)
- Margaretha C.M. Rijken (Petroleum and Geosystems Engineering Department), Modeling naturally fractured reservoirs: From experimental rock mechanics to flow simulation; May 2005 (J. Olson)
- Astrid Makowitz, The genetic association between brittle deformation and quartz cementation: examples from burial compaction and cataclasis; May 2004 (K. Milliken and E. McBride)
- Brook C.D. Riley, Thermal history of Early Cretaceous Bisbee Group and Late Cretaceous Fort Crittenden Formation, SE Arizona; May 2004 (M. Cloos)
- Yujie Hu (Petroleum and Geosystems Engineering Department), An effective method of stochastic simulation of complex large-scale transport processes in naturally fractured reservoirs; May 2002 (M. Miller and K. Sepehrnoori)
- M. Veronica Castillo, Structural analysis of Cenozoic fault systems using 3D seismic data in the southern Maracaibo basin, Venezuela; December 2001 (W. Fisher)
- Matthew M. Uliana, Delineation of regional groundwater flow paths and their relation to structural features in the Salt and Toyah basins, Trans-Pecos Texas; December 2000 (J. Sharp)
- Todd Halihan, Permeability structure in fractured aquifers; May 2000 (J. Sharp)
- Fanchen Kong, Continental margin deformation analysis and reconstruction—evolution

- of the East China Sea basin and adjacent plate interaction; December 1998 (I. Dalziel and L. Lawver)
- Hye Won Kim (Science Education Department), Effects of static graphics and animated graphics of plate tectonics on students' performance and attitudes in computer-assisted instruction; August 1998 (J. Barufaldi)
- Daniel H.N. Barker, Tectonic evolution of Bransfield Strait, West Antarctica; August 1997 (I. Dalziel and J. Austin)

Ph.D. dissertation committee member—dissertation in progress:

- Tiago S. Miranda, Modelagem geológica/geomecânica de reservatório análogo não-convencional e naturalmente fraturado, bacia do Araripe, NE Brasil (A. Barbosa, Universidade Federal de Pernambuco)
- Sebastian G. Ramirez, Interactions between sedimentation and deformation in the Kumano forearc basin (Japan) and the Malargue foreland basin (Argentina) (S. Gullick, B. Horton)
- Renas I. Mohammed, Depositional and exhumational history of the Zagros fold-thrust belt and foreland basin, Kirkuk embayment, Iraqi Kurdistan (B. Horton, D. Stockli)
- Peter O. Gold, Revealing contemporary seismic hazard and the evolution of strain partitioning between pairs of faults within the southern San Andreas Fault system (W. Behr)
- Stephanie Wafforn, Magmatic and thermal evolution of an ore-forming hydrothermal system at the Grasberg Cu-Au porphyry deposit, Papua, Indonesia (M. Cloos, D. Stockli)

Ph.D. examining committee member:

- Jinyu Zhang, Wilcox stratigraphy; November 2014 (R. Steel, W. Ambrose)
- Enrica Quartini, The distribution of geothermal heat flux in West Antarctica and its role in ice sheet evolution; December 2013 (D. Blankenship)
- Russell Carter, Time-lapse study of CO<sub>2</sub> injection through the integration of rock-physics modeling and seismic inversion, Cranfield, MS; March 2012 (K. Spikes)
- Paola Arias, Changes in cloudiness over tropical land during the last decades and its link to global climate change; May 2009 (R. Fu)
- Ran Chen, Groundwater inflow into rock tunnels; April 2008 (F. Tonon, Department of Civil Engineering)
- Aysen Ozkan, Fracture opening histories in quartz-cemented sandstone; May 2007 (K. Milliken, S. Laubach)
- Brandon J. McElroy, Expressions and implications of sediment transport variability at many scales; April 2007 (D. Mohrig)
- Donald T. Slottke, Surface roughness of natural rock fractures: Implications for prediction of fluid flow; February 2007 (J. Sharp)
- Jerome A. Bellian, Evolution of paleokarst at the top-Sauk 2<sup>nd</sup> order super sequence boundary; a 3D reconstruction and modeling approach; May 2006 (C. Kerans)
- Estibalitz Ukar, P-T-t paths and deformation and blueschist and associated graphite-schist blocks from the Franciscan; December 2005 (M. Cloos)
- Ryan C. Ewing, Aeolian dune-field boundary conditions and dune interactions related to dune-field pattern formation; May 2005 (G. Kocurek)

M.S. thesis committee member:

- Goodwin C. Wharton, Transitional tectonics: Early Laramide strike-slip deformation of the Northeastern Front Range, Colorado; May 2012 (M. Cloos)
- Scott H. Hoag, Coast Range Ophiolite near Stonyford, northern California: Evidence for normal faulting; May 2012 (M. Cloos)
- Ryan T. Coppersmith, Structural analysis of the San Simeon fault zone, California: Implications for transform tectonics; December 2008 (M. Cloos)
- Andrew D. Dewhurst, Structural analysis in the Coast Range ophiolite near Paskenta, California: Implications for tectonic uplift processes; August 2008 (M. Cloos)
- Thomas J. Wiles, The Secondary Permeability of "Impervious" Cover in Austin, Texas; December 2007 (J. Sharp)
- Edgar A. Pinzón, Fracture pattern prediction using geomechanical models incorporating diagenesis, with comparison to outcrop data, (Cambrian Eriboll Group sandstones, Northwestern Scotland) and core observations (Tertiary Mirador Formation sandstones, Llanos foothills Colombia); August 2007 (S. Laubach)
- Keith P. Trasko, Kinematic analysis of outcrop-scale structures, southern Big Sur segment of Highway 1, Monterey and San Luis Obispo Counties, California; August 2007 (M. Cloos)
- Kira D. Tushman, Fracture tectonics, fracture porosity evolution and structural diagenesis, Cambrian Eriboll sandstones, northwestern Scotland; May 2007 (S. Laubach and S. Mosher)
- Christopher R. Sine, Tomographic investigation of the upper mantle velocity structure beneath the transition from the western Colorado Plateau to the Great Basin; May 2007 (S. Grand)
- Meghan E. Ward, Opening history and porosity evolution of fractures in sandstone, Triassic to Jurassic La Boca Formation, northeast Mexico; December 2006 (S. Laubach)
- John J. Perri, Kinematic constraints on the uplift of a coherent blueschist terrane, eastern Franciscan complex, northern California; December 2005 (M. Cloos)
- Clark Thompson, Investigation of surface roughness of natural rock fractures using high-resolution X-ray computed tomography and laboratory flow test measurements; December 2005 (J. Sharp)
- Richard E. Kilby, Thrust kinematics in the lower Congo basin deepwater southern Gabon; May 2005 (M. Cloos)
- Charles H. Gregory, Structural orientation and metasomatic sequences about the Big Gossan copper ore deposit, Irian Jaya, Indonesia; December 2004 (M. Cloos)
- Alison S. Mote, A kinematic investigation in the Cripple Creek District, central Colorado: Implications regarding the structural controls influencing the location and distribution of ore zones; May 2004 (R. Kyle)
- D. Shane Valentine, The formation and organization of aeolian bedforms; May 2004 (G. Kocurek)
- Matthew A. Campbell, Development of the Los Chivos platform, a Paleocene carbonate buildup in a siliciclastic dominated salt basin, La Popa Basin, northeast Mexico; December 2003 (R. Goldhammer and W. Fisher)
- Patricia Montoya, Characterization of a fractured sandstone reservoir from core to 3D

- seismic analysis, Tacatá field, northern Maturin Basin, Venezuela; December 2002 (W. Fisher)
- Daniel F. Harrington, Deformation of blocks and matrix in Franciscan melange, San Simeon, California: Implications for melange genesis; December 2001 (M. Cloos)
- Kirk Chatawanich, Structural geology of the Pacheco Pass area, Diablo Range, California: exhumation of a coherent blueschist terrane in the Franciscan subduction complex; May 2001 (M. Cloos)
- Sarah R. Lindsay, Controlled fracture study of geologic materials; August 2000 (J. Sharp)
- Michael T. Landrum, Hydrogeologic properties of fracture skins and their effects on radionuclide transport; May 2000 (J. Sharp)
- Cori A. Lambert, Subsurface meso-scale structural geology along the Kucing Liar exploration and Amole drifts, south Grasberg igneous complex; May 2000 (M. Cloos)
- J. Javier Hernández-Mendoza, Paleogene clastic stratigraphy of northeastern Mexico; May 2000 (W. Galloway)
- Adriano Lobo-Alvarez, Fractured reservoirs: Concepts and case studies; May 2000 (W. Fisher)
- Virginia P. Smith, Evolution of hypogene veining and associated alteration in the Tyrone porphyry copper deposit, Grant County, New Mexico; May 1998 (J.R. Kyle)
- Felix A. Díaz, Architecture of a shore-zone reservoir system in Barua field, Maracaibo basin, western Venezuela; May 1998 (N. Tyler)
- Geoffrey W. Uppitis, Paleocene-Early Middle Eocene lithostratigraphy and sequence stratigraphy in the Rio Grande Valley, Texas; May 1998 (W. Galloway)
- Shane A. Cowley, Oligocene to Recent stratigraphic and tectonic history of the central Solomon intra-arc basin as determined from marine seismic and onshore geology; May 1998 (W. Galloway)
- Sarah C. Penniston-Dorland, Veins and alteration envelopes in the Grasberg igneous complex, Gunung Bijih (Ertsberg) district, Irian Jaya, Indonesia; December 1997 (M. Cloos)
- Martha Z. Beltrán, Depositional history of the Oligocene-Miocene section of the northern part of the Lower Magdalena basin, Colombia, based on foraminifera biofacies and seismic stratigraphy; May 1996 (W. Galloway)
- Ilan Kreisel, Fracture skins and their effect on solute transport in a fractured porous medium, with examples from the Brushy Canyon Formation, west Texas; May 1996 (J. Sharp)

M.S. thesis committee member—thesis in progress:

- Alison MacNamee, Faulting and exhumation thermochronology near Dixie Valley, Nevada (D. Stockli)
- Adenike Tokan-Lawal, Matrix-fracture transfer and two-phase flow in partially mineralized and propped fractures (P. Eichhubl)
- Canalp Ozkul, Fracture formation and evolution in the fold-thrust belt system in the Nikanassin Formation, Alberta, Foothills, Canada (P. Eichhubl)

Senior thesis committee member:

- Aaron Z. Salin, Application of remote sensing data to quantitative tectonic geomorphology along the southern San Andreas Fault; May 2014 (W. Behr)

Jason N. Camacho, The influence of the Permian syndepositional fracture network on the modern geomorphology at Slaughter Canyon, NM; December 2013 (C. Kerans)

Senior thesis committee member—thesis in progress:

Andrew McPeak, Discovering the age of seamount accretion: detrital zircon dating and field mapping of the Marin Headlands, California; May 2015 (M. Cloos)

**ACADEMIC ADVISING, COUNSELING, AND OTHER STUDENT SERVICES:**

New graduate student mentoring:

2014-5: Hal Hundley  
 2013-4: Peter Laciano, Lauren Copley  
 2008-9: Brandon Barber, John Hooker  
 2007-8: Juan Iñigo  
 2006-7: Ankur Roy, Carlos Venegas  
 2004-5: Gareth Cross  
 2002-3: Austin Baldwin, Timothy Gibbons  
 2001-2: Timothy Pierce  
 1999-0: Leonel Gómez  
 1998-9: Vickye Vélez, Robert Rogers, Christine Martinez  
 1997-8: Javier Moros-Otero, Javier Hernández-Mendoza, Faustino Monroy-Santiago  
 1996-7: Eloise Doherty, Mario Aranda-García, Laura Rico, Ryan Mann, Joël LeCalvez  
 1995-6: Rion Camerlo, Roy Luck, Thomas Mossburg, Pamela Taylor

Undergraduate major advising:

2001-2002: Christopher Gordon, Dalton Hale, Neil Jones, Elizabeth Lankford, Paul Mehring, Gentry Murdock, Jamie Musselman  
 1999-2000: Meggan Harrison, Alan Ideris, Jennifer Pollum, Adrienne Ruppelt, Mackenzie Smith, Brian Whitenight, Erik Wofford, Joshua Young  
 1998-9: Nathan Andrews, Caroline Breton, Chadwick Hintz, Michael Holderby, Celinda Kelsey, Thomas Thayer, Albert Tran, John Vaughn  
 1997-8: Caroline Breton, Jacqueline Floyd, Michael Holderby, Russell Johnson, Celinda Kelsey, Thomas Thayer, John Vaughn, Jennifer Weber  
 1996-7: Caroline Breton, Jacqueline Floyd, Russell Johnson, Celinda Kelsey, Michael Holderby, Thomas Thayer, Jennifer Weber  
 1995-6: Jacqueline Floyd, Russell Johnson, Sylvia Simpson, Sue Ann Meyer

Undergraduate research assistant supervision:

Fall 2014: Brody Friesenhahn  
 Spring 2014: Daniel Ortega-Arroyo  
 Spring 2012: Reed Roush  
 Spring 2009: Joshua Garber, Andrea Wolfowicz  
 Fall 2008: Joshua Garber, Andrea Wolfowicz  
 Spring 2006: Joshua Garber  
 Spring 2005: Dominique Schmid

Fall 2004: Dominique Schmid  
 Summer 2000: John Hooker  
 Spring 2000: John Hooker  
 Fall 1999: John Hooker  
 Summer 1999: John Hooker  
 Spring 1999: Bryan Pairsh, John Hooker, Celinda Kelsey  
 Fall 1998: Bryan Pairsh, John Hooker  
 Summer 1998: John Hooker  
 Spring 1998: John Hooker, Celinda Kelsey, Bradley Reid  
 Fall 1997: Bradley Reid, Kevin Stafford  
 Spring 1997: Matthew Adams

## **PROFESSIONAL SERVICE:**

### Department of Geological Sciences:

Post Tenure Review Committee (2014-present)  
 DGS Subcommittee on MS degree assessment (2014-present)  
 Co-leader, NeoGeo trip (2013)  
 Discipline leader, Structural Geology/Lithospheric Geodynamics (2011-present)  
 Tectonics and Geochronology Faculty Search Committee (2008-2009)  
 Internal Changes of Appointment Committee (2007-2009)  
 Graduate Curriculum Review Committee (2007-2009)  
 Graduate Admissions and Support Committee (2007)  
 Undergraduate Program Committee (2005-2006)  
 Research Scientist Restructure Committee (2005)  
 Graduate Admissions Committee (2005)  
 Carbonate Sedimentology Faculty Search Committee (2003-2004)  
 Graduate Recruitment Committee, Chair (2001-2002)  
 Departmental Minority Liaison Officer (2000-2009)  
 Undergraduate Advising and Awards Committee (2000-2009)  
 Teaching Policy Committee (2000-2001)  
 Campus Representative to Geological Society of America (1999-2009)  
 Computer Systems Administrator Search Committee (1999)  
 Exploration Geophysics Faculty Search Committee (1998-2000)  
 Stable Isotope Faculty Search Committee (1997-1998)  
 Vertebrate Paleontology Faculty Search Committee (1996-1997)  
 External Research Organizations Committee for Strategic Plan (1995-1996)  
 Graduate Admissions and Support Committee (1994-2002)

### University of Texas at Austin:

Student Conduct Board (2013-present)  
 Enhancing the Culture of Academic Integrity (2013)  
 Academic Advisor for Men's Athletics Council (1995-1997)

### Regional/national/international committee service:

Member, Island Park Sustainable Fire Community (2013-present)  
 Panelist, Discussions on Careers in Geoscience, Geological Society of America South Central Section Meeting (2013)  
 Chair, Short Course Committee, *Structural Geology and Tectonics Division*, Geological Society of America (2005)  
 Editorial Board, *Revista Mexicana de Ciencias Geológicas*, Sociedad Geológica Mexicana (2003-present)  
 Short Course Committee, *Structural Geology and Tectonics Division*, Geological Society of America (2003-2005)  
 Editorial Board, *Geology*, Geological Society of America (2002-2004)  
 Co-chair of Short Course Committee, Gulf Coast Association of Geological Societies 2002 Annual Meeting (2000-2002)  
 Panelist, Uncertainty and Scaling Panel, American Rock Mechanics Association (1998)  
 Chair, Reservoir Deformation Research Group, American Association of Petroleum Geologists (1998)  
 Vice-chair, Reservoir Deformation Research Group, American Association of Petroleum Geologists (1997)  
 Best Paper Award Committee, *Structural Geology and Tectonics Division*, Geological Society of America (1996-1999)

#### **OUTREACH ACTIVITIES:**

Presentation for Jackson Hole Geologists (organized by Michael Sher), July 2016  
 Short course for Idaho Master Naturalists (organized by Valerie Zupsan), July 2015  
 Video on “Structural Geology Research”, UT Environmental Science Institute, 39,603 viewings on YouTube (<http://www.youtube.com/watch?v=3qqJ32g3dtM>)  
 Video on “Why I Became a Geologist”, UT Environmental Science Institute, 28,450 viewings on YouTube (<http://www.youtube.com/watch?v=Feq5pwH2TFw>)  
 Video on “Geology for Future Presidents”, UT Environmental Science Institute, 1,228 viewings on YouTube (<http://www.youtube.com/watch?v=LbphoOCNvgQ>)  
 Video on “The Measure of the Sierra Madre”. UT Jackson School of Geosciences, 134 viewings on YouTube (<http://www.youtube.com/watch?v=hcSRHtHqv9I>)  
 Presentation for Undergraduate Geological Society, JSG, October 2014  
 Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), September 2014  
 Flat Ranch Preserve summer education series, Nature Conservancy public speaker program (organized by Matthew Ward), July 2014  
 Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), March 2014  
 Presentation for Undergraduate Geological Society, JSG, February 2014  
 Presentation for Freshman Interest Group, JSG, October 2013  
 Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), August 2013  
 Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), May 2013

- Presentation at Career Day, Allison Elementary School (organized by Amy Fuller), March 2012
- Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), March 2012
- Co-leader of Adventure Club SLO, disabled adult day program (organized by Johnee Gange), January 2012
- Substitute teaching in San Luis Obispo Co., California (30 days in 3 school districts, classes ranging from early childhood special education through high school senior electives), March 2010 – February 2011
- Math tutoring in San Luis Obispo Co., California (30 days with 5 high school students, Grade Potential Inc.), March – October 2010
- Lecture on Geological research in the volcanic arc of the Central Andes, SURGe (Science Undergraduate Research Group) of University of Texas at Austin (organized by Danny Thomas), 20 undergraduate science majors, April 2006
- Lecture on Volcanoes and other natural hazards, Clint Small Middle School (organized by Susan Fillman), two classes of sixth grade students, February 2006
- Lecture on Volcanoes of the Central Andes, Clint Small Middle School (organized by Susan Fillman), two classes of sixth grade students, April 2004
- Lecture on Tectonics of the Central Andes, Lakeway Men's Breakfast Club, August 2002
- Field trip to Enchanted Rock, Clint Small Middle School (organized by Patrick Green), 60 seventh grade students, November 2001
- On-air call-in radio show on Earth Day, KLBJ radio station, April 2001
- On-camera interview on central Texas seismicity, KTBC television station (Austin Fox affiliate), February 2001
- Lecture on When the Earth Quakes, UT College of Natural Sciences Outreach Lecture Series, August 2000
- Lecture on Use of Math in Science, Clint Small Middle School (organized by Susan Fillman), two classes of sixth grade students, May 2000
- Lectures on Earthquakes and Volcanoes, Science Day at Mills Elementary School (organized by Ron Toran), four groups of first through fifth grade students, March 2000
- On-camera interview on Highway 360 rock fall, KEYE television station (Austin CBS affiliate), September 1999
- Lectures on Earthquakes and Volcanoes, Science Day at Patton Elementary School (organized by Regina Arnold), four groups of third and fourth grade students, November 1997
- Lecture on A Traverse across the Central Andes, Austin Gem and Mineral Society, March 1997
- On-camera interview on Balcones fault zone, KEYE television station (Austin CBS affiliate), February 1997
- Lecture on Volcanoes, Patton Elementary School (organized by Kristen Masch), two classes of third grade students, December 1996
- Lecture on Volcanoes, National Science Foundation Summer Camp at University of Texas at Austin (organized by Glenn Longley, Southwest Texas State University), 50 eighth grade students, July 1996

**CONTINUING EDUCATION:**

California Teacher of English Learners III (December 2010)  
California Teacher of English Learners II (June 2010)  
California Teacher of English Learners I (June 2010)  
California Subject Examinations for Teachers, Math III (May 2010)  
California Subject Examinations for Teachers, Math II (March 2010)  
California Subject Examinations for Teachers, Math I (March 2010)  
California Basic Educational Skills Test (January 2010)  
Experienced faculty conference, Center for Teaching Effectiveness (January 1997)  
Fractured reservoir analysis, American Association of Petroleum Geologists (July 1996)  
New faculty teaching/orientation seminar, Center for Teaching Effectiveness (August 1994)

**EVIDENCE OF IMPACT:**Undergraduate textbooks featuring research:

- Fossen, H., 2010, *Structural Geology*: Cambridge University Press, 463 pp. (two chapter summaries cite three different papers in short-lists of key literature; p. 186-187, 201)
- Twiss, R.J., and Moores, E.M., 2007, *Structural Geology*: W.H. Freeman and Company, 2<sup>nd</sup> edition, 736 pp. (one inset box is motivated by my paper about stress-strain relations, and another inset box is based on my paper about fault scaling; p. 346-349, 439-443)
- Rowland, S.M., Duebendorfer, E.M., and Schiefelbein, I.M., 2007, *Structural Analysis & Synthesis, A Laboratory Course in Structural Geology*: Blackwell Publishing, 3<sup>rd</sup> edition, 301 pp. (one chapter is largely based on my methodology for analyzing fault kinematics; p. 90-94)

Most cited publications (I am first or second author on all of them):

- Marrett, R.**, and Allmendinger, R.W., 1990, Kinematic analysis of fault-slip data: *Journal of Structural Geology*, v. 12, p. 973-986. (334 SCI citations, 18<sup>th</sup> most cited out of 4370 articles published in history of journal)
- Marrett, R.**, and Allmendinger, R.W., 1991, Estimates of strain due to brittle faulting — sampling of fault populations: *Journal of Structural Geology*, v. 13, p. 735-738. (206 SCI citations, 48<sup>th</sup> most cited out of 4370 articles published in history of journal)
- Laubach, S.E., **Marrett, R.**, Olson, J., and Scott, A., 1998, Characteristics and origins of coal cleat — a review: *International Journal of Coal Geology*, v. 35, p. 175-207. (123 SCI citations, 19<sup>th</sup> most cited out of 2158 articles published in history of journal)
- Marrett, R.**, and Allmendinger, R.W., 1992, Amount of extension on "small" faults — an example from the Viking graben: *Geology*, v. 20, p. 47-50. (124 SCI citations)
- Marrett, R.**, Allmendinger, R.W., Alonso, A.N., and Drake, R.E., 1994, Late Cenozoic tectonic evolution of the Puna plateau and adjacent foreland, northwestern Argentine Andes: *Journal of South American Earth Sciences*, v. 7, p. 179-207. (116 SCI citations, 5<sup>th</sup> most cited out of 1377 articles published in history of journal)
- Cladouhos, T.T., and **Marrett, R.**, 1996, Are fault growth and linkage models consistent with power-law distributions of fault lengths?: *Journal of Structural Geology*, v. 18, p. 281-293. (80 SCI citations)
- \* Ortega, O.J., **Marrett, R.**, and Laubach, S.E., 2006, A scale-independent approach to fracture intensity and average spacing measurement: *American Association of Petroleum Geologists Bulletin*, v. 90, p. 193-208. (74 SCI citations, 2<sup>nd</sup> most cited out of 143 articles published in journal during 2006: <http://bulletin.aapg.org/notable-papers/notable-papers-2006>)
- Emerman, S.H., and **Marrett, R.**, 1990, Why dikes?: *Geology*, v. 18, p. 231-233. (71 SCI citations)

- Marrett, R.**, and Strecker, M.R., 2000, Response of intracontinental deformation in the Central Andes to Cenozoic plate reorganization: *Tectonics*, v. 19, p. 452-467. (58 SCI citations)
- Marrett, R.**, 1996, Aggregate properties of fracture populations: *Journal of Structural Geology*, v. 18, p. 169-178. (57 SCI citations)
- Marrett, R.**, Ortega, O.J., and Kelsey, C.M., 1999, Extent of power-law scaling for natural fractures in rock: *Geology*, v. 27, p. 799-802. (55 SCI citations)
- \* Hooker, J.N., Laubach, S.E., and **Marrett, R.**, 2013, Fracture-aperture size-frequency, spatial distribution, and growth processes in strata-bounded and non-strata-bounded fractures, Cambrian Mesón Group, NW Argentina: *Journal of Structural Geology*, v. 54, p. 54–71. (2 SCI citations, 2<sup>nd</sup> most downloaded article published in journal during past 90 days on 14 Oct 2013: <http://www.journals.elsevier.com/journal-of-structural-geology/most-downloaded-articles/>)

#### Internet video:

- Video on “Structural Geology Research”, UT Environmental Science Institute, 39,603 viewings on YouTube (<http://www.youtube.com/watch?v=3qqJ32g3dtM>)
- Video on “Why I Became a Geologist”, UT Environmental Science Institute, 28,450 viewings on YouTube (<http://www.youtube.com/watch?v=Feq5pwH2TFw>)
- Video on “Geology for Future Presidents”, UT Environmental Science Institute, 1,228 viewings on YouTube (<http://www.youtube.com/watch?v=LbphoOCNvgQ>)
- Video on “The Measure of the Sierra Madre”. UT Jackson School of Geosciences, 134 viewings on YouTube (<http://www.youtube.com/watch?v=hcSRHtHqv9I>)

#### Software contributions:

- Stereonet (<http://www.geo.cornell.edu/geology/faculty/RWA/programs/stereonet-7-for-windows.html>): I wrote rotation algorithm, but the rest of the code is due to R. Allmendinger.
- FaultKin (<http://www.geo.cornell.edu/geology/faculty/RWA/programs/faultkin-5-beta.html>): I wrote a precursor code to this program, which R. Allmendinger used as the basis for independently writing FaultKin.
- CorrCount (<http://blogs.utexas.edu/ncc/software/>): I wrote this code in its entirety.
- FracKin: I wrote this code in its entirety.

**PUBLICATIONS:**Books:

**Marrett, R.**, ed., 2001, *Genesis and controls of reservoir-scale carbonate deformation, Monterrey salient, Mexico*: Bureau of Economic Geology, Guidebook 28, 123 pp.

**Marrett, R.**, Wilson, J.L., and Ward, W.C., eds., 1999, *Stratigraphy and structure of the Jurassic and Cretaceous platform and basin systems of the Sierra Madre Oriental, Monterrey and Saltillo areas, northeastern Mexico*: South Texas Geological Society, San Antonio, Texas, 121 pp.

Articles covered by Science Citation Index:

Science Citation Index: 1504 citations (48 self citations), *h*-index = 17

Google Scholar: 2580 citations, *h*-index = 22

Ukar, E., Eichhubl, P., Laubach, S.E., Hooker, J.N., and **Marrett, R.**, in review, Evidence of a universal fracture size scaling exponent in core and outcrop fracture size distributions, Nikanassin Formation, Alberta Foothills, Canada, and implications for measuring fold-related fracture abundance: AAPG Bulletin.

\* Hooker, J.N., Larson, T.E., Laubach, S.E., Eichhubl, P., Eakin, A., Fall, A., and **Marrett, R.**, in review, Fracturing and fluid-flow in a sub-décollement sandstone: *Geology*.

\* Hooker, J.N., Laubach, S.E., and **Marrett, R.**, 2014, A universal power-law scaling exponent for fracture apertures in sandstones: *Geological Society of America Bulletin*, v. 126, p. 1340-1362. (0 SCI citations)

\* Hooker, J.N., Laubach, S.E., and **Marrett, R.**, 2013, Fracture-aperture size-frequency, spatial distribution, and growth processes in strata-bounded and non-strata-bounded fractures, Cambrian Mesón Group, NW Argentina: *Journal of Structural Geology*, v. 54, p. 54-71. (2 SCI citations)

\* Hooker, J.N., Gómez, L., Laubach, S.E., Gale, J.F.W., and **Marrett, R.**, 2012, Effects of diagenesis (cement precipitation) during fracture opening on fracture aperture-size scaling in carbonate rocks: in Garland, J., Neilson, J.E., Laubach, S.E., and Whidden, K.J., eds., *Advances in Carbonate Exploration and Reservoir Analysis*: Geological Society of London, Special Publication 370, p. 187-206. (0 SCI citations)

\* Hooker, J.N., Laubach, S.E., Gómez, L., **Marrett, R.**, Eichhubl, P., Diaz-Tushman, K., and Pinzón, E., 2011, Fracture size, frequency, and strain in the Cambrian Eriboll Formation sandstones, NW Scotland: *Scottish Journal of Geology*, v. 47, p. 45-56. (4 SCI citations)

Montero-López, M.C., Hongn, F.D., Strecker, M.R., **Marrett, R.**, Seggiaro, R., and Sudo, M., 2010, Late Miocene-early Pliocene onset of N-S extension along the southern margin of the Central Andean Puna Plateau: Evidence from magmatic, geochronological and structural observations: *Tectonophysics*, v. 494, p. 48-63. (8 SCI citations)

\* Ortega, O.J., Gale, J.F.W., and **Marrett, R.**, 2010, Quantifying diagenetic and stratigraphic controls on fracture intensity in platform carbonates: An example from the Sierra Madre

- Oriental, northeast Mexico: *Journal of Structural Geology*, v. 32, p. 1943-1959. (9 SCI citations)
- Twiss, R.J., and **Marrett, R.**, 2010, Determining brittle extension and shear strain using fault-length and displacement systematics: Part I: Theory: *Journal of Structural Geology*, v. 32, p. 1960-1977. (1 SCI citations)
- Twiss, R.J., and **Marrett, R.**, 2010, Determining brittle extension and shear strain using fault-length and displacement systematics: Part II: Data evaluation and test of the theory: *Journal of Structural Geology*, v. 32, p. 1978-1995. (2 SCI citations)
- Montero-López, M.C., Hongn, F.D., Brod, J.A., Seggiaro, R., **Marrett, R.**, and Sudo, M., 2010, Magmatismo ácido del Mioceno Superior-Cuaternario en al area del Cerro Blanco-La Hoyada, Puna austral: *Revista de la Asociación Geológica Argentina*, v. 67, p. 329-348.
- Montero-López, M.C., Hongn, F.D., Seggiaro, R., Brod, J.A., and **Marrett, R.**, 2010, Estratigrafía y geoquímica del volcanismo de composición intermedia (Mioceno Superior-Plioceno) en el extremo oriental de la Cordillera de San Buenaventura (Puna austral): *Revista de la Asociación Geológica Argentina*, v. 67, p. 112-129.
- \* Hooker, J.N., Gale, J.F.W., Gomez, L.A., Laubach, S.L., **Marrett, R.**, and Reed, R.M., 2009, Aperture-size scaling variations in a low-strain opening-mode fracture set, Cozzette Sandstone, Colorado: *Journal of Structural Geology*, v. 31, p. 707-718. (22 SCI citations)
- \* Ortega, O.J., **Marrett, R.**, and Laubach, S.E., 2006, A scale-independent approach to fracture intensity and average spacing measurement: *American Association of Petroleum Geologists Bulletin*, v. 90, p. 193-208. (74 SCI citations, 2<sup>nd</sup> most cited out of 143 articles published in journal during 2006)
- Marrett, R.**, and Strecker, M.R., 2000, Response of intracontinental deformation in the Central Andes to Cenozoic plate reorganization: *Tectonics*, v. 19, p. 452-467. (58 SCI citations)
- Peacock, D.C.P., and **Marrett, R.**, 2000, Strain and stress — reply: *Journal of Structural Geology*, v. 22, p. 1369-1378. (4 SCI citations)
- \* Ortega, O.J., and **Marrett, R.**, 2000, Prediction of macrofracture properties using microfracture information, Mesaverde Group sandstones, San Juan basin, New Mexico: *Journal of Structural Geology*, v. 22, p. 571-588. (30 SCI citations)
- Sharp, J.M. Jr., Halihan, T., Uliana, M.M., Tsofilas, G.P., Landrum, M.T., and **Marrett, R.**, 2000, Predicting fracture rock hydrogeological parameters from field and laboratory data: in Sililo, et al., eds., *Groundwater—Past Achievements and Future Challenges*: International Association of Hydrogeologists, v. 30, p. 319-325. (1 SCI citations)
- Marrett, R.**, Ortega, O.J., and Kelsey, C.M., 1999, Extent of power-law scaling for natural fractures in rock: *Geology*, v. 27, p. 799-802. (55 SCI citations)
- Marrett, R.**, and Peacock, D.C.P., 1999, Strain and stress: *Journal of Structural Geology*, v. 21, p. 1061-1067. (34 SCI citations)

- Strecker, M.R., and **Marrett, R.**, 1999, Kinematic evolution of fault ramps and role in development of landslides and lakes in intermontane valleys of northwestern Argentina: *Geology*, v. 27, p. 307-310. (33 SCI citations)
- Laubach, S.E., **Marrett, R.**, Olson, J., and Scott, A., 1998, Characteristics and origins of coal cleat — a review: *International Journal of Coal Geology*, v. 35, p. 175-207. (123 SCI citations, 19<sup>th</sup> most cited out of 2158 articles published in history of journal)
- Marrett, R.**, and Bentham, P.A., 1997, Geometric analysis of hybrid fault-propagation / detachment folds: *Journal of Structural Geology*, v. 19, p. 243-248. (19 SCI citations)
- Marrett, R.**, 1996, Aggregate properties of fracture populations: *Journal of Structural Geology*, v. 18, p. 169-178. (57 SCI citations)
- Cladouhos, T.T., and **Marrett, R.**, 1996, Are fault growth and linkage models consistent with power-law distributions of fault lengths?: *Journal of Structural Geology*, v. 18, p. 281-293. (80 SCI citations)
- Marrett, R.**, 1994, Scaling of intraplate earthquake recurrence interval with fault length and implications for seismic hazard assessment: *Geophysical Research Letters*, v. 21, p. 2637-2640. (11 SCI citations)
- Marrett, R.**, Allmendinger, R.W., Alonso, A.N., and Drake, R.E., 1994, Late Cenozoic tectonic evolution of the Puna plateau and adjacent foreland, northwestern Argentine Andes: *Journal of South American Earth Sciences*, v. 7, p. 179-207. (116 SCI citations, 5<sup>th</sup> most cited out of 1377 articles published in history of journal)
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