Magdalena Ellis Curry (née Ellis)

Assistant Professor
Department of Marine, Earth, and Atmospheric Sciences • NC State University
https://sites.google.com/view/maggie-ellis-curry

RESEARCH INTERESTS

I am interested in the feedbacks between tectonics, surface processes, and basins. My research aims to integrate structural geology, numerical modelling, field observations, basin and geomorphic analyses, thermo- and geochronologic techniques, and subsurface data to understand tectonic systems.

CURRENT POSITION

2021-present Assistant Professor, North Carolina State University, Department of Marine, Earth, and Atmospheric Sciences, Raleigh, NC

EDUCATION

2011-2015 Ph.D., Geological Sciences, University of North Carolina, Chapel Hill, NC
Graduation Date: May, 2015
Dissertation: Evolution of active fault systems and their topographies
Advisor: Jason Barnes and Kevin Stewart

2009 M.S., Geological Sciences, University of Texas, Austin, TX
Thesis: Fracture development and diagenesis of the Torridonian Applecross Formation, Northwest Scotland
Advisor: Steve Laubach

2007 B.A., Geology, Ohio Wesleyan University, Delaware, OH
Senior Thesis: Fracture Scaling in the Columbus and Delaware Limestones, Central Ohio
Advisor: Karen Fryer

POSITIONS HELD

2020-2021 Assistant Professor, University of Houston, Department of Earth and Atmospheric Sciences, Houston, TX

2017-2019 Postdoctoral Fellow, Institut des Sciences de la Terre, Université Grenoble Alpes, Grenoble, France
Research focus: Coupling lithospheric deformation and surface processes in compressional settings. Geodynamics of the Pyrenees and flanking foreland basins.
Supervisors: Peter van der Beek, Ritske Huismans

2015-2017 Postdoctoral Fellow, Applied Geodynamics Laboratory, Jackson School of Geosciences, University of Texas, Austin, TX
Research focus: Tectonic models for passive-margin salt basins; structural and stratigraphic evolution of the Gulf of Mexico from large-scale structural restorations.
Supervisor: Mike Hudec

2013 Research Assistant, Department of Geological Sciences, University of North Carolina, Chapel Hill, NC
Supervised by J. Barnes.

2008 - 09 Research Assistant, Bureau of Economic Geology, University of Texas, Austin, TX
With Fracture Research and Application Consortium (FRAC)

PRIVATE-SECTOR WORK EXPERIENCE

2009 - 11 Senior Petroleum Geologist, ExxonMobil Corporation, Houston, TX
(09/2009 – 12/2010) Exploration Company
(01/2011 – 05/2011) Production Company

GRANTS AWARDED

2022 EDMAP Grant: Mapping and structural analysis of the Alleghanian Hyco Shear Zone in the Piedmont of North Carolina ($32,972)

2023 EDMAP Grant: Mapping and structural analysis of the Carolina Terrane – Churchland Pluton contact in the North Carolina Piedmont ($34,953.49)

2023 American Chemical Society, Petroleum Research Fund (ACS PRF DNI): Thermal and structural reconstruction of an eroded hydrocarbon-bearing foreland basin ($110,000).

GRANTS PENDING

NSF Tectonics: *Collaborative Research: Reevaluating the timing and driver of escarpment retreat in southeast Australia* ($311,726)

NSF Tectonics: *Collaborative Research: Bridging temporal and spatial scales to assess Earth's surface response to ridge subduction* ($304,815)

NSF Tectonics: *Unraveling subsidence and heat flow in poly-phase tectonic basins* ($399,342)

USGS EDMAP: *Reevaluating the Charlotte and Carolina Terrane boundary: Bedrock mapping, geochemical analyses, and U/Pb age-dating in the Greensboro 100K ($27,985)*

GRANTS NOT FUNDED:

NSF Tectonics: *Tracking unroofing of poly-phase orogenesis in the Alleghanian foreland basin.* ($328,889). Revising with intent to resubmit 2024.

TEACHING EXPERIENCE

2023-present Instructor, NCSU, MEA492: Tectonic Systems (face-to-face)

2022-present Instructor, NCSU, MEA465: Field Methods (i.e. Field camp)

2021-present Instructor, NCSU, MEA451: Structural Geology (face-to-face)

2021 Instructor, Univ. Houston, GEOL1330: Physical Geology (face-to-face and online)

2020 Instructor, Univ. Houston, GEOL6390: 3D Seismic Interpretation (online)

2014 Instructor, UNC-CH, GEOL 190: Crest to Coast: Geology, landscapes, and human nature in North Carolina

2013 Graduate Research Consultant*, GEOL 72H: Geology of California
* *Sponsored by the Office of Undergraduate Research, UNC*

2012-13 Teaching Assistant, UNC-CH: Introduction to Geology

2007-08 Teaching Assistant, UT-Austin: Introduction to Geology; Gemstones and Minerals

Professional development:

2014 Fellow, Future Faculty Fellowship Program, sponsored by the Center for Faculty Excellence

2018 Substitute Lecturer, UGA: Tectonic Geomorphology

Graduate coursework:

2013 GEOL 412: Principles and Methods of Teaching Earth Science - UNC

2012 EDUC 441: Education in American Society - UNC

STUDENT ADVISING

NC State University:

C. Siegel, MS, Tectonic geomorphology of the Southern Basin and Range, Nevada

T. Gunn, MS, Tectonic and petrologic evolution of the Hyco Shear Zone, North Carolina

K.Symanski, MS, Thermal and structural reconstruction of an eroded hydrocarbon-bearing foreland basin

S. Gelman, PhD, Unraveling subsidence and heat flow in poly-phase tectonic basins with numerical modeling

University of Houston:

A. Mattson, PhD student, 3D structural restorations and paleogeography of the Louann Salt, Gulf of Mexico.

T. Sessums, MS, Spatio-temporal evolution of Appalachian orogenies from subsidence analysis of the southern Appalachian foreland basin. *Graduated December, 2021.*

Student research mentoring (pre-tenure track position)

GEOL 190 class (13 students, 2014)

GEOL 72H (honors) class (20 students, 2013)

Jim Mize (B.A., 2012, UNC); Antoine Prost (M.S., 2017, UGA)

Intro. to Geology (NASC 108), Pepperdine University Lausanne program, field trip assistant (2017)

PROFESSIONAL SERVICE

Community:

- Associate Editor: Journal of Geology. 2023-Present.
- North Carolina's Geological Advisory Committee (GAC). Academia representative. 2022-present

University service:

- NCSU College of Sciences Faculty Advisory Committee, 2022-present
- UH EAS Diversity, Equity, and Inclusion Committee: Founding member, 2020.
- UH EAS Seminar Committee: Facilitate nominations and invitations for speakers, set specific DEI goals
- UH EAS Recruiting Committee: Manage resume database for >200 EAS students and liaise between industry recruiters and student body.

Peer-reviewed Journal Referee:

1. GSA Bulletin
2. Nature Communications
3. Tectonics
4. Geological Society London
5. AAPG Bulletin
6. Basin Research
7. Journal of Structural Geology
8. Interpretation
9. Earth Surface Processes and Landforms
10. Tectonophysics
11. Nature Geoscience

Ad-Hoc Proposal Reviews by Organization:

1. National Science Foundation (EAR-Geophysics)
2. National Science Foundation (EAR-Tectonics)
3. Agence Nationale de la Recherche
4. Petroleum Research Fund

Conference Session Chair or co-chair:

1. 2023. GSA NE-SE combined section meeting, Reston, VA: Alleghanian overprinting of pre-Alleghanian accreted terranes
2. 2020. AGU Annual Meeting, ONLINE: EP028. Assessing Paleotopography, Relief, and Elevation Across Spatiotemporal Scales
3. 2018. AGU Annual Meeting, Washington, DC: T019. Fold-Thrust Belts Through the Eyes of Their Foreland Basins: The Sedimentary Record of Hinterland Tectonics, Surface Processes, and Basin Evolution
4. 2012. GSA Annual Meeting, Charlotte, NC: T171. The Role of Structure and Diagenesis in Governing Fluid Storage and Flow in Deep Sedimentary Basins with Applications to Unconventional Oil and Gas Reservoirs

Volunteer Judge

2017, ’18 Outstanding Student Poster Award Contest, EGU General Assembly, Vienna, Austria
2018, ’19, ‘20 Outstanding Student Presentation Award Contest, AGU Annual Meeting
2016 Jackson School Student Research Symposium Poster Contest, Univ. of Texas, Austin, TX

Official Liaison, Outstanding Student Presentation Award Contest

2018 AGU Annual Meeting, Washington, DC

FIELD EXPERIENCE

2023 Hyco Shear Zone, North Carolina, USA
2022 Appalachian foreland basin, West Virginia, USA
2021 Rio Grande Rift, New Mexico, USA
2018 Field excursion to Andes Mountains, Argentina
2017 Field excursion to Pyrenees Mountains, France
2015 Field excursion to Paradox Basin, Utah
2012, ‘14 Field work in Nevada Basin and Range for Ph.D.
2014 Field excursion to Sierra Nevada Mountains, California
2014 Field work in Alabama Hills, California
2012 Field work in Coyote Mountain, California
2007, ‘08 Field work in NW Scotland for M.S.
2007 Field work in central Ohio for undergraduate senior thesis

TECHNICAL EXPERTISE

- Pecube: thermokinematic modeling software with inversion on HPCCs
- FastScape: surface processes modeling software with inversion on HPCCs
- Matlab, R, Python, Fortran
- ArcGIS (XTools Pro, Spatial Analyst toolbox, Hydrotools)
- Midland Valley Move™: 2D/3D structural restoration and geologic modeling software
- DecisionSpace and Petrel: 2D and 3D seismic interpretation

PUBLICATIONS

Peer-Reviewed Journal Articles

1. **Curry, M.A.E.,** Hudec, M., Peel, F., Fernandez, N., Apps, G., Snedden, J.W., *2023*, Structural restorations of the conjugate U.S. – Mexico eastern Gulf of Mexico margin. *Tectonics*, doi: 10.1029/2023TC007897
2. George, S. W. M., Perez, N. D., Struble, W., **Curry, M. E.,** & Horton, B. K., 2022, Aseismic ridge subduction focused late Cenozoic exhumation above the Peruvian flat slab. *Earth and Planetary Science Letters*, *600*, 117754, doi: 10.1016/j.epsl.2022.117754

3. Capaldi, T. N., Odlum, M. L., **Curry, M. E.,** & Stockli, D. F., 2022, Variable thermal histories across the Pyrenees orogen recorded in modern river sand detrital geo-/thermochronology and PECUBE thermokinematic modelling. *Basin Research*, *34*(5), 1781–1806, doi: 10.1111/bre.12685
4. Honegger, L., Adatte, T., Spangenberg, J.E., Poyatos-Moré, M., Ortiz, A., **Curry, M.A.E.**, Huyghe, D., Puigdefàbregas, C., Garcés, M., Vinyoles, A., Valero, L., Läuchli, C., Nowak, A., Fildani, A., Clark, J.D., and Castelltort, S., 2021, Tectonics, Climate and Topography: Oxygen stable isotopes and the early Eocene growth of the Pyrenees: Solid Earth Discuss., v. 2021, p. 1–35, doi:10.5194/se-2021-12.
5. **Curry, M.A.E.,** van der Beek, P., Huismans, R.S., Wolf, S.G., Fillon, C., Muñoz, J. A., 2021, Spatio-temporal patterns of exhumation of the Pyrenees revealed by inverse thermo-kinematic modeling of a large thermochronologic dataset. *Geology*, v. 49(6), p. 738-742, doi: 10.1130/G48687.1.
6. Wolf, S.G., Huismans, R.S., Muñoz, J. A., **Curry, M.E.**, van der Beek, P., 2020, Growth of collisional orogens from small and cold to large and hot – inferences from geodynamic models. *Journal of Geophysical Research: Solid Earth*, v. 125, doi: 10.1029/2020JB021168.
7. **Curry, M.A.E**., van der Beek, P., Huismans, R.S., Wolf, S.G., Muñoz, J. A., 2019, Evolving lithospheric flexure and paleotopography of the Pyrenean Orogen from 3D flexural modeling and basin analysis, *Earth and Planetary Science Letters*, v. 515, p. 26-37, doi: 10.1016/j.epsl.2019.03.009.
8. **Curry, M.A.E.,** Peel, F., Hudec, M., Norton, I., 2018, Extensional models for the development of passive-margin salt basins, with application to the Gulf of Mexico, *Basin Research*, doi: 10.1111/bre.12299.
9. **Curry, M.A.E.,** Barnes, J.B., Colgan, J.P., 2016, Testing fault growth models with low-temperature thermochronology in the northwest Basin and Range, USA. *Tectonics*, v. 35, p. 2467-2492. doi:10.1002/2016TC004211.
10. **Ellis, M.A.** and Barnes, J.B. 2015. A global perspective on the topographic response to fault growth. *Geosphere*, v. 11, p. 1008-1023. doi: 10.1130/GES01156.1
11. **Ellis, M.A.**, Barnes, J.B., Colgan, J.P. 2014. Geomorphic evidence for renewed Plio-Quaternary faulting in the northwest Basin and Range. *Lithosphere*, v. 7, p. 59-72, doi: 10.1130/L401.1.
12. Laubach, S.; P. Eichhubl; P. Hargrove; **Ellis, M.A.**; Hooker, J. 2014. Fault core and damage zone fracture attributes vary along strike owing to interaction of fracture growth, quartz accumulation, and differing sandstone composition. *Journal of Structural Geology*, v. 68, Part A, 207-226. doi: 10.1016/j.jsg.2014.08.007.
13. **Ellis, M.A**.; Laubach, S.E.; Eichhubl, P.; Olson, J.E.; Hargrove, P., 2012. Fracture development and diagenesis of Torridon Group Applecross Formation, near An Teallach, NW Scotland: millennia of brittle deformation resilience? *Journal of the Geological Society*, v. 169, 297-310. doi: 10.1144/0016-76492011-086.

In Progress Peer-Reviewed Publications

1. **Curry, M.A.E.,** van der Beek, P., *In Revision*: Peak- to post-orogenic landscape evolution of the Pyrenees Mountains from landscape evolution modeling and thermochronology.
2. Sessums, T., **Curry, M.A.E.,** Rudolph, K., *In Revision*: Spatio-temporal evolution of subsidence in the Appalachian foreland basin.

Conference Abstracts:

1. Siegel, C. and Curry, M.A.E., 2023, Analyzing a potential landscape response to the development of the lower Colorado River, Nevada, USA. GSA Annual Meeting, Pittsburg, PA
2. **Curry, M.A.E.**, van der Beek, P., 2023, Exploring drivers of exhumation and erosion in the Pyrenees Mountains with 3D inverse modeling of a multi-thermochronometer dataset. Gordon Research Conference: Geochronology. Mt. Snow, Vermont.
3. **(Invited) Curry, M.A.E.,** van der Beek, P., 2022, Exploring drivers of exhumation and erosion in the Pyrenees Mountains with 3D inverse modeling of a multi-thermochronometer data set. AGU Annual Meeting, Chicago, IL
4. **Curry, M.A.E.,** Hudec, M., Peel, F., Fernandez, N., Snedden, J., Apps, G., 2022, Sequential structural restorations of the conjugate NE Gulf of Mexico US-Mexico margin: implications for Mesozoic dynamic topography. GSA Annual Meeting, Denver, CO, 10.1130/abs/2022AM-381171

5. Smith, T., Gaynor, S., **Curry, M.A.E.,** 2022, Southern Rio Grande rift basin subsidence & chronology: complexity of depositional records of rifting, GSA Annual Meeting, Denver, CO, doi: 10.1130/abs/2022AM-383950
6. Honegger, L., Adatte, T., Spangenberg, J.E., Poyatos-Moré, M., Ortiz, A., **Curry, M.A.E.**, Huyghe, D., Puigdefàbregas, C., Garcés, M., Vinyoles, A., Valero, L., Läuchli, C., Nowak, A., Fildani, A., Clark, J.D., and Castelltort, S., Oxygen stable isotopes signals of the early Eocene growth of the Pyrenees: implications for steady-state and response time of mountain ranges. EGU General Assembly, Vienna, Austria. 2022.
7. Smith, T.M., Gaynor, S.P., **Curry, M.A.E.,** 2021, Basin subsidence & chronology of southern Rio Grande rift stratigraphy: Comparing different estimates of rapid subsidence. AGU Annual Meeting, New Orleans, LA.
8. **Curry, M.A.E.,** van der Beek, P., Odlum, M., Capaldi, T., 2021, 3D thermokinematic modeling of a multi-thermochronometer dataset from the Pyrenees Mountains: tectonic development, landscape evolution, and detrital applications. 17th International Conference on Thermochronology, Santa Fe, NM.
9. Smith, T., Gaynor, S., **Curry, M.A.E.,** 2021, Testing incongruent records of exhumation and rift basin subsidence. 17th International Conference on Thermochronology, Santa Fe, NM.
10. George, S., Perez, N., **Curry, M.A.E.,** Horton, B., 2021, Thermochronometric response to flat slab subduction. 17th International Conference on Thermochronology, Santa Fe, NM.
11. Mattson, A., **Curry, M.A.E.,** 2021, Eastern Gulf of Mexico Vertical Subsidence Anomalies: Implications for Salt Palinspastic Restoration. AAPG Conference and Expo, Denver, CO.
12. Sessums, T., **Curry, M.A.E.,** Rudolph, K., 2021, Subsidence analysis of the Appalachian foreland basin using new regional along-strike and -dip cross-sections. AAPG Conference and Expo, Denver, CO.
13. **Curry, M.A.E.**, van der Beek, P., Odlum, M.L., 2020, 3D thermokinematic modeling of a large thermochronologic dataset from the Pyrenees Mountains: Strategies and lessons of using Pecube in inversion mode, AGU Annual Meeting, ONLINE
14. Capaldi, T.N., Odlum, M.L., **Curry, M.E.**, Stockli, D.F., 2020, River sand detrital geo-thermochronology record contrasting thermal histories across the Pyrenees of Spain and France, AGU Annual Meeting, ONLINE
15. Rudolph, K., **Curry, M.E.**, Saylor, J., Jacobs, M., 2020, Constraining the timing and magnitude of orogenesis by basin response: two examples from North America, AGU Annual Meeting, ONLINE
16. **Curry, M.A.E.,** Rudolph, K., Erratt, D., 2020, Foreland basin response as a constraint on Laurentian Paleozoic orogenies: Insights from subsidence analysis and flexural modeling, GSA Annual Meeting, ONLINE
17. **Curry, M.A.E.,** van der Beek, P., Huismans, R.S., Wolf, S.G., Muñoz, J. A., 2019, Peak- to post-orogenic landscape evolution of the Pyrenees Mountains from numerical modeling and thermochronology. AGU Annual Meeting, San Francisco, CA.
18. **Curry, M.A.E.,** van der Beek, P., Huismans, R.S., Wolf, S.G., Muñoz, J. A., 2018, Spatio-temporal evolution of exhumation of the Pyrenees Mountains. AGU Annual Meeting, Washington, D.C.
19. **Curry, M.A.E.,** Barnes, J.B., Colgan, J.P. 2018. Testing fault growth models with low-temperature thermochronology in the northwest Basin and Range. Thermo Conference, Quedlinburg, Germany.
20. **Curry, M.A.E**., van der Beek, P., Huismans, R.S., Wolf, S.G., Muñoz, J. A. 2018. Evolving lithospheric flexure and paleotopography of the Pyrenean Orogen from 3D flexural modeling and basin analysis. EGU General Assembly. Vienna, Austria.
21. **Curry, M.A.E**., van der Beek, P., Huismans, R.S., Muñoz, J. A. 2017. Evolving lithospheric flexure and paleotopography of the Pyrenean Orogen from 3D flexural modeling and basin analysis. AGU Annual Meeting, New Orleans, U.S.A.
22. **Curry, M.A.E.,** Barnes, J.B., Colgan, J.P. 2017. Testing fault growth models with low-temperature thermochronology in the northwest Basin and Range. EGU General Assembly. Vienna, Austria.
23. **Curry, M.A.E,** Peel, F., Hudec, M., Norton, I. 2016. Extensional models for the Gulf of Mexico. AGL Annual Meeting. Austin, TX. Talk no. 35-16.
24. **Curry, M.A.E.,** Hudec, M., Peel, F., Snedden, J. 2016. Regional structural restorations in the NE Gulf of Mexico. AGL Annual Meeting. Austin, TX. Talk no. 35-17.
25. **Ellis, M.A.,** Hudec, M., Snedden, J. 2015. Basement uplift of the northern Gulf of Mexico coast: timing and implications. AGL Annual Meeting. Austin, TX. Talk no. 34-21.

26. **Ellis, M.A.,** Hudec, M., Norton, I., Snedden, J. 2015. Gulf of Mexico basin structural restoration project: status report. AGL Annual Meeting. Austin, TX. Talk no. 34-22.
27. **Ellis, M.A.,** Barnes, J.B., and Colgan, J.P. 2014. Testing fault growth models with low-temperature thermochronology in northwest Nevada. Geological Society of America Annual Meeting, Vancouver, BC
28. **Ellis, M.A.,** Barnes, J.B., and Colgan, J.P. 2013. Geomorphic evidence for renewed Plio-Quaternary faulting in the northwest Basin and Range, T31D-2544, AGU Fall Meeting, San Francisco, CA, 9-13 December.
29. **Ellis, M.A.** and Barnes, J.B. 2012. Scales of topographic growth associated with active faulting, T21E-2621, AGU Fall Meeting, San Francisco, CA, 2-7 December.
30. **Ellis, M.A.,** Laubach, S., Eichhubl, P., Olson, JE, Hargrove, P. 2012. Fracture development and diagenesis of the Torridon Group Applecross Formation, near An Teallach, NW Scotland: Millenia of brittle deformation resilience? (abs.) in GSA Abstracts with Programs, Vol. 44. Geological Society of America Annual Meeting, Charlotte, NC
31. Laubach, S.E., **M. Ellis,** P. Hargrove, P. Eichhubl. 2010. Fracturing, cementation and feedback in a small-offset oblique slip fault in sandstone (abs.) in Goldschmidt Conference Abstracts.
32. **Ellis, M.A.,** Hargrove, P., Laubach, S. E. 2009. Fracture pattern development in the Applecross Formation (Torridonian) sandstones south of Ullapool, NW Scotland (abs.), in TSG 2009: Tectonic Studies Group Annual Meeting Programme Abstract Volume, Staffordshire, UK, January 5–8, p. 31.
33. Hargrove, P., **Ellis, M.A.,** Laubach, S. E. 2009. Fault-related fracture pattern evolution and distribution in Cambrian Eriboll Formation sandstones: Northwest Highlands, Scotland (abs.), in TSG 2009: Tectonic Studies Group Annual Meeting Programme Abstract Volume, Staffordshire, UK, January 5–8, p. 32.
34. Laubach, S.E., **Ellis, M.,** Hargrove, P., Eichhubl, P. 2009. Fracturing, cementation and feedback in a small-offset oblique slip fault in sandstone: Geochimica et Cosmochimica Acta, vol. 74, no. 11, Supplement 1, p. A656.

INVITED RESEARCH PRESENTATIONS

1. November 2023. *Spatio-temporal evolution of tectonics and topography in the Pyrenees Mountains.* Seminar at Indiana University, Bloomington, IN
2. February 2023. *Spatio-temporal evolution of tectonics and topography in the Pyrenees Mountains.* February 2023. Seminar at University of North Carolina, Chapel Hill.
3. December 2022. *Exploring drivers of exhumation and erosion in the Pyrenees Mountains with 3D inverse modeling of a multi-thermochronometer data set.* December, 2022. AGU Annual Meeting, Chicago, IL.
4. October 2022. (Keynote Speaker) *Tectonics and Topography of the Pyrenees Mountains*. October 31, 2022, Eastern Carolina University Geoscience Research Symposium, Greenville, NC.
5. November 2022. *Sequential structural restorations of the conjugate NE Gulf of Mexico US-Mexico margin: implications for Mesozoic dynamic topography.* November 7, 2022. Rifts and Rifted Margin Online Seminar.
6. April 2021. *Structural restorations of the US-Mexico conjugate margin: Evolution of the Gulf of Mexico from Jurassic to present.* Seminar, Oxy oil and gas, Houston, TX (held online)
7. April 2021. *Structural restorations of the conjugate Gulf of Mexico margin*. American Association of Petroleum Geologists Salt Basins Technical Interest Group, Houston, TX (held online)
8. September 2020. *Spatio-temporal evolution of topography, flexure, and exhumation of the Pyrenees Mountains*. University of Houston Structure and Tectonics Seminar (via Zoom).
9. October 2020. *The highs and lows of the Pyrenees Mountains*. Dinner with a Geoscientist, Moorpark College, Department of Chemistry and Earth Science (via Zoom)
10. October 2020. *Spatio-temporal evolution of topography, flexure, and exhumation of the Pyrenees Mountains*. Bureau Seminar Series, Bureau of Economic Geology, University of Texas at Austin (via Zoom)
11. July 2019. *Evolving lithospheric flexure and paleotopography of the Pyrenean Orogen from 3D flexural modeling and basin analysis*. Source-to-sink workshop, TOTAL, Jusseiu Campus, Paris, France
12. May 2019. *Spatio-temporal evolution of topography, exhumation, and erosion of the Pyrenees Mountains*. Coupling Lithospheric Deformation and Surface Processes Research Group Annual meeting, Bergen, Norway

13. April 2019. *Beyond a vertical transect: Probing the spatio-temporal details of normal fault evolution in the U.S. Basin and Range*. Workshop: Tectonics and Magmatism in the Western US, Conférence Universitaire de Suisse Occidental (CUSO), Geneva, Switzerland
14. April 2019. *Quantifying normal fault slip across the U.S. Basin and Range Province with low-temperature thermochronology*. Workshop: Tectonics and Magmatism in the Western US, Conférence Universitaire de Suisse Occidental (CUSO), Geneva, Switzerland.
15. November 2018. *Spatio-temporal evolution of exhumation and topography of the Pyrenees Mountains* Pyrenees Source-to-Sink Seminar, TOTAL E&P, Pau, France.
16. October 2018. *Evolving lithospheric flexure and paleotopography of the Pyrenean Orogen from 3D flexural modeling and basin analysis.* University of Geneva, Department of Geology, Geneva, Switzerland.
17. May 2018. *Coevolution of compressional tectonics and topography: The Pyrenean Orogen*. Coupling Lithospheric Deformation and Surface Processes Research Group Annual meeting, Potsdam, Germany.
18. May 2017. *Coevolution of compressional tectonics and topography: The Pyrenean Orogen*. Coupling Lithospheric Deformation and Surface Processes Research Group Annual meeting, Toulouse, France.
19. October 2017. *Coevolution of compressional tectonics and topography: The Pyrenean Orogen*. TRB Meeing. Université Grenoble Alpes, ISTerre, Grenoble, France.
20. November 2016. *Extensional models for the Gulf of Mexico*. Applied Geodynamics Laboratory Annual Meeting, Austin, TX
21. November 2016. *Regional structural restorations in the northeast Gulf of Mexico*. Applied Geodynamics Laboratory Annual Meeting, Austin, TX
22. November 2015. *Basement uplifts of the Gulf of Mexico.* Applied Geodynamics Laboratory Annual Meeting, Austin, TX.
23. 2010. *Fault related fractures and diagenesis of the Torridonian Applecross Formation, Scotland.* ExxonMobil Upstream Research Company, Fracture Prediction and Flow Modeling Group, Houston, TX
24. November 2009. *Fractures and diagenesis of a tight-gas analog: Torridonian Applecross Formation, Northwest Scotland*. Fracture Research and Application Consortium Annual Meeting, Austin, TX

PRE-TENURE TRACK AWARDS

2014	Kenan award ($1,300), Department of Geological Sciences, UNC Chapel Hill
2013	Supplemental Martin Research Grant (~$5,000), Department of Geological Sciences, UNC
2012	GSA Student Research Grant (~$2,500)
2012	Sigma Xi Grant (~$300)
2012	Supplemental Martin Research Grant (~$5,000), Department of Geological Sciences, UNC
2009	Exit Fellowship, Jackson School of Geosciences (~$2,000), UT Austin
2008	Grant, GDL Foundation (~$5,000), for Master's thesis research
2008	Off-campus Research Award (~$2,000), Jackson School of Geosciences, UT Austin
2008	Analytical Research Award (~$1,500), Jackson School of Geosciences, UT Austin

HONORS

1. 2015. Roy L. Ingram Research Award ($500), UNC Chapel Hill
2. 2014. Fellow ($450), Future Faculty Fellowship Program, UNC Chapel Hill
3. 2014,'13,'11. Fellow ($31,400), Geological Sciences Martin Fellowship, UNC Chapel Hill
4. 2007. Robert E. Shanklin Distinguished Scholar Award in Geology, Ohio Wesleyan University (OWU)
5. 2006. Andres Duarte Vivas Senior Scholarship in Geology, OWU
6. 2005. Crowell-Shanklin Scholarship in Geology, OWU

7. 2003-07. Trustee Scholarship, OWU

PROFESSIONAL AFFILIATIONS

1. Geological Society of America. 2006-Present.
2. American Association of Petroleum Geologists. 2007-Present.
3. American Geophysical Union. 2011-Present.
4. National Association of Geoscience Teachers. 2014-Present.
5. Carolina Geological Society. 2020-Present.
6. European Geosciences Union. 2016-2020.