

Curriculum Vitae
Anya L. Goodman, Ph.D.
Department of Chemistry and Biochemistry
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Education

Ph.D. in Biology: Massachusetts Institute of Technology, Cambridge, MA (2003)

Advisor: Dr. Gerald R. Fink, professor of Genetics

Thesis Title: The *S. cerevisiae* calponin homologue Scp1 regulates stability and organization of the actin cytoskeleton.

B.S. in Biology: Florida Atlantic University, Boca Raton, FL (1996)

Advisor: Dr. David Binniger, associate professor

Honors thesis: Differential gene expression in solid tumors of green turtles *Chelonia mydas*.

Employment

2016 – present Professor, Department of Chemistry and Biochemistry,
California Polytechnic State University, San Luis Obispo, CA

2011 - present Associate Professor, Department of Chemistry and Biochemistry,
California Polytechnic State University, San Luis Obispo, CA

2005 - 2011 Assistant Professor, Department of Chemistry and Biochemistry,
California Polytechnic State University, San Luis Obispo, CA

2003 - 2005 Post-doctoral fellow; Brandeis University, Waltham, MA
Advisor: Dr. Bruce Goode, assistant professor
Title: Proteomic analysis of soluble components of the yeast actin cytoskeleton.

Peer-reviewed publications

1. Somoza-Norton A, Maey E, Bachrach DG, **Goodman AL**. Development of a survey to characterize work design in undergraduate research. *Scholarship and Practice of Undergraduate Research Journal*. 2026 9 (4): <https://doi.org/10.18833/spur/9/4/5>
2. Timothy J Stanek TJ, Leung W, Shaffer CD, The Genomics Education Partnership*,... Reed LR, Elgin SCR, Arrigo C, Ellison CE, Recombination Suppression Drives Expansion of the *Drosophila* Dot Chromosome, *Molecular Biology and Evolution*, Volume 42, Issue 12, December 2025, msaf304, <https://doi.org/10.1093/molbev/msaf304> (*Three Cal Poly students and I are listed by name as annotators and co-authors in supplemental materials).

3. Gehrke, S., **Goodman, A.**, Ngo, L., Reinke, C., Sandlin, K., & Reed, L. Virtual Engagement in a Hybrid Community of Practice: A Descriptive Study on the Training and Integration of New Members into the Genomics Education Partnership during COVID-19. *Journal of STEM Education: Innovations and Research*. 2024. 25(2), Pages 30–41. <https://doi.org/10.63504/jstem.v25i2.2651>
4. Gonzalez Rodriguez S, Wirshing ACE, **Goodman AL**, Goode BL. [Cytosolic concentrations of actin binding proteins and the implications for in vivo F-actin turnover.](#) *J Cell Biol*. 2023 Dec 4;222(12). doi: 10.1083/jcb.202306036.
5. Croonquist P, Falkenberg V, Minkovsky N, Sawa A, Skeritt M, Sustacek MK, Diotti R, Aragon AD, Mans T, Sherr GL, Ward C, Hall-Woods M, **Goodman AL**, Reed LK, Lopatto D. [The Genomics Education Partnership: First findings on genomics research in community colleges.](#) *Scholarsh Pract Undergrad Res*. 2023 Spring;6(3):17-28. doi: 10.18833/spur/6/3/1.
6. Lopatto D, et al. [Student Attitudes Contribute to the Effectiveness of a Genomics CURE.](#) *J Microbiol Biol Educ*. 2022 Aug;23(2). doi: 10.1128/jmbe.00208-21.
7. **Goodman A.** Can Group Oral Exams and Team Assignments Help Create a Supportive Student Community in a Biochemistry Course for Nonmajors? *Journal of Chemical Education*. 2020 August; 97(9):3441-3445. doi: 10.1021/acs.jchemed.0c00815.
8. Lopatto D, et. al. [Facilitating Growth through Frustration: Using Genomics Research in a Course-Based Undergraduate Research Experience.](#) *J Microbiol Biol Educ*. 2020;21(1). doi: 10.1128/jmbe.v21i1.2005.
9. Williams JJ, Drew JC, Galindo-Gonzalez S, Robic S, Dinsdale E, Morgan WR, Triplett EW, Burnette JM 3rd, Donovan SS, Fowlks ER, **Goodman AL**, Grandgenett NF, Goller CC, Hauser C, Jungck JR, Newman JD, Pearson WR, Ryder EF, Sierk M, Smith TM, Tosado-Acevedo R, Tapprich W, Tobin TC, Toro-Martínez A, Welch LR, Wilson MA, Ebenbach D, McWilliams M, Rosenwald AG, Pauley MA. [Barriers to integration of bioinformatics into undergraduate life sciences education: A national study of US life sciences faculty uncover significant barriers to integrating bioinformatics into undergraduate instruction.](#) *PLoS One*. 2019;14(11):e0224288. doi: 10.1371/journal.pone.0224288.
10. Roberts R, Hall B, Daubner C, **Goodman A**, Pikaart M, Sikora A, Craig P. [Flexible Implementation of the BASIL CURE.](#) *Biochem Mol Biol Educ*. 2019 Sep;47(5):498-505. doi: 10.1002/bmb.21287.
11. Wilson Sayres MA, Hauser C, Sierk M, Robic S, Rosenwald AG, Smith TM, Triplett EW, Williams JJ, Dinsdale E, Morgan WR, Burnette JM 3rd, Donovan SS, Drew JC, Elgin SCR, Fowlks ER, Galindo-Gonzalez S, **Goodman AL**, Grandgenett NF, Goller CC, Jungck JR, Newman JD, Pearson W, Ryder EF, Tosado-Acevedo R, Tapprich W, Tobin TC, Toro-Martínez A, Welch LR, Wright R, Barone L, Ebenbach D, McWilliams M, Olney KC, Pauley MA. [Bioinformatics core competencies for undergraduate life sciences education.](#) *PLoS One*. 2018;13(6):e0196878. doi: 10.1371/journal.pone.0196878.
12. Nuhfer EB, Cogan CB, Kloock C, Wood GG, **Goodman A**, Delgado NZ, Wheeler CW. [Using a Concept Inventory to Assess the Reasoning Component of Citizen-Level Science Literacy: Results from a 17,000-Student Study.](#) *J Microbiol Biol Educ*. 2016 Mar;17(1):143-55. doi: 10.1128/jmbe.v17i1.1036.
13. VanderKelen JJ, Mitchell RD, Laubscher A, Black MW, Goodman AL, Montana AK, Dekhtyar AM, Jimenez-Flores R, Kitts CL. [Short communication: Typing and tracking Bacillaceae in raw milk and milk powder using pyroprinting.](#) *J Dairy Sci*. 2016 Jan;99(1):146-51. doi: 10.3168/jds.2015-9656.

14. Leung W, ...(nearly thousand coauthors, most are students in CUREs around the country), Elgin SC. [Drosophila muller f elements maintain a distinct set of genomic properties over 40 million years of evolution.](#) G3 (Bethesda). 2015 Mar 4;5(5):719-40. doi: 10.1534/g3.114.015966.
15. Goodman AL, Dekhtyar A. Teaching bioinformatics in concert. PLoS Computational Biology. 2014 Nov;10(11):e1003896. doi: [10.1371/journal.pcbi.1003896](#)
16. Black MW, VanderKelen J, Montana A, Dekhtyar A, Neal E, Goodman A, Kitts CL. [Pyroprinting: a rapid and flexible genotypic fingerprinting method for typing bacterial strains.](#) J Microbiol Methods. 2014 Oct;105:121-9. doi: 10.1016/j.mimet.2014.07.019.
17. Shaffer CD, et al. [A course-based research experience: how benefits change with increased investment in instructional time.](#) CBE Life Sci Educ. 2014 Spring;13(1):111-30. doi: 10.1187/cbe-13-08-0152.
18. Lopatto D, et. al. [A central support system can facilitate implementation and sustainability of a Classroom-based Undergraduate Research Experience \(CURE\) in Genomics.](#) CBE Life Sci Educ. 2014 Winter;13(4):711-23. doi: 10.1187/cbe.13-10-0200.
19. Shaffer CD, et al. [The genomics education partnership: successful integration of research into laboratory classes at a diverse group of undergraduate institutions.](#) CBE Life Sci Educ. 2010 Spring;9(1):55-69. doi: 10.1187/09-11-0087.
20. Lopatto D, Alvarez C, Barnard D, Chandrasekaran C, Chung HM, Du C, Eckdahl T, Goodman AL, Hauser C, Jones CJ, Kopp OR, Kuleck GA, McNeil G, Morris R, Myka JL, Nagengast A, Overvoorde PJ, Poet JL, Reed K, Regisford G, Revie D, Rosenwald A, Saville K, Shaw M, Skuse GR, Smith C, Smith M, Spratt M, Stamm J, Thompson JS, Wilson BA, Witkowski C, Youngblom J, Leung W, Shaffer CD, Buhler J, Mardis E, Elgin SC. [Undergraduate research. Genomics Education Partnership.](#) Science. 2008 Oct 31;322(5902):684-5. doi: 10.1126/science.1165351.
21. Balcer HI, Goodman AL, Rodal AA, Smith E, Kugler J, Heuser JE, Goode BL. [Coordinated regulation of actin filament turnover by a high-molecular-weight Srv2/CAP complex, cofilin, profilin, and Aip1.](#) Curr Biol. 2003 Dec 16;13(24):2159-69. doi: 10.1016/j.cub.2003.11.051.
22. Goodman A, Goode BL, Matsudaira P, Fink GR. [The Saccharomyces cerevisiae calponin/transgelin homolog Scp1 functions with fimbrin to regulate stability and organization of the actin cytoskeleton.](#) Mol Biol Cell. 2003 Jul;14(7):2617-29. doi: 10.1091/mbc.e03-01-0028.

Articles, blog posts and videos (not peer-reviewed)

Article on AAAS/IUSE website: How New Assessment Practices Encourage Student Intellectual Engagement Online and Beyond. July 2021 <https://www.aaas-iuse.org/resource/student-intellectual-engagement/>

Anya Goodman, Ryvka Glasner, Laura Reed, Marisol Santisteban, Alea Sawa, Katie Sandlin (2021) *Democratizing Genomics Research Experiences in Pandemic. 2021 STEM for all video showcase.* <https://stemforall2021.videohall.com/presentations/2184>

Craig PA, Anderson T, Bernstein HJ, Daubner C, Goodman A, Irby SM, Koeppe J, Mills JL, Pikaart M, McDonald AR, O’Handley SF, Roberts R, and Stewart R. (2018) *Using Protein Function Prediction to Promote Hypothesis-Driven Thinking in Undergraduate Biochemistry*

Education. The Chemist 91:1-8 ISSN: 1945-0702.

http://www.theaic.org/pub_thechemist_journals/Vol-91-No-1/Vol-91-No1-Article-1.html

Grants Awarded

2022-2027 NSF-IUSE Award Number: 2142404 Characterization of Undergraduate Research Experience Work Design and Student Outcomes in STEM Research Teams, \$300K, PI; Dr. Somoza-Norton and Dan Bachrach are co-PIs.

2022-2027 NSF-IUSE award # 2141871 Collaborative Research: Sustainable CURE implementation: Characterizing the role of flexible design and instructor supports across diverse institution types. (Senior personnel; I worked for the first two years on this grant)

2019-2024 NSF IUSE award # 1915544. Sustaining and Growing a Dispersed Community of Practice that Engages Undergraduates in Course-Based Genomics Research. co-PI; \$2M; most of the funding in this grant supported the GEP community; my role was to conduct research on the Community of Practice.

2018-2021 Technology Pathways Initiative (TPI) grant from the Center for Advancing Women in Technology (CAWIT). *Cross-Disciplinary Studies Minor (CDSM) in Bioinformatics*. Co-PI, \$400,000 from CAWIT; \$915,000 total project budget including university funds for this university-industry partnership.

2017-2021 NSF-IUSE # 1710538 Collaborative Research: Using protein function prediction to promote hypothesis-driven thinking in undergraduate biochemistry education. PI, \$36,294; collaborators/co-PIs: Dr. Eric Jones and Dr. Ashley McDonald

2015-2017 NSF-IUSE 1503811 Collaborative Research: Using protein function prediction to promote hypothesis-driven thinking in undergraduate biochemistry education. PI, \$36,294; Dr. Ashley McDonald Co-PI.

2012-2015 NSF-TUES 1140828: *Preparing the next generation of STEM professionals: Integrating computational thinking into an applied molecular forensics research program*. Co-PI. \$200,000.

2011 CSUPERB Programmatic Development Grant: *Integrating Molecular Forensics Modules into the Undergraduate Science Curriculum*. Co-PI. \$15,000

2009 Keck foundation grant for undergraduate education. *Integrating Molecular Forensics into the Undergraduate Science, Technology, Engineering and Mathematics (STEM) Curriculum to Address Environmental, Health and Food Safety Issues in California*. Co-PI, \$250,000, 3 years.