

ERIN D. GOLEY, Ph.D.
Curriculum Vitae

DEMOGRAPHIC INFORMATION:

Professional Appointment

Assistant Professor, Department of Biological Chemistry
Johns Hopkins University School of Medicine
08/2011 – current

Personal Data

Laboratory address:
725 N. Wolfe Street, 520 WBSB
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Education and Training

1994-1998	BA/Hood College, Frederick, MD	Biochemistry and Maths
2000-2006	PhD/University of California, Berkeley, CA	Molecular and Cell Biology
2006-2011	Postdoc/Stanford University, Stanford, CA	Bacterial Cell Biology

Professional Experience

1997-2000	Laboratory Technician	USDA, Ft Detrick, MD
1997	NSF Undergrad Fellow	University of Utah, Salt Lake City, UT

RESEARCH ACTIVITIES:

Peer Reviewed Publications

- 1) Tooley PW, **Goley ED**, Carras MM, Frederick RD, Weber EL, Kuldau GA. (2001) Characterization of Claviceps species pathogenic on sorghum by sequence analysis of the beta-tubulin gene intron 3 region and EF-1alpha gene intron 4. *Mycologia*. 93: 541-551.
- 2) Skoble J, Auerbuch V, **Goley ED**, Welch MD, Portnoy DA. (2001) Pivotal role of VASP in Arp2/3 complex-mediated actin nucleation, actin branch-formation, and Listeria monocytogenes motility. *J Cell Biol*. 155:89-100.
- 3) Gournier H, **Goley ED**, Niederstrasser H, Trinh T, Welch MD. (2001) Reconstitution of human Arp2/3 complex reveals critical roles of individual subunits in complex structure and activity. *Mol Cell*. 8:1041-52.
- 4) Tooley PW, **Goley ED**, Carras MM, O'Neill NR. (2002) AFLP comparisons among Claviceps africana isolates from the United States, Mexico, Africa, Australia, India, and Japan. *Plant Disease*. 86:1247-1252.

- 5) Jeng RL, **Goley ED**, D'Alessio JA, Chaga OY, Svitkina TM, Borisy GG, Heinzen RA, Welch MD. (2004) A Rickettsia WASP-like protein activates the Arp2/3 complex and mediates actin-based motility. *Cell Microbiol.* 6: 761-9.
- 6) **Goley ED**, Rodenbusch SE, Martin AC, Welch MD. (2004) Critical conformational changes in the Arp2/3 complex are induced by nucleotide and nucleation promoting factor. *Mol Cell.* 16:269-79.
- 7) Kreishman-Deitrick M, **Goley ED**, Burdine L, Denison C, Egile C, Li R, Murali N, Kodadek TJ, Welch MD, Rosen MK. (2005) NMR analyses of the activation of the Arp2/3 complex by neuronal Wiskott-Aldrich syndrome protein. *Biochemistry.* 44:15247-56.
- 8) **Goley ED** and MD Welch. (2006) The Arp2/3 complex: an actin nucleator comes of age. *Nat Rev Mol Cell Biol.* 7:713-26. [Review]
- 9) **Goley ED**, Ohkawa T, Mancuso J, Woodruff JB, D'Alessio JA, Cande WZ, Volkman LE, Welch MD. (2006) Dynamic nuclear actin assembly by Arp2/3 complex and a baculovirus WASP-like protein. *Science.* 314: 464-7.
- 10) **Goley ED**, Iniesta AA, Shapiro L. (2007) Cell cycle regulation in *Caulobacter*: location, location, location. *J Cell Sci.* 120: 3501-7. [Review]
- 11) **Goley ED**, Toro E, McAdams HH, Shapiro L. (2009) Dynamic Chromosome Organization and Protein Localization Coordinate the Regulatory Circuitry that Drives the Bacterial Cell Cycle. *Cold Spring Harb Symp Quant Biol.* 74:55-64. [Review]
- 12) **Goley ED**, Rammohan A, Znameroski EA, Firat-Karalar EN, Sept D, Welch MD. (2010) An actin-filament-binding interface on the Arp2/3 complex is critical for nucleation and branch stability. *Proc Natl Acad Sci USA.* 107:8159-64.
- 13) **Goley ED**, Comolli LR, Fero KE, Downing KH, Shapiro L. (2010) DipM links peptidoglycan remodeling to outer membrane organization in *Caulobacter*. *Mol Micro.* 77:56-73.

Highlighted in "MicroCommentary"
Collier J. (2010) A new factor stimulating peptidoglycan hydrolysis to separate daughter cells in *Caulobacter crescentus*. *Mol Micro.* 77:11-14.
- 14) **Goley ED**, Dye NA, Werner JN, Gitai Z, Shapiro L. (2010) Imaging-based identification of a critical regulator of FtsZ protofilament curvature in *Caulobacter*. *Mol Cell.* 39:975-987.

Highlighted in "Dispatch"
Beuria TK and Margolin W. (2010) Bacterial cytokinesis: FzIA frizzes FtsZ filaments for fission force. *Curr Biol.* 20:R1024-R1027.
- 15) Hsiao-lu DL, Lord SJ, Iwanaga S, Zhan K, Xie H, Williams JC, Wang H, Bowman GR, **Goley ED**, Shapiro L, Tweig RJ, Rao J, Moerner WE. Superresolution Imaging of Targeted Proteins in Living Cells Using Photoactivatable Organic Fluorophores. *J Am Chem Soc.* 132:15099-15101.
- 16) **Goley ED***, Yeh YC*, Hong SH, Fero MJ, Abeliuk E, McAdams HH, Shapiro L. (2011) Assembly of the *Caulobacter* cell division machine. *Mol Micro.* 80:1680-1698.

- 17) Biteen JS, **Goley ED**, Shapiro L, Moerner WE. (2012) Three-Dimensional Super-Resolution Imaging of the Midplane Protein FtsZ in Live Caulobacter crescentis cells Using Astigmatism. *Chemphyschem*. 13:1007-12
- 18) **Goley ED** (2013) Tiny cells meet big questions: a closer look at bacterial cell biology. *Mol Biol Cell*. 24:1099-102
- 19) Meier EL and **Goley ED**. (2014) Form and function of the bacterial cytokinetic ring. *Curr Opin Cell Biol*. 24:19-27.

Completed Extramural Funding:

- 1996 Hood College Summer Science Research Institute Grant
Sponsor: Hood College
Direct Cost: \$1,800
PI: Ricky Hirschhorn, Hood College, Frederick MD
Role/effort: Undergraduate researcher/100%
- 1997 National Science Foundation Undergraduate Summer Research Fellowship
Sponsor: National Science Foundation
Direct cost: \$2,500
PI: Cynthia Burrowes, University of Utah, Salt Lake City, UT
Role/effort: Undergraduate researcher/100%
- 2002-2005 National Science Foundation Pre-doctoral Fellowship
Sponsor: National Science Foundation
Direct cost: \$101,000
PI: Matthew Welch, University of California, Berkeley, CA
Role/effort: Graduate student researcher/100%
- 2007-2010 Helen Hay Whitney Foundation Postdoctoral Fellowship
Sponsor: Helen Hay Whitney Foundation
Direct cost: \$140,500
PI: Erin Goley (under the mentorship of Lucy Shapiro), Stanford University, Stanford, CA
Role/effort: Postdoctoral fellow/100%

EDUCATIONAL ACTIVITIES:

Teaching

- 1994-1995 Math Tutor for ESL students, North Kingstown High School, North Kingstown, RI
- 1999 Guest Lecturer, Warwick Veterans Memorial High School, Warwick, RI
- 2002 Graduate Student Instructor, Undergraduate Cell Biology
Department of Molecular and Cell Biology, University of California, Berkeley
- 2003 Graduate Student Instructor, Undergraduate Cell Biology Lab
Department of Molecular and Cell Biology, University of California, Berkeley
Outstanding Graduate Student Instructor Award
- 2012 Instructor, "The Cytoskeleton" Course #110.727, Lecture: Actin Polymers, Johns Hopkins University School of Medicine, Baltimore, MD

- 2012 Instructor, “Current Topics in Biological Chemistry”, Johns Hopkins University School of Medicine, Baltimore, MD
- 2013 Research Leadership Course, Hiring Process Panelist, Johns Hopkins University School of Medicine
- 2013 Instructor, “Infectious Disease”, Johns Hopkins University School of Medicine, Baltimore, MD
- 2014 Instructor, “Current Topics in Biological Chemistry”, Johns Hopkins University School of Medicine, Baltimore, MD

Mentoring Experience

- 2002-2006 Supervised research of two rotating graduate students
Department of Molecular and Cell Biology, University of California, Berkeley
- 2006-2010 Supervised research of one undergraduate and three rotating graduate students
Department of Developmental Biology, Stanford University
- 2011-2012 Mentored one BCMB rotation student and one undergraduate student
Department of Biological Chemistry, Johns Hopkins University School of Medicine
- 2012-2013 Mentored one BCMB graduate student, three BCMB rotation students, two undergraduate students, and one high school student, Department of Biological Chemistry, Johns Hopkins University School of Medicine
- 2013-2014 Mentored two BCMB graduate students, one BC rotation student, one BCMB rotation student, and one undergraduate student, Department of Biological Chemistry, Johns Hopkins University School of Medicine

Thesis and Qualifying Exam Committees

- 2012-2013 Served on one thesis committee and five qualifying exam committees
- 2013-2014 Served on three thesis committees and two qualifying exam committees

ORGANIZATIONAL ACTIVITIES

Committees

- 2011-2012 Faculty Search Committee, Department of Biological Chemistry, Johns Hopkins University School of Medicine
- 2012-current M. Daniel and Patricia Sondquist Lane Lectureship Committee, Department of Biological Chemistry, Johns Hopkins University School of Medicine
- 2012-2013 Faculty Search Subcommittee, Department of Biological Chemistry, Johns Hopkins University School of Medicine
- 2013-current Organizer, BCMB graduate program retreat

Editorial Activities

Ad Hoc Peer review: *Comm Int Biol*, *Cytoskeleton*, *J Bacter*, *J Cell Biol*, *J Vis Research*, *Microbe*, *Mol Micro*, *Nat Cell Biol*, *Nat Comm*, *Proc Nat Acad Sci USA*, *PLOS Biol*, *PLOS Genetics*, *PLOS One*

Professional Societies

- 2002-present The American Society for Cell Biology, member
 2011-present The American Society for Microbiology, member

RECOGNITION**Awards and Honors**

- 1995 The Chemistry Achievement Prize from the CRC Press, Hood College
 1997 Pi Mu Epsilon Mathematics Honor Society
 1997 Phi Kappa Phi Honor Society
 1997 Julia Holzpfafel Carhart Prize in Mathematics, Hood College
 1997 George Kleinspehn Scholarship in Organic Chemistry, Hood College
 1998 C. May Hudson Prize for Excellence in Mathematics, Hood College
 1998 American Chemical Society Maryland Section Award- Awarded for highest academic achievement in chemistry at Hood College
 1994-1998 Beneficial-Hodson Scholar- Hood College top academic scholarship
 1998 Hood College Prize-Awarded to the graduating senior with highest academic record
 2003 Outstanding Graduate Student Instructor Award
 Department of Molecular and Cell Biology, University of California, Berkeley
 2006 Awarded Damon Runyon Cancer Research Postdoctoral Fellowship (declined in favor of HHWF)
 2006 Awarded Helen Hay Whitney Foundation Postdoctoral Fellowship
 2012 Johns Hopkins University Nominee, Pew Scholars Award

Invited Talks

- July 2005 International Union of Microbiological Societies, Congress of Virology, San Francisco, CA
 Jan 2008 Bay Area Cytoskeletal Club Meeting, San Francisco, CA
 Dec 2008 48th Annual Meeting of the American Society for Cell Biology, San Francisco, CA
 June 2009 3rd *Caulobacter* Meeting, Cambridge, MA
 Nov 2010 Zing Conference on Bacterial Cell Biology, Puerto Morelos, Mexico
 Jan 2011 Department of Microbiology, University of Massachusetts, Amherst
 Jan 2011 Molecular Biology Program, Sloan-Kettering Institute, New York, NY
 Feb 2011 Department of Biology, Indiana University, Bloomington, IN
 Feb 2011 Department of Biology, New York University, New York, NY
 Mar 2011 Department of Biology, Emory University, Atlanta, GA
 Mar 2011 Department of Biological Chemistry, Johns Hopkins School of Medicine, Baltimore, MD
 Mar 2011 The Waksman Institute for Microbiology, Rutgers - The State University of New Jersey, New Brunswick, NJ
 Mar 2011 Department of Biology, University of Connecticut, Storrs, CT
 Mar 2011 Department of Microbiology, University of Washington School of Medicine, Seattle, WA
 July 2011 Lucy Shapiro Biology Symposium, Santa Clara, CA

Aug 2011 Center for TB Research, Johns Hopkins University School of Medicine,
Baltimore, MD

Oct 2011 Department of Biology, Georgetown University, Washington, DC

Feb 2012 Lambda Lunch Seminar Series, NIH, Bethesda, MD

Feb 2012 Department of Cell Biology, Johns Hopkins University School of Medicine,
Baltimore, MD

Aug 2012 Gordon Research Conference, Plant and Microbial Cytoskeleton, Andover NH

Dec 2012 Department of Biological Chemistry, Johns Hopkins University School of
Medicine, Baltimore, MD

Apr 2013 Department of Embryology, Carnegie Institute, Baltimore, MD

Jan 2014 Department of Biochemistry and Molecular Biology, School of Public Health,
Johns Hopkins University, Baltimore, MD

Jan 2014 Department of Biological Chemistry, Johns Hopkins University School of
Medicine, Baltimore, MD

Mar 2014 Departments of Biology and Chemistry, Hood College, Frederick, MD