

STACEY LOWERY BRETZ

bretzsl@miamioh.edu | 513.529.3731 (office)

EDUCATION

Postdoctoral Scholar	University of California, Berkeley, Chemistry Education Research
Ph.D., 1994	Cornell University, Chemistry Education Research
M.S., 1991	Pennsylvania State University, Inorganic Chemistry
B.A., 1989	Cornell University, Chemistry

ACE FELLOW (American Council on Education)

Aug. 2021 – May 2022	University of Illinois Urbana Champaign Office of the Chancellor & Office of the Provost
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ACADEMIC APPOINTMENTS

Miami University (OH), Department of Chemistry & Biochemistry	
2015–present	University Distinguished Professor
2012–2015	Ernest H. Volwiler Distinguished Research Professor
2005–2012	Professor of Chemistry

Youngstown State University, Department of Chemistry	
2004–2005	Professor of Chemistry
2000–2004	Associate Professor of Chemistry

University of Michigan-Dearborn, Department of Natural Sciences	
1995–2000	Assistant Professor of Chemistry

MIAMI UNIVERSITY ADMINISTRATIVE & SERVICE APPOINTMENTS

June 2022 – present	Inaugural President's Executive Fellow, Office of the President <i>This President created this position to benefit his cabinet through the expertise I developed as an ACE Fellow and to advance my executive aptitude.</i>
June 2022 – present	Director of Special Projects, Enrollment Management & Student Success
Aug. 2016 – July 2022	Fiscal Priorities & Budget Planning (Chair, 2018–2022)
May 2021 – June 2022	Special Assistant to the Provost for Academic Initiatives
Oct. 2019 – May 2021	Academic Program Evaluation, Improvement and Prioritization (Chair)
Sept. 2018 – June 2019	University Strategic Planning Steering Committee (Co-Chair, Financial Sustainability Committee)

MIAMI UNIVERSITY LEADERSHIP ACCOMPLISHMENTS

Inaugural President's Executive Fellow, Office of the President
June 2022 – present

- Design Executive Fellows program embedded in the Office of the President to build strategic leadership pipeline for the University.
- Create Advancement Partner Certificate program for Chairs and Directors in collaboration with the VP for University Advancement to support public phase of \$1B university campaign.
- Coordinate visit for executive leadership of a university who seeks strategic planning expertise and identifies Miami University as an aspirational peer institution.
- Participate in strategic planning retreats and meetings of the Miami University Board of Trustees.
- Examine the complexities of higher education executive leadership in the setting of a national public, highly selective, rural, liberal arts university with a premium brand for undergraduate research and study abroad/study away opportunities.
- Participate in all activities of President's Executive Cabinet.

Director of Special Projects, Enrollment Management & Student Success (EMSS)
June 2022 – present

- Collaborate with VP EMSS and Assistant VP/Director of Admission to develop a 3–5 year strategic enrollment plan to grow the enrollment funnel, reduce tuition discounting, model equitable aid strategies, and yield a diverse class.
- Serve as lead advisor for contracted international enrollment firm to create a data profile to launch a marketing, recruitment, and rankings initiative.
- Collaborate with Senior VP for Finance & Business Services and VP EMSS to conduct a tuition pricing/discounting analysis. Evaluate financial aid priorities with regard to merit and need.
- Collaborate with University Registrar to improve the efficiency of transfer evaluations.
- Identify and address barriers to student success, with attention to equity and inclusivity.
- Collaborate with University Communications & Marketing during launch of a new brand campaign.
- Understand scope of work across University Registrar, Financial Aid, Bursar, Student Success, Center for Career Exploration and Success, and One-Stop Student Center.

Fiscal Priorities & Budget Planning
August 2016 – July 2022 (Chair, 2018–2022)

- Advised the President, Provost, and Senior VP for Finance and Business Services regarding immediate budget concerns, long-range fiscal priorities, and budget planning.
- Formulated recommendations for RCM budget model.
- Advocated for salary increments and market adjustments for both faculty and staff.
- Prioritized fiscal health and challenges across the President, Provost, VP Finance & Business Services (including Physical Facilities and Human Resources), VP Student Life, VP Advancement, VP Diversity & Inclusion, VP Enrollment Management & Student Success, VP Research & Innovation, Athletics Director, and 6 academic Deans.
- Analyzed 62 revenue opportunities with attention to excellence, return on investment, costs, complexity, feasibility, and sustainability. Forwarded recommendations to the President.
- Analyzed budget deficit for Intercollegiate Athletics during the pandemic. Presented furlough recommendation to both the President and University Senate.

- Developed administrative review process per Ohio Department of Higher Education.
- Presented invited remarks with Provost and Senior VP Finance & Business Services at annual University Budget meetings.
- Attended Board of Trustees' Finance & Audit Committee, 5x per year.
- Reported regularly to University Senate as standing, shared governance committee.

Special Assistant to the Provost for Academic Initiatives
May 2021 – June 2022

- Right-sized the academic program portfolio by creating and supporting a shared governance process for faculty to voluntarily sunset lower priority programs.
- Supported equitable (re)allocation of resources by analyzing Deans' preliminary and summative ratings for 274 academic programs.
- Reduced the number of course releases. Supported 6 deans and 58 department chairs to revise workload policies and specify criteria beyond "significant research or service."
- Supported 58 department chairs to align criteria for program excellence with strategies, outcome measures and resource requests in curriculum action plans.
- Supported departments to transform 52 courses with the greatest potential to improve student persistence and/or graduation rates.
- Provided concierge service for new and struggling programs to develop enrollment benchmarks and analyze external demand.
- Streamlined Academic Program Review to be sustainable and formative.

Academic Program Evaluation, Improvement and Prioritization (APEIP)
October 2019 – May 2021 (Chair)

- Optimized academic portfolio to improve human and financial resource allocation.
- Directed the development and implementation of shared governance process using 5 criteria: external demand, internal demand, robustness of the program, program outcomes for students & faculty, and net revenue. Monitored compliance.
- Designed pathway to identify lower priority programs, forego program analyses, and sunset programs by creating a "teach out" plan. Faculty voluntarily sunset 40 programs.
- Created preliminary and summative ratings system to support Deans' evaluation of academic programs and to justify resource (re)allocations.
- Identified 52 courses required to improve student persistence and/or graduation rates.
- Created guidelines for university-wide, simultaneous review and prioritization of every undergraduate and graduate program (n=274) across 58 academic departments to (1) revise workload policy governance to achieve improved efficiency and equity across both tenure-stream and non-tenure stream faculty and (2) create action plan with multiple strategies to demonstrate measurable improvement in both student success and efficiency in delivering the curriculum within 3 years.
- Curated multiple data sources to generate template to inform curricular plans and decisions across all 58 academic departments; created system for transparency in sharing databooks across 6 academic divisions.
- Directed steering committee of 15 associate deans, faculty, and staff.
- Provided direct support to academic deans. Recruited, trained, and supported a team of faculty consultants to support department chairs in analyses of datasets.

University Strategic Planning
September 2018 – June 2019

Member, Steering Committee

- Generated a vision to design proactive, market-appropriate academic and financial blueprints by coordinating and analyzing insights from 6 committees.

Co-Chair, Financial Sustainability Committee

- Identified and prioritized revenue opportunities and efficiency targets.
- Analyzed budget forecast scenarios, enrollment trends, revenue performance and diversification (including net tuition revenue, research funding, and advancement), as well as productivity for academics, athletics, and auxiliaries.
- Assessed the strengths and weaknesses of the RCM budget model to ensure a strong financial model to support the university mission.
- Identified opportunities to plan strategically, allocate and invest resources wisely, and comply with increasing government regulations while mitigating risks.

SELECT HONORS & AWARDS

ACE Fellow, American Council on Education

University of Illinois Urbana Champaign, Office of the Chancellor & Office of the Provost
Mentors: Chancellor Robert J. Jones, Provost Andreas Cangellaris, and Vice Chancellor of Research & Innovation Susan Martinis
August 2021 – May 2022

- Examined the complexities of executive leadership via an immersive experience at a flagship, world-class, land-grant university committed to public engagement.
- Studied the culture, policies, and decision-making of a highly decentralized university.
- Developed detailed knowledge of how the premises of an RCM budget model were adapted to operate in a highly decentralized university structure.
- Participated in Provost's annual budget development process for 16 academic colleges, centrally supported units, and 10 interdisciplinary research institutes to support (re)allocation of resources.
- Explored research, innovation, and compliance infrastructure, including Research Park (startup hub), EnterpriseWorks (tech business incubator and accelerator), NAGPRA Office, (Native American Graves Protection and Repatriation Act), and Campus Research Administrators Working Group.
- Partnered with external consultants to identify opportunities for strategic/operational improvements ("Operational Excellence" Initiative) in organizational structures, service delivery, business processes, technology enablement, and talent pools across target areas of human resources, space, data, IT, and marcomm.
- Explored student success initiatives in gateway courses with a focus upon improving access, recruitment, and retention of historically marginalized students.
- Learned how Provost's Council on Learning Outcomes Assessment operates across a complex range of instructional settings to create a process for identifying and rewarding meaningful improvements in student learning.
- Participated in Intercollegiate Athletics Board meetings. Examined media rights, financial incentives, and revenue sharing in the Big Ten. Considered opportunities and challenges associated with NIL (Name-Image-Likeness), the Alston decision, the transfer portal, and

student athletes as employees. Discussed public affairs, development, marketing, media relations, strategic brand management, structures for student athlete health and academic success, facilities financing, and required reporting.

- Caucused with Management during Collective Bargaining.
- Attended appropriation hearings between the Chancellor, the State of Illinois Senate, and the State of Illinois House of Representatives.
- Participated as embedded member of Chancellor's Executive Leadership Council, Council of Deans, Council of Undergraduate Deans, and Campus Budget Oversight Committee.
- Participated in shared governance across the University of Illinois System (University Senates Conference) and for University of Illinois Urbana Champaign's University Senate.
- Observed executive leadership styles in 1-on-1 meetings with direct reports.
- Leadership Development through ACE Fellows Program, American Council on Education
 - Crisis Leadership for Boards and Presidents, Media Training
 - Shared Equity Leadership, Inclusive Excellence
 - Integrated Campus Planning, Academic Program Prioritization
 - NCAA Athletics' Finances
 - Korn-Ferry 360 Assessment, Gallup StrengthsFinder, Bolman and Deal's Leadership Frames

- 2022 James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry
- 2020 American Chemical Society Award for Achievement in Research on Teaching and Learning of Chemistry
- 2020 Benjamin Harrison Medallion, Miami University
(for outstanding contributions to the education of the nation)
- 2015 Distinguished Scholar, Miami University
- 2013 Distinguished Teaching Award for Excellence in Graduate Instruction and Mentoring, Miami University
- 2012 Fellow, American Chemical Society (the first ACS Fellow at Miami University)
- 2009 Fellow, American Association for the Advancement of Science
- 2009 E. Phillips Knox Award for Undergraduate Teaching, Miami University

NATIONAL DISCIPLINARY LEADERSHIP & ACCOMPLISHMENTS

American Chemical Society

Division of Chemical Education

January 2020 – present (Chair-Elect, 2020; Chair, 2021; Immediate Past Chair, 2022)

- Manage executive committee of 21 direct reports with oversight for
 - 2 fiduciary boards for the *Journal of Chemical Education* and ACS Exams Institute.
 - 16 committees who offer programming and professional training for 6000+ members through national/regional conferences and a community college consortium.
- Supervise Executive Assistant, evaluate annual performance, and renew employment contracts.
- Approve contracts for financial services vendor and conference vendors.
- Approve annual \$220K budget as a 501(c)(3) organization and monitor \$3.7M investment performance (restricted + unrestricted).
- Created policies for financial sponsorship, social media, travel and awards nominations.

American Chemical Society
Board of Trustees for the Examinations Institute
January 2002 – December 2015 (Chair, 2009–2014)

- Negotiated Memoranda of Understanding with multiple universities to host secure operations site for production of 107 nationally normed exams for high school chemistry, college placement, the entire U.S. undergraduate chemistry curriculum, and chemical health & safety.
- Approved annual \$1.1M budgets.
- Created investment policy, initiated and monitored \$1.6M investment performance.
- Secured legal representation for significant intellectual property holdings.
- Chaired nationwide search and hired Director; conducted annual performance evaluation.
- Created policies on chair succession, incapacitation, and sponsorships.
- Created endowed faculty professional development program.

National Academy of Sciences
National Research Council Committee on Status, Contributions, and Future Directions of
Discipline-Based Education Research
March 2010 – December 2012

- Collaborated with astronomers, biologists, engineers, geoscientists, and physicists for ground-breaking consensus study about discipline-based education research (DBER).
- Published committee findings as *Discipline-Based Education Research: Understanding and Improving Learning in Undergraduate Science and Engineering* (2012). S. Singer, N. Nielsen, and H. Schweingruber, Editors. Washington, DC: National Academies Press.

Gordon Research Conferences
Chemistry Education Research and Practice
January 2004 – June 2005 (Chair)

- Transformed probationary conference into a well-funded, high-performing conference among the portfolio of 300+ world-renowned Research at the Frontiers conferences.
- Secured \$64K external funding to restore conference reputation and financial security.

EXTERNAL FUNDRAISING FOR STUDENTS

Stacey Lowery Bretz (PI)
“Measuring Chemistry Students’ Understandings of Multiple External Representations through Cluster Analysis”
National Science Foundation, 2014–2022
\$142,000 (Broader Impacts Capacity Building Conferences)

Stacey Lowery Bretz (PI)
“Chemistry Education Research Doctoral Fellows Program,” Broader Impacts Initiatives
National Science Foundation, 2007–2014
\$170,400 (Broader Impacts Capacity Building Conferences)
Rose Marie Ward (PI), Amanda Diekman, Ellen Yezierski, Stacey Lowery Bretz (co-PI)

“Interdisciplinary STEM Graduate Student Learning Communities”
National Science Foundation, 2018–2022
\$433,997

Chris Makaroff (PI), Stacey Lowery Bretz (co-PI), Jerry Sarquis, Arlyne Sarquis
“S-STEM Scholarships to Recruit and Retain Undergraduate Chemistry & Biochemistry Majors”
National Science Foundation, 2007–2013
\$576,078

LEADERSHIP TRAINING & PROFESSIONAL DEVELOPMENT

Diversity, Equity and Inclusion Certificate, Miami University
Spring 2022

- Learned concepts and strategies to put DEI principles into practice.
- Completed modules that examined bias, stereotypes, and microaggressions; race and anti-racism; LGBTQ+ identities and culture; ableism and inclusion; cultural intelligence; strategies for workplace inclusiveness; intercultural communication in a global world; DEI and healthcare inequities; ageism and age bias; and allyship and advocacy.

SafeZone Program and Training, Miami University
Spring 2022

- Learned about LGBTQ identities and experiences to foster an affirming environment in which all people are welcome to thrive personally, academically, and professionally.
- Developed understanding of allyship, affirmation, and language through case studies.

Hate/Uncycled Anti-Bias Training, Anti-Defamation League
Fall 2021

- Completed training for responding to hate and bias incidents with the Chancellor’s Executive Leadership Council at the University of Illinois Urbana Champaign.
- Examined the impact of bias on the campus community and learning environments.
- Developed skills to intervene when bias incidents occur, to build inclusive communities, and to create equitable policies and practices that actively contribute to the sustained development of diversity, equity, and inclusion initiatives.

ACS Leadership Institute, American Chemical Society
2020–2021

- Examined fiduciary responsibilities, dues allocations, harassment free conference conduct policies, and social media guidelines for 501(c)(3) organizations.
- Leveraged peer networks, governance structure and operations across 32 Technical Divisions.

Academic Leadership Development Program, Mid-American Athletic Conference
2019–2021

Workshop Facilitator 2020 – 2021

- Created and facilitated interactive workshop for 12 university mentors and 48 Fellows on university budgeting fundamentals.

Fellow 2019 – 2020

- Identified best practices in academic leadership with cohort of aspiring faculty leaders across the Mid-American Conference universities.
- Examined complexities of structures and operations of 12 public institutions across IL, IN, MI, NY, and OH.
- Considered external influences on leaders in a higher education setting, including federal/state regulations, mandates, accreditation, and community influence.
- Deliberated case studies on conflict resolution, budgeting, and accreditation.
- Discussed challenges and rewards of institutional service.

Institute for Miami Leadership Development, Miami University
2012–2015

Steering Committee, 2013–2015

- Organized and facilitated an invited, cohort experience for 25 Miami faculty and staff to ensure an internal talent pool prepared to lead Miami through the quickly changing landscape of higher education.

Participant, 2012–2013

- Developed a broad understanding of higher education as an enterprise through case studies and curated panels with the President, Provost, General Counsel, vice presidents, and deans.
- Examined the structure of academic affairs, student affairs, university governance, university development, and Miami's RCM budget model.

SUMMARY OF SCHOLARSHIP

My team of post-docs, graduate students, and undergraduate students conducts discipline-based education research. We (1) design assessments to measure chemistry students' cognitive and affective learning; (2) investigate students' reasoning with multiple representations of chemistry phenomena; and (3) design experiments, rubrics, and assessments for meaningful learning in the chemistry laboratory. Leading my team requires day-to-day management of multiple projects and detailed knowledge of both grant administration and human subjects research.

- \$2.98M external funding as PI + additional \$2.2M external funding as co-PI
- continuous research funding since 2001 from NSF or U.S. Dept. of Education
- 105 peer-reviewed publications
- 194 invited seminars & keynote addresses
- 317 international, national & regional conference presentations

Select External Funding
(complete list [available](#))

- Ward, R.M.; Bretz, S.L.; Diekman, A.; Yeziarski, E.J. "IGE: Interdisciplinary STEM Graduate Student Learning Communities," NSF Division of Graduate Education, IGE Program, #1806664, **\$433,997**; 09/01/18 – 08/31/22.
- Bretz, S.L. "Measuring Chemistry Students' Understandings of Multiple External Representations through Cluster Analysis," NSF Division of Undergraduate Education, IUSE Program, #1432466, **\$1,277,408**; 08/15/14 – 07/31/22.
- Bretz, S.L. "Chemistry Education Research Doctoral Fellows Program," NSF DRL-DR-K12 Program #0733642; **\$1,312,496**; 09/01/07 – 08/30/14.
- Makaroff, C.; Bretz, S.L.; Tolbert, B.; Sarquis, A.M.; Sarquis, J.L. "Science, Technology, Engineering, and Mathematics Scholarships to Recruit and Retain Undergraduate Chemistry and Biochemistry Majors," NSF DUE-SSTEM #0728614; **\$576,078**; 09/01/07 – 08/30/13.
- Holme, T.A. Bretz, S.L.; Towns, M.H.; Stevens, R.; Lewis, J.; Stacy, A.M.; Pienta, N.; Cooper, M.M.; "Collaborative Research: A Model for Data-Driven Reform in Chemistry Education," NSF-DUE-CCLI-Phase 3, **\$524,970**; 09/15/08 – 02/15/11.
- Bretz, S.L. "An Innovative Approach to Professional Development for High School Chemistry Teachers: A New Kind of Masters' Degree." U.S. Department of Education, Fund for the Improvement of Post-Secondary Education (FIPSE) #P116B011231, **\$332,990**; 10/01/01 – 09/30/05.

Select Peer-Reviewed Publications (student co-authors in bold)
(complete list [available](#))

- **Williams, N.**; Griffith, E.; Gallardo-Williams, M.; Bretz, S.L. "Investigating Meaningful Learning in Virtual Reality Organic Chemistry Labs," *Journal of Chemical Education*, **2022**, 99(2), 1100–1105
- **Atkinson, M.B.**; Bretz, S.L. "Measuring Changes in Undergraduate Chemistry Students' Reasoning with Reaction Coordinate Diagrams: A Longitudinal, Multi-institution Study," *Journal of Chemical Education*, **2021**, 98(4), 1061–1063.
- Ward, R.M.; Diekman, A.B.; Yeziarski, E.; Bretz, S.L.; **Wright, T.; Chatha, C.; Das, A.; Kariyawasam, L.; Kirinda, V.; Sneddon, E.; Tapp, D.; Monroe, S.; Thompson, S.; Dandignac, M.; DeWitt, B.; Johnson, B.** "Supporting Graduate Student Professional Development: Creating a Third Space for Conversation and Reflection," *Inside Higher Ed*, January 7, 2021.
- Bretz, S.L. "Evidence for the Importance of Laboratory Courses," *Journal of Chemical Education*, **2019**, 96(2), 193–195.
- Bretz, S.L. "Equilibrium and Stress: Balancing One Marriage, a "Two-Body Problem," and Three Children, In *Mom the Chemistry Professor: Personal Accounts and Advice from Chemistry Professors who are Mothers*, 2nd edition (Cole, Marzabadi, Webster, and Woznick, Eds.) Springer Press, **2018**, 57–74.

Select International Invited Seminars & Keynote Addresses
(complete list available upon request)

- University College London, “Measuring Meaningful Learning and Mindset in the Undergraduate Chemistry Laboratory,” 12/08/21.
- Chinese Chemical Society – American Chemical Society, Inaugural Bilateral Chemical Education Forum, “Students’ Understandings of Multiple Representations in Chemistry,” 11/27/21. (*1 of 3 chemists invited to speak. 60,000+ attendees live via zoom.*)
- University of Edinburgh, Scotland, “Iterating Instrument Development and Data Visualization: The Case of Meaningful Learning in the Undergraduate Chemistry Laboratory,” Methods in Chemistry Education Research Conference; 05/28/20.
- 99th Canadian Chemistry Conference and Exhibition, Halifax, Nova Scotia, “Measuring Meaningful Learning in the Undergraduate Chemistry Laboratory: The Gap between Faculty Expectations and Students’ Experiences,” 06/06/16.
- IUPAC International Conference on Chemistry Education, Toronto, ON, “Designing Assessment Items to Measure Chemistry Students’ Understandings of Multiple External Representations,” 07/13/14.

SUMMARY OF TEACHING

The teacher-scholar model resonates deeply with me. I push the norms for pedagogy and assessment to improve student success, with an emphasis on teaching students to learn how to learn. My research examines students’ mental models of molecular structures and chemical reactions. Everything we learn in our research informs the pedagogy and assessment practices in my classes, and vice versa. I am equally comfortable teaching large introductory classes (e.g., 240 student sections with no graduate teaching assistants), upper division seminars, or graduate courses in chemistry education research (CER), along with one-on-one mentoring of undergraduates, graduate students, and post-doctoral researchers.

Leadership Exemplars

- Reduced failure/withdraw rate of at-risk students in first semester general chemistry. Collaborated with Institutional Research to identify students at-risk. Designed and taught the intervention course to support students scoring above average on nationally standardized final course exams.
- Published 14 laboratory experiments using best practices from our pedagogy research for 11 undergraduate CHM courses at Miami (twice garnering the cover of the *Journal of Chemical Education*) through collaboration with colleagues and co-mentoring of graduate students.
- Translated CER findings into pedagogy and assessment tools for two general chemistry textbooks and an AP Chemistry textbook, published by W.W. Norton.
- Increased enrollment 6-fold in a transformed CER Ph.D. program.

Mentoring

- 5 postdoctoral scholars, 17 PhD students, 5 M.S. students, 40 undergrad researchers
- 27 mentees (postdocs, PhD, M.S.) currently employed as chemistry faculty at universities (n=11, including 2 HSIs), community colleges (n=4), high school chemistry teachers (n=10), and postdoctoral scholar (n=1)

Textbooks Authored
(complete list [available](#))

- *CHEMISTRY: An Atoms-Focused Approach, AP Edition* (1st ed.), by Thomas Gilbert, Rein Kirss, Stacey Lowery Bretz, & Natalie Foster; W.W. Norton Publishers, © **2021**
- *CHEMISTRY: The Science in Context* (6th ed.), by Thomas Gilbert, Rein Kirss, Stacey Lowery Bretz, & Natalie Foster; W.W. Norton Publishers, © **2021**
- *CHEMISTRY: An Atoms-Focused Approach* (3rd ed.), by Thomas Gilbert, Rein Kirss, Stacey Lowery Bretz, & Natalie Foster; W.W. Norton Publishers, © **2021**

PROFESSIONAL APPOINTMENTS & ACTIVITIES – NATIONAL & INTERNATIONAL EXEMPLARS

(complete list available upon request)

American Chemical Society, Society Committee on Education
Associate Member, Science Education Policy Subcommittee
2022–present

- Identify national policy needs to improve and invest in education systems.
- Develop policies and resources for members of United States Congress and their staff to advance chemistry education and to connect its diverse communities.
- Develop advocacy awareness in collaboration with ACS Office of External Affairs and Committee on Public Affairs and Public Relations.

American Chemical Society, Division of Chemical Education

2020–present	<i>Ex-officio</i> member of Finance Committee and Board of Publications
2009–2014	Financial Planning Committee
2001–2006	Program Committee
1994–2004	Chemistry Education Research Committee

National Science Foundation: Panel & Proposal Reviewer

2018–present	College of Reviewers (Inaugural Member)
2004–present	Division of Undergraduate Education
2010	Division of Chemistry
2004–2014	Division of Research on Learning in Formal and Informal Settings
National Science Foundation: Advisory Board Member	
2017–present	Michigan State University, “Extending a Coherent Gateway to STEM Teaching and Learning”
2016–present	University of Wisconsin Madison, “Supporting Chemistry Learning with Adaptive Support for Connection Making between Graphical Representations in a Cognitive Tutoring System”
2014–2019	Mathematical Association of America, “Progress through Calculus”

2010–2013	University of Nevada Las Vegas, “Collaborative Research: Advancing Chemistry by Enhancing Learning in the Laboratory”
2004–2010	Georgia State University, “Center for Workshops in the Chemical Sciences”

National Science Foundation: External Evaluator

2013–2017	Rochester Institute of Technology, “Transforming the Organic Chemistry Experience: Development, Implementation and Evaluation of Studio Modules”
2010–2017	Purdue University, “Transforming Undergraduate STEM Education Research Conferences”
2010–2013	Otterbein College, “Experimental Determination of Chemical Structure in the Undergraduate Curriculum: A Data–Driven Approach”
2000–2005	Grand Valley State University, “FT-NMR: Hands–On Access in the Undergraduate Curriculum”

Promotion & Tenure Evaluations

2008–present	external reviews of 27 dossiers (United States + 4 additional countries)
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Editorial Boards

2017–present	American Chemical Society, <i>Journal of Chemical Education</i>
2014–present	Royal Society of Chemistry, <i>Advances in Chemistry Education</i>
2005–2009	<i>College Teaching</i>

ADDITIONAL UNIVERSITY SERVICE EXEMPLARS

(complete list available upon request)

Promotion & Tenure, Faculty Search, and Faculty Evaluation Committees

Miami University, Department of Chemistry & Biochemistry

2013–present	Teaching Professor & Lecturer Promotion Committee
2005–present	Associate Professor Promotion Committee
2005–present	Assistant Professor Promotion & Tenure Committee
2005–present	Associate Professor Evaluation Committee
2005–present	Assistant Professor Evaluation Committee
2005–present	Teaching Professor & Lecturer Evaluation Committee
2007–2014	Tenure-Track Faculty Search Committees

Youngstown State University, College of Arts & Sciences

2003–2004	College Promotion & Tenure Committee
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Enrollment Management

Miami University

2018–present First Generation Students Steering Board
2011–2012 Student Retention Committee

Miami University, Department of Chemistry & Biochemistry

2017–present Graduate Admissions Committee
2011–2017 Chair, Graduate Admissions Committee

Cornell University

2006–present Cornell Alumni Admissions Ambassador Network

Undergraduate Student Affairs, Miami University

2011–2018 University Disciplinary Board
2014–2015 University Title IX Administrative Hearing Panel
2010 Greek Life Task Force
2009–2010 Faculty Advisor, Alpha Phi International Fraternity, Gamma Nu Chapter

Shared Governance & Faculty Affairs, Miami University

2017–2020 Senator-at-Large, University Senate
2020 Return to Campus COVID-19 Response Committee
2013–2018 University Awards and Recognition Committee
2008–2013 Institutional Review Board for Human Subjects Research

ADDITIONAL COMMUNITY SERVICE EXEMPLARS

(complete list available upon request)

2006–2017 Co-organizer, Science Week, 1100 children/year in Grades 1–5, Talawanda Local School District
2012–2013 Talawanda Local School District, Electives Review Committee
2006–2010 Talawanda Schools First-Year Teachers' Mentor Program
2003–2004 Workshop Organizer, "Teaching Science through Inquiry," Professional Development Day for High School Chemistry Teachers