MARA BRADY - CURRICULUM VITAE

California State University, Fresno – Department of Earth & Environmental Sciences

EDUCATION

2012 Ph.D., The University of Chicago, Department of Geophysical Sciences, Chicago, IL.
2005 B.A. Geology (minor: Biology), *Magna Cum Laude*, Macalester College, St. Paul, MN.

APPOINTMENTS

2012- Assistant Professor, California State University, Fresno (Fresno State), Department of Earth and Environmental Sciences
2012 Instructor, School of the Art Institute of Chicago, Chicago, IL.

HONORS & AWARDS

2017 Outstanding Faculty Publication, Department of Earth & Environmental Sciences
2015 Provost's Award, Promising New Faculty
2015 Invited Participant, Fresno State Creativity and Innovation for Effectiveness
2015 Nominee, Outstanding Advisor Award
2014 Honorable Mention, Fresno State President's Bold Ideas Challenge
2014 Fresno State Talks Nominee (student-selected, faculty speaker series)

GRANTS AWARDED

2015 CSU Campus as a Living Lab Grant (Co-PI, $27,000 awarded)
2015 CSU Course Re-design with Technology, Virtual Labs (PI, $13,777 awarded)
2013 CSU Campus as a Living Lab Grant (Co-PI, $12,000 awarded)

COURSES TAUGHT (FRESNO STATE)

EES122: Stratigraphy, geology major course (includes lab and **1-2 field trips**)
EES102: Sedimentology, geology major course (includes lab and **3 field trips**)
EES107: Advanced Field Methods (**field-based culminating course** for geology majors)
EES150T: Intro to Petroleum Geosciences, topic seminar
EES232: Basin Analysis, graduate seminar
EES9: Introduction to Earth Science (include lab), required for Liberal Studies majors
CSM10: The Scientific Method, General Education (critical thinking), part of the inaugural College of Science and Mathematics First Year Experience
CSM15: Evidence-Based Decision Making, General Education (lifelong learning), part of the inaugural College of Science and Mathematics First Year Experience
NSCI115: Environmental Earth and Life Science, General Education (integration)
NSCI140T: Dynamic Earth (METRO Geosciences, Continuing & Global Education, in-service teachers, includes **field and lab activities**)

STUDENT RESEARCH SUPERVISION

M.S. Thesis Advisor: Christopher Bowie (2014)*, David Oliver (2015)**, Cole Heap (2015), Paul Troope (2016), Magaly Perez, Ryan Mitchum

M.S. Thesis Committee Member: Melissa Scruggs (2014), Dustin White (2016), J. Michael Lau.

Undergraduate Research Supervision: Ryan Delmanowski (2015), Ashley Mushegan (2015), Ryan Mitchum (2016), Daniel Ochoa (2016), Johnathan Benson (2016), Andrew Zucker, Mazin Abdulfattah (2016); *Science Teacher and Researcher (STAR) Fellows*: Magaly Perez, Alexis Freeman (2015); Ray Bargas, Kyle Scharton, Ana Ceballos, Erika Arreguin (2014).

*2nd Place Crowell Award, Best Masters Thesis, Pacific Section Society of Sedimentary Geology
**EES Department Nominee for Best Graduate Thesis, Fresno State

PEDAGOGICAL AND LEADERSHIP DEVELOPMENT

2016	Fresno State Liberal Studies Strategic Teacher Education Program Summer Academy
2015	Socio-Environmental Synthesis Center Short Course on Case Study Method,
2015	AAC&U Institute on High Impact Practices
2015	AAC&U Diversity, Learning, and Student Success Conference
2015	CSU STEM Leadership Institute: Building the CSU's Capacity to Institutionalize High Impact Practices
2015	Fresno State Creativity and Innovation of Excellence (CAIFE) Change Management Workshop – Delivering Project Results
2015	Fresno State CAIFE Innovation Workshop: Working smarter, not harder
2015	Biology Transformed: Scientific Practices-Active Learning with a Purpose
2015	Fresno State CAIFE Change Management Workshop, Kusler Consulting
2014	National Association of Geoscience Teachers (NAGT) Metacognition, Motivation, and the Affective Domain
2014	NAGT Active Learning Strategies & Problem Based Learning
2013	NAGT Integrating Sustainability into Geoscience Courses
2013	NAGT Teaching & Learning Climate in Geoscience Classroom
2013	Fresno State How to Effectively Implement Evidence-Based Active Learning Strategies Seminar & Workshop
2013	Fresno State Liberal Studies STEM Concentration Faculty Professional Development Workshop
2012	NAGT Early Career Geoscience Faculty Workshop: Teaching, Research, and Managing Your Career

COLLABORATIVE FACULTY LEARNING COMMUNITY INVOLVEMENT AND LEADERSHIP

Co-Leader Sustainability FLC (2016), e-portfolio FLC (2016), Faculty Leader CSU STEM Collaboratives Project (2014-), CSU Virtual Labs Community (2016), CSU Critical Thinking in STEM Collaboratives (2016), Faculty Fellow DISCOVERe tablet initiative (2015), Campus Common Read about Water FLC (2014-), Metacognition FLC (2014), Learner-Centered Teaching FLC (2013-2014).

PROFESSIONAL AFFILIATIONS

Association of Women Geologists, American Association of Petroleum Geologists (Pacific Section), Geological Society of America, San Joaquin Geological Society, Society for Sedimentary Geology (Pacific Section), National Association of Geoscience Teachers

PROFESSIONAL SERVICE & LEADERSHIP

2017	Invited Speaker, Gordon Research Conference on Undergraduate Biology Education, Institutional change projects: Large-scale research on institutional change projects
2015	Invited Speaker, UC Santa-Cruz, Department of Earth & Planetary Sciences Whole Earth Seminar
2015	Invited Presenter, Webinar: The Keys to Success in K-6 NGSS Implementation
2014-	Senior Thesis Awards Committee, Pacific Section Society of Sedimentary Geology (PS-SEPM)
2013-	Faculty Advisor, Fresno State AAPG Student Chapter
2008-	Reviewer for *Palaios*, *Journal of Sedimentary Research, Quaternary International*
2014	Volunteer Judge, Outstanding Student Poster Award, AGU Meeting
2013-2014	Vice-President, PS-SEPM
2013	Field Trip Leader, PS-SEPM Fall Field Trip
2013	Invited Speaker, UC-Davis, Department of Geology Seminar
2013	Co-chair for Topical Session, Cordilleran GSA Meeting
2013	Participant, Scientific Drilling and the Evolution of the Earth System: Climate, Biota, Biogeochemistry and Extreme Systems-Workshop

UNIVERSITY SERVICE

2016	University First Year Experience Committee
2015-	University Creativity and Innovation for Effectiveness, Team: Institute for Sustainability Engagement & Education
2013-	Department Environmental Science Curriculum Committee
2012-	University Writing Competency Subcommittee
2013-2014	Academic Policies Committee (College of Science and Math)

OUTREACH ACTIVITIES & COMMUNITY SERVICE

2016	Career Day Presenter, Yokomi Elementary, Fresno, CA
2015	Central Valley Café Scientifique Lecture and radio interview, Fresno, CA
2014	Faculty Organizer of K-12 Outreach, Earth Day at Fresno State
2013	Invited Speaker, Fresno State LSAMP summer program; presented an overview of my research and earth science careers to incoming freshman
2013	Instructor, METRO Geosciences Dynamic Earth courses for Fresno middle and high school students, middle and high school teachers
2012, 2013	Judge, Central Valley Regional Science Fair, Fresno, CA

PUBLICATIONS AND PRESENTATIONS

Peer-Reviewed Publications

1. **Brady, M.** 2016. Middle-Upper Devonian skeletal concentrations from tropical carbonate-dominated settings of North America: Evaluating the effects of bioclast input and burial rates, *Palaios* 31: 302-318.
2. **Brady, M.** 2015. Stratigraphic completeness of carbonate-dominated records from cratonic interiors versus continental margins: stratigraphic thinning occurs via condensation and omission at multiple scales. *Journal of Sedimentary Research* 85: 337-360.
3. Tehrani, F., Papavasiliou, N., Nelson, F., Bohlin, C., and **Brady, M.** 2014. Engineering literacy: Educating prospective elementary teachers to lay the foundation for a more knowledgeable/well-prepared generation of engineering students. *Proceedings of the 2014 American Society for Engineering Education Zone IV Conference,* 399-412. [peer-reviewed conference proceeding paper and presentation]
4. Rogers, R. and **Brady, M**. 2010. Origins of Microfossil Bonebeds: Insights from the Upper Cretaceous Judith River Formation of North-Central Montana. *Paleobiology* 36: 80-112.

Peer-Reviewed Publications Under Revision (*graduate student co-author)

5. **Brady, M.** (*under revision*). Testing patterns of association between brachiopod shell beds and stratigraphic discontinuities in Middle-Upper Devonian tropical carbonate-dominated settings. *Journal of Geology.*
6. *Bowie, C., and **Brady, M.**. (*under revision*) Characterization of discontinuity surfaces and microfacies in a storm-dominated shallow epeiric sea, Devonian Cedar Valley Group, Iowa. *Depositional Record.*

Other Publications

7. Katti, M., Rhys Jones, A., **Brady, M.**, and Weinman, B. 2016. From Tropical Plantations to K-Cups: A socio-environmental synthesis of the global journey of coffee. National Socio-Environmental Synthesis Center Case Study Collection.
8. Nelson, F. L., Valadez, J. D., Brady, M., Pennycook, J., & Lopez, A. Science framework for California public schools: Kindergarten through grade twelve, Chapters 5-6. 2016, Grades 6-8.

Professional Presentations: Sedimentary Geology (*graduate, **undergraduate co-author)

1. **Mitchum, R., **Ochoa, D., **Brady, M.** 2015. Investigating Downstream Trends in Bed Sediment Texture and Composition in the San Joaquin River, Central California. *2015 AAPG Annual Convention & Exhibition*. Denver, CO.
2. *Heap, C. **Brady, M.** 2015. Statistical Analyses of Confined Turbidite Bedding Thicknesses in Monarch-Spellacy Sand Equivalents, Midway-Sunset Field, CA. 2015 *Pacific Section AAPG Convention.*
3. **Brady, M.**, *Oliver, D., *Bowie, C. Exploring Challenges and Opportunities in Recognizing the Signature of Sea Level, Tectonic Subsidence, and Sediment Supply in the Stratigraphic Record: A Comparison of Field-based and Model-generated Data from Carbonate Sedimentary Records. Abstract # EP13D-3544 presented at 2014 *AGU Fall Meeting*, San Francisco, CA, 15-18 Dec.
4. **Delmanowski, R., **Mushegan, A., **Brady, M.**, Pluhar, C. Investigating the Sedimentary Response and its Role in Climate Feedbacks Associated with the Paleocene Eocene Thermal Maximum in a Continental Shelf Setting: Lodo Gulch, Lodo Formation, CA. Abstract # PP13A-1380 presented at 2014 *AGU Fall Meeting*, San Francisco, CA, 15-18 Dec.
5. *Oliver, D., **Brady, M.** Time, Order, and Stratigraphy: Exploring the Effects of Missing Time in the Identification of Ordered Patterns in the Stratigraphic Record. Abstract # EP13D-3555 presented at 2014 *AGU Fall Meeting*, San Francisco, CA, 15-18 Dec.
6. *Troope, P., **Brady, M**. Investigating the response of fluvial fan deposition to climatic changes: establishment of Nebraskan glacial and post-glacial stage lithofacies and architectural elements of the San Joaquin River Fluvial Fan, CA. *2014 GSA Annual Meeting*, Vancouver, BC.
7. **Ochoa, D., **Mitchum, R., **Brady, M.** Examining Downstream Trends in Channel Bed Grain Size and Composition, San Joaquin River, CA: Testing the Effects of Historical Damming and Recent Restoration Efforts. *2014 GSA Annual Meeting*, Vancouver, BC.
8. *Bowie, C. & **Brady, M**. 2014. Filling in Gaps in the Sedimentary Record: An Integrated Study of Discontinuity Surfaces in Devonian Epeiric Carbonates, Iowa. AAPG Datapages/Search and Discovery Article #90189 *AAPG Annual Convention and Exhibition*, Houston, Texas, USA.
9. **Brady, M.** 2013. Evaluating the Stratigraphic Completeness of Deep-Time Records: A New Quantitative Approach. *GSA Abstracts with Programs* 45: 19.
10. *Bowie, C. & **Brady, M.** 2013. Identifying tectonic influences in Devonian Carbonate Strata: A Quantitative Stratigraphic Analysis of the Guilmette Formation, Eastern Nevada. AAPG Search and Discovery Article #90162, *Pacific Section AAPG, SPE, and SEPM Joint Technical Conference, Monterey, CA.*
11. **Brady, M.**, 2013. New insights into shallow-marine carbonate sedimentary records from cratonic interior versus continental margin settings. AAPG Search and Discovery Article #90162, *Pacific Section AAPG, SPE, and SEPM Joint Technical Conference, Monterey, CA.*

Professional Presentations: Higher Education (**undergraduate co-author)

1. **Brady, M.,** Weinman, B., Katti, M., Choi, J. 2016. Growing the Best Students: Promoting Global Understanding and Local Action in and Interdisciplinary, Team-Taught First Year Learning Community. Academic Resource Conference. Garden Grove, CA.
2. Hishida, K.**, **Brady, M.** 2016. Fresno State Sustainability Institute: A Campus-Wide Collaboration to Build Community and Prepare Environmental Leaders. Academic Resource Conference. Garden Grove, CA.
3. Ward, J., Hishida, K.**, **Brady, M.** 2015. The Development of an Institute for Sustainability at Fresno State. California Higher Education Sustainability Conference. San Francisco, CA.
4. Lawson, A., **Brady, M.**, Choi, J., Katti, M., Van de Water, P., Weinman, B., Arvizu, J., Menefee, W. 2015. CSU STEM Collaboratives Project: Fresno State Demonstration Site. *CSU STEM Summit*. Pomona, CA.

5. Nelson, F., **Brady, M.** 2015. Connecting Science Learning for Future Teachers: Applying and Assessing the Three Dimensions of the Next Generation Science Standards in Teacher Preparation Courses. *CSU STEM Summit*. Pomona, CA.
6. Fry Bohlin, C., Nelson, F., Williams, D., **Brady, M.,** Tehrani, F., Papavasiliou, N., Runde, K., Crask, L. 2015. Integrating STEM into K-8 Teacher Preparation: Fresno State's Liberal Studies STEM Concentration. *CSU STEM Summit*. Pomona, CA.
7. **Brady, M**. Nelson, F. 2014. Teaching Rocks and Minerals in the Context of Dynamic Earth Systems and Interactions: Using the Three Dimensions of the Next Generation Science Standards as an Organizing Framework to Engage Learners in Teacher Preparation Courses. Abstract #ED51C-3446 presented at 2014 *AGU Fall Meeting*, San Francisco, CA, 15-18 Dec.
8. Wilhite, C., Moschella J., **Brady, M.** Weinman, B., Van de Water, P. 2014. Developing a Sustainable Campus using the Five-Term Metacontingency. Association for Behavior Analysis International Convention. Chicago, IL.
9. Nelson, F. **Brady, M.**, Fry Bohlin, C. 2014. Making Connections in Science for Future Teachers. *CA STEM Symposium*. San Diego, CA.
10. Tehrani, F., Papavasiliou, N., Nelson, F., Bohlin, C.F., & **Brady, M.** 2014. Engineering Literacy: Educating prospective elementary school teachers to lay the foundation for a more knowledgeable and well-prepared generation of engineering students. 2014 *ASEE Zone IV Conference*. Long Beach, CA.
11. Nelson, F. L., Bohlin, C. F., & **Brady, M.** 2013. Connecting science learning for future elementary teachers. *Network for Academic Renewal National Conference of the American Association of Colleges and Universities*, San Diego, CA.
12. **Brady, M.**, Fry Bohlin, C. Nelson, F. Tehrani, F. 2013. STEM for Future Elementary Teachers. *STEM Learning in Action: Successful Practices for K-16 STEM Education in California Schools*.