

Name of initiative	Institution / organization	Short description	Contact
CENTERS AND PROGRAMS			
American Chemical Society (ACS) Scholars Program	American Chemical Society	Undergraduate scholarship for underrepresented minorities (African American, Hispanic/Latino, and American Indian) majoring in a chemistry-related field. Website (www.acs.org/scholars) has all eligibility requirements and online application.	Racquel Jemison r_jemison@acs.org
Bride to PhD in the Natural Sciences Program	Columbia University	Post-baccalaureate research-intensive program preparing underrepresented minorities for STEM graduate school	Marcel Agüeros marcel@astro.columbia.edu
Center for Improvement of Mentored Experiences in Research (CIMER)	University of Wisconsin-Madison	<p>Effective research mentoring relationships are critical to developing the next generation of researchers. Learn how to improve these relationships at all career stages and promote cultural change that values excellence in research mentoring as a critical aspect of diversifying the research workforce. Houses curricula for mentor and mentee training across STEM and career stages and assessment tools.</p> <p>To improve the research mentoring relationships for mentees and mentors at all career stages through the development, implementation and study of evidence-based and culturally-responsive interventions.</p> <p>Goals The Center for the Improvement of Mentored Experiences in Research (CIMER) will:</p> <ol style="list-style-type: none"> 1. Facilitate research mentor and mentee training for mentees and mentors at all career stages 2. Develop and study new approaches and resources for advancing mentoring relationships 3. Promote cultural change that values excellence in research mentoring 4. Build a network of mentors, mentees and those engaged in enhancing and studying research mentoring relationships 5. Advance diversity in the research enterprise 	Chris Pfund cepfund@wisc.edu
Excellence in Mentoring Initiative	Northwestern University	<p>http://www.tgs.northwestern.edu/resources-for/faculty/excellence-in-mentoring/index.html</p> <p>Multi-dyadic trainings and resources primarily for faculty, post-doc, and graduate students mentors and mentees.</p>	Tracy C. Davis tcdavis@northwestern.edu

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Keystone Symposia Fellows Program	Keystone Symposia	Mentoring and professional development for trainees at the advanced postdoctoral researchers and junior faculty in the biomedical sciences	Irelene P. Ricks, PhD irelener@keystonesymposia.org
National Research Mentoring Network (NRMN)	National Research Mentoring Network	<p>www.nrmn.net Part of the NIH Diversity Consortium. Nationwide consortium of biomedical professionals and institutions collaborating to provide all trainees across the biomedical, behavioral, clinical and social sciences with evidence-based mentorship and professional development programming. Example programs and structures include: Guided virtual mentoring program, Grant Writing Coaching Groups for postdocs and faculty, Mentor recognition program, Mentor and Mentee training initiatives, and online social networking platform.</p> <p>The National Research Mentoring Network (NRMN) is a nationwide consortium of biomedical professionals and institutions collaborating to provide all trainees across the biomedical, behavioral, clinical and social sciences with evidence-based mentorship and professional development programming.</p> <p>NRMN's program models emphasize the benefits and challenges of diversity, inclusivity and culture within mentoring relationships, and more broadly the research workforce. The Goal of the National Research Mentoring Network is to enhance the diversity of the NIH-funded research workforce.</p>	<p>NRMN program office info@nrmnet.net/Phone: 617.552.3901</p> <p>Christine Pfund christine.pfund@wisc.edu</p>
Online mentor training module: Optimizing the Practice of Mentoring	University of MN Clinical & Translational Science Institute; and NRMN	<p>Free, access at z.umn.edu/OptimizingMentoring</p> <p>Self-paced 2-hour professional development course designed to prepare faculty from a range of disciplines to be effective research mentors for junior faculty, post-doctoral fellows, and graduate students in STEM.</p>	Anne Marie Weber- Main, PhD weber005@umn.edu
SOARS, Significant Opportunities in Atmospheric Research and Science	National Center for Atmospheric Research, NCAR	SOARS is a research-based structured internship program that provides atmospheric science research experiences and a suite of related academic, financial and social supports to students (undergrad into early grad stage) from underrepresented groups who are interested in these fields. The program is long-lived and award-winning. It is a good example of how to design a program around multiple mentors with well-defined roles for which they receive training.	Rebecca Haacker rhaacker@UCAR.edu
ARTICLES, BOOKS, AND OTHER WRITTEN RESOURCES			
Labmosphere.com		Personal Blog; Has a resource section with links to positive psych and management strategies	Juan Pablo Ruiz labmosphere@gmail.com

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Training the next generation of Protein Scientists. <i>Protein Science</i> . DOI: 10.1002/pro.733	HHMI, UMBC	This paper describes the mentoring approach used in the Summers lab at UMBC ABS: Carl Brändén made significant contributions in areas of protein X-ray crystallography and science education. As the 2011 recipient of the Protein Society award honoring Carl's contributions, I had the opportunity to reflect on the undergraduate educational activities that have been practiced in my own laboratory over the past 24 years at the University of Maryland Baltimore County, an institution that emphasizes both research and undergraduate education. A system has been developed that attempts to minimize the tension that can exist between conflicting graduate research and undergraduate mentoring goals. The outcomes, as measured not only by subsequent activities of the participating undergraduates, but also by the activities of the graduate students and postdocs that worked with the undergraduates, indicate a general overall benefit for all participants, particularly for women and underrepresented minorities who are traditionally poorly retained in the sciences. Greater participation of undergraduates in research activities of active scientists who often focus primarily on graduate and postdoctoral training could have a positive impact on the leaky undergraduate science pipeline.	Michael F. Summers summers@hhmi.umbc.edu
Does Mentoring Matter? A Multidisciplinary Meta-Analysis Comparing Mentored and Non-Mentored Individuals. <i>Journal of Vocational Behavior meta-analysis</i> . DOI: 10.1016/j.jvb.2007.04.005	University of Georgia	ABS: The study of mentoring has generally been conducted within disciplinary silos with a specific type of mentoring relationship as a focus. The purpose of this article is to quantitatively review the three major areas of mentoring research (youth, academic, workplace) to determine the overall effect size associated with mentoring outcomes for protégés. We also explored whether the relationship between mentoring and protégé outcomes varied by the type of mentoring relationship (youth, academic, workplace). Results demonstrate that mentoring is associated with a wide range of favorable behavioral, attitudinal, health-related, relational, motivational, and career outcomes, although the effect size is generally small. Some differences were also found across type of mentoring. Generally, larger effect sizes were detected for academic and workplace mentoring compared to youth mentoring. Implications for future research, theory, and applied practice are provided.	Lillian Eby leby@uga.edu

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<p>An interdisciplinary meta-analysis of the potential antecedents, correlates, and consequences of protégé perceptions of mentoring. <i>Psychological Bulletin</i>, meta-analysis. DOI: 10.1037/a0029279</p>	<p>University of Georgia</p>	<p>ABS: This meta-analysis summarized youth, academic, and workplace research on the potential antecedents (demographics, human capital, and relationship attributes), correlates (interaction frequency, relationship length, performance, motivation, and social capital), and consequences (attitudinal, behavioral, career-related, and health-related outcomes) of protégé perceptions of instrumental support, psychosocial support, and relationship quality to the mentor or to the relationship. A total of 173 meta-analytic correlations were computed based on data from 173 samples and a combined N of 40,737. Among antecedents, positive protégé perceptions were most strongly associated with greater similarity in attitudes, values, beliefs, and personality with their mentors (ρ ranged from .38 to .59). Among correlates, protégé perceptions of greater instrumental support ($\rho = .35$) and relationship quality ($\rho = .54$) were most strongly associated with social capital while protégé perceptions of greater psychosocial support were most strongly associated with interaction frequency ($\rho = .25$). Among consequences, protégé perceptions of greater instrumental support ($\rho = .36$) and relationship quality ($\rho = .38$) were most strongly associated with situational satisfaction while protégé perceptions of psychosocial support were most highly associated with sense of affiliation ($\rho = .41$). Comparisons between academic and workplace mentoring generally revealed differences in magnitude, rather than direction, of the obtained effects. The results should be interpreted in light of the methodological limitations (primarily cross-sectional designs and single-source data) and, in some instances, a small number of primary studies.</p>	<p>Lillian Eby leby@uga.edu</p>
<p>Protégé perceptions of high mentorship quality depend on shared values more than on demographic match. <i>The Journal of Experimental Education</i>. DOI: 10.1080/00220973.2016.1246405</p>	<p>WVU</p>	<p>Research on mentoring quality</p> <p>ABS: Mentoring, particularly same-gender and same-race mentoring, is increasingly seen as a powerful method to attract and retain more women and racial minorities into science, technology, engineering, and mathematics (STEM) education and careers. This study examines elements of a mentoring dyad relationship (i.e., demographic and perceived similarity of values) that influenced the perceived quality of mentorship, as well as the effect of mentorship on STEM career commitment. A national sample of African American undergraduates majoring in STEM disciplines were surveyed in their senior year. Overall, perceived similarity, rather than demographic similarity of values, was the most important factor associated with protégé perceptions of high-quality mentorship, which in turn was associated with higher commitment to STEM careers. We discuss the implications for mentoring underrepresented students and broadening participation in STEM.</p>	<p>Paul Hernandez prhernandez@mail.wvu.edu</p>

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<p>The Deaf Mentoring Survey: A Community Cultural Wealth Framework for measuring mentoring effectiveness with underrepresented students. <i>CBE Life Science Education</i>. DOI: 10.1187/cbe.15-07-0155.</p>	<p>Gallaudet University</p>	<p>This journal article will be published in <i>CBE Life Sciences Education</i> next month (March). It provides a theoretical framework and a practical means of measuring mentoring effectiveness with underrepresented students, by looking at cultural sensitivity. This was piloted with deaf students because that's what we know, but we think it might work with other underrepresented groups which have community cultural wealth.</p> <p>ABS: Disabled individuals, women, and individuals from cultural/ethnic minorities continue to be underrepresented in science, technology, engineering, and mathematics (STEM). Research has shown that mentoring improves retention for underrepresented individuals. However, existing mentoring surveys were developed to assess the majority population, not underrepresented individuals. We describe the development of a next-generation mentoring survey built upon capital theory and critical race theory. It emphasizes community cultural wealth, thought to be instrumental to the success of individuals from minority communities. Our survey targets relationships between deaf mentees and their research mentors and includes Deaf community cultural wealth. From our results, we identified four segregating factors: Being a Scientist, which incorporated the traditional capitals; Deaf Community Capital; Asking for Accommodations; and Communication Access. Being a Scientist scores did not vary among the mentor and mentee variables that we tested. However, Deaf Community Capital, Asking for Accommodations, and Communication Access were highest when a deaf mentee was paired with a mentor who was either deaf or familiar with the Deaf community, indicating that cultural competency training should improve these aspects of mentoring for deaf mentees. This theoretical framework and survey will be useful for assessing mentoring relationships with deaf students and could be adapted for other underrepresented groups.</p>	<p>Derek Braun derek.braun@gallaudet.edu</p>

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<p>Special Issue of <i>AIDS and Behavior</i> Volume 20, Issue 2 Supplement, September 2016</p> <p>Securing the Future: Mentoring to Diversify the Biomedical HIV Research Workforce. ISSN: 1090-7165</p>	SpringerLink	<p>Articles on mentoring including one on defining attribute and metrics for effective mentoring relationships</p> <p>http://link.springer.com/journal/10461/20/2/suppl/page/1</p>	Christine Pfund christine.pfund@wisc.edu
Guidebook on Peer Coaching: Principles and Practices	To be published by Stanford University Press, fall 2017.	<p>A practical guide for peer coaching and peer mentoring.</p> <p>Authors: Polly Parker, Kathy Kram, D.T. Hall, and Ilene Wasserman.</p>	Kathy Kram kekram@bu.edu
Strategic Relationships at Work: Building Your Circle of mentors, sponsors and peers for success in business and life	Published by McGraw Hill in 2014.	<p>Book solidly grounded in research on mentoring and developmental relationships.</p> <p>Authors: Wendy Murphy and Kathy Kram.</p>	<p>Wendy Murphy wmurphy@babson.edu</p> <p>Kathy Kram kekram@bu.edu</p>

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Faculty Success Through Mentoring: A Guide for Mentors, Mentees, and Leaders. ISBN: 9781607090663	Published by Rowman & Littlefield Education.	A scholarly synthesis of evidence-based practices for successful mentoring in higher education, published as part of the American Council of Education’s “Series on Higher Education.” Authors: Bland CJ, Taylor AL, Shollen SL, Weber-Main AM, Mulcahy PA. Lanham, MD. Available at https://rowman.com	Anne Marie Weber-Main, PhD weber005@umn.edu