

Angela Mitchell

Curriculum Vitae

CONTACT INFORMATION

Department of Biology
Texas A&M University
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EDUCATION

Ph.D. in Microbiology and Immunology	2013
University of North Carolina at Chapel Hill, Chapel Hill, NC 27599	
Thesis Advisor: R. Jude Samulski, Ph.D.	
B.S. in Biotechnology, Summa cum Laude, Honors in the Discipline	2008
Elizabethtown College, Elizabethtown, PA 17022	
Thesis Advisor: Jane F. Cavender, Ph. D	

PROFESSIONAL APPOINTMENTS

Assistant Professor, Texas A&M University	2019-current
Department of Biology	
Adjunct Faculty, Delaware Valley University	2015-2016
Department of Biology	
Postdoctoral Research Associate, Princeton University	2014-2019
Department of Molecular Biology, Mentor: Thomas J. Silhavy, Ph.D.	
Graduate Research Assistant, University of North Carolina at Chapel Hill	2008-2013
Department of Microbiology and Immunology, Mentor: R. Jude Samulski, Ph.D.	
Undergraduate Researcher, Elizabethtown College	2005-2008
Department of Biology, Mentor: Jane F. Cavender, Ph. D.	

GRANTS AND FELLOWSHIPS

Current:

NIAID R01—R01-AI155915, Role: PI	2021-2026
“Biogenesis of cyclic and phospholipid-linked enterobacterial common antigen”	
Total award: \$1.83 million	
NIAID Diversity Supplement—R01-AI155915-S1, Role: PI	2023-2026
For “Biogenesis of cyclic and phospholipid-linked enterobacterial common antigen”; Total award: \$242,312	
NIAID R03—R03-AI177677, Role: PI	2023-2025
“A novel pathway altering OM permeability”	
Total award: \$143,536	

Pending Review:

Pew Biomedical Scholars Program, Role: PI	2024-2028
“Antimicrobial Design to Limit the Impact of Resistance”	
Budget: \$300,000	

Completed:

NRSA Postdoctoral Fellowship—F32-GM116188, Role: PI	2016-2017
“Elucidating stationary phase changes to the outer membrane permeability barrier”	
NIGMS MIRA Grant—R35-GM118024 (PI: Thomas Silhavy), Role: Key Personnel	2016-2019
“Biogenesis and maintenance of the outer membrane of gram-negative bacteria”	
Pre-doctoral Training Grant—T32-AI007419, Role: Trainee	2009-2010
“Molecular Biology of Viral Diseases”: University of North Carolina at Chapel Hill	
Tri-beta Biological Honor’s Society Research Scholarship Foundation Grant	2008
Title: “The maintenance of transformation by SV40 T antigen”	

AWARDS AND HONORS

Recognition as a Top Performing Reviewer for <i>mBio</i>	2022
ASM Peggy Cotter Award for Early Career Texas Branch Members	2022
American Society for Virology Student Travel Grant	2013
The University of North Carolina Graduate School Transportation Grant	2013
American Society for Virology Student Travel Grant	2011
Barry M. Goldwater Scholarship	2007

PUBLICATIONS

Corresponding author; ¹ Mitchell Lab Graduate Student; ² Mitchell Lab Postdoc; ³ Mitchell Lab Undergraduate Student; *Underrepresented Mitchell Lab Trainee*; *Authors contributed equally to manuscript

[Google Scholar Link](#)

[NCBI MyBibliography Link](#)

Rai AK², Sawasato K, Sparagna GC, Bogdanov MV, & **Mitchell AM**[#]. (2023) Differentiation of gram-negative intermembrane phospholipid transporter function by substrate preference. *bioRxiv*.
<https://doi.org/10.1101/2023.06.21.545913>

19. Morris KN³ & **Mitchell AM**[#]. (2023) Phosphatidylglycerol is the lipid donor for synthesis of phospholipid-linked enterobacterial common antigen. *J Bacteriol*. 205(1): e00403-22.
 18. Rai AK², Carr JF^{1*}, Bautista DE^{1*}, Wang W, **Mitchell AM**[#]. (2021) ElyC and cyclic enterobacterial common antigen regulate synthesis of phosphoglyceride-linked enterobacterial common antigen. *mBio*. 12(6): e02846-21.
 17. Bautista DE^{1*}, Carr JF^{1*}, **Mitchell AM**[#]. (2021) Suppressor Mutants: History and Today’s Applications. *EcoSal Plus*. 9(2): eESP-0037-2020.
 16. Rai AK² & **Mitchell AM**[#]. (2020) Enterobacterial common antigen: synthesis and function of an enigmatic molecule. *mBio*. 11(4): e01914-20.
 15. Grimm J, Shi H, Wang W, **Mitchell AM**, Wingreen NS, Huang KC, & Silhavy TJ. (2020) The inner membrane protein YhdP modulates the rate of anterograde phospholipid flow in *Escherichia coli*. *Proc Natl Acad Sci U S A*. 117(43): 26907-26914.
 14. Hart EM*, **Mitchell AM***, Konovalova A, Grabowicz M, Sheng J, Han X, Rodriguez-Rivera FP, Schwaid AG, Malinverni JC, Balibar CJ, Bodea S, Si Q, Wang H, Homsher MF, Painter RE, Ogawa AK, Sutterlin H, Roemer T, Black TA, Rothman DM, Walker SS, & Silhavy TJ. (2019) A small molecule inhibitor of BamA impervious to efflux and the outer membrane permeability barrier. *Proc Natl Acad Sci U S A*. 116(43): 21748-21757.
- Nature News and Views highlight:** <https://www.nature.com/articles/d41586-019-03730-x>

F1000Prime recommendation: <https://f1000.com/prime/736725510?bd=1>

13. **Mitchell AM** & Silhavy TJ. (2019) Envelope stress responses: balancing damage repair and toxicity. *Nat Rev Microbiol.* 17(7): 417–428.
12. May KL, Lehman KM, **Mitchell AM**, & Grabowicz M. (2019) A Stress Response Monitoring Lipoprotein Trafficking to the Outer Membrane. *mBio.* 10(3): e00618-19.
Associated Commentary: <https://mbio.asm.org/content/10/3/e01302-19>
11. Silhavy TJ & **Mitchell AM**. (2019) Genetic analysis of protein translocation. *Protein J.* 38(3):217-228.
10. **Mitchell AM**, Srikumar T, & Silhavy TJ. (2018) Cyclic enterobacterial common antigen maintains the outer membrane permeability barrier of *Escherichia coli* in a manner controlled by YhdP. *mBio.* 9(4): e01321-18.
Associated Commentary: <https://mbio.asm.org/content/9/5/e02162-18>
9. **Mitchell AM**, Wang W, & Silhavy TJ. (2017) Novel RpoS-dependent mechanisms strengthen the envelope permeability barrier during stationary phase. *J Bacteriol.* 199(2): e00708-16.
8. Konovalova A, **Mitchell AM**, & Silhavy TJ. (2016) A lipoprotein/ β -barrel complex monitors lipopolysaccharide integrity transducing information across the outer membrane. *eLife.* 5: e15276.
7. Xiao PJ, **Mitchell AM**, Haung L, Li C, & Samulski RJ. (2016) Disruption of microtubules post virus entry enhances adeno-associated virus vector transduction. *Hum Gene Ther.* 27(4): 309-24.
6. **Mitchell AM**, Moser R, Samulski RJ, & Hirsch ML. (2016) Stimulation of AAV gene editing via DSB repair. In Hirsch ML, Cathomen T, & Porteus MH (Eds.), *Genome Editing: The Next Step in Gene Therapy* (pgs. 125-137). ISBN: 978-1-4939-3507-9.
5. Vance MA, **Mitchell AM**, & Samulski RJ. (2015) AAV biology, infectivity and therapeutic use from bench to clinic. In Hashad ID (Ed.), *Gene Therapy - Principles and Challenges*. ISBN: 978-953-51-4380-2
4. **Mitchell AM**, Hirsch ML, Li C, & Samulski RJ. (2014) Promyelocytic leukemia protein is a cell-intrinsic factor inhibiting parvovirus DNA replication. *J Virol.* 88(2): 925-36.
3. **Mitchell AM** & Samulski RJ. (2013) Mechanistic insights into the enhancement of adeno-associated virus transduction by proteasome inhibitors. *J Virol.* 87(23): 13035-41.
2. **Mitchell AM**, Li C, & Samulski RJ. (2013) Arsenic trioxide stabilizes accumulations of adeno-associated virus virions at the perinuclear region, increasing transduction *in vitro* and *in vivo*. *J Virol.* 87(8): 4571-83.
1. **Mitchell AM***, Nicolson SC*, Warischalk JK*, & Samulski RJ. (2010) AAV's Anatomy: Roadmap for Optimizing Vectors for Translational Success. *Curr Gene Ther.* 10(5): 319-340.

PRESENTATIONS AND POSTERS

Invited Seminars and Presentations:

Genetic Approaches to Understanding Complex Biological Problems VI Meeting	2023
The University of Chicago, Committee on Microbiology	2023
Elizabethtown College, Department of Biology and Environmental Sciences	2023
The Ohio State University, Department of Microbiology	2023
McGovern Medical School, UTHealth, Department of Microbiology and Molecular Genetics	2023
American Society for Microbiology Texas Branch Fall Meeting	2022
Texas A&M University, College of Veterinary Medicine and Biomedical Sciences	2021
Texas A&M University, College of Medicine	2020
Texas Protein Folders and Function Meeting (<i>canceled for public health reasons</i>)	2020
University of Texas Health Science Center at Houston (UTHealth)	2018

Genetic Approaches to Understanding Complex Biological Problems V Meeting 2018

Conference Presentations:

Bacterial Cell Biology and Development Gordon Research Conference	2023
Microbial Stress Responses Gordon Research Conference (Talk)	2022
Bacterial Cell Surfaces Gordon Research Conference	2022
American Society for Microbiology Microbe Meeting (Poster Talk)	2022
World Microbe Forum	2021
Bacterial Locomotion and Signal Transduction XVI Conference	2021
Microbial Stress Response Gordon Research Conference (Talk)	2018
Microbial Adhesion & Signal Transduction Gordon Research Conference	2017
Microbial Stress Response Gordon Research Seminar and Conference	2016
American Society for Virology Annual Meeting (Talk)	2013
American Society for Virology Annual Meeting (Talk)	2012
The 14 th Biannual International Parvovirus Workshop (Talk)	2012
American Society of Gene and Cell Therapy Annual Meeting	2012
American Society for Virology Annual Meeting (Talk)	2011
Pennsylvania Academy of Science Annual Meeting (Talk)	2008
Tri-Beta North East District 2 Research Convention (Talk)	2007
Pennsylvania Academy of Science Annual Meeting	2007

TEACHING

Texas A&M University, College Station, TX 77843

Co-instructor for Graduate Microbial Genetics (BIOL 606; Spring)	2021-current
Instructor for Undergraduate Bacterial Genetics (BIOL/GENE 406; Fall)	2020-current

Delaware Valley University, Doylestown, PA 18901

Adjunct Faculty for BY-1116L Biological Sciences I Lab (2 sections)	2016
Adjunct Faculty for BY-1115 Natural Sciences I	2015

Princeton University, Princeton, NJ 08544

Preceptor for MOL340 Molecular and Cellular Immunology	2014
Instructor for Summer Undergraduate Research Program Discussion Group	2014

The University of North Carolina at Chapel Hill, Chapel Hill, NC 27510

Teaching Assistant for BIOL422 and BIOL421L General Microbiology	2013
New Module Design for North Carolina DNA Day	2012
Summer Teaching and Pedagogy Series Certificate	2011
Teaching Assistant for BIOL422 and BIOL421L General Microbiology	2010
Teaching Assistant for MCRO251L Medical Microbiology Lab	2009

SCIENCE OUTREACH

North Carolina DNA Day at Eastern Randolph High School, Ramseur, NC	2013
Science Outreach Lecture at Research Triangle High School, Durham, NC	2013
North Carolina DNA Day at Bertie STEM High School, Bertie, NC	2012
North Carolina DNA Day at South Granville High School of Health and Life Sciences, Creedmoor, NC	2011
Annual to biannual chemistry shows at elementary schools in Elizabethtown, PA	2005-2007

MENTORING**Texas A&M University, College Station, TX 77843**Current Postdoctoral Researchers:

Kaitlin Casanova Hampton	2022-current
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Current Graduate Students:

Shivani Bhut (Ph.D. student, Microbiology)	2023-current
Jenny Rudolf (Ph.D. student, Microbiology)	2023-current
Haley Bennett (Ph.D. student, Microbiology)	2021-current
Joseph Carr (Ph.D. student, Microbiology)	2020-current
David Bautista (Ph.D. student, Microbiology)	2020-current

Current Undergraduate Researchers:

Elizabeth Ponder (Biology, Class of 2026)	2024-current
Daniel Warzecha (Microbiology, Class of 2025)	2024-current
Cassidy Whitehead (Molecular & Cell Biology, Class of 2025)	2023-current
Hannah Fuhrman (Molecular & Cellular Neuroscience, Class of 2026)	2023-current
Robert Wei (Business Administration, Class of 2024)	2022-current

Former Mitchell Lab Trainees:

Ashutosh Kumar Rai (Postdoctoral Associate)	2020-2023
Ashley Vargo (Undergraduate, Molecular & Cell Biology, Class of 2023)	2023
Radwa Emam (Undergraduate, Biomedical Sciences, Class of 2023)	2022-2023
Iris Yang (Undergraduate, Biology, Class of 2023)	2021-2023
Kinsey Morris (Undergraduate, R.A., Biology, Class of 2021)	2020-2022
Nicholas Lugo (Undergraduate, Biochemistry, Class of 2021)	2020-2021

Princeton University, Princeton, NJ 08544

Jessica Sheng (Senior thesis research; co-mentor)	2018-2019
Angela Kim (Senior thesis research)	2016-2017

The University of North Carolina at Chapel Hill, Chapel Hill, NC 27510

Research Mentoring Certificate (6 week workshop)	2013
Alison Flanagan (Meredith College Cooperative Mentored Research Program)	2012
Peer Mentor for first year Biological and Biomedical Sciences Program graduate students	2011, 2012

SERVICE**Texas A&M University, College Station, TX 77843**Ph.D. Student Committee Member

Issam Ismail (Microbiology), Zil Modi (Biology), Jessie Reed (Biology), Ahmed Yusuf (Microbiology), Farhana Haque (Microbiology), Tahmina Pervin (Microbiology), Alice Archuleta-Ochoa (Microbiology)	2023-current
A. Riley Buhrow (Microbiology), Andrew Cothrell (Microbiology), Goke Adegbite (Microbiology)	2022-current
Joshua Pettibon (Microbiology), Jeanette Pina (Chemistry), Javier Sanchez (Biology), McKinley Williams (Microbiology)	2021-current
Srutha Venkatesan (Biology), Marilyn Beebe (Microbiology), Nopakorn Hansanant (Microbiology)	2020-current

M.S. Student Committee Member

Former: (Non-thesis, Microbiology) Briana Garcia (2022); Laura Cercone (Chair, 2022),
Ismael Morales (Chair, 2022); Zachary Albers (Chair, 2021); Tammy Oh (2020)

Departmental Service

Member, Department of Biology Graduate Program Committee	2022-current
Member, Department of Biology Seminar Committee	2021-current
Member, SOAR Mechanisms of Biological Resilience Committee	2021-current
Member, Department of Biology ACES (Accountability, Climate, Equity, and Scholarship) Fellows Search Committee	2021-2022
Member, Faculty Search Committee, Department of Biology	2021-2022
Co-chair, Student Postdoc Research Conference Committee, Department of Biology	2021
Member, Student Postdoc Research Conference Committee, Department of Biology	2020
Member, Faculty Search Committee, Department of Biology	2019-2020
Award Judge, Student Postdoc Research Conference, Department of Biology	2019-2023

College, University, and Field Service

Member, Review Committee for Goldschmidt Graduate Student Award (Texas ASM Branch)	2023-current
Mentor, American Society for Microbiology Future Leaders Mentoring Fellowship Program	2023-current
<i>mBio</i> Junior Editorial Board Member	2022-2023
Session Convener, American Society for Microbiology Microbe (Annual Meeting)	2022
Abstract Reviewer, American Society for Microbiology Microbe (Annual Meeting)	2022
Award Judge, World Microbe Forum	2021
Award Judge, American Society for Microbiology Texas Branch Fall Meeting	2020-2022
Grant reviewer	2020-current
NIH Anti-Infective Resistance and Targets Study Section (Temporary Member, Mar 2023), NIH Prokaryotic Cellular and Molecular Biology Study Section (Temporary Member, Feb 2022), NSF Division of Molecular and Cellular Biosciences (<i>Ad hoc</i> , 2020, 2023), US Army Research Office (<i>Ad hoc</i> , 2021), Texas A&M University Innovation[X] Grant (2022)	
<i>Ad hoc</i> manuscript reviewer	2019-current
<i>Nature Communications, Proceedings of the National Academy of Sciences USA, The EMBO Journal, BMC Biology, mBio, Communications Biology, PLoS Genetics, Molecular Microbiology, Emerging Microbes & Infections, Antibiotics, EcoSal Plus, Virulence, mSystems, Microbiology Spectrum, Archives of Microbiology, Frontiers in Microbiology, Pharmaceuticals, Molecules, International Journal of Molecular Sciences</i>	

Previous Universities

Academic Policy Chair, UNC Graduate and Professional Student Federation Cabinet	2012-2013
Member, UNC Chapel Hill Chancellor's Committee on Copyright	2012-2013
Chair of Judging & Speaker Committee for βββ North East District 2 Conference	2006-2007

CURRENT MEMBERSHIPS

American Association for the Advancement of Science, American Society for Microbiology, ASM Texas Branch, American Society for Virology