

## Christy Fillman

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### Education

**Ph.D. Molecular, Cellular, and Developmental Biology**, University of Colorado, Boulder. July 2007.  
Dissertation: Proteins involved in mRNA decapping localize to processing bodies and activate mRNA decay. Advisor: Dr. Jens Lykke-Anderson

**B.S., Biochemistry**, Colorado State University, Fort Collins, CO, May 1999.

### Positions

**Teaching Professor of Distinction**, Department of Molecular, Cellular and Developmental Biology, University of Colorado, Boulder 2021-present

**Senior Instructor**, Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder. 2015-2021

**Instructor**, Department of Molecular, Cellular, and Developmental Biology. University of Colorado, Boulder 2007-2015

### Research Publications

Hanauer, D. I., ...**Fillman, C.L.**, ... Sivanathan, V. (2023). Models of classroom assessment for course-based research experiences. *Frontiers in Education*, 8. <https://doi.org/10.3389/educ.2023.1279921>

**Fillman C**, Guild N, et al. and student authors have published 27 complete phage genomes on GenBank (2012-2022).

Doyle, E. L., **Fillman, C. L.**, Reyna, N. S., Tobiason, D. M., Westholm, D. E., Askins, J. L., [...] Hatfull, G. F. (2018). Genome Sequences of Four Cluster P Mycobacteriophages. *Genome Announcements*, 6(2). <https://doi.org/10.1128/genomea.01101-17>

\*This publication includes four MCDB 2161 students as authors.

Hanauer DI [...] **Fillman CL**, et al. An inclusive Research Education Community (iREC): Impact of the SEA-PHAGES program on research outcomes and student learning. *Proc Natl Acad Sci USA*. 2017

Pope WH [...] **Fillman CL**, et al\*. Whole genome comparison of a large collection of mycobacteriophages reveals a continuum of phage genetic diversity. *Elife*. 2015;4.

\*This publication includes 59 MCDB 2161 students as authors.

Erickson SL, Corpuz EO, Maloy JP, **Fillman C**, Webb K, Bennett EJ, and Lykke-Andersen J. Competition between Decapping Complex Formation and Ubiquitin-Mediated Proteasomal Degradation Controls Human Dcp2 Decapping Activity. *Mol Cell Biol*. 2015;35(12):2144-53.

Fenger-Grøn, M., **Fillman, C.\***, Norrild, B., Lykke-Andersen, J. (2005) Multiple Processing Body Factors and the ARE Binding Protein TTP Activate mRNA Decapping Mol. Cell, Dec; 22, (6) 20: 905-915.

**\*Co-first author**

**Fillman, C.** and Lykke-Andersen, J. (2005) RNA decapping inside and outside of processing bodies. Curr Opin Cell Biol. Jun;17(3):326-31.

### Teaching Authorship

Bollivar, D. W., **Fillman, C.**, Sunnen, C. N., Vega, Q. (2023). Bollivar, D. W., Fillman, C., Sunnen, C. N., Vega, Q. (2023). **Designing a High Quality and Accessible Scientific Poster**. HHMI Science Education Alliance (SEA) Faculty Group, QUBES Educational Resources. doi:10.25334/CGWV-2B93

Beyer, A. R., Connerly, P. L., **Fillman, C.**, Peters, N. T. (2021). **Laboratory Math**. HHMI Science Education Alliance (SEA) Faculty Group, QUBES Educational Resources. doi:10.25334/QD4H-M006

**Codon Learning:** authored and formatted content for the Genetics Course Evidence Based Teaching platform, 2020-2021.

**MCDB 1161 Phage Genomics Lab Laboratory Manual**, online (2020-2021), Hayden McNeil, Plymouth, MI (2016-2019), Print, (2008-2015), CU Bookstore, Boulder, CO, Print.

**Mastering Genetics:** Authored 25 multiple choice questions for Dynamic Study Modules for each of 9 Chapters of Concepts of Genetics by Klug *et. al.* (2018), Pearson 2018.

**Mastering Genetics:** Authored 25 multipart questions with student feedback on topics including bacterial genetics, DNA replication, cytoplasmic inheritance, recombinant DNA technology, and genomics. Pearson 2014.

### Meeting Presentations and Posters

**Fillman, C** Open-Ended Phage Genomics Project Showed High Student Engagement and Creativity. Poster presented at: SEA PHAGES Faculty Meeting National Symposium, June 2-5 2023, HHMI Headquarters, Chevy Chase, MD

**Fillman, C** and Guild, N Phage Phandemic: How our Students Survived and Succeeded in the Hybrid Phage Lab. Poster presented at: SEA PHAGES National Faculty Meeting 2021 June 7-9 Zoom.

Feeny D, Nicke D, Guild N, **Fillman C.** Characterizing Genetic Elements in the Cluster O Mycobacteriophage Blessica. Poster presented at: Eleventh Annual HHMI Phage Genomics Symposium 2019 June 7-9 Janelia Farms Research Complex Ashburn, VA.

Johnson J, Hammermeister Suger J, Char E, Chiem G, Do N, Ho S, Lulla S, McAdams I, Ponnappalli M, Guild N and **Fillman C.** C1 Cluster Mycobacteriophage Iota Structural and DNA Metabolism Genes Show Homology to *Gordonia* and *Rhodococcus* Phages, which Suggests a Broader Host Range for Iota. Poster presented at: Ninth Annual HHMI Phage Genomics Symposium 2017 June 9-11 Janelia Farms Research Complex Ashburn, VA.

**Fillman C**, Guild N, Hyde H, Bartholomay K. Using Phage Therapy to Fight Drug Resistant Diseases. Talk presented with a showing of the film *Extraordinary Measures* at The Dairy Center for the Arts Science on Screen 2015 Boulder, CO.

Morgan B, Stanton W, **Fillman C** and Guild N. Comparing Codon Usage and tRNAs Present in a C1 Phage, Sprinklers, and a A6 Phage, ToneTone. Poster presented at: Seventh Annual HHMI Phage Genomics Symposium. 2015 June 12-15 Janelia Farms Research Complex Ashburn, VA.

**Fillman C**, Guild N. Moving Phage into the Traditional Biology Lab. Poster presented at Fourth Annual HHMI Phage Genomics Symposium. 2012 June 8-10 Janelia Farms Research Complex Ashburn, VA.

Guild N, Shi J, **Fillman C**. A Comparison of Learning Gains, Class Performance and Science Attitudes in Introductory Biology Students. Poster presented at Third Annual HHMI Phage Genomics Symposium. 2011 June 10-12 Janelia Farms Research Complex Ashburn, VA.

**Fillman C**, Guild N. Teaching Investigative Phage Biology at the University of Colorado. Poster presented at Second Annual HHMI Phage Genomics Symposium. 2010 June 12-13 Janelia Farms Research Complex Ashburn, VA.

**Fillman C**, Guild N. What Worked and What Didn't Teaching the First Year of Phage Genomics at the University of Colorado. Talk presented at HHMI *In Situ* Workshop. 2010 June Janelia Farms Research Complex Ashburn, VA.

**Fillman C**, Fenger-Groen M, Norrild B, and Lykke-Andersen J. A Decapping Sub-Complex of human Processing Bodies contains co-activators of mRNA decay. Plenary session talk presented at RNA Society Meeting. 2005 May 16-19 Banff, Alberta, Canada.

## Teaching Experience

**Introduction to the MCDB Major (MCDB 1020)**: taught 4 semesters, 1 credit, 1 hour/week, 140 students.

**Phage Genomics Lab I (MCDB 1161)**: taught 20 semesters, 2 credits, 5 hours/week, 24 students/section. Starting in the fall of 2017, this course had 7 sections of 24 students with one hour of common lecture.

**Principles of Genetics Lecture section (MCDB 2150)**: taught 13 semesters, 3 credits, 3 hours/week, 180-350 students.

**Problem Solving in Genetics (MCDB 2152)**: taught 22 semesters, 1 credit, 1 hour/week, 3-9 sections/semester, 25 students/section. I supervise 3-6 Learning Assistants each semester.

**Phage Genomics Lab II (MCDB 2161)**: taught 12 semesters, 2 credits, 4 hours/week, 15 students.

**Independent Study (MCDB 4840)**: taught 7 semesters, variable credits, variable hours, 7 students total. I supervised a student completing a biotech internship, a student continuing a research project from MCDB 4111, and 5 students working on advanced phage genomics projects.

**Principles of Genetics Laboratory (MCDB 2151):** Taught 13 semesters 2007-2015, 1 credit, 2 hours/week, 6-9 sections/semester, 22 students/section.

**Experimental Design and Research (MCDB 4111):** taught 8 semesters 2008-2014, 3 credits, 6 hours/week, 10 students.

**Principles of Genetics Baker Residence Academic Program (MCDB 2150):** taught 4 semesters 2008-2011, 3 credits, 3 hours/week, 20 students/section.

**Molecular Cell Physiology (MCDB 3280):** taught 1 semester 2008, 3 credits, 3 hours/week, 18 students.

### Activities and Workshops

- ASSETT CTL Active Learning Academy: Learning by Design, Fall 2023
- ASSETT CTL Faculty Fellow, 2022-2023
- HHMI SEA Phages Professional Identity Workshop, Fall 2022
- HHMI SEA Phages Mini Assessment Workshop, July 2022
- Facilitator for Cohort 13/14 HHMI SEA-PHAGES Phage Genomics *In Situ* Workshop. Summer 2021, remote.
- Mental Health First Aid Certificate, June 2021.
- Faculty Scholars Group for International Student Success. Summer-Fall 2020 University of Colorado, Boulder.
- ASSETT Sumer Course Design Workshop: Strategic Course Design for Flexible Teaching Modes. Summer 2020 University of Colorado, Boulder
- SEA PHAGES Faculty Hack-a-Thon Phage Genome Annotation Workshop, Winter 2018, 2019, 2020, remote.
- ASSETT Summer Course Design Workshop: Flipping the Class and Designing Hybrid Classes. Summer 2019 University of Colorado, Boulder.
- TRESTLE Scholars Learning Community Member Exploring course-based undergraduate research experiences. Fall 2017 University of Colorado, Boulder.
- FTEP Summer Institute for Assessing Classroom Learning. 2017 June 19-23 University of Colorado, Boulder.
- SEA Phages Advanced Genome Workshop: Genome Announcements. 2017 June 11-13 Chevy Chase, MD.
- National Genomics Research Initiative *In Silico* Workshop. 2010 December Janelia Farms Research Campus, Ashburn, VA.
- National Genomics Research Initiative *In Situ* Workshop. 2009 June 22-26 Janelia Research Campus, Ashburn, VA.

### Service

Arts and Sciences Welcome Fair	2022, 2023
UROP Proposal Review Board	2022, 2023
Norlin Scholars Selection	2021-2023
MCDB Faculty Coordinator for the Learning Assistant Program	2017-present
Honors Council Member (MCDB), Chair starting Fall 2023	2011-present
Pre Professional Interview Advisory Committee	2011-2022
HHMI Science Education Alliance Member	2008-present

Christy Fillman, Ph.D. 2024

College of Arts and Sciences Curriculum Committee Member  
Student Faculty Mentor Program  
Boulder Valley High School Science Research Mentor

2018-2021

2014

2014-2015, 2022, 2023