

CURRENT POSITION

Teaching Professor in Biology & Director of Undergraduate Studies in Biology

EDUCATION

Postdoctoral, Harvard University School of Medicine

Postdoctoral, Oxford University, Institute of Molecular Medicine

Ph.D., Biology (1995) Boston University Cell and Molecular Biology Program

M.A., Biology, Boston University, Specializing in Biochemistry

B.S., Biology, Suffolk University, Summa cum Laude

PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science

American Society for Biochemistry and Molecular Biology

American Society for Microbiology

International Association for Research in Service-Learning & Community Engagement

AWARDS & RECOGNITIONS

Teaching

Faculty Facilitator for American Society for Microbiology - Biology Scholars, 2015-2016

American Society for Microbiology Scholar for Assessment of Student Outcomes, 2011-2012

Portz Award for Contributions to the Northeastern University Honors Program, 2009

American Society for Microbiology Northeast Branch Educator Travel Award, 2008

Northeastern University Excellence in Teaching Award, 2007

Northeastern Faculty Undergraduate Research Initiative Award, 2005

Teaching with Technology Course Enhancement Award, 2005

National Science Foundation DNA Microarray Workshop, 2004 & 2005

Center for Experiential Education & Advising Fellowship, 2004

Recognized by students for excellence in teaching with technology, 2004 -2005

Center for Community Service Curriculum Development Grant, 2003

Service

Diversity & Inclusion Grant - Cultural of Health Student Book Club, 2017-18

Service-Learning Program recognized as one of top 25 in the country for each of the past nine years (co-chair Service-Learning (S-L) Advisory Board 2005-2019, conduct S-L research, develop and teach S-L courses)

Course-Community Collaboration Award for partnership with Boys & Girls Club of Roxbury, 2013

Community Service Organization Award to Science Club for Girls NU Chapter, 2012 (advisor)

Student National Med. Assoc. Chapter of the Year Award to NU MAPS chapter, 2011 (co-advisor)

Student Life Award to NU American Medical Student Association, 2010 (advisor)

Recognized by students for excellence in advising, 2010

Research

Lead Scholar, Northeastern University Faculty Scholars Program 2015-2016

National Public Health Service Postdoctoral Training Award in Medicine, 1998-2000

Imperial Cancer Research Fund Postdoctoral Research Fellowship, 1995-1997

National Public Health Service Predoctoral Training Award in Molecular Biophysics, 1993-1995

Student research recognitions:

Northeastern RISE poster award in the Undergraduate Physics and Life Sciences category for Sumayah Rahman, 2014.

Provost Undergraduate Research Grant to Sumayah Rahman: *Identifying Bacteria for the Remediation of Vinyl Chloride*, 2013

American Association of Neurological Surgeons Poster Award and Northeastern University Undergraduate Research Award for Health Science & Technology Research for international community based health research of undergraduate honors student Kevin Greene, 2011

Provost Undergraduate Research Grant and Honors Program Award to Kevin Greene: *Cost And Clinical Effectiveness of Neurosurgery in Bolivia*, 2010

Provost Undergraduate Research Grant to Heather Gardiner: *Phylogenetic Analysis of Potential VC-Degrading Bacteria from Contaminated Groundwater*, 2009

Provost Undergraduate Research Grant & Honors Program Award to Michael Trautwein: *Phylogenetic Diversity of Bacteria in Contaminated Groundwater*, 2007

American Society for Microbiology Region I Student Poster Award for bioremediation research with undergraduate students Monica Czarnecki and Angela Verardo, 2007

Faculty Undergraduate Research Initiative award, 2005

Provost Undergraduate Research Grants to Sara Richards and Darshan Kothari, 2004

PROJECTS

Current at Northeastern University -

Focused on Service-Learning and evidence-based teaching. Selected as an NSF Biology Scholar for the Assessment of Student Outcomes and subsequently faculty facilitator for the program. Served as Lead Scholar in the Faculty Scholars Program at Northeastern's Center for Advancing Teaching & Learning through Research. Collaborating with colleagues across the university to study the outcomes of Service-Learning and other high impact practices. Workshop presentations include developing partnerships with undergraduate teaching assistants, integrating community service and learning in biology, developing tools for student self-reflection, designing assessment practices for undergraduate research courses, teaching using the framework of big ideas in biology, incorporating active learning into microbiology courses, developing science communication skills, and establishing collaborative research projects. This work has resulted in seven publications.

Previous at Northeastern University

-Established an undergraduate-only research program using molecular and microbiological approaches to studying bioremediation, the process of using naturally occurring microbes to degrade environmental contaminants. Through collaboration with environmental scientists and engineers, we probed changes in microbial community structure in contaminated groundwater undergoing bioremediation, developed molecular assays to assess the suitability of contaminated sites for this type of treatment, and identified bacteria involved in the process. Six students obtained funding for their research and two received external poster awards. The research resulted in numerous meeting presentations, twelve of which include undergraduate co-authors, and three publications with five undergraduate coauthors (two research papers and one curriculum resource).

-Facilitated an international collaborative clinical research project for an undergraduate student to work with clinical researchers at U Mass Medical School and served as his Honors thesis advisor for the project. This research resulted in internal and external poster awards and development of an ongoing Northeastern co-op opportunity through the Honors Program.

Previous at Harvard Medical School & the Marine Biological Laboratory - (1998-2002) my research was primarily focused on elucidating the structure and function of the vitamin K-dependent carboxylase, an enzyme required for the synthesis of proteins necessary for human blood clotting and bone development. I cloned carboxylase gene homologs from a number of organisms as well as genes encoding neurotoxin substrates of the enzyme in the cone snail model. I uncovered a unique substrate recognition motif and a novel mechanism of post-translational modification for this enzyme. Additional projects included analysis of the molecular defect in a familial bleeding disorder, and developing a marine model system for pollutant biomarkers. My research in this lab resulted in five papers and six meeting presentations and was supported, in part, by a National Public Health Service Postdoctoral Fellowship in Hematology.

Previous at the University of Oxford - (1995-1997) my research was focused on the structure and function of the human multidrug resistance transporter (p-glycoprotein), a stress response protein that causes many cases of tumor drug resistance. Related proteins involved in cystic fibrosis and immune response were also studied. I clarified the intramolecular interactions of p-glycoprotein and identified molecular interaction partners for this protein and the transporter associated with antigen processing. My research in this lab resulted in two papers and two meeting presentations and was supported by an Imperial Cancer Research Foundation Postdoctoral Fellowship.

Previous at Boston University - (PhD awarded 1995) was centered on microbial transport mechanisms and regulation. I determined the mechanistic details of the *Escherichia coli* glucose transporter and showed that sugar transport is coordinately regulated with nitrogen uptake. This research resulted in three papers and four meeting presentations and was supported, in part, by a National Public Health Service Predoctoral Training Grant in Biophysics.

SELECTED PRESENTATIONS (undergraduate authors in bold)

Oral Presentations - Teaching, Learning, & Mentoring

Internal

Pedagogical Partnerships, presented with **Nadia Sahli** at the Northeastern Conference for Advancing Evidence-Based Learning, May 2021

Getting the Most Out of Your Mentored Relationship, presented with **Adrianna Graziano** for a joint panel of the Center for Community Engaged Research & Teaching and the Institute for Health Equity & Social Justice, Sept. 2020.

Questioning Service-Learning and Community Engagement: multiple perspectives in evidence-based teaching & research. A workshop for faculty, staff, and community organizations sponsored by the Northeastern Service-Learning Program and presented with Lorna Hayworth, Amy Lantinga, Missy McElligott, and Rebekah Moore, Dec 2018.

Building Bridges, Not Walls: Structuring Collaborative, Cross-Departmental Research. A workshop presented with Becca Berkey, Lisa Roe, and Hilary Schuldt at the Conference for Advancing Evidence-Based Teaching, May 2017

Teaching your *whole* class: evidence-based methods to reach diverse students. Presented with Missy McElligott at Biology Department Colloquium, November 2015.

Service-Learning – an effective pedagogy for student *and* faculty development. Presented to Northeastern Faculty Scholars, October 2015.

Undergraduates as Innovation Partners in Teaching & Learning: Lessons from the Service-Learning Teaching Assistant Program. Presented at the Conference for Advancing Evidence-Based Teaching at Northeastern with co-presenters Becca Berkey, Lisa Roe, and Hilary Schuldt and a panel of faculty and S-L TAs, May 2015.

Effective Service-Learning: what does the literature say? Workshop for NU Service-Learning faculty, April 2013.

Having Vision and Changing Our Classrooms. Presented at the Biology Department Undergraduate Education Retreat, July 2012.

Managing Your Classroom: How to Get Students to Talk. Northeastern University Teaching Assistant Training, presented annually from 2006 - 2012.

External

Inclusive Teaching in the Microbial Sciences Workshop. Organized and presented with Rachel Horak, Bryan Drewsbury, Jen Herzog, and Sue Merkel at the ASM Microbe Annual Meeting, Boston June 2016.

Undergraduates as Innovation Partners in Teaching & Learning: Lessons from the Service-Learning Teaching Assistant Program. Presented with Lisa Roe, Becca Berkey, and Hilary Schuldt, at the International Association for Research in Service-Learning & Community Engagement Conference, November 2015.

How Students Learn – Deep vs Strategic Learning Strategies. Presented at the ASM Assessment Institute in Washington, DC, June 2015.

Integrating Core Competencies & Skills for Deeper Learning. Presented at the ASM Assessment Institute in Washington, DC, June 2015.

Writing a research proposal in Biology Capstone: scaffolding the process. Presented at the American Society for Microbiology Conference for Undergraduate Educators, May 2014.

Effective Science Communication. Presented at Tufts University School of Graduate Medical Sciences, January 2013.

What Does It Take to Make It in Medicine? Presented at Simmons College, November 2012.

Packaging Yourself for a College Teaching Career. Presented with Giselle Giorgi, Martha Grossel, Sabrice Guerrier, and Omar Quintero at the American Society for Cell Biology, December 2012.

Helping Students Become Scientists – lab notes & data blogs as assessment tools. Presented at the ASM Conference for Undergraduate Educators in Baltimore, MD, June 2011.

An On-Line System for PreHealth Advisees: facilitating targeted communication and student Reflection. Presented with Judith Woolfson at the Northeast Association for Advisors in the Health Professions meeting in Newport, RI, March 2011.

How to Give a Good Presentation in the Classroom or at a Conference. Presented to the Boston area graduate student chapter of the American Society for Microbiology, March 2011.

Careers in Microbiology. Organized and participated in a career panel with David Holzman, Shann Kerner, Julie Schwedock, and Harvey George for the Boston area graduate student chapter of the American Society for Microbiology, March 2010.

Web-based Premedical Advising. Presented with Judith Woolfson at the NAAHP, June 2008.

Bringing the Science Home with Service-Learning: blogging our way to engagement and understanding. Presented with **Candice Calhoun** at the 15th ASM Conference for Undergraduate Educators, May 2008.

Oral Presentations – Biology (*All External*, undergraduate authors in bold)

Microbial Transformations, presented at Suffolk University for the A.J. West Memorial Seminar Series, April 2016.

Identifying Bacteria for The Remediation of Vinyl Chloride from Contaminated Groundwater. Presentation by research student **Sumayah Rahman**. Eastern New England Biology Conference, April 2013.

Harnessing Bacteria to Do Our Dirty Work. Presented at Stonehill College, October 2010.

Microbiological Performance Monitoring for Aerobic Remediation of a Low-Concentration Vinyl Chloride Plume. Presented at the 10th International In-situ and On-site Bioremediation Symposium,

Baltimore, MD, May 2009.

Bioremediation of Chlorinated Solvents in Groundwater: monitoring and assessment. Presented at the American Society for Microbiology Region I meeting, November 2007.

Assay Development and Characterization of Aerobic Ethenotrophs at a Contaminated Waste Site. Presented by undergraduate research student **Amanda Wells** at Bunker Hill Community College, October 2007.

Posters –Teaching, Learning & Mentoring

Internal

Begley, G.S., L. Hayward, B. Keeling, A. Lantinga, and M. McElligott. Service-Learning: SOFAR So Good? Identifying Research Possibilities Using the SOFAR Model. Presented at the Northeastern Service-Learning Expo, April 2018.

Begley, G.S., Berkey, B., Roe, L. and Schuldt, H. Undergraduate Service-Learning Teaching Assistants Support Faculty Development in Diverse Ways. Presented at the Northeastern University Conference for Advancing Evidence-Based Teaching, May 2016.

Roe, L., B. Berkey, H. Schuldt, and G.S. Begley. Undergraduates as Innovation Partners in Teaching & Learning. Presented at the Northeastern University Service-Learning Expo, December 2015.

First-Year Life Science Students Learn Biology by Serving the Community. Presented with **Margaret Minnig** at NU Research Innovation & Scholarship Expo, March 2013.

External

Begley, G. S. Developing Engaged Scientists and Citizens: a network of partnerships for effective service-learning. Presented at ASBMB Experimental Biology, March 2015

Helping Students to Take Responsibility for Careers as Health Professionals. Woolfson, J.F. and G.S. Begley. Presented at the National Association of Advisors in the Health Professions Annual Meeting, June 2010.

Posters – Biology Research

Internal

Rahman, S. and G.S. Begley. Identifying Bacteria for The Remediation of Vinyl Chloride from Contaminated Groundwater. Presented at RISE, March 2014. *Honorable mention in Physics and Life Sciences awards category.*

Greene, K., G.S. Begley, J. Ament, R. Moser, M.I. Uriona, B. Rojas, and C. Lorena. Health-Impact and Economic Analysis of NGO-Funded Neurosurgery and Pacemaker Implantation in Bolivia. This research won both external and internal poster awards.

External

Begley, J.F. and G.S. Begley. Bioremediation of a Large Dilute Vinyl Chloride Plume: Divide and Conquer Remediation Strategy. Presented at the 8th International Conference on the Remediation of Chlorinated and Recalcitrant Compounds in Monterey, CA, May 2012.

Tsao, L., J. Muus, and G.S. Begley. A Diverse Bacterial Community May Be Able to Degrade the Carcinogenic Environmental Contaminant Vinyl Chloride. Presented at the Eastern New England Biology Conference, April 2012.

Tsao, L., A. Qatarnah, D. Ronsivalli and G.S. Begley. Characterizing Putative Vinyl Chloride Degrading Bacteria in Contaminated Groundwater. Presented at the Eastern New England Biology Conference, April 2011.

Gardiner, H. I.J. Paek, W. Zolla, and G.S. Begley. Phylogenetic Analysis of Potential Vinyl Chloride-Degrading Bacteria from Contaminated Groundwater – evidence supporting a new approach to vinyl chloride contamination. Presented at the Eastern New England Biology Conference, April 2010.

Trautwein, M., S. Fogel, J.F. Begley, and G.S. Begley. Characterization of an Ethene Oxidizing Enrichment Culture from Vinyl Chloride Contaminated Groundwater. Presented at the 108th General Meeting of the American Society for Microbiology (ASM) June 2008.

Wells, A.K., K. Bernier, G. Cao, C. Pusateri, L. Slight, I. Walker, W. Withington, and G.S. Begley. PCR Screening for Potential Vinyl Chloride-Degrading Bacteria in Contaminated Groundwater. Presented at the 108th General Meeting of the ASM June 2008.

Wells, A.K., K. Bernier, G. Cao, C. Pusateri, L. Slight, I. Walker, W. Withington, and G.S. Begley. PCR Screening for Potential Vinyl Chloride-Degrading Bacteria in Contaminated Groundwater. Presented at the Colonial Academic Alliance Undergraduate Research Conference April 2008.

Jacobson, L., N. West, and G.S. Begley. Qualitative and Quantitative Measures of Planktonic Bacteria in Groundwater. Presented at the Eastern New England Biology Conference, April 2007.

Czarnecki, M.M., A.R. Verardo, and G.S. Begley. Quantification of Biofilm Growth from Vinyl Chloride Contaminated Groundwater Undergoing Bioremediation. Presented at the 41st Annual Regional Meeting, American Society For Microbiology, Albany, NY November 2006. Received Student Poster Award

PUBLICATIONS (undergraduate authors in bold)

Education Publications

Peer-Reviewed Journal Articles

Begley, G.S., Berkey, B., Roe, L. and Schuldt, H. Becoming partners: faculty come to appreciate undergraduates as teaching partners in a service-learning teaching assistant program. *Int J for Students as Partners*, Vol. 3, Issue 1. May 2019. <https://doi.org/10.15173/ij sap.v3i1.3669>

Begley, G.S. 2017. Using Elevator Speeches to Develop Research & Communication Skills in Biology. *J Microbiol. & Biol Education* J. Microbiol. Biol. Educ. 19(1):doi:10.1128/jmbe.v19i1.1405
<http://asmscience.org/content/journal/jmbe/10.1128/jmbe.v19i1.1405>

Begley, G.S. 2013. Making Connections: Service-Learning in Introductory Cell & Molecular Biology. *J. Microbiol. & Biol. Education*, 14(2):213-20.
<http://jmbe.asm.org/index.php/jmbe/article/view/596>

Begley, G.S. 2012. Vision and Change—ing A First Year Biology Classroom. *J. Microbiol. & Biol. Education*, 13(1):83-85. Available at: <http://jmbe.asm.org/index.php/jmbe/article/view/381>

Essays & Perspectives

Begley, Gail S and **Nadia Sahli**. 2021. Service-Learning Success Rooted in Networks of Partnership Centered on Teaching Assistant-Instructor Collaboration. *Teaching & Learning Together in Higher Education* 1(32) <https://repository.brynmawr.edu/tlthe/vol1/iss32/3>

Begley, G.S. 2015. Semmelweis' Ghost: Student Learning Is in Our Hands. *Microbe Magazine*, American Society for Microbiology, October. Available at
<https://www.asmscience.org/content/journal/microbe/10.1128/microbe.10.404.1>

Begley, G.S., J. DeMasi, J. DeSouza-Hart, J. Reichard-Brown, and D.L. Thurlow. 2010. Medical Competency and Premedical Curricular Dialogues in Atlanta GA. *The Advisor* 30(3): 5-13.

Book Reviews

Begley, G.S. 2016. A Primer for Citizen Science Engagement. Review of: Be the Change: Saving the World with Citizen Science by Chandra Clarke. *J. Microbiol. & Biol. Education*, 17(1) in press.

Web Resources

Begley, G.S. Vision and Change-ing the Biology Major. 2014. Vision & Change in Undergraduate Biology Education: a View for the 21st Century (AAAS). Available at:
<http://visionandchange.org/abstract/vision-and-change-ing-the-biology-major/>

Kemen, Susan and Gail S. Begley. 2007. Groundwater Biofilm with Grazing Protozoans from a Vinyl-Chloride-Contaminated Aquifer Undergoing Bioremediation Treatment. *MicrobeLibrary Visual Resource Collection* (American Society for Microbiology). Available at:
<http://www.microbelibrary.org/asmonly/details.asp?id=2564&Lang=>

Northeastern University Publications

Begley, Gail S., ed. 2011. Biochemistry Laboratory Manual, Northeastern University.

Begley, G.S. & C.H. Ellis. 2006. Genetics & Molecular Biology Lab Manual, Northeastern Univ.

Begley, G.S. 2006. Connecting the Dots: Integrating Theory and Practice in an Allied Health Microbiology Course, in *The Scholarship of Teaching and Learning Journal* Fall 2006: 5-7.

Biology Research Publications (undergraduate authors in bold)

Begley, J.F., **M. Czarnecki, S. Kemen, A. Verardo, A. K. Robb**, S. Fogel, and G. S. Begley. 2012. Oxygen and Ethene Biostimulation for a Persistent Dilute Vinyl Chloride Plume. *Ground Water Monitoring and Remediation*, 32(1):99-105.

Begley, J.F., **E. Hansen, A.K. Wells**, S. Fogel, and G.S. Begley. 2009. Assessment and Monitoring Tools for Aerobic Bioremediation of Vinyl Chloride in Groundwater. *Remediation Journal* 20(1):107-117.

Brown, MA*, G.S. Begley *, E. Czerwicz, L.M. Stenberg, M. Jacobs, D.E. Kalume, P. Roepstorff, J. Stenflo, B.C. Furie, B. Furie. 2005. Precursors of Novel Gla-Containing Conotoxins Contain a Carboxy-Terminal Recognition Site That Directs Gamma-Carboxylation. *Biochemistry*, 44(25):9150-9159. (* co-lead authors)

Begley G.S., A.R. Horvath, J.C. Taylor, and C.F. Higgins. 2005. Cytoplasmic Domains of the Transporter Associated with Antigen Processing and P-glycoprotein Interact with Subunits of the Proteasome. *Molecular Immunology*, 42(1):137-41.

Czerwicz, E., G.S. Begley, M. Bronstein, J. Stenflo, **K.L. Taylor**, B.C. Furie and B. Furie. 2002. Expression and Characterization of Recombinant Vitamin K-Dependent γ -Glutamyl Carboxylase from an Invertebrate, *Conus textile*. *European Journal of Biochemistry*, 269(24):6162-6172.

Jessen-Eller K, J.A.Kreiling, G.S. Begley, M.E. Steele, C.W. Walker, R.E. Stephens, and C.L. Reinisch. 2002. A New Invertebrate Member of the P53 Gene Family Is Developmentally Expressed and Responds to Polychlorinated Biphenyls. *Environmental Health Perspectives*, 110(4):377-85.

Taylor, J.C., A.R. Horvath, C.F. Higgins, and G.S. Begley. 2001. The Multidrug Resistance P-Glycoprotein: Oligomeric State and Intramolecular Interactions. *Journal of Biological Chemistry*, 276(39):36075-8.

Begley, G.S., B.C. Furie, E. Czerwicz, **K.L. Taylor, G.L. Furie**, L. Bronstein, J. Stenflo, and B. Furie. 2000. A Conserved Motif Within the Vitamin K-Dependent Carboxylase Gene Is Widely Distributed Across Animal Phyla. *Journal of Biological Chemistry*, 275(46):36245-49.

Bush, K.A., J. Stenflo, D.A. Roth, E. Czerwicz, **A. Harrist**, G.S. Begley, B.C. Furie, and B. Furie. 1999. Hydrophobic Amino Acids Define the Carboxylation Recognition Site in The Precursor of Gamma-Carboxyglutamic Acid-Containing Conotoxin E-TXIX from the Marine Cone Snail, *Conus textile*. *Biochemistry*, 38(44):14660-66.

Begley, G.D., K. Warner, J.C. Arents, P.W. Postma, and G.R. Jacobson. 1996. Isolation and Characterization of a Mutation That Alters Substrate Specificity of the *Escherichia coli* glucose permease. *Journal of Bacteriology*, 178(3):940-2.

Begley, G.S., and G.R. Jacobson. 1994. Overexpression, Phosphorylation and Growth Effects of ORF162, A *Klebsiella pneumoniae* Protein That Is Encoded By a Gene Linked to RpoN, the Gene Encoding Sigma-54. *FEMS Microbiology Letters*, 119(3):389-94.

Begley, G.S., D.E. Hanson, G.R. Jacobson, and J.R. Knowles. 1982. Stereochemical Course of the Reactions Catalyzed by the Bacterial Phosphoenolpyruvate:Glucose Phosphotransferase System. *Biochemistry*. 21:5552-6.

TEACHING AND CURRICULUM DEVELOPMENT

*Undergraduate Courses for Science Majors (*indicates courses developed as well as taught)*

Advances in Molecular Microbiology*

Biochemistry

Bioethics*

Biology Capstone

Biology Research Capstone*

Current Topics in Molecular Microbiology*

Genetics & Molecular Biology*

Inquiries in Biology (topics include molecular biology and microbiology)*

Intro to Biology

Microbiology

Research*

Undergraduate Courses for Non-Science Majors

Basic Microbiology

Enhancing Honors: science, technology and human values*

General Biology

Inquiries in Science and Technology*

Microbes & Society*

Science & Technology Today

Principles of Biology

Introductory Biology for Engineers

Graduate Courses

Biochemistry

Membrane Transport*

Molecular Biology

Over 15 years of curriculum development experience including service on department, college, and university curriculum committees as well as a university accreditation committee.

As Director of Undergraduate Studies in Biology, Chair of the Biology Curriculum Committee, and member of the College of Science and University Curriculum committees, collaborated with colleagues to develop new courses and degree programs and leading departmental curriculum assessment and improvement efforts. Established two new undergraduate interdisciplinary degrees,

three accelerated BS/MS programs, and an international study and research abroad program for the biological sciences.

As a member of Biology Curriculum Committee, took a leading role in complete multi-year revision of the biology curriculum in response to national biology reform recommendations. Published a curriculum resource and a biology education journal article on these efforts.

Areas of Expertise

New course and program development, assessment of student learning outcomes, Service-Learning, science communication, active learning, faculty development, supporting diversity & inclusion

SERVICE

University

Advised or co-advised 10 different student organizations since 2007
Faculty Chair of University Service-Learning Advisory Board (2006 – 2019)
Undergraduate Curriculum Committee (2019)
Chair of University PreHealth Advisory Committee (2007 – 2018)
Director, University PreHealth Advising Program (2007 - 2018)*
Faculty Senate NEASC Self-Study Committee for Standard 5 – Students (2017)
Provost's Advisory Committee on Non-Tenure Promotion (2016)
University Representative on Alternative Spring Break Trips (2013 and 2014)
Honors Program Advisory Committee (2012 - 2014)
HHMI Program Planning Group (2009 and 2013)
First Pages Committee (2009 and 2013)
Fulbright Committee (2011 - 2012)
Steamboat Foundation Committee (2008 – 2010)
Student Conduct Review Board (2008)

*Director, University PreHealth Advising Program:

Over 10 years, developed a distinctive and nationally prominent premedical advising program. Accomplishments include increasing level and flexibility of student support, developing student and applicant workshops, implementing an applicant self-assessment process, creating a robust alumni mentoring program, designing a unique advisee and applicant database that serves as a communication tool for advisors, portfolio and application organizer for students, and recommendation letter request, receipt, and tracking system, increasing applicant satisfaction, expanding staffing, increasing the number of applicants overall and the number of underrepresented applicants, establishing a highly successful MD/PhD pipeline, and improving success rates while encouraging and supporting all applicants.

College of Science

Schafer Co-op Scholarship Committee (2011 -)

Gail S. Begley, Ph.D.

Undergraduate Curriculum Committee (2018 – 2020)
Dismissal Appeals Committee (2018 – 2020)
Diversity & Inclusion Committee (2017)
College of Science Non-tenure-track Faculty Committee (2011 - 2014)
College of Science Curriculum Committee/ Subcommittee on Premedical Education (2011 - 2012)

Department of Biology

Associate Chair (2020 -)
Director of Undergraduate Course Experiences (2020 -)
Executive Committee (2017 -)
Undergraduate Honors and Research Advisory Committee (2007 -)
Biology Capstone Research Project Consultant (2008 -)
Director of Undergraduate Studies (2017-2020)
Biology Curriculum Committee (2003 – 2020; Chair 2018-2020)
Chemistry Sequence Revision subcommittee 2016
Biochemistry Steering Committee (2004 - 2008)
Reviewer, NSF Biology e-Portfolio Project (2007)
PhD Qualifying Exam (2004 – 2005)

Profession

Reviewer for College Board, Biology Advanced Placement Exam (2021)
Editorial Board Reviewer, Journal of Microbiology & Biology Education (2012 -)
ASM Biology Scholars Assessment Residency Steering Committee (2015 – 2016)
Local Organizing Chair ASM Conference for Undergraduate Educators (2013 - 2014)
Local Councilor, Northeast Branch of the American Society for Microbiology (2008 - 2013)
American Society for Microbiology Student Chapter Liaison (2010 – 2013)
American Society for Microbiology Northeast Branch Programming Chair (2009)
Reviewer for *Biochemistry*, Berg et al., 6th edition (2005)

Community

As a Service-Learning instructor since 2013, partnering with over two dozen community organizations to bring service-learning opportunities to hundreds of biology students, who have provided over 14,000 hours of community service while solidifying biology knowledge and developing critical professional skills

As founding member and co-chair of the university Service-Learning Advisory Board (2005-2019), led efforts to institutionalize, expand, and improve this high-impact form of experiential learning, which integrates service to meet community-identified goals with course learning objectives. During this time the program underwent a major expansion, developed programming for faculty, community partners, and student leaders, and rose to national prominence.

Gail S. Begley, Ph.D.

Additional outreach has included collaborating with community college colleagues on research and medical opportunities, hosting laboratory tours, serving as a science fair judge, teaching Elderhostel courses in Genetics, Microbiology, and Environmental Science, visiting K-12 classrooms, mentoring elementary school science project students, developing and presenting biothreat workshops, and serving on a local disaster response team.

CONSULTING AND EDITING

Current

Founder and President of science communication & environmental consulting business Molecular Translations, Inc., dba M. T. Environmental Restoration: providing site remediation, technology development, and technical communication services

Previous

Reviewer, AAAS *Science Books & Films*

Writer and Associate Editor, *Oceanographic Literature Review*

Freelance editor for non-English language researchers submitting to English language journals