

# Wednesday Poster Session

4:30pm-5:45pm – Student Union Building- Ballroom B



## Broadening Participation: Attracting students and supporting students and teachers

1. **Improving Geoscience Career Awareness for Urban Undergraduates**, Stefany Sit, University of Illinois-Chicago, Ben Alsip, University of Illinois-Chicago, Danielle Petkunas, University of Illinois-Chicago, Jenny Bueno, University of Illinois-Chicago, Kathryn Nagy, University of Illinois-Chicago
2. **Improving Undergraduate STEM Education: Pathways into Geoscience (IUSE:GEOPATHS)**, Brandon Jones, National Science Foundation, Lina Patino, National Science Foundation, Lisa Rom, National Science Foundation, Manda Adams, National Science Foundation
3. **Running Academic Year Pathways Research Experience Program (AY-PREP) to improve undergraduate student education for the Geological Sciences at the University of Texas at El Paso**, Lixin Jin, The University of Texas-El Paso, Tina Carrick, The University of Texas-El Paso, Aaron Velasco, The University of Texas-El Paso, Lin Ma, The University of Texas at El Paso
4. **Employing effective strategies to improve undergraduate education in Environmental Sciences through curriculum revision at a Hispanic Serving Institution**, Lixin Jin, The University of Texas-El Paso, Vanessa Lougheed, The University of Texas-El Paso, Elizabeth Walsh, The University of Texas-El Paso, Diane Doser, The University of Texas-El Paso, Lina Hamdan, The University of Texas-El Paso, Maryam Zarei, The University of Texas-El Paso, Guadalupe Corral, The University of Texas-El Paso
5. **Programs that Broaden Participation in the Geosciences in the El Paso Region**, Annette Veilleux, University of Texas-El Paso, Tina Carrick, The University of Texas-El Paso, Diane Doser, The University of Texas-El Paso, Laura Serpa, The University of Texas-El Paso
6. **Characteristics and motivations of majors in a geosciences program with a large proportion of transfer students**, Joel Moore, Towson University, Ronald Hermann, Towson University, Rommel Miranda, Towson University, Kyle Hurley, Towson University
7. **Care and Feeding of Transfer Students: a First-Semester Seminar Helps Students Thrive**, C. Suzanne Rosser, Texas A&M University, David Sparks, Texas A&M University, Julie Newman, Texas A&M University
8. **Engaging and retaining students in the geosciences at two-year colleges (2YC) through undergraduate research**, Kusali Gamage, Austin Community College, Hugh Daigle, The University of Texas- Austin, Chammi Miller, The University of Texas-Austin
9. **Establishing a Sequence of Three CURE Courses in Biogeochemistry**, Jonathan Schmitkons, Binghamton University, Joseph Graney, Binghamton University, Nancy E. Stamp, Binghamton University, Megan E. A. Fegley, Binghamton University
10. **Engaging an entire STEM division in professional development: supporting students through the whole curriculum**, Kaatje Kraft, Whatcom Community College, Ed Harri, Whatcom Community College
11. **Developing Leaders in STEM: Community College STEM Honors Program**, Barbra Maher Sobhani, Red Rocks Community College
12. **Assessment in Paradise: Using Data to Drive Undergraduate Geoscience Initiatives and Programmatic Changes**, Michael Guidry, University of Hawaii-Manoa, Tiffany Tsang, University of Hawaii-Hilo
13. **Weaving Together Native Cultural Knowledge and Western Science to Support Diverse Students' Learning about the Earth**, Holly Godsey, University of Utah, Steven Semken, Arizona State University-Tempe Campus, William Tsosie, Navajo Nation Historic Preservation Department, Amanda Cangelosi, University of Utah, Bennie Begay, University of Utah, Candace Penrod, Salt Lake City School District
14. **GeoConnections**, Darryl Reano, Purdue University, Jon Harbor, Purdue University

15. How are people from underrepresented groups represented in introductory Earth Science textbooks?, Karen Koy, Missouri Western State University
16. Do InTeGrate materials increase scientific understanding among women?, Tiffany Rivera, Westminster College (UT), Laura Rademacher, University of the Pacific, Mark Abolins, Middle Tennessee State University, Christopher Berg, University of West Georgia, William Hansen, Worcester State University, David McConnell, North Carolina State University, Elizabeth Nagy-Shadman, Pasadena City College, Daren Nelson, University of North Carolina at Pembroke, Mathieu Richaud, California State University-Fresno
17. Access and inclusion from the perspective of current departmental practice, Ivan Carabajal, University of Cincinnati, Christopher Atchison, University of Cincinnati
18. Examples of Tactile Aids for Teaching Introductory Geology Students with Visual Disabilities, Kent Ratajeski, University of Kentucky
19. Developing Research Based Laboratories for Introductory Physical and Historical Geology, Jose Cervantes, The University of Texas-El Paso, Diane Doser, The University of Texas-El Paso

### Course Resources

20. Geo-Ventures El Paso: A Gateway for Engagement, Recruitment, & Instruction, Rob Rohrbaugh, El Paso Community College
21. Disciplinary-Based Education Research: Some Observations on the Promise, Products and Pitfalls, James Brey, American Meteorological Society
22. High-Adventure Science: Making and Defending Scientific Claims in the Face of Uncertainty, Amy Pallant, The Concord Consortium
23. Sustainability Ethics in the Geoscience Classroom: A Cross-Disciplinary Approach, Ellen Metzger, San Jose State University, Randall Curren, University of Rochester
24. Addressing student readiness for data-intensive science — takeaways from other disciplines' efforts and prospects for the earth sciences, Mariana Guereque, The University of Texas-El Paso, Deana Pennington, The University of Texas- El Paso, Suzanne Pierce, The University of Texas-El Paso
25. The Role of an NSF Facility in supporting Education: Geodesy for Everyone through UNAVCO's Education & Community Engagement Program, Donna Charlevoix, UNAVCO, Beth Bartel, UNAVCO, Aisha Morris, UNAVCO, Shelley Olds, UNAVCO, Beth Pratt-Sitaula, UNAVCO, Kelsey Russo-Nixon, UNAVCO
26. Utilizing sUAS (drones) to enhance geology field camp, Gregory Baker, University of Kansas
27. Augmented Reality Sandboxes: Determining Efficacy as a Pedagogical Tool in Intro Geology Courses, Matthew Smith, University of Kansas, Alison Olcott Marshall, University of Kansas
28. Linked Assignments Based on Geologic Map Interpretations for Synthesizing Content Across Multiple Geology Courses and Meeting Workforce Needs, PRAJUKTI Bhattacharyya, University of Wisconsin-Whitewater, Peter Jacobs, University of Wisconsin-Whitewater, Rex Hanger, University of Wisconsin-Whitewater
29. Mixed-methods research on student geoscience learning at Grand Canyon by complementary in-situ and virtual modalities, Steven Semken, Arizona State University-Tempe, Thomas Ruberto, Arizona State University-Tempe, Chris Mead, Arizona State University-Tempe, Geoffrey Bruc, Arizona State University-Tempe, Sanlyn Buxner, The University of Arizona
30. Using online visualisation tools to reduce spatial thinking barriers in an introductory field methods course, Jenny Riker, University of Bristol

31. **Geoscience Videos and their Role in Supporting Student Learning**, Jennifer Wiggen, North Carolina State University, David McConnell, North Carolina State University
32. **Comparing Textbook Chapters and Adaptive Learning Lessons: Assessing Student Learning Motivation in the Earth Sciences**, E. Christa Farmer, Hofstra University, Adam Halpern, Hofstra University
33. **Current and Future Evolution of the AGI/NAGT Laboratory Manual in Physical Geology**, Vince Cronin, Baylor University
34. **Opengeology.org: the first college-level and comprehensive open educational resource (OER) for introductory geology classes in the US**, Christopher Johnson, Salt Lake Community College, Matthew Affolter, Salt Lake Community College/Cottonwood HS, Cameron Mosher, Salt Lake Community College, Paul Inkenbrandt, Salt Lake Community College
35. **Flipping a Junior Level Sedimentology Course, Unexpected Benefits**, Richard Langford, The University of Texas-El Paso
36. **Understanding ocean circulation using open-ended experiments in an introductory class**, Brendan Hanger, Australian National University, Penelope King, Australian National University, Stephen Eggins, Australian National University, Ross Griffiths, Australian National University

### **Teacher Preparation and Curriculum Design for K-12 Geoscience**

37. **Rock Experts: an innovative rock lab for preservice elementary teachers**, Cinzia Cervato, Iowa State University, Charles Kerton, Iowa State University, Diana Thatcher, Iowa State University, Natalie Thompson, Iowa State University
38. **The impact of inquiry-based instructional methods in improving pre-service K-5 teachers' self-efficacy**, Cinzia Cervato, Iowa State University, Charles Kerton, Iowa State University
39. **"The World in a River": Redesigning An Earth Science Course for Pre-Service Elementary Teachers and Researching Its Impact on Learner Knowledge and Perspectives**, Danielle Ford, University of Delaware, Susan McGeary, University of Delaware, Jennifer Gallo-Fox, University of Delaware, Cheryl Ackerman, University of Delaware
40. **Supporting K-12 Teachers' Instruction about Water using Scientific Modeling: A View Across Programs**, Tina Vo, University of Nebraska- Lincoln, Cory Forbes, University of Nebraska-Lincoln
41. **Integrated STEM in the EI Ed: The Natural History of Our World**, Leah Courtland, University of Indianapolis, Steve Spicklemire, University of Indianapolis, Elizabeth Turner, University of Indianapolis, Anne Cutler, University of Indianapolis, Mary Gobbett, University of Indianapolis
42. **Eat All the Pez: Interdisciplinary Curriculum Ideas for K-12 Teacher Professional Development**, Eliza Richardson, Pennsylvania State University
43. **CGRER & College of Education K-12 Climate Science Initiative**, Andrea Malek, University of Iowa, Susanna Herder, University of Iowa, Ted Neal, University of Iowa