

Jennifer K. Herman

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EDUCATION

Doctor of Philosophy , Microbiology Indiana University, Bloomington, IN	2005
Bachelor of Science , Biochemistry University of North Texas, Denton, TX	2000
Bachelor of Science , Biology University of North Texas, Denton, TX	2000

POSITIONS & EMPLOYMENT

Associate Professor Texas A&M University, Department of Biochemistry and Biophysics and the Center for Phage Technology	2017-present
Assistant Professor Texas A&M University, Department of Biochemistry and Biophysics and the Center for Phage Technology	2011-2017
Postdoctoral Research Associate Harvard Medical School, Department of Microbiology and Molecular Genetics Advisor: Dr. David Rudner Regulation of DNA replication and cell division during <i>Bacillus</i> sporulation	2007-2011
Postdoctoral Fellow Harvard Medical School, Microbiology and Molecular Genetics Massachusetts General Hospital, Division of Infectious Diseases Advisor: Dr. Marcia Goldberg Secretion and folding of the <i>Shigella flexneri</i> autotransporter IcsA	2005-2007
Graduate Research Assistant Indiana University, Department of Biology Advisor: Dr. Yves Brun Structure and function of the <i>Caulobacter crescentus</i> stalk	2000-2005

TEACHING

Texas A&M, Department of Biochemistry and Biophysics	
Co-Instructor BICH689 (Graduate Student Seminar)	2018
Instructor BICH676 (Bacteriophage/Bacterial Cell Biology Journal Club) BICH689/658 (Application of Scientific Values in Daily Research Practice) BICH689 (Methods of Biochemical Analysis) BICH/GENE431 (Molecular Genetics & Honor's Mol Gen)	2022-present 2017-present 2013-2016 2012-present
Other	
Associate Instructor Genetics 360 (Genetics Bootcamp)	2009-2011

Harvard Medical School, Microbiology and Molecular Genetics Associate Instructor	2004
M360 Bacterial Biochemistry and Physiology Laboratory Indiana University, Department of Biology	
Associate Instructor	2003
L323 Molecular Biology Laboratory Indiana University, Department of Biology	

SERVICE

Texas A&M, Department of Biochemistry and Biophysics

Recruiting and Outreach (Chair)	2021-present
Seminar Committee	2020-2021
Executive Committee (Elected)	2019-2021
Biochemistry Graduate Student Association Mentor (Elected)	2019-2022
Department Head Search Committee	2017-2019
Website Committee (Head 2019-2020)	2013-2020
Graduate Program Committee	2012-2018
Biochemistry Graduate Student Association Mentor (Elected)	2012-2014
Graduate Recruitment Committee	2012-2014

Texas A&M University, College of Agrilife

AgGIE graduate student leadership panel	2022
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Texas A&M University

Founded/run a monthly microbiology seminar series "First Fridays"	2022-present
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National/International Service

Co-chair 2024 International Conference on Bacilli and Gram-Positive Bacteria, Bloomington IN	2022-present
External Reviewer for tenure application, University of Groningen, The Netherlands	2022
External Reviewer for tenure application, Oklahoma State University, Stillwater	2022
Session Chair , Subtillery Virtual Conference	2021
Women in Science Roundtable , Molecular Genetics of Bacteria and Phages Meeting	2019
Session Chair , Molecular Genetics of Bacteria and Phages Meeting	2019
Poster Judge , The International Conference on Bacilli and Gram-Positive Bacteria	2019
Session Chair , The International Conference on Bacilli and Gram-Positive Bacteria	2019
Tenure-track faculty Roundtable , Molecular Genetics of Bacteria and Phages Meeting	2018
Poster Judge , Molecular Genetics of Bacteria and Phages Meeting	2014

Editorial Board

Journal of Bacteriology	2021-present
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Ad Hoc Reviewer, Peer-reviewed Journals

mBio	2021-present
Scientific Reports	2020-present
Journal of Basic Microbiology	2019-present
Microbiology	2016-present
Developmental Cell	2016-present
PLoS One	2015-present
PLoS Genetics	2015-present
Molecular Microbiology	2015-present

Journal of Bacteriology	2013-present
Invited Editor mBio	2020-present
Ad Hoc Reviewer, Grant Funding Agencies Estonia Research Council	2018
NSF (Molecular and Cellular Biosciences)	2017-present
NIH (NIGMS-PCMB)	2017
Science Foundation of Ireland (Spokes Programme)	2017
PROFESSIONAL ORGANIZATIONS	
American Society of Cell Biology	2020-present
Texas Branch ASM	2014-present
American Society of Microbiology	2000-present
FELLOWSHIPS	
Harold G. Ernst Fellowship in Bacteriology and Immunology	2008-2009
NIH T32 AI07061 Postdoctoral Training Grant	2005-2007
Floyd Fellowship in Microbiology	2002-2005
American Society for Microbiology Student Travel Grant	2002
NIH T32 GM007757 Predoctoral Training Grant	2000-2003
AWARDS/RECOGNITION	
Named as a top reviewer by Editor in Chief Journal of Bacteriology	2022
Vice Chancellor's Award in Excellence for Teaching Texas A&M University	2020
Biochemistry Graduate Student Association (Appreciation Award) Texas A&M University	2012, 2013
Floyd Outstanding Publication in Microbiology Indiana University, Department of Biology	2007
Outstanding Associate Instructor in Biology Indiana University, Department of Biology	2003-2004
Walter Konetzka Fellowship for Teaching and Research in Microbiology Indiana University, Department of Biology	2003
NSF Graduate Research Fellowship Honorable Mention Indiana University, Department of Biology	2001, 2002

PUBLICATIONS

1. Guo, T. and **J.K. Herman** (2022). [Magnesium modulates *Bacillus subtilis* cell division frequency](#). *J. Bacteriol.* e0037522. PMID: 36515540
2. Miller, A.K. and **J.K. Herman**. (2022). [RefZ and Noc act synthetically to prevent aberrant divisions during *Bacillus subtilis* sporulation](#). *J. Bacteriol.* 204(6): :e0002322. PMID: 35506695.
3. Brown, E.E., A.K. Miller, I.V. Krieger, R.M. Otto, J.C. Sacchettini, and **J.K. Herman**. (2019). [A DNA-binding protein tunes septum placement during *Bacillus subtilis* sporulation](#). *J. Bacteriol.* 201(16): pii: e00287-19. PMID: 27489185.
4. Sperber, A.M. and **J.K. Herman**. (2017). [Metabolism shapes the cell](#). *J. Bacteriol.* 199(11): e00039-17. PMID: 28320879. Review.

5. Duan, Y., J.D. Huey, and **J.K. Herman**. (2016). [The DnaA inhibitor SirA acts in the same pathway as Soj \(ParA\) to facilitate oriC segregation during Bacillus subtilis sporulation](#). *Mol Microbiol.* 102(3): 530-544. PMID: 27489185.
6. Duan, Y., A.M. Sperber, and **J.K. Herman**. (2016). [YodL and YisK possess shape-modifying activities that are suppressed by mutations in Bacillus subtilis mreB and mbl](#). *J. Bacteriol.* 198(15): 2074-2088. PMID: 27215790.
7. Miller, A.K., E.E. Brown, B.T. Mercado, and **J.K. Herman**. (2016). [A DNA-binding protein defines the precise region of chromosome capture during Bacillus sporulation](#). *Mol Microbiol.* 99(1): 111-122. PMID: 26360512.
8. Ababneh, Q.A. and **J.K. Herman**. (2015). [A secreted factor coordinates environmental quality with Bacillus development](#). *PLoS One.* 10(12): e0144168. PMID: 26657919.
9. Ababneh, Q.A. and **J.K. Herman**. (2015). [CodY regulates SigD levels and activity by binding to three sites in the fla/che operon](#). *J. Bacteriol.* 197(1): 128-37. PMID: 26170408.
10. Ababneh, Q.A. and **J.K. Herman**. (2015). [RelA Inhibits Bacillus subtilis motility and chaining](#). *J. Bacteriol.* 197(1): 128-137. PMID: 25331430.
11. **Wagner-Herman, J.K.**, R. Bernard, R. Dunne, A.W. Bisson-Filho, K. Kumar, T. Nyguen, L. Mulcahy, J. Koullias, F.J. Gueiros-Filho, and D.Z. Rudner. (2012). [RefZ facilitates the switch from medial to polar division during spore formation in Bacillus subtilis](#). *J. Bacteriol.* 169(17): 4608-4618. PMID: 22730127.
12. **Wagner, J.K.**, K. A. Marquis, and D. Z. Rudner. (2009). [SirA enforces diploidy by inhibiting the replication initiator DnaA during spore formation in Bacillus subtilis](#). *Mol Microbiol.* 73(5): 963-974. PMID: 19682252.
13. **Wagner, J.K.**, J.E. Heindl, A.N. Gray, S. Jain, and M.B. Goldberg. (2009). [Contribution of the periplasmic chaperone Skp to efficient presentation of the autotransporter IcsA on the surface of Shigella flexneri](#). *J Bacteriol.* 191(3): 815-21. PMID: 19047350.
14. **Wagner, J.K.** and Y.V. Brun. (2007). [Out on a limb: how the Caulobacter stalk can boost the study of bacterial cell shape](#). *Mol Microbiol.* 64: 28–33. PMID: 17376069.
15. **Wagner, J.K.**, S. Setayeshgar, L. Sharon, J. Reilly, and Y.V. Brun. (2006). [A nutrient uptake role for bacterial cell envelope extensions](#). *PNAS.* 103(31): 11772-11777. PMID: 16861302.
Featured article: See [comment](#) by H.H. McAdams, *PNAS.* 103(31): 11435-6. PMID
16. **Wagner, J.K.**, C.D. Galvani, and Y.V. Brun. (2005). [Caulobacter crescentus requires RodA and MreB for stalk synthesis and prevention of ectopic pole formation](#). *J. Bacteriol.* 187(2): 544-553. PMID: 15629926
17. **Wagner, J.K.** and Y.V. Brun. 2004. Regulation of cell division in differentiating bacteria. *Molecules in time and space: bacterial shape, division, and phylogeny*. M. Vicente, A. Valencia, J. Tamames, and J. Mingorance (eds). Kluwer Academic/Plenum Publishers.
18. He, X., W. Chang, D. L. Pierce, L. Seib, **J. Wagner**, and C. Fuqua. 2003. [Quorum-sensing in Rhizobium sp. NGR234 regulates conjugal transfer \(tra\) gene expression and influences growth rate](#). *J. Bacteriol.* 185: 809-822. PMID: 12533456

19. Danhorn, T., W. Ng, A. Richardson, J. Santos, J. Stumpf, M. Trimble, **J. Wagner**, and C. Kao. 2003. All's well that ends well: Creative solutions viruses use to ensure proper ends of linear genomes. *Rec. Res. Dev. Virol.* 5: 45-66.

INVITED ORAL PRESENTATIONS

1. Mg²⁺ modulates *Bacillus subtilis* cell division frequency. June 2022. International Conference on Bacilli and Gram-positive Bacteria. Prague, Czech Republic.
2. Elucidating functions for those pesky uncharacterized genes. March 2020. Department of Microbiology and Molecular Genetics, Oklahoma State University.
3. Mbl-dependent localization of a stationary phase enzyme. August 2019. Molecular Biology of Bacteria and Phages Meeting, Madison, WI.
4. Mbl-dependent localization of a stationary phase enzyme. July 2018. Gordon Research Conference (Bacterial Stress Response), Mt. Holyoke, MA.
5. Regulation in the 3D landscape of a cell. November 2017. Baylor University, Department of Chemistry and Biochemistry, Waco, TX.
6. Regulation of essential cell processes during *Bacillus* development. October 2017. University of Arkansas for the Medical Sciences, Department of Microbiology and Immunology, Little Rock, AR.
7. Regulation of essential cell processes during *Bacillus* development. (Keynote) October 2017. Indiana University Section of Microbiology Retreat, Knav Bone, IN.
8. Regulation of essential cell processes during *Bacillus* development. March 2017. Department of Molecular Virology and Microbiology, Baylor College of Medicine, Houston.
9. Regulation of essential cell processes during *Bacillus* development. February 2017. Department of Molecular Biology, University of Wyoming, Laramie.
10. Regulation of essential cell processes during *Bacillus* development. September 2016. Texas. Bayou Science and Mathematics Colloquium. College of Science and Engineering at the University of Houston-Clear Lake.
11. Subcellular Organization in Bacteria. August 2015. Texas A&M Biochemistry and Genetics Society monthly meeting. Texas A&M University.
12. Navigating a career in academic research. June 2016. Biochemistry Graduate Student Association, Career Development Series. Texas A&M University.
13. Protein-based regulators of MreB and Mbl activity. August 2015. Molecular Biology of Bacteria and Phages Meeting, Madison, WI.
14. DNA motifs define the precise region of chromosome capture during *Bacillus* sporulation. June 2015. American Society of Microbiology, Prokaryotic Cell Biology and Development, Washington, D.C.
15. Identification and characterization of RefZ, a new regulator of FtsZ assembly. April 2013. Texas A&M, Department of Biology.
16. Identification and characterization of RefZ, a new regulator of FtsZ assembly. March 2013. Texas A&M University Health Science Center, Institute of Bioscience and Technology.
17. Characterization of RefZ, a new regulator of FtsZ assembly during *Bacillus subtilis* sporulation. Lost Pines Conference, November 2012. University of Texas, MD Anderson Cancer Center.

GRANTS/FUNDING

DARPA/Signature Science (subcontract)
Spore-Phage Amplified Detection (SPADe) for Subterranean Chemical Threats
Role: PI: **Dr. Jennifer K. Herman**
08/15/2019-03/15/2021
\$361,382 Total Costs

NSF Investigator-Initiated (MCB-1514629)
Positional Regulation of Cell Division
Role: PI
08/01/2015 - 07/31/2020
\$650,466 Total Costs

Bill and Melinda Gates Foundation (06-505129)
Phagocins: Precision Tools for the Remodeling the Microbiota
Role: Co-PI
5/01/2016-10/31/2017
\$100,000 Direct Costs