

# BRIAN K. HAMMER

## CURRICULUM VITAE

School of Biological Sciences  
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### **Educational Background:**

- 1990 B.S. Biology, Boston College  
Research Advisor: Dr. Thomas Seyfried
- 1995 M.S. Conservation Biology, University of Michigan  
Research Advisor: Dr. Eugene Stoermer
- 2001 Ph.D. Microbiology, University of Michigan Medical School  
Research Advisor: Dr. Michele Swanson

### **Employment History:**

- 2001-2008 NIH Postdoctoral Fellow, Princeton University, Princeton NJ  
Laboratory of Dr. Bonnie Bassler
- 2008-2014 Assistant Professor, School of Biological Sciences, Georgia Tech
- 2014-present Associate Professor, School of Biological Sciences, Georgia Tech

### **Honors, Awards, and Recognition:**

- 1990 Scholar of the College Award, Boston College
- 1993-1994 Merit Scholarship, University of Michigan
- 1996-1999 Parke-Davis Biotechnology Scholarship, University of Michigan Medical School
- 1999-2000 Pre-doctoral fellowship, University of Michigan Rackham Graduate School
- 2000 Michigan Teaching Fellows award, University of Michigan
- 2003-2006 National Institutes of Health (NRSA) postdoctoral fellowship
- 2011 Heritage Lectureship, Dept. Microbiology & Immunology, Univ. Michigan Med. Sch.
- 2011 George Griffin Undergraduate Faculty of the Year Award, Georgia Tech
- 2012 "Thank a Teacher", Georgia Tech
- 2012-2017 National Science Foundation CAREER award
- 2013 National Academies Summer Institute teaching fellow
- 2014 National Center for Emerging/Zoonotic Infectious Diseases award, CDC
- 2014 Charles C. Shepard Science Award recipient, CDC
- 2014 Junior Faculty Teaching Excellence Award, Georgia Tech CETL/BP
- 2015-2018 Scialog® Fellow
- 2016 TEDx Douglasville invited speaker
- 2017 Cullen-Peck Fellowship Award, College of Sciences, Georgia Tech
- 2018 Abell Fellow, School of Biological Sciences, Georgia Tech
- 2018-2020 Distinguished Lecturer, American Society for Microbiology
- 2019 "Thank a Teacher", Georgia Tech
- 2019-2020 Center for Deliberate Innovation, Change Accelerator 2020, cohort member
- 2020-2021 Provost's Emerging Leaders Program, participant

### **Committees and Service – School of Biological Sciences, Georgia Tech:**

- 2009-present Chair, School of Biological Sciences Safety Committee
- 2009-2010 Member, New Biology Building Committee
- 2009-2010 Member, Microbiology Faculty Search Committee
- 2009-2011 Chair, School of Biological Sciences Seminar Committee
- 2011-2013 Co-chair, Research Retreat Committee
- 2012-2013 Member, Molecular Ecology Faculty Search Committee
- 2012-2014 Member, Undergraduate Committee
- 2014-present Chair, School of Biological Sciences Undergraduate Curriculum Committee

2015-2016 Member, Ecology Faculty Search Committee  
2015-2016 Member, School of Biological Sciences Chair Search Committee  
2016-2017 Member, School of Biological Sciences Academic Professional Search Committee

#### **Community and Service – Georgia Tech:**

2009 Co-organizer, IBSI Symposium “Microbes to Metazoans: Social Behavior”  
2010-2012 Advisor, Georgia Tech international Genetically Engineered Machine team  
2010-present Advisor, Georgia Tech American Society for Microbiology chapter  
2014-present Co-director, NSF-sponsored REU program in Aquatic Chemical Ecology  
2015-2017 Member, Advisory Technology Fee Committee  
2016 Member, EVPR Interdisciplinary Research Institute (IRI) review panel  
2017-present Member, Institute Undergraduate Curriculum Committee  
2017-2018 Co-organizer, Suddath Symposium “The Chemical Ecology of Microbiome Interactions”  
2020-2021 Chair, Institute Undergraduate Curriculum Committee

#### **Community and Service – Non-University:**

2008-present Ad Hoc Reviewer (*Applied and Environmental Microbiology, Aquatic Microbial Ecology, BMC Microbiology, Cell Host & Microbe, Cell Reports, Current Biology, eLife, Environmental Microbiology, FEMS Microbial Ecology, FEMS Microbiology Letters, Frontiers in Microbiology, Gene, Infection and Immunity, ISME Journal, Journal of Bacteriology, Journal of Clinical Microbiology, Journal of Food Microbiology, Journal of Medical Microbiology, mBio, Microbiology, Molecular Microbiology, Nature Reviews Microbiology, PLOS One, PLOS Pathogens, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B, Trends in Microbiology, WIREs RNA*)  
2010 Panelist, National Science Foundation Grant Review, “Genes and Genome Systems Cluster” Advisory Panel  
2013 Chair, “Transformative Research” session, 113<sup>th</sup> ASM General Meeting  
2013 Panelist, National Science Foundation Grant Review, “Cellular Functions” Advisory Panel  
2014-2022 Editorial Board, *Journal of Bacteriology*  
2014 Panelist, National Science Foundation Grant Review, “Gene Expression” Advisory Panel  
2015 Panelist, National Institutes of Health NIAID Grant Review, “Non-Traditional Therapeutics” Advisory Panel  
2015-17 Organizing committee member, 6<sup>th</sup> ASM “Cell-Cell Communication in Bacteria” meeting  
2018 Co-chair, “Biofilm Mechanics” session, ASM Microbe 2018 meeting  
2018 Organizing committee, Southeastern regional ASM meeting, Atlanta GA  
2018-2019 Organizing committee, International Society of Chemical Ecology 35<sup>th</sup> annual meeting  
2020-2023 Editorial Board, *Applied and Environmental Microbiology*

#### **Membership in Professional and Honor Societies:**

1996-present American Society for Microbiology  
2008-present American Association for the Advancement of Science  
2013-present American Chemical Society

#### **Teaching Experience:**

2009-present The Biology of Sex and Death (BIOS 1220)  
Biological Principles (BIOL 1510)  
Cell and Molecular Biology (BIOS 3450)  
Intro Microbiology Lab (BIOS 3381A)  
Molecular Biology of Microbes (BIOL 4607/6607)  
Prokaryotic Molecular Genetics (BIOS 4608/6608)  
Quorum Sensing: Bacterial Chemical Ecology (BIOL 4801C/8801C)  
Regulatory RNAs (BIOL 4802F/8802K)

#### **Presentations at Meetings & Invited Talks (oral-bold):**

1999 Gordon Research Conf.: Molecular Mechanisms of Microbial Adhesion, Newport RI  
2000 Gordon Research Conf.: Microbial Toxins & Pathogenicity, Andover NH  
2003 103<sup>rd</sup> General Meeting: American Society for Microbiology, Washington DC  
2004 ASM Conference on Cell-Cell Communication in Bacteria (2<sup>nd</sup>), Banff Alberta  
2005 CSHL Meeting: Microbial Pathogenesis & Host Response, Cold Spring Harbor NY

2006 14<sup>th</sup> International Microbial Genomics Conference, Lake Arrowhead CA  
 2007 Institut Pasteur, Vibrios 2007 Meeting, Paris France  
 2007 Beloit College, Biology Department, Beloit WI  
 2007 UC San Diego, Division of Biological Sciences, La Jolla CA  
 2007 Scripps Institution of Oceanography, La Jolla CA  
 2007 Virginia Institute of Technology, Dept. of Biological Sciences, Blacksburg VA  
 2007 3<sup>rd</sup> ASM Conference on Cell-Cell Communication in Bacteria, Austin TX  
 2008 University of Chicago, Department of Microbiology, Chicago IL  
 2008 University of Vermont, Microbiology and Molecular Genetics Dept, Burlington VT  
 2008 Clark University, Department of Biology, Worcester MA  
 2008 Providence College, Dept. of Biology, Providence RI  
 2008 Georgia Institute of Technology, School of Biology, Atlanta GA  
 2008 Michigan State Univ., Microbiology & Molecular Genetics Dept., East Lansing MI  
 2008 University of Michigan Medical School, Dept. of Micro & Immunol, Ann Arbor MI  
 2008 Wayne State Univ. School of Medicine, Immunol & Microbiol Dept., Detroit MI  
 2008 New Approaches to Infectious Agents Symposium, Utrecht the Netherlands  
 2008 Emory University, Dept. of Microbiology & Immunology, Atlanta GA  
 2009 FASEB Meeting on Microbial Pathogenesis, Snowmass CO  
 2009 13<sup>th</sup> International Conf. on Emerging Diseases in the Pacific Rim, Kolkata India  
 2009 "Microbes to Metazoans" conference, Georgia Tech, Atlanta GA  
 2009 Georgia State University, Department of Biology, Atlanta GA  
 2009 University of Georgia, Dept. of Microbiology, Athens GA  
 2010 University of Georgia, Dept. of Microbiology, Athens GA  
 2010 Vibrios in the Environment 2010, Biloxi MS  
 2010 Clemson University, Department of Biological Sciences, Clemson SC  
 2011 University of Michigan Medical School, Dept. of Micro & Immunol, Ann Arbor MI  
 2011 Michigan State Univ., Microbiology & Molecular Genetics Dept., East Lansing MI  
 2011 National Institutes of Health, Laboratory of Molecular Biology, Bethesda MD  
 2011 4<sup>th</sup> ASM Conference on Cell-Cell Communication in Bacteria, Miami FL  
 2011 97<sup>th</sup> Annual Meeting of the Southeastern Branch of the ASM, Gainesville FL  
 2011 111<sup>th</sup> General Meeting of the American Society for Microbiology, New Orleans LA  
 2011 University of Delaware, Dept. of Biological Sciences, Newark DE  
 2011 North Georgia College and State University, Biology Department, Dahlonega GA  
 2011 ASM Conference on Regulating with RNA in Bacteria, San Juan Puerto Rico  
 2011 Emory University, Population Biology, Evolution & Ecology program, Atlanta GA  
 2011 Bacterial Waterborne & Emerging Infectious Diseases in MENA, Nicosia Cyprus  
 2012 Tufts Univ. School of Medicine, Molecular Biology and Microbiology, Boston MA  
 2012 BioCom<sup>2</sup>: NSF Workshop, Biological Computations & Communications, Boston MA  
 2012 National Science Teachers Association 2012 Area Conference, Atlanta GA  
 2012 98<sup>th</sup> Annual Meeting of the Southeastern Branch of the ASM, Athens GA  
 2012 Gordon Research Conf. on Microbial Stress Response, South Hadley MA  
 2012 112<sup>th</sup> General Meeting of the American Society for Microbiology, San Francisco CA  
 2012 26<sup>th</sup> Annual Meeting of the AOAC International, Atlanta GA  
 2013 Molecular Genetics of Bacteria & Phages meeting, Madison WI  
 2013 FASEB Meeting – Mech. and Reg. of Prokaryotic Transcription, Saxtons River VT  
 2013 113<sup>th</sup> General Meeting of the American Society for Microbiology, Denver, CO  
 2013 Univ. of North Carolina School of Medicine, Micro & Immunol Dept, Chapel Hill NC  
 2014 Emory University, Department of Biochemistry, Atlanta GA  
 2014 Instituto Gulbenkian de Ciência, Lisbon Portugal  
 2014 114<sup>th</sup> General Meeting of the American Society for Microbiology, Boston MA  
 2014 National Academies Keck *Futures Initiative* conference, Collective Behavior, Irvine CA  
 2015 49<sup>th</sup> U.S.-Japan Conf. on Cholera and Other Enteric Bacterial Infections, Gainesville FL  
 2015 Scialog® Molecules Come to Life conference, Tucson AZ  
 2015 Molecular Genetics of Bacteria & Phages meeting, Madison, WI  
 2015 101<sup>st</sup> Annual Meeting of the Southeastern Branch of the ASM, Kennesaw, GA  
 2016 Armstrong State University, Savannah GA  
 2016 Scialog® Molecules Come to Life conference, Tucson AZ  
 2016 2016 American Society for Microbiology Microbe meeting, Boston, MA  
 2016 TEDx Douglasville 2016, Douglasville GA

**2016** 2nd ASM Conference on Experimental Microbial Evolution, Washington DC  
**2016** South China Agricultural University, Guangzhou, China  
**2016** Boston University, Systems Biology, Boston MA  
**2016** Kennesaw State University, Kennesaw GA  
**2017** Scialog@ Molecules Come to Life conference 3, Tucson AZ  
**2017** 2017 American Society for Microbiology Microbe meeting, New Orleans LA  
**2017** University of Haifa, Department of Biology, Haifa Israel  
**2017** University of Georgia, Dept. of Microbiology, Athens GA  
**2017** University of Oregon, Host-Microbe Center, Eugene OR  
**2017** Vibrios 2017 ASM Conference, Chicago IL  
**2018** University of Florida, Gainesville FL  
**2018** Georgia State University, Dunwoody GA  
**2018** Boston College, Chestnut Hill, MA  
**2018** Molecular Genetics of Bacteria & Phages Meeting, Madison WI  
**2018** University of Texas – San Antonio, San Antonio TX  
**2019** University of Maryland - Baltimore County, Baltimore MD  
**2019** Rio Grande Branch of the American Society for Microbiology, Socorro NM  
**2019** Florida Branch of the American Society for Microbiology, Clearwater FL  
**2019** KY-TN Branch of the American Society for Microbiology, Nashville TN  
**2020** Truett McConnell University, Cleveland GA  
**2020** University of Tennessee – Knoxville, Knoxville TN

#### Publications: (43)

1. Garcia C, Saladino R, Thompson C, **Hammer B**, Parsonnet J, Wainwright N, Novitsky T, Fleisher GR, & G Siber. 1994 Effect of a recombinant endotoxin-neutralizing protein on endotoxin-shock in rabbits. *Crit. Care Med.* 22:1211-1218.
2. Saladino R, Garcia C, Thompson C, **Hammer B**, Parsonnet J, Novitsky T, Siber G & G Fleisher. 1994. Efficacy of a recombinant endotoxin neutralizing protein in rabbits with *Escherichia coli* sepsis. *Circ. Shock* 42: 104-110.
3. Nelson D, Kuppermann N, Fleisher GR, **Hammer BK**, Thompson CM, Garcia CT, Novitsky TJ, Parsonnet J, Onderdonk A, Siber GR, & Saladino, RA. 1995. Recombinant endotoxin neutralizing protein improves survival from *Escherichia coli* sepsis in rats. *Crit. Care Med.* 23: 92-98.  
<https://doi.org/10.1097/00003246-199501000-00017>
4. **Hammer BK** & Stoermer EF. 1997. Diatom-based interpretation of sediment banding in an urbanized lake. *J. Paleolimnol.* 17:437-449. <https://doi.org/10.1023/A:1007910732353>
5. **Hammer BK** & Swanson MS. 1999. Coordination of *Legionella pneumophila* virulence with entry into stationary phase by ppGpp. *Mol. Microbiol.* 33:721-731. <https://doi.org/10.1046/j.1365-2958.1999.01519.x>
6. Swanson MS & **Hammer BK**. 2000. *Legionella pneumophila* pathogenesis: A fateful journey from amoebae to macrophages. *Ann. Rev. Microbiol.* 54:567-613.  
<https://doi.org/10.1146/annurev.micro.54.1.567>
7. **Hammer BK**, Tateda ES & Swanson MS. 2002. A two-component regulator induces the transmission phenotype of stationary phase *Legionella pneumophila*. *Mol. Microbiol.* 44:107-118.  
<https://doi.org/10.1046/j.1365-2958.2002.02884.x>
8. **Hammer BK** & Bassler BL. 2003. Quorum sensing controls biofilm formation in *Vibrio cholerae*. *Mol. Microbiol.* 50:101-114. <https://doi.org/10.1046/j.1365-2958.2003.03688.x>
9. **Hammer BK** & Bassler BL. 2007. Regulatory small RNAs circumvent the conventional quorum sensing pathway in pandemic *Vibrio cholerae*. *Proc. Natl. Acad. Sci. USA.* 104:11145-11149.  
<https://doi.org/10.1073/pnas.0703860104>
10. **Hammer BK** & BL Bassler. 2008. Signal integration in the *Vibrio harveyi* and *Vibrio cholerae* quorum-sensing circuits, In: *Chemical Communication Among Microbes*, eds. B.L. Bassler and S.C. Winans, American Society for Microbiology, Washington, DC. pp. 323-332.
11. **Hammer BK** & Bassler BL. 2009. Distinct sensory pathways in *Vibrio cholerae* El Tor and Classical biotypes modulate c-di-GMP levels to control biofilm formation. *J. Bacteriol.* 191:169-177.  
<https://doi.org/10.1128/JB.01307-08>
12. Antonova ES & **Hammer BK**. 2011. Quorum-sensing autoinducer molecules produced by members of a multispecies biofilm promote horizontal gene transfer to *Vibrio cholerae*. *FEMS Micro Lett.* 322:68-76.  
<https://doi.org/10.1111/j.1574-6968.2011.02328.x>

13. Bardill JP, Zhao X & **Hammer BK**. 2011. The *Vibrio cholerae* quorum sensing response is mediated by Hfq-dependent sRNA/mRNA base pairing interactions. *Mol. Microbiol.* 80:1381-1394. <https://doi.org/10.1111/j.1365-2958.2011.07655.x>
14. **Hammer BK** & Svenningsen SL. 2011. Small RNA target genes and regulatory connections in the *Vibrio cholerae* quorum sensing system. *Methods Mol. Biol.* 692:189-206. [https://doi.org/10.1007/978-1-60761-971-0\\_14](https://doi.org/10.1007/978-1-60761-971-0_14)
15. Akyildiz IF, Fekri F, Sivakumar R, Forest CR & **Hammer BK**. 2012. MONACO: Fundamentals of Molecular Nano-Communication Networks. *IEEE Wireless Commun.* 19(5): 12-18. <https://doi.org/10.1109/MWC.2012.6339467>
16. Antonova E, Bernardy E & **Hammer BK**. 2012. Natural competence in *Vibrio cholerae* is controlled by a nucleoside scavenging response that requires CytR-dependent anti-activation. *Mol. Microbiol.* 86: 1215-1231. <https://doi.org/10.1111/mmi.12054>
17. Bardill JP & **Hammer BK**. 2012. Non-coding sRNAs regulate virulence in the bacterial pathogen *Vibrio cholerae* *RNA Biology.* 9(4): 392-401. <https://doi.org/10.4161/rna.19975>
18. Krishnaswamy B, Henegar CM, Bardill JP, Russakow D, Holst GL, **Hammer BK**, Forest CR & Sivakumar R. 2013. When Bacteria Talk: Time Elapse Communication for Super-Slow Networks, Proceedings of the Institute of Electrical and Electronics Engineers (IEEE) International Conference on Communications (ICC) 2013 - Wireless Networking Symposium (ICC'13 WN), Budapest, Hungary.
19. Li K, Zhao X, **Hammer BK** & Yongsheng Chen Y. 2013. Nanoparticles Inhibit DNA Replication by Binding to DNA: Modeling and Experimental Validation. *ACS Nano* 7(11):9664-9674. <https://doi.org/10.1021/nn402472k>
20. Sun YU, Bernardy EE, **Hammer BK**, Miyashiro TI. 2013. Competence and natural transformation in *Vibrios*. *Mol Microbiol.* 89:583-95. <https://doi.org/10.1111/mmi.12307>
21. Katz LS, Petkau A, Beaulaurier J, Tyler S, Antonova ES, Turnsek M, Guo Y, Wang S, Paxinos E, Orata F, Gladney L, Stroika S, Folster J, Rowe L, Freeman M, Knox N, Frace M, Boncy J, **Hammer BK**, Boucher Y, Bashir A, Hanage WP, Van Domselaar G, Tarr CL. 2013. Evolutionary dynamics of *Vibrio cholerae* following a single source introduction to Haiti. *mBio.* 4:1-10. <https://doi.org/10.1128/mBio.00398-13>
22. Zhao X, Koestler BJ, Waters CW & **Hammer BK**. 2013. Post-transcriptional activation of a diguanylate cyclase by quorum sensing small RNAs promotes biofilm formation in *Vibrio cholerae*. *Mol Microbiol* 89:989–1002. <https://doi.org/10.1111/mmi.12325>
23. Krishnaswamy B, Henegar CM, Bardill JP, Russakow D, Holst GL, **Hammer BK**, Forest CR, Sivakumar R. 2013. Time-elapse communication: bacterial communication on a microfluidic chip. *Institute of Electrical and Electronics Engineers (IEEE) Transactions on Communications.* 61(12):5139-5151. <https://doi.org/10.1109/TCOMM.2013.111013.130314>
24. Austin CM, Stoy W, Su P, Harber MC, Bardill JP, **Hammer BK** & Forest CR. 2014. Modeling and validation of autoinducer-mediated bacterial gene expression in microfluidic environments. *Biomicrofluidics* 8:1-10. <https://doi.org/10.1063/1.4884519>
25. Watve S, Bernardy EE & **Hammer BK**. 2014. *Vibrio cholerae*: Measuring natural transformation frequency. *Curr. Protoc. Microbiol.* 35:6A.4.1-6A.4.12. <https://doi.org/10.1002/9780471729259.mc06a04s35>
26. Antonova E & **Hammer BK**. 2015. Genetics of Natural Competence in *Vibrio cholerae* and other *Vibrios*. *Microbiol Spectrum* 3(3):VE-0010-2014. <https://doi.org/10.1128/microbiolspec.VE-0010-2014>.
27. Watve SS, Thomas J & **Hammer BK**. 2015. CytR Is a Global Positive Regulator of Competence, Type VI Secretion, and Chitinases in *Vibrio cholerae*. *PLoS ONE* 10(9): e0138834. <https://doi.org/10.1371/journal.pone.0138834>
28. Bernardy EE, Turnsek MA, Wilson SK\*, Tarr CL & **Hammer BK**. 2016. Diversity of Clinical and Environmental Isolates of *Vibrio cholerae* in Natural Transformation and Contact-Dependent Bacterial Killing Indicative of Type VI Secretion System Activity. *Appl Environ Microbiol.* 82(9):2833-2842. <https://doi.org/10.1128/AEM.00351-16>
29. Watve SS, Chande A, Rishishwar L, Mariño-Ramírez L, Jordan IK & **Hammer BK**. 2016. Whole Genome Sequences of 26 *Vibrio cholerae* isolates. *Genome Announc.* (4) e01396-16. <https://doi.org/10.1128/genomeA.01396-16>
30. McNally L, Bernardy E, Thomas J, Kalziqi A, Pentz J, Brown SP, **Hammer BK**, Yunker PJ & Ratcliff WC. 2017. Killing by Type VI secretion drives genetic phase separation and correlates with increased cooperation. *Nat Commun* 8:14371. <https://doi.org/10.1038/ncomms14371>
31. Austin CM, Caro DM, Sankar S, Penniman WF, Perdomo JE, Hu L, Patel S, Gu X, Watve S, **Hammer BK** & Forest CR. 2017. Porous monolith microfluidics for bacterial cell-to-cell communication assays. *Biomicrofluidics* (11) 044110. <https://doi.org/10.1063/1.4995597>

32. Thomas J, Watve SS, Ratcliff WC & **Hammer BK**. 2017. Horizontal gene transfer of functional Type VI killing genes by natural transformation. *mBio* 8:e00654-17. <https://doi.org/10.1128/mBio.00654-17>
33. Krishnaswamy B, Jian Y, Austin CM, Perdomo JE, Patel SC, **Hammer BK**, Forest CR & Sivakumar R. 2017. ADMA: Amplitude-Division Multiple Access for Bacterial Communication Networks. *IEEE Transactions in Molecular, Biological, and Multi-Scale Communications*. 3(3):134-149. <https://doi.org/10.1109/TMBMC.2018.2791448>
34. Kalziqi A, Thomas J, Yanni D, **Hammer BK** & Yunker PJ. 2018. Immotile Active Matter: Activity from Death and Reproduction. *Phys Rev Lett* 120:1-6. <https://doi.org/10.1103/PhysRevLett.120.018101>
35. **Hammer BK**. 2018. Michele Swanson: a rewarding career and life in balance, p 269–281. In Whitaker RJ, Barton HA (ed), *Women in Microbiology*. American Society for Microbiology, Washington, DC. <https://doi.org/10.1128/9781555819545>
36. Brown SP, Blackwell HP & **Hammer BK**. The State of the Union is Strong: A review of ASM's 6th conference on Cell-cell Communication in Bacteria. *J Bacteriol*. 200:e00291-18. <https://doi.org/10.1128/JB.00291-18>
37. Logan SL, Thomas J, Yan J, Baker RP, Shields DS, Xavier JB, **Hammer BK** & Parthasarathy R. 2018. The *Vibrio cholerae* Type VI Secretion System Can Modulate Host Intestinal Mechanics to Displace Commensal Gut Bacteria. *Proc Natl Acad Sci USA*. 115:E3779-E3787. <https://doi.org/10.1073/pnas.1720133115>
38. Crisan C, Chande A, Williams K\*, Raghuram V, Rishishwar L, Steinbach G, Watve SS, Yunker PJ, Jordan IK & **Hammer BK**. 2019. Analysis of *Vibrio cholerae* genomes identifies new Type VI Secretion System gene clusters. *Genome Biol*. 20:163. <https://doi.org/10.1186/s13059-019-1765-5>
39. Crisan C & **Hammer BK**. 2020. Type VI Secretion in *Vibrio cholerae*. *Environ Microbiol*. <https://doi.org/10.1111/1462-2920.14976>
40. Sela R, **Hammer BK** & Halpern M. 2020. Quorum-sensing signaling by chironomid egg masses microbiota affects Haemagglutinin/Protease (HAP) production by *Vibrio cholerae*. *Mol Ecol*. 00:1-11. <https://doi.org/10.1111/mec.15662>
41. Steinbach G, Crisan C, Ng SL, **Hammer BK** & Yunker PY. 2020. Accumulation of dead cells from contact killing facilitates coexistence in bacterial biofilms. *J R Soc Interface*. (17)173. <https://doi.org/10.1098/rsif.2020.0486>
42. Crisan CV, Nichols HL, Wiesenfeld S, Steinbach G, Yunker PJ & **Hammer BK**. 2021. Glucose promotes resistance of human commensal *Escherichia coli* against contact killing by pandemic *Vibrio cholerae*. *Sci Rep*. 11, 2935. <https://doi.org/10.1038/s41598-021-81813-4>
43. Crisan CV, Chandrashekar H, Everly C, Steinbach G, Hill SE, Yunker PJ, Lieberman RR & **Hammer BK**. 2021. A New Contact Killing Toxin Permeabilizes Cells and Belongs to a Broadly Distributed Protein Family. *mSphere* 6:e00318-21. <https://doi.org/10.1128/mSphere.00318-21>

**Graduate and Undergraduate Students Supervised:**

Georgia Tech Undergraduate students mentored (27):

- |   |  |
|---|--|
| <p>Sophia Fisher (BS Biology, 2009)</p> <p>David Thurber (BS Biology, 2010)</p> <p>Eryn Bernardy (BS Biology, 2011)</p> <p>Mary Courtney Delvin (BS Biology, 2011)</p> <p>Brian Duke (BS Biology, 2012)</p> <p>Maria Nellesen (Emory Univ. BS Biology, 2012)</p> <p>B. Katie Geddes (BS Biology, 2013)</p> <p>Joseph Elsherbini (BS Biology, 2014)</p> <p>Sarah Wilson (BS Biology, 2014)</p> <p>Taylor Willoughby (BS, Biology, 2015)</p> <p>Ioana Pencea (BS Biology, 2015)</p> <p>Siu Lung Ng (BS, Biology, 2015)</p> <p>Dina Mengesha (BS, Biology, 2016)</p> <p>Tong Yu (BS, Biology, 2017)</p> <p>Hannah Assefa (BS, Biology, 2017)</p> <p>Kenneth Williams (BS Biology, 2019) PURA, fast track scholar</p> | <p>- MS student, Ohio State Univ.</p> <p>- MD student, US Air Force</p> <p>- PhD student, Georgia Institute of Tech.</p> <p>- PhD student, Univ. Georgia</p> <p>- PhD student, UMass Medical School</p> <p>- MD student, Univ. Mich. Medical School</p> <p>- MS student, Univ. Maryland</p> <p>- PhD student, Mass. Institute of Tech.</p> <p>- PhD student, Univ. Wisconsin-Madison</p> <p>- EPIC, Madison WI</p> <p>- grad student, Emory Univ.</p> <p>- PhD student, Georgia Tech</p> <p>- Peace Corps</p> <p>- PhD student, Georgia Tech</p> <p>-</p> <p>- MD student, Emory Univ.</p> |
|---|--|

Holly Nichols (BS Biology, 2019) PURA	- PhD student, Univ. Wisconsin-Madison
Kaitlyn Higgins (BS Biology, 2020) fast track scholar	- veterinary asst, VCA animal hospital
Simran Pandit (BS, Biochemistry, 2020)	
Catherine Everly (BS, Biology, 2021) fast track scholar	- research tech, Becton Dickenson
Jeremy Heit (BS, BME, 2021)	
Ashley Wilson (BS, Biology, 2021) PURA	
Daniel Kim (BS, Biology, 2021)	
Sophia Wiesenfeld (BS, Biology, current) UROP, fast track scholar	
Sophia Kammann (BS, Biology, current), fast track scholar	
Emma Cooper (BS, Biology, current)	
Michael Nguyen (BS, Biology, current)	

Summer Aquatic Chemical Ecology REU students mentored (8)

Eryn Bernardy (Georgia Tech, 2010)  
 David Oh (Swarthmore College, 2011)  
 Clinton Knap (University of Indianapolis, 2014)  
 Jessica Morgan (Smith College, 2015)  
 Roland Seim (University of Georgia, 2017)  
 Brandy Njai (University of Georgia, 2018)  
 Megan Dillon (Randolph-Macon College, 2019)  
 Kameron Smith (Furman University, 2021)

Pre-Teaching Summer Undergraduate Research Experience students (3):

Kajal Patel (BS Biology, 2011)  
 Andrea Crews (BS Biomedical Engineering, 2012)  
 Susie Lee (BS Biology, 2013)

MS thesis committee member (3):

Ercan Cacan (MS Biology, 2011)  
 Ryan Randall (MS Biology, 2012)  
 Patrick Chanton (MS Biology 2014)

MS students mentored (10):

Charlotte (Wiest) Weaver (MS, Biology, 2009)	- Software Engineer, Janelia Farms
Chandni Desai (MS, Bioinformatics, 2010)	- Bioinformatics Analyst, Scripps Res. Inst.
Erika Sigman (MS, Biology, 2011)	- Student, Mercer Univ. School of Medicine
Vani Rajan (MS, Bioinformatics, 2011)	- Bioinformatics Engineer, EdgeBio
Adero Francis (MS, Biology, 2014)	- MD student, Medical College of GA
Taylor Griswold (MS, Bioinformatics, 2015)	- Bioinformatician, CDC
Aroon Chande (MS, Bioinformatics, 2017)	- PhD student, Georgia Tech
Tobias Hoffmann (MS, Biology, 2017)	- technician, Georgia State Univ.
Vishnu Raghuram (MS, Bioinformatics, 2019)	- PhD student, Emory Univ.
Harshini Chandrashekar MS, Bioinformatics, 2019)	- Research specialist, UPenn
Mansi Gupta (MS, Bioinformatics, 2020)	- Bioinformatician, CDC
Jessica Mulligan (MS, Bioinformatics, 2020)	- Corteva Agriscience, IA

PhD thesis committee member (27)

Rachel Horack (PhD, Biology, 2010) Montoya lab  
 Taylor Updegrove (PhD, Biology, 2011) Wartell lab  
 Ivan Antonov (PhD, Computational Science and Engineering, 2012) Borodovsky lab  
 Yu Zhang (PhD, Biology, 2013) Lobachev lab  
 Seng Kew Wee (PhD, Biology, 2013) DiChristina lab  
 Gabriel Mitchell (PhD, Biology, 2013) Weitz lab  
 Kyung Duk Koh (PhD, Biology, 2015) Storici lab  
 Rebecca Cooper (PhD, Biology, 2015) DiChristina lab  
 Ramanan Sekar (PhD, Biology, 2016) DiChristina lab  
 Caitlin Austin (PhD, Mechanical Engineering, 2016) Forest lab  
 Gena Tang (PhD, Biology, 2016) Borodovsky lab  
 Daniel Watstein (PhD, Chemical & Biomolecular Engineering, 2017) Styczynski lab

Shilpa Choudhury (PhD, Biological Sciences, 2018) Torres lab  
Juliana Soto-Giron (PhD, Bioinformatics, 2018) Konstantinidis lab  
Arben Kalziqi (PhD, Physics, 2019) Yunker lab  
Monica McNerney (PhD, Chemical & Biomolecular Engineering, 2019) Styczynski lab  
Jordan Gulli (PhD, Biological Sciences, 2019) Rosenzweig lab  
Zahra Nassiri (PhD, Biological Sciences, 2021) Torres lab  
Weipeng Zhuo (PhD, Biological Sciences, current) McGrath lab  
Juan Pablo Barraza (PhD, Biological Sciences, current) Whiteley lab  
Fernanda Piorino (PhD, Chemical & Biomolecular Engineering, current) Styczynski lab  
Ashley Hersey (PhD, Chemical and Biomolecular Engineering, current) Wilson lab  
Davina Campbell (PhD, Biological Sciences, current) Diggle lab  
Yingzhe Yang (PhD, Chemistry, current) Grag lab  
Dowan Kim (PhD, Chemical and Biomolecular Engineering, current) Wilson lab  
Pablo Bravo (PhD, Physics, current) Yunker lab  
Alexander Cook (PhD, Physics) Kim lab

PhD students mentored (7):

Elena Antonova (PhD, Biology, 2013)	- Imaging Specialist, Northwestern Univ.
Xiaonan Zhao (PhD, Biology, 2013)	- Genomics Analyst, Children's Hosp. of PA
Eryn Bernardy (PhD, Biology, 2016)	- Asst. Professor, Elon University
Samit Watve (PhD, Biology, 2017)	- Postdoc, Tufts University School of Medicine
Cristian Crisan (PhD, Biology, 2021)	- Postdoc, Emory University
Siu Lung Ng (PhD, Biology, current)	
Kathryn MacGillivray (PhD, QBioS, current)	

Postdoctoral Fellows/Research Scientists Supervised (2):

J. Patrick Bardill (2009-2013)	- Faculty, Michigan State University
Jacob Thomas (2012-2017)	- Research Scientist II – Georgia Tech