Dr. John Naliboff
Department of Earth & Environmental Science
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Curriculum Vitae

Education

2006-2009	Ph.D., Geology, University of Michigan, Ann Arbor, MI
2003-2005	M.S., Geology, University of California, Davis, CA
1999-2003	B.S., Geology, University of California, Davis, CA

Professional Experience

2020-	**Assistant Professor**, Department of Earth and Environmental Science, New Mexico Institute of Mining and Technology, Socorro, New Mexico.
2018-2020	**Assistant Research Scientist**, Computational Infrastructure for Geodynamics, Department of Earth and Planetary Sciences, University of California, Davis
2016-2018	**Assistant Project Scientist**, Computational Infrastructure for Geodynamics, Department of Earth and Planetary Sciences, University of California, Davis
2013-2015	**Postdoctoral Researcher**, Geodynamics Teams, Geological Survey of Norway
2010-2013	**Postdoctoral Scholar and Lecturer**, Department of Earth and Planetary Sciences, University of California, Davis

Principal Research Interests

Solid Earth Deformation

- Multiphysics coupling between solid deformation and reactive fluid transport
- Multiphysics coupling between solid deformation and surface processes
- Fault and plate boundary mechanics through seismic cycle time scales
- Long-term tectonic plate evolution
- Links between observed lithospheric deformation and global convective flow

- Regularization techniques for brittle failure with adaptively refined meshes
- Novel statistical comparisons between computational and natural data sets

Computational Geodynamics

- Development of open-source community software for solid Earth deformation and coupled multiphysics processes.
- Community training and support for use and development of open-source software and High Performance Computing resources
- Development of educational resources for computational Earth Science applications.
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External Funding

Selected Current

2024-2028 Collaborative Research: Frameworks: Coupling bulk and surface processes in simulating the solid earth with ASPECT and LandLab (Principal Investigator), Funding Source: NSF (Cyberinfrastructure for Sustained Scientific Innovation), Award 2410850, New Mexico Institute of Mining and Technology Subaward Amount: $304,934.

2024-2027 MRI: Track 1: Acquisition of a High-Performance Computing System at New Mexico Tech (Principal Investigator), Funding Source: NSF MRI, Award, 2320162 New Mexico Institute of Mining and Technology. Award Amount: $900,002.

2023-2028: Facilities: Computational Infrastructure for Geodynamics (Subaward), Funding Source: NSF Geoinformatics, New Mexico Institute of Mining and Technology, Subaward Amount: $125,000, 5 Years.

2019-2025: Collaborative Research: Development and Application of a Framework for Integrated Geodynamic Earth Models 2019-2025 (Subaward), Funding Source: NSF (Frontier Research in Earth Science), Award 1925575, New Mexico Institute of Mining and Technology, Subaward Amount: $355,780.

2021-2025: Integrating petrologic records and geodynamics: Quantifying the effects of glaciation on crustal stress and eruptive patterns at Mt. Waesche, Executive Committee Range, Antarctica (co-Principal Investigator), Funding Source: NSF (Antarctic Earth Sciences), Award 2122248, New Mexico Institute of Mining and Technology, Award Amount: $483,028.

2024: Evolution of the East African Margin (Principal Investigator), Funding Source: TectonKnow (Industry), New Mexico Institute of Mining
and Technology, Award Amount: $100,000, 1 year.

Current and Former New Mexico Tech Research Group Members

- Daniel Douglas, PhD Candidate, 2021-Present
- Frederick LaCombe, MS Student, 2023-Present
- Prajakta Mohite, PhD Student, 2022-Present
- George Pharris, MS Student (co-supervised with lead supervisor Dr. Veronica Prush), 2022-Present
- Dr. Tahiry Rajaonarison, Postdoctoral Scholar, 2021-2023
- Dr. Liang Xue, Research Scientist, 2024-Present

Publications

Articles In Review

F. Zwaan, S. Brune , A. Glerum, D.A. Vasey, **J.B. Naliboff** , G. Manatschal , and E.C. Gaucher (In Review at Science Advances), Rift-inversion orogens are potential hotspots for natural H 2 generation.

D. Douglas*, **J. Naliboff**, M.R.T. Fraters, J. Dannberg, D. Eberhart-Philips, and S. Ellis (In Review at Geochemistry, Geophysics, Geosystems), Constraining Solid Dynamics, Interface Rheology, and Slab Hydration in the Hikurangi Subduction Zone Using 3D Fully Dynamic Models. Preprint available at https://advance.sagepub.com/doi/full/10.22541/au.172357757.70026001/v1.

M. Fraters, **J. Naliboff**, M.I. Billen, L. Staisch, J. Watt, H. Li, (In Review at Geochemistry, Geophysics, Geosystems), Using Subducting Plate Motion to Constrain Cascadia Slab Geometry and Interface Strength.

D. Douglas, G. Apuzen-Ito, B. Boston, R.A. Dunn, **J. Naliboff**, P. Wessel, A.B. Watts, D. Shillington, P.A. Cilli (In Review at Journal of Geophysical Research: Solid Earth), Magma-Assisted Flexure of Hawaiian Lithosphere Inferred From Three-Dimensional Models of Lithospheric Flexure Constrained by Active Source Seismic Data. Preprint available at https://essopenarchive.org/doi/full/10.22541/essoar.172748266.69977757.

Published Articles

D. Vasey*, **J. Naliboff**, E. Cowgill, S. Brune, A. Glerum, F. Zwann (2024), Impact of rift history on the structural style of intracontinental rift-inversion orogens, *Geology*, 52(6), 429–434, https://doi.org/10.1130/G51489.1.

S. Pan*, **J. Naliboff**, R.E. Bell, and C.A-L. Jackson (2023), How Do Rift-Related Fault Network Distributions Evolve? Quantitative Comparisons Between Natural Fault Observations and 3D Numerical Models of Continental Extension, *Tectonics*, 42(1), e2022TC007659, https://doi.org/10.1029/2022TC007659.

M. F. M. Weerdesteijn*, **J.B. Naliboff**, C.P. Conrad, J.M. Reusenm, R. Steffen, T. Heister,and J. Zhang (2023), Viscoelastic solid earth deformation due to ice loading across timescales in ASPECT, *Geochemistry, Geophysics, Geosystems,* 24, e2022GC010813, https://doi.org/10.1029/2022GC010813

T. Phillips, **J. Naliboff**, K. McCaffrey, S. Pan, J. van Hunen,, and M. Froemchen (2023), The influence of crustal strength on rift geometry and development – Insights from 3D numerical modelling, *Solid Earth*, 14(4), 369-388, https://doi.org/10.5194/se-14-369-2023.

T. Rajaonarison, S. Stamps, **J. Naliboff**, A. Nyblade, E. Njinju (2023), A Geodynamic Investigation of Plume-Lithosphere Interactions Beneath the East African Rift, Journal of Geophysical Research: *Solid Earth*, 128, e2022JB025800, https://doi.org/10.1029/2022JB025800.

M. F. M. Weerdesteijn, C.P. Conrad, and **J.B. Naliboff** (2022), Solid earth uplift due to contemporary ice melt above low-viscosity regions of the upper mantle, *Geophysical Research Letters*, 49, e2022GL099731, https://doi.org/10.1029/2022GL099731

S. Pan*, **J. Naliboff**, R. Bell, and C. Jackson, C. (2022). Bridging spatiotemporal scales of normal fault growth during continental extension using high-resolution 3D numerical models. *Geochemistry, Geophysics, Geosystems*, 23, e2021GC010316, https://doi.org/10.1029/2021GC010316

E.R. Lundin, A.G. Doré, **J. Naliboff**, and J. van Wijk (2021), Utilization of continental transforms in break-up: observations, models, and a potential link to magmatism, *Geological Society, London, Special Publications* 524, https://doi.org/10.1144/SP524-2021-119.

V. Magni, **J. Naliboff**, M. Prada, and C. Gaina (2021), Ridge Jumps and Mantle Exhumation in Back-Arc Basins, *Geosciences*, 11, 475, https://doi.org/10.3390/geosciences11110475.

D. Sandiford, S. Brune, A. Glerum, **J. Naliboff**, and J.M. Whittaker (2021), Kinematics of footwall exhumation at oceanic detachment faults: solid-block rotation and apparent unbending, *Geochemistry, Geophysics, Geosystems*, 22, e2021GC009681, https://doi.org/10.1029/2021GC009681.

S. Pan, R.E. Bell, C.A.-L. Jackson, and **J.B. Naliboff** (2021), Evolution of normal fault displacement and length as the continental lithosphere stretches, *Basin Research*, 00, 1– 20, https://doi.org/10.1111/bre.12613.

M. Gouiza, and **J.B. Naliboff** (2021), Rheological inheritance controls the formation of segmented rifted margins in cratonic lithosphere, *Nature Communications*, 12, 46453, https://doi.org/10.1038/s41467-021-24945-5.

T.A. Rajaonarison, D.S. Stamps, and **J.B. Naliboff**. (2021). Role of LithosphericBuoyancy Forces in Driving Deformation in East Africa, *Geophysical Research Letters*, 48 (6), e2020GL090483, https://doi.org/10.1029/2020GL090483.

J.B Naliboff, A. Glerum, S. Brune, G. Péron-Pinvidic, and T. Wrona (2020), Development of 3-D Rift Heterogeneity Through Fault Network Evolution. *Geophysical Research Letters*, 47, e2019GL086611, https://doi.org/10.1029/2019GL086611.

G. Peron-Pinvidic and **J.B. Naliboff,** (2020), The exhumation detachment factory, *Geology,* 48(6), 635-639, https://doi.org/10.1130/G47174.1.

J.B. Naliboff, S.J.H. Buiter, G. Péron-Pinvidic, P.T. Osmundsen, and J. Tetrault, (2017), Complex fault interaction controls continental breakup. *Nature Communications*, 8(1179), https://doi.org/10.1038/s41467-017-00904-x.

F. Zwann, G.Schreurs, **J.B. Naliboff,** and S.J.H. Buiter (2016), Insights Into the Effects of Oblique Extension on Continental Rift Interaction from 3D Analogue and Numerical Models, *Tectonophysics*, 693, 239-260, https://doi.org/10.1016/j.tecto.2016.02.036.

J.B. Naliboff, and S.J.H. Buiter (2015), Rift reactivation and migration during multiphase extension, *Earth and Planetary Science Letters*, 421, 58-67, https://doi.org/10.1016/j.epsl.2015.03.050.

J.B. Naliboff, M.I. Billen, and T. Gerya (2013), Dynamics of outer rise faulting in oceanic-continental subduction systems, *Geochemistry, Geophysics, Geosystems*, 14, 2310–2327, https://doi.org/10.1002/ggge.20155.

J.B. Naliboff, C. Lithgow-Bertelloni, L. Ruff, and N. de Koker (2012), The effect of lithospheric thickness and density structure on Earth's stress field, *Geophysical Journal International*, 88(1), 1-17, doi:10.1111/j.1365-246X.2011.05248.x.

J.B. Naliboff, C.P. Conrad, and C. Lithgow-Bertelloni (2009), Modification of the lithospheric stress field by lateral variations in plate-mantle coupling, *Geophysical Research Letters*, 36, L22307, doi:10.1029/2009GL040484.

J.B. Naliboff, and **L.H.** Kellogg (2007), Can large increases in viscosity and thermal conductivity preserve large-scale heterogeneity in the mantle?, *Physics of the Earth and Planetary Interiors*, 161, 86-102, https://doi.org/10.1016/j.pepi.2007.01.009.

J.B. Naliboff, and L.H. Kellogg, (2006), Dynamic effects of a step-wise increase in

thermal conductivity and viscosity in the lowermost mantle, *Geophysical Research Letters*, 33, L12S09, doi:10.1029/2006GL025717.

Proceedings and Notes

J.B. Naliboff (2009), Dependence of the Stress Field on Plate-Mantle Coupling and Lithospheric Structure, Ph.D. Thesis University of Michigan signed by C.R. Lithogow-Bertelloni (co-chair), L.J. Ruff (co-chair), R.A. Lange and S. El-Tawil.

J.B. Naliboff (2005), Exploring the Geodynamical Effects of Changes in Viscosity and Thermal Conductivity in the Deep Lower Mantle, M.S. Thesis U.C. Davis signed by L.H. Kellogg (chair), M.I Billen, Q. Yin, and D.L. Turcotte.

J.B. Naliboff, and L.H., Kellogg (2005), Mixing in a convecting viscous fluid: applications to the Earth's mantle. In: Bathe, K.J. (Ed.), Proceedings of the Third MIT Conference on Computational Fluid and Solid Mechanics. Elsevier B.V., Amsterdam, 783-786.

Recent Conference Abstracts (2020-2024)

*G. Pharris, V. Prush, and **J. Naliboff** (2024). Evaluating segmentation behavior along the Alamogordo fault, central New Mexico, using neotectonic mapping, soil chronosequences, and geodynamic modeling, New Mexico Geological Society Proceedings Volume 121(65) 2024 Annual Spring Meeting.

M. Fraters, M. Billen, **J. Naliboff**, L. Staisch, and J. Watt (2024). Exploring the structure of the Cascadia Subduction Zone by coupling 3D thermomechanical modeling and CPO evolution with observations., EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-16531, https://doi.org/10.5194/egusphere-egu24-16531, 2024.

F. Zwaan, S. Brune, A. Glerum, D.A. Vasey, **J. Naliboff**, G. Manatschal, and E.C. Gaucher (2024). Rift-inversion orogens are the place to be for natural hydrogen gas (H2) exploration, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-7867, https://doi.org/10.5194/egusphere-egu24-7867, 2024.

P. Mohite*, **J. Naliboff**, F. Richards, J. Hazard, E. Rivalta, G. Ferrante, S. Coulson, F. Maccaferri (2023). Development of quantitative methods and workflows to constrain the relationship between solid Earth deformation, ice sheet evolution, and volcanism, C13E-1174, presented at the 2023 American Geophysical Union Fall Meeting, San Francisco.

D. Douglas*, **J. Naliboff**, M. Fraters, D. Eberhart-Phillips, S.M. Ellis, J. Dannberg (2023). Modeling of Dynamics in the Hikurangi-Kermadec Subduction System, T52B-073D, presented at the 2023 American Geophysical Union Fall Meeting, San Francisco.

G. Pharris*, **J. Naliboff**, and V. Prush (2023). Validating Geodynamic Models of Segmentation Behavior Along the Alamogordo Fault, Central New Mexico, With New Remote Sensing and Field-based Datasets, T31G-0281, presented at the 2023 American Geophysical Union Fall Meeting, San Francisco.

A. Kwagalakwe*, D.S. Stamps, **J. Naliboff**, M.H. Taylor, T. Rajaonarison, R.L Evans, E. Atekwana, A. Katumwehe, E. Atekwana, F. Tugume, J. Kiberu (2023). The Role of Pre-Existing Structures in the Initiation of the Northern Western Branch of the East African Rift System, T11A-04, presented at the 2023 American Geophysical Union Fall Meeting, San Francisco.

M. Fraters, M.I. Billen, **J. Naliboff**, L. Staisch, J.T. Watt (2023). Exploring the structure of the Cascadia Subduction Zone by coupling 3D thermomechanical modeling and CPO evolution with observations, DI21C-0017, presented at the 2023 American Geophysical Union Fall Meeting, San Francisco.

G. Pharris*, **J. Naliboff**, and V. Prush (2023). New computational workflows to examine the role of 3D fault architecture on long-term slip rates and off-fault deformation: A case study from the Eastern California Shear Zone, presented at the 2023 SCEC Annual Meeting, Palm Springs, https://www.scec.org/meetings/2023/am/poster/207.

F. Zwaan, S. Brune, A. Glerum, **J. Naliboff**, and D. Vasey (2023). Numerical modelling of mantle exhumation in inverted rift systems, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-2573, https://doi.org/10.5194/egusphere-egu23-2573, 2023.

S. Brune, T. Wrona, D. Neuharth, A. Glerum, **J. Naliboff**, E. Heckenbach (2023). Normal fault network evolution in 3D numerical models, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-11050, https://doi.org/10.5194/egusphere-egu23-11050, 2023.

G. Pharris*, **J. Naliboff**, and V. Prush (2022). Fault zone evolution along complex plate boundaries: A case study from the Eastern California shear zone, presented at the 2022 American Geophysical Union Fall Meeting, Chicago.

D. Douglas*, **J. Naliboff**, M. Fraters, D. Eberhart-Phillips, S.M. Ellis, J. Dannberg (2022). 3D Modeling of Dynamics in the Hikurangi-Kermadec Subduction System, presented at the 2022 American Geophysical Union Fall Meeting, Chicago.

D. Douglas*, **J. Naliboff**, M. Fraters, D. Eberhart-Phillips, S.M. Ellis, J. Dannberg (2022). 3D Modeling of Dynamics in the Hikurangi-Kermadec Subduction System, presented at the 2022 Ada Lovelace Workshop, Budapest, Hungary.

D. Douglas*, **J. Naliboff**, M. Fraters, D. Eberhart-Phillips, S.M. Ellis, J. Dannberg (2022). 3D Modeling of Dynamics in the Hikurangi-Kermadec Subduction System, presented at the 2022 SEG-AGU joint workshop on Convergent Margin, Seattle.

S. Brune, T. Wrona, D. Neuharth, A. Glerum, and **J. Naliboff**: Life and Death of Normal Faults: Quantitative Analysis of Fault Network Evolution in 3D Rift Models, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-6294, https://doi.org/10.5194/egusphere-egu22-6294, 2022.

M. Fraters, M. Billen, **J. Naliboff**, L. Staisch, and J. Watt.: Exploring the Cascadia slab structure coupling 3D thermomechinal and CPO modeling., EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-6764, https://doi.org/10.5194/egusphere-egu22-6764, 2022.

M. Gouiza, A. Vasileiou, and **J. Naliboff** (2022). The effect of inheritance, rheology, and stress orientation on the 4-D evolution of rift systems, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-3488, https://doi.org/10.5194/egusphere-egu22-3488, 2022.

M.F.M. Weerdesteijn*, C.P. Conrad, J. Reusen, R. Steffen, and **J.B. Naliboff** (2021), Solid Earth uplift due to contemporary ice melting above low-viscosity regions of Greenland's upper mantle, Abstract G31A-05 presented at the 2021 American Geophysical Union Fall Meeting, New Orleans.

D.A. Vassey*, **J.B. Naliboff,** E. Cowgill (2021), Modeling the Effects of Initial Continental Rift Structure on the Symmetry and Vergence of Collisional Orogens Formed by Rift Inversion, Abstract T35A-0186 presented at the 2021 American Geophysical Union Fall Meeting, New Orleans.

V. Magni, M. Prada, **J. Naliboff**, C. Gaina (2021), Rift jump and microcontinent formation in back-arc settings, vEGU21, the 23rd EGU General Assembly, held online 19-30 April, 2021, id.EGU21-7256.

T. Phillips, J. Naliboff, K. McCaffrey, S. Pan, and J. van Hunen (2021), The influence of laterally varying crustal strength on rift physiography - Combining 3D numerical models and geological observations, vEGU21, the 23rd EGU General Assembly, held online 19-30 April, 2021, id.EGU21-4492.

J. Naliboff (2021), The influence of brittle rheology on 3D fault network evolution during multiphase rifting, Virtual Rifts and Rifted Margins seminar.

J. Naliboff, S. Brune, T. Wrona, G. Duclaux, C. Havlin, D. May , Towards a Computational Geodynamics Visualization and Data Analysis Framework, CIG 2020 Community Tectonics Workshop (October).

J. Naliboff, L. Hwang, D. Stegman, Increasing diversity in the Geodynamics Community through Research Undergraduate Experiences (REUs), CIG 2020 Community Tectonics Workshop (October).

J. Naliboff, S. Buiter, M. Behn, J. van Wijk, L. Liu, C. Currie, E. Mittelstaedt, C. Thieulot, A community plan towards reproducible simulations of complex lithospheric dynamics, CIG 2020 Community Tectonics Workshop (October).

D. Douglas*, G. Ito, P. Wessel, R.A. Dunn, B. MacGregor, J. **Naliboff,** B. Boston, D. Shillington, A. Watts, P. Cillii (2020), Using 3D Geodynamic Models of Flexure Backed by Seismic Imagery to Constrain the Rheology and Thermal Structure of the Oceanic Lithosphere Under the Hawaiian Islands, Abstract T011-0014 presented at the Virtual 2020 American Geophysical Union Fall Meeting.

R. Gassmoeller, W. Bangerth, J. Dannberg, T. Heister, J. Austermann, M. Fraters, A. Glerum, and J. **Naliboff** (2020), ASPECT: The Advanced Solver for Problems in Earth's Convection-Building a sustainable software and community, Abstract IN037-14 presented

at the Virtual 2020 American Geophysical Union Fall Meeting.

C. Havlin, M. Turk, B.K. Holtzman, L. Orf, K. Halbert, **J.B. Naliboff,** K. Kowalik, M. Munk, and S. Walkow (2020), Visualization and Analysis of 3D Data in the Geosciences Using the yt Platform, Abstract IN037-13 presented at the Virtual 2020 American Geophysical Union Fall Meeting.

T. Phillips, **J. Naliboff,** K.J.W. McCaffrey, and J. Van Hunen (2020), Changing rift physiography across blocks of laterally variable crustal strength – Insights from 3D numerical modelling , Abstract T001-0012 presented at the Virtual 2020 American Geophysical Union Fall Meeting.

T.A. Rajaonarison*, S. Stamps, and **J. Naliboff** (2020), Assessing the Role of Lithospheric Buoyancy Forces and Mantle Flow in Driving Deformation across the East Africa Rift through 3D Geodynamic Modeling, Abstract T024-0011 presented at the Virtual 2020 American Geophysical Union Fall Meeting.

M.F.M., Weerdestiejn*, C.P. Conrad, **J. Naliboff,** and K. Selway (2020). An Open-source 3D Glacial Isostatic Adjustment Modeling Code using ASPECT, Abstract G012-0006 presented at the Virtual 2020 American Geophysical Union Fall Meeting.

Teaching Experience

University Classes

2024	Fundamental of Scientific Computing (graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.
2023	Fundamental of Scientific Computing (graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.
2023	Earth Processes (undergraduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.
2023	Graduate Student Seminar (graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.
2023	Topics in Computational Geophysics (graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2022 Subduction Zone Processes (graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2022 Advanced Computational Methods for Geosciences (undergraduate and graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2022 Earth Processes (undergraduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2021 Earth Processes (undergraduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2021 Computational Methods for Geosciences (undergraduate and graduate), *Instructor.* New Mexico Institute of Mining and Technology, Department of Earth and Environmental Science.

2020 Physical Geology (undergraduate), *Instructor.* New Mexico Institute of Mining
and Technology, Department of Earth and Environmental Science

2019 Natural Hazards (undergraduate), *Instructor.* University of California Davis, Department of Earth and Planetary Sciences

2016 Volcanology, Summer Field Course (undergraduate), *Instructor*. University of California Davis, Department of Earth and Planetary Sciences.

2013 Natural Hazards (undergraduate), *Instructor.* University of California Davis, Department of Earth and Planetary Sciences

2013 The Earth, Introductory Geology (undergraduate), *Instructor.* University of California Davis, Department of Earth and Planetary Sciences

2012 The Earth, Introductory Geology (undergraduate), *Instructor.* University of California Davis, Department of Earth and Planetary Sciences

2011 Active Tectonics, Summer Field Course (undergraduate), *Instructor*. University of California Davis, Department of Earth and Planetary Sciences

Natural Hazards of California, Freshman Seminar (undergraduate), *Instructor.* University of California Davis, Department of Earth and Planetary Sciences

Workshops and Training Courses

2024 ASPECT Hackathon (May 28 - June 6), *co-organizer*

2023 CIDER Summer Workshop: ASPECT Modeling Tutorial (June 22)

2023 CSDMS ASPECT Tutorial (May 17), *co-organizer*

2023 ASPECT Arizona State Modeling Tutorial (February 1), *organizer*

2023 ASPECT Hackathon (July 16-15), *co-organizer*

2022 ASPECT Virtual Hackathon (May 15-24), *co-organizer*

2021 ASPECT Virtual Hackathon (July 6-16), *co-organizer*

2020 ASPECT Virtual Hackathon (August 4-17), *co-organizer*

2020 CIG Tectonics Community Science Workshop (July 27-30), *co-organizer*

2020 CIG Virtual Tectonics Modeling Tutorial (July 20-24), *co-organizer & instructor*

2020 ASPECT Virtual Users Meeting (January 20-24), *co-organizer*

2020 ASPECT Numerical Modelling Workshop (January 7, University of Oslo), *co-organizer*

2020 2020 CIG Webinar Series, *organizer*

2019 2019 CIG Webinar Series, *organizer*

2019 ASPECT Hackathon(May 21- June 1, Heber City, Utah), *co-organizer*

2019 Introduction to Modeling Lithospheric Deformation with ASPECT (April 1st, Utah State University), *organizer* & *instructor*

2018 Canadian Geophysical Union (June). An Introduction to Modeling Lithospheric Dynamics (Session CIG_02), *co-organizer & instructor*

2016 Geological Society of America (September). Introduction to Numerical Modeling of Lithospheric Deformation in Matlab. *co-organizer & instructor*

2015 Basin Research Group, Imperial College, London (June). Numerical modeling of lithospheric processes with Matlab. *organizer & instructor*

Invited Presentations

2023 Modeling solid deformation, fluid flow, and fluid-driven reactions, CIDER Summer Workshop Lecture (June).

2023 Constraining the processes controlling continental rift evolution through geodynamic modeling, MGG/SGT Seminar Series at LDEO, Columbia (March)

2023 Constraining the processes controlling continental rift evolution through geodynamic modeling, Arizona State University Lecture Series (February)

2021 The influence of brittle rheology on 3D fault network evolution during multiphase rifting, Rifts and Rifted Margins Virtual Webinar (October)

2020 Investigating tectonic processes through computational geodynamics, New Mexico Institute of Mining and Technology (September)

2020 Unraveling the evolution of continental breakup through geodynamic simulation, University of California Los Angeles (April)

2019 Unraveling the evolution of continental breakup through geodynamic simulation, University of California Davis (September).

2019 Unraveling the evolution of continental breakup through geodynamic simulation, Utah State University (September)

2018 Coupling of Tectonic and Surface Processes, Boulder, Colorado (April). Methods, challenges and uncertainty in modeling tectonic processes.

2017 IMAGinING RIFTING, Pontresina, Switzerland (September). Propagating and complex fault interaction – a numerical modeling perspective.

2015 American Geophysical Union Fall Meeting (December). The effects of extensional inheritance on transtensional deformation patterns.

2015 Department of Earth Science and Engineering, Imperial College, London (November). Geodynamic modeling of lithospheric deformation and its application to continental rifting.

2015 Basin Research Group, Imperial College, London (June). Rift reactivation and migration during multiphase extension.

2009 Department of Geology, Utah State University, Logan, Utah (May). Uncertainty in the relationship between lithospheric structure, mantle flow and the observed stress field.

2008 American Geophysical Union Joint Assembly Meeting, Fort Lauderdale, FA (May). Models of intraplate stresses in the North and South American plates.

2005 Department of Geology, Istanbul Technical University, Istanbul, Turkey
(December). Exploring the Effects of Electronic Transitions Deep in the Earth's Mantle.