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Ali, Hendratta N., et al. "<u>An Actionable Anti-Racism Plan for Geoscience Organizations."</u> *Nature News*, Nature Publishing Group, 22 June 2021, https://www.nature.com/articles/s41467-021-23936-w.

Ashford-Hanserd, S., Daniel, K., García, D. M., and Idema, J. L. 2020. <u>Factors that Influence Persistence of Biology Majors at a Hispanic-Serving Institution</u>. Journal of Research in Technical Careers, 4:47-60. <a href="https://doi.org/10.9741/2578-2118.1048">https://doi.org/10.9741/2578-2118.1048</a>

"Bachelor's Degrees in Science and Engineering Conferred per 1,000 Individuals 18–24 Years Old." National Science Foundation. 2019.- Science & Engineering State Indicators. https://ncses.nsf.gov/indicators/states/indicator/se-bachelors-degrees-per-1000-18-24-year-olds

Beane, R., McNeal, K.S., and Macdonald, R.H. <u>Probing the National Geoscience Faculty Survey</u> for reported use of practices that support inclusive learning environments in undergraduate courses. Journal of Geoscience Education, Vol. 67, No. 4, 2019, pp. 427-445, DOI: doi.org/10.1080/10899995. 2019.1621714 Accessed 5 October 2020.

Beane, Rachel J., et al. "<u>Uneven Increases in Racial Diversity of US Geoscience Undergraduates</u>." *Nature News*, Nature Publishing Group, 15 June 2021, https://www.nature.com/articles/s43247-021-00196-6.

Bell, Robin, and Susan Lozier. "Eight-Area Steps AGU Is Taking to Address Racism in Our Community." *AGU*, 13 Aug. 2020, https://news.agu.org/files/2020/08/Eight-Area-Steps-AGU-is-Taking-to-Address-Racism-in-our-Community-FINAL.pdf.

Beckerson, W. C., Anderson, J. O., Perpich, J. D., and Yoder-Himes, D. <u>An Introvert's Perspective:</u>

<u>Analyzing the Impact of Active Learning on Multiple Levels of Class Social Personalities in an Upper Level Biology Course</u>. Journal of College Science Teaching, Vol. 49, No. 3, 2020, pp. 47-57, search-proquest-com.libezp.lib.lsu.edu/docview/2330760821?accountid=12154 Accessed 30 September 2020.

Bennett, J.C., Lattuca, L, Redd, K., and York, T. 2020. Strengthening pathways to faculty careers in STEM: Recommendations for systemic change to support underrepresented groups. Washington, DC: Association of Public and Land-grant Universities. DOI: <a href="https://doi.org/10.31219/osf.io/69mec">https://doi.org/10.31219/osf.io/69mec</a>

Bernard, R.E. and Cooperdock, E.H.G. 2018. No progress on diversity in 40 years. Nature Geosci. 11:292–295. DOI: doi.org/10.1038/s41561-018-0116-6

Chaudhary, V.B. and Berhe, A.A. 2020. <u>Ten Simple Rules for Building an Anti-racist Lab</u>. EcoEvoRxiv. June 18. DOI: 10.32942/osf.io/4a9p8

Chow-Garcia, N., Lee, N., Svihla, V. *et al.* Cultural identity central to Native American persistence in science. *Cult Stud of Sci Educ* (2022). https://doi.org/10.1007/s11422-021-10071-7

Collins, S.N. 2020. <u>How to get more women and people of colour into graduate school — and keep them there</u>. Nature, Book Review, www.nature.com/articles/d41586-020-02940-y Accessed 19 November 2020.

Cook, S.B., Holloway, A., Lettrich, M. and Yarincik, K. 2016. <u>The ocean science graduate education</u> <u>landscape: A 2015 perspective</u>. Oceanography 29(1):16–21. DOI: dx.doi.org/10.5670/oceanog.2016.04

Cooke, Michele, et al. "First-Year Graduate Courses Foster Inclusion." Nature News, Nature Publishing Group, 19 July 2021, https://www.nature.com/articles/s41561-021-00800-6.

Craig, Susanne E., and EeShan Bhatt. "A Short Glossary of Inclusive Language - Tos.org." Oceanography.org, 30 Aug. 2021, https://tos.org/oceanography/assets/docs/34-2\_craig.pdf.

Cronin, Melissa R., et al. "Anti-Racist Interventions to Transform Ecology, Evolution and Conservation Biology Departments." Nature News, Nature Publishing Group, 9 Aug. 2021, https://www.nature.com/articles/s41559-021-01522-z.

Dahl, J., Anderson, S.W. and Libarkin, J.C. 2005. <u>Digging into earth science: alternative conceptions held by K-12 teachers</u>/Excavando las ciencias de la tierra: ideas alternativas de profesores de K-12. Journal of Science Education, Bogotá, Vol. 6(2): 65-68.

D'Elia, C.F. 1989. <u>A former Program Director's Perspectives on the Biological Oceanography Program at NSF.</u> ESA Bull. 70:180-184. <u>https://www.jstor.org/stable/pdf/20167126.pdf</u>

Dutt, K., Pfaff, D., Bernstein, A. et al. 2016. <u>Gender differences in recommendation letters for postdoctoral fellowships in geoscience</u>. Nature Geosci. 9:805–808. DOI: doi.org/10.1038/ngeo2819

Eddy, S.L. and Hogan, K.A. <u>Getting Under the Hood: How and for Whom Does Increasing Course Structure Work?</u> CBE-Life Sciences Education, Vol. 13, No. 3, 2014, pp. 453-468, DOI: doi.org/10.1187/cbe.14-03-0050 Accessed 5 October 2020.

Emery, Crystal R, and Dowin Boatright. "Stat! an Action Plan for Replacing the Broken System of Recruitment and Retention of Underrepresented Minorities in Medicine." National Academy of Medicine, 1 Sept. 2020, https://nam.edu/stat-an-action-plan-for-replacing-the-broken-system-of-recruitment-and-retention-of-underrepresented-minorities-in-medicine/.

Florida, University of South. "<u>Diversity</u>." *Diversity - Education | USF College of Marine Science*, https://www.usf.edu/marine-science/education/diversity/index.aspx.

Fouad, N.A. and Walker, C.M. 2005. <u>Cultural influences on responses to items on the Strong Interest Inventory</u>. Journal of Vocational Behavior, 66(1), 104–123. DOI: doi.org/10.1016/j.jvb.2003.12.001

Fryer, Roland G. "An Empirical Analysis of Racial Differences in Police Use of Force." The University of Chicago Press Journals, June 2019,

https://www.journals.uchicago.edu/doi/full/10.1086/701423?journalcode=jpe.

Gherardi, S., Nicolini, D. and Odella, F. <u>Toward a Social Understanding of How People Learn in Organizations: The Notion of Situated Curriculum</u>. Management Learning, Vol. 29, No. 3, September 1998, pp. 273–297, DOI: 10.1177/1350507698293002 Accessed 1 October 2020.

Gosztyla, Maya L., et al. "Responses to 10 Common Criticisms of Anti-Racism Action in Stemm." *PLOS Computational Biology*, Public Library of Science, 15 Jan. 2021, https://journals.plos.org/ploscompbiol/article?id=10.1371%2Fjournal.pcbi.1009141.

Greco, R. and Almberg, L. 2018. <u>Earth science education: Global perspectives</u>, (p. 355). Pouso Alegre: IFSULDEMINAS il. ISBN: 987-85-67952-14-7.

Griffin K.A. 2020. <u>Institutional Barriers, Strategies, and Benefits to Increasing the Representation of Women and Men of Color in the Professoriate</u>. In: Perna L. (eds) Higher Education: Handbook of Theory and Research. Higher Education: Handbook of Theory and Research, Vol 35., Springer Nature Switzerland AG, DOI: doi.org/10.1007/978-3-030-31365-4\_4

Hammond, L-D., Austin, K., Orcutt, S. and Rosso, J. <u>How People Learn: Introduction to Learning Theories.</u>

<u>The Learning Classroom: Theory into Practice (A Telecourse for Teacher Education and Professional Development)</u>, Episode #1 Introduction Chapter, Stanford University School of Education, 2001, 22p., citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.294. 3636&rep=rep1&type=pdf Accessed 1 October 2020.

Hoffman, M. and Barstow, D. 2007. <u>Revolutionizing Earth system science education for the 21st century.</u> In Report and recommendations from a 50-state analysis of earth science education standards. Cambridge: TERC.

Hopkins, Allison L., et al. "<u>Disparities in Publication Patterns by Gender, Race and Ethnicity Based on a Survey of a Random Sample of Authors</u>." *SpringerLink*, Springer Netherlands, 10 Nov. 2012, https://link.springer.com/article/10.1007/s11192-012-0893-4.

"How Do States Compare in Awarding S&E Bachelor's Degrees?" STEM Education Data and Trends, https://www.nsf.gov/nsb/sei/edTool/data/college-15.html.

Johnson, A., Huggans, M.J, Siegfried, D. and Braxton, L. 2016. <u>Strategies for increasing diversity in the ocean science workforce through mentoring</u>. Oceanography 29(1):46–54. DOI: dx.doi.org/10.5670/oceanog.2016.11

Johnson, Dawn R., et al. "Examining Sense of Belonging among First-Year Undergraduates from Different Racial/Ethnic Groups." *Journal of College Student Development*, Johns Hopkins University Press, 27 Sept. 2007, https://muse.jhu.edu/article/221315.

Kania, J. and Kramer, M. (2011). <u>Collective impact</u>. Stanford Social Innovation Review. Retrieved from https://ssir.org/articles/entry/collective\_impact

Keiner, L.E. and Gilman, C.S. <u>Implementation of Interactive Engagement Teaching Methods in a Physical Oceanography Course</u>. Journal of College Science Teaching, Vol. 45, No. 2, 2015, pp. 70–77, JSTOR, jstor.org/stable/43631906 Accessed 2 Oct. 2020.

Kelly, Anne, and Kristen Yarincik. "Report of the Workshop to Promote Safety in Field Sciences." Zenodo, 1 Nov. 2021, https://zenodo.org/record/5604956#.YeGl9VjMKqA.

King, C. 2013. <u>Geoscience education across the globe – Results of the IUGS-COGE/IGEO survey</u>. Episodes, 31, 19–30. DOI: doi.org/10.18814/epiiugs/2013/v36i1/004

King, C., Orion, N. and Thompson, B.D. 1995. Earth sciences education on the world stage. School Science Review, 77(279), 121–124.

Laursen, S.L. and Austin, A.E. 2014. <u>StratEGIC Toolkit: Strategies for Effecting Gender Equity and Institutional Change</u>. Boulder, CO, and East Lansing, MI. www.strategictoolkit.org

Lewis, E.B. and Baker, D.R. 2010. <u>A Call for a New Geoscience Education Research Agenda.</u> Faculty Publications: Department of Teaching, Learning and Teacher Education. 122. https://digitalcommons.unl.edu/teachlearnfacpub/122

Lima, Ivan D, and Jennie E Rheuban. "<u>Gender Differences in NSF Ocean Sciences Awards</u>." *Oceanography*, Dec. 2021, https://tos.org/oceanography/article/gender-differences-in-nsf-ocean-sciences-awards.

Johnson, David J., et al. "Officer Characteristics and Racial Disparities in Fatal Officer-Involved Shootings." PNAS, National Academy of Sciences, 6 Aug. 2019, https://www.pnas.org/content/116/32/15877.

"LSU Diversity and Inclusion Roadmap." LSU Diversity, https://www.lsu.edu/together/docs/roadmap-to-diversity.pdf.

Markley, C., Miller, H., Kneeshaw, T. and Herbert, Bruce. 2009. <u>The Relationship Between Instructors'</u> <u>Conceptions of Geoscience Learning and Classroom Practice at a Research University</u>. Journal of Geoscience Education Journal of Geoscience Education 57(4):264. DOI: 10.5408/1.3544276

McCance, K., Weston, T. and Niemeyer, E. 2020. <u>Classroom Observations to Characterize Active Learning within Introductory Undergraduate Science Courses</u>. Journal of College Science Teaching, Vol. 49, No. 4, pp. 24-29, search-proquest-com.libezp.lib.lsu. edu/docview/2377332915?account id= 12154 Accessed 30 September 2020.

McLaughlin, J. S., Favre, D. E., Weinstein, S. E. and Goedhart, C. M. 2017. The Impact of a Four-Step Laboratory Pedagogical Framework on Biology Students' Perceptions of Laboratory Skills, Knowledge, and Interest in Research. Journal of College Science Teaching, Vol. 47, No. 1, pp. 83-91, search-proquest-com.libezp.lib.lsu.edu/docview/1933161154? accountid=12154. Accessed 30 September 2020.

McNeal, K.S. 2010. <u>Editorial: The Geosciences Gap in K-12 Education</u>. Journal of Geoscience Education, Bellingham 58(4): 197.

Monk, M.H., Baustian, M.M., Saari, C.R., Welsh, S., D'Elia, C.F., Powers, J.E., Gaston, S. and Francis, P. 2014. <u>EnvironMentors: Mentoring At-Risk High School Students through University Partnerships</u>. Int. J. Environ. & Science Education 9(4):385-397.

National Academies of Sciences, Engineering, and Medicine. 2022. <u>Educational Pathways for Black Students in Science</u>, <u>Engineering</u>, <u>and Medicine</u>: <u>Exploring Barriers and Possible Interventions</u>: <u>Proceedings of a Workshop</u>. Washington, DC: The National Academies Press. https://doi.org/10.17226/26391.

National Science Board. 1986. <u>Undergraduate Science, Mathematics and Engineering Education</u>. NSB 86-100. https://www.nsf.gov/nsb/publications/1986/nsb0386.pdf

National Science Board. 2019. <u>Science & Engineering Indicators 2020: Higher Education in Science and Engineering</u>. NSB-2019-7. https://ncses.nsf.gov/pubs/nsb20197/executive-summary

National Research Council. 1996. <u>National Science Education Standard</u>s. Washington, DC: The National Academies Press. DOI: doi.org/10.17226/4962

National Research Council. 2000. <u>50 Years of Ocean Discovery: National Science Foundation 1950-2000.</u> Washington, DC: The National Academies Press. DOI: doi.org/10.17226/9702

National Science & Technology Council. 2018. <u>Charting a Course for Success: America's Strategy for STEM Education: A Report by the Committee on STEM Education of the National Science & Technology Council.</u> <a href="https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf">https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf</a>

O'Brien, Laurie T., et al. "Why Are There so Few Ethnic Minorities in Ecology and Evolutionary Biology? Challenges to Inclusion and the Role of Sense of Belonging - Social Psychology of Education." SpringerLink, Springer Netherlands, 3 Feb. 2020, https://link.springer.com/article/10.1007/s11218-019-09538-x.

O'Connell, Suzanne, and Anne Holmes. "Obstacles to the Recruitment of Minorities into the Geosciences: a Call to Action." Research Gate, June 2011, https://www.researchgate.net/publication/270689546\_Obstacles\_to\_the\_recruitment\_of\_minorities\_in to\_the\_geosciences\_A\_call\_to\_action.

Orcutt, B.N. and Cetinic, I. 2014. Women in oceanography: continuing challenges. Oceanography, 27 (4) supplement: 5-13, DOI: dx.doi.org/10.5670/oceanog.2014.106Orion, N. 2019. The future challenge of Earth science education research. Disciplinary and Interdisciplinary Science Education Research 1(1): 3.

Orion, N., King, C., Krockover, G.H. and Adams, P.E. 1999. <u>The development and status of earth science education</u>: A comparison of three case studies: Israel, England and Wales, and United States of America <u>Part 1</u>. ICASE, 10(2), 13–23.

Pelch, M.A. and McConnell, D.A. <u>Challenging instructors to change: a mixed methods investigation on the effects of material development on the pedagogical beliefs of geoscience instructors</u>. International Journal of STEM Education, 3, Article No. 5, 2016, 18p., DOI: doi.org/10.1186/s40594-016-0039-y Accessed 5 October 2020.

Ranganathan, Meghana, et al. "Trends in the Representation of Women Among Us Geoscience Faculty from 1999 to 2020: The Long Road toward Gender Parity." *AGU Journals*, John Wiley & Sons, Ltd, 16 Aug. 2021, https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2021AV000436.

Scripps. "A Statement from Scripps Institution of Oceanography Leadership." Scripps Institution of Oceanography, 3 June 2020, https://scripps.ucsd.edu/news/statement-scripps-institution-oceanography-leadership.

Sherman-Morris, K. and McNeal, K.S. 2016. <u>Understanding Perceptions of the Geosciences Among</u>
Minority and Nonminority Undergraduate Students. Journal of Geoscience Education 64(2): 147-156.

"STEM Education, Data, and Trends." STEM Education Data, https://nsf.gov/nsb/sei/edTool/.

Stout, D.L., Bierly, E.W. and Snow, J.T. 1994. Scrutiny of undergraduate geoscience education: Is the viability of the geosciences in jeopardy. In American Geophysical Union Chapman Conference (p. 55).

Tinnell, T. L., Ralston, P. A. S., Tretter, T. R. and Mills, M. E. <u>Sustaining Pedagogical Change</u>
<u>Via Faculty Learning Community</u>. International Journal of STEM Education, Vol. 6, No. 1, 2019, pp. 1-16, DOI: dx.doi.org.libezp.lib.lsu.edu/10.1186/s40594-019-0180-5 Accessed 30 September 2020.

"Woods Hole Education Program." Woods Hole Diversity, https://www.woodsholediversity.org/pep/.

"Woods Hole: Statement from the DI." Woods Hole Diversity, 5 June 2020, https://www.woodsholediversity.org/about/statement-from-the-di/.

## **Pedagogy Research Resources**

Beane, R., McNeal, K.S., & Macdonald, R.H. "Probing the National Geoscience Faculty Survey for reported use of practices that support inclusive learning environments in undergraduate courses." *Journal of Geoscience Education*, Vol. 67, No. 4, 2019, pp. 427-445, DOI: doi.org/10.1080/10899995.2019.1621714. Accessed 5 October 2020.

Beichner, Robert, et al. <u>The Student Centered Activities for Large Enrollment Undergraduate Programs</u> (SCALE-UP) Project. https://projects.ncsu.edu/PER/Articles/Varenna SCALEUP Paper.pdf.

Beckerson, W. C., Anderson, J. O., Perpich, J. D., & Yoder-Himes, D. "An Introvert's Perspective: Analyzing the Impact of Active Learning on Multiple Levels of Class Social Personalities in an Upper Level Biology Course." Journal of College Science Teaching, Vol. 49, No. 3, 2020, pp. 47-57, search-proquest-com.libezp.lib.lsu.edu/docview/ 233076 0821?accountid=12154. Accessed 30 September 2020.

Coffman, K. E., Martínez-Gálvez, G., Brown, A. K., Matchett, W. E., & Horazdovsky, B. F. "Providing Pedagogy Education for Aspiring Instructors at Institutions without Formal Pedagogy Curriculum Or Undergraduate Populations." *Journal of College Science Teaching*, Vol. 48, No. 2, 2018, pp. 14-20, search-proquest-com.libezp.lib.lsu.edu/docvi ew/ 2131144980?accountid=12154. Accessed 30 September 2020.

Eddy, S.L., & Hogan, K.A. "<u>Getting Under the Hood: How and for Whom Does Increasing Course Structure Work?</u>" *CBE-Life Sciences Education*, Vol. 13, No. 3, 2014, pp. 453-468, DOI: doi.org/10.1187/cbe.14-03-0050. Accessed 5 October 2020.

Gherardi, S., Nicolini, D., Odella, F. "<u>Toward a Social Understanding of How People Learn in Organizations: The Notion of Situated Curriculum</u>." *Management Learning*, Vol. 29, No. 3, September 1998, pp. 273–297, DOI: 10.1177/1350507698293002. Accessed 1 October 2020.

Gregory, M. "Curriculum, Pedagogy, and Teacherly Ethos." Pedagogy: Critical Approaches to Teaching Literature, Language, Composition, and Culture, Vol. 1, No. 1, Duke University Press, 2001, pp. 69-90, DOI: doi-org.libezp.lib.lsu.edu/10.1215/15314200-1-1-69. Accessed 29 September 2020.

Haak, David, et al. "<u>Increased Structure and Active Learning Reduce the Achievement Gap in</u> Introductory Biology." *Sciencemag*, June 2011, www.sciencemag.org.

Hammond, L-D., Austin, K., Orcutt, S., & Rosso, J. "<u>How People Learn: Introduction to Learning Theories.</u>" *The Learning Classroom: Theory into Practice (A Telecourse for Teacher Education and Professional Development),* Episode #1 Introduction Chapter, Standford University School of Education, 2001, 22p., citeseerx.ist.psu.edu/viewdoc/ download?doi=10.1.1.294. 3636&rep=rep1&type=pdf. Accessed 1 October 2020.

Keiner, L. E. & Gilman, C.S. "Implementation of Interactive Engagement Teaching Methods in a Physical Oceanography Course." Journal of College Science Teaching, Vol. 45, No. 2, 2015, pp. 70–77, JSTOR, jstor.org/stable/43631906. Accessed 2 Oct. 2020.

McCance, K., Weston, T., & Niemeyer, E. "Classroom Observations to Characterize Active Learning within Introductory Undergraduate Science Courses." Journal of College Science Teaching, Vol. 49, No. 4, 2020, pp. 24-29, search-proquest-com.libezp.lib.lsu. edu/docview/2377332915?account id= 12154. Accessed 30 September 2020.

McLaughlin, J. S., Favre, D. E., Weinstein, S. E., & Goedhart, C. M. "The Impact of a Four-Step Laboratory Pedagogical Framework on Biology Students' Perceptions of Laboratory Skills, Knowledge, and Interest in Research." Journal of College Science Teaching, Vol. 47, No. 1, 2017, pp. 83-91, search-proquest-com.libezp.lib.lsu.edu/docview/1933161154? accountid=12154. Accessed 30 September 2020.

Pelch, M.A., McConnell, D.A. "<u>Challenging instructors to change: a mixed methods investigation on the effects of material development on the pedagogical beliefs of geoscience instructors.</u>" International Journal of STEM Education, 3, Article No. 5, 2016, 18p., DOI: doi.org/10.1186/s40594-016-0039-y. Accessed 5 October 2020.

Tinnell, T. L., Ralston, P. A. S., Tretter, T. R., & Mills, M. E. "<u>Sustaining Pedagogical Change</u>
<u>Via Faculty Learning Community</u>." *International Journal of STEM Education*, Vol. 6, No. 1, 2019, pp. 1-16, DOI: dx.doi.org.libezp.lib.lsu.edu/10.1186/s40594-019-0180-5. Accessed 30 September 2020.