

**Lori D. Banks, Ph.D.**  
**ldbanks@pvamu.edu**

**Employment**

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- 2023-Present      Prairie View A&M Univeristy  
Assistant Professor of Biology  
Research: *Structural and Biochemical Basis for Rotavirus NSP4 Viroporin Activity*  
#Courses: General Biology (Lecture and Lab)
- 2019-2023      Bates College  
Assistant Professor  
Department of Biology  
Research: *Structural and Biochemical Basis for Rotavirus NSP4 Viroporin Activity*  
#Courses: Research and Seminar (Microbiology and Biochemistry), Microbiology, Cellular Biochemistry (Biochemical Basis of Nutritional Health Disparities), STEM Scholars (Advising and Career Prep), Lab-Based Biological Inquiry: Living in a Microbial World (Cheese Extravaganza), Cellular Basis of Life  
#Also able to teach undergraduate Anatomy and Physiology, Immunology, Molecular Biology, Microbial Genetics, Research Methods and Design, Computational Methods in Molecular Structure.
- 2022              College Board  
AP Anatomy and Physiology Writing Team Advisory Board  
*Curriculum Development for New AP Anatomy and Physiology Program*
- 2018-2019      Baylor College of Medicine (BCM)  
Staff Scientist  
Department of Molecular and Cell Biology  
Mentor: Nicholas Mitsiades, MD and Salma Kaochar, PhD
- 2015-2019      Baylor College of Medicine Human Genome Sequencing Center (HGSC)  
Pre-Graduate Education Training (PGET) Program  
Consultant and Instructor  
Curriculum Design and Postbaccalaureate Instructor
- 2018              University of Houston (Main Campus)  
Adjunct Professor  
Department of Biology and Biochemistry  
Intro to Biological Science I Lecture
- 2018              Baylor College of Medicine

Postdoctoral Associate  
Department of Pathology  
Center for Drug Discovery  
Mentor: Martin Matzuk, M.D., Ph.D.

2016-2018 University of St. Thomas-Houston  
Adjunct Professor  
Department of Biology  
Intro to Population Biology Lecture, Biochemistry Lab

2015-2017 Baylor College of Medicine  
Research Education and Career Horizon- Institutional Research and Academic  
Career Development Award (REACH-IRACDA)  
Postdoctoral Research, Teaching, and Curriculum Design Fellowship  
Department of Molecular Virology and Microbiology (MVM)  
*Restitution of the Infant Gut Microbiome Following Rotavirus Infection;  
Structural Basis for NSP4 Viroporin Activity*  
Mentor: Joseph M. Hyser, Ph.D.

2014-2015 alliantgroup, LP  
Senior Associate  
R&D Tax Credit Study Project Manager & Technical SOP Manual Consultant

2011-2014 University of Texas Health Science Center at Houston (UTHealth)  
Postdoctoral Fellow  
Department of Microbiology and Molecular Genetics  
*Role of the Phosphotransferase System in Bacillus anthracis Virulence Gene  
Regulation*  
Mentor: Theresa M. Koehler, Ph.D.

## **Education**

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### Graduate

2005-2011 Baylor College of Medicine, Houston, TX  
Doctorate of Philosophy- Molecular Virology and Microbiology  
*Biochemical Characterization of Metallo- $\beta$ -Lactamase Activity*  
Mentor: Timothy G. Palzkill, Ph.D.

### Undergraduate

2004-2005 Human Genome Sequencing Center (HGSC) Pre-Graduate Education  
Training (PGET) Program Postbaccalaureate Fellow  
Department of Pediatrics, Section of Infectious Diseases  
BCM, Houston, TX  
*Role of Toll-like Receptors in Bacterial and Viral-Induced Cardiac Injury*  
Mentors: Jesus G. Vallejo, MD & Debra Murray, Ph.D.

2000-2004 Prairie View A&M University (PVAMU), Prairie View, TX  
Bachelor of Science-Biology  
Minor in Chemistry

## **Honors and Awards**

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2022-Present	Bonner Foundation Faculty Fellow at the Haward Center for Community Partnerships
2022- Present 2023	mBio Junior Editorial Board, American Society for Microbiology Center for the History of Microbiology/ ASM Archives (CHOMA) Research Travel Award
2021-2022	NIH Early Career Reviewer (ECR) Program
2021-2022	Arthur Vining Davis Foundations Periclean Faculty Leader in STEM and Social Sciences
2021	Labster.com STEM Excellence Award
2020	Cell Mentor 1,000 Inspiring Black Scientists in America
2015-2018	BCM REACH-IRACDA Fellowship
2017	MVM Retreat Book Cover Contest Winner
2016	1 <sup>st</sup> Place Postdoc MVM Departmental Retreat Poster Presentation
2016	BCM Postdoc Seminar Series Finalist
2010	3 <sup>rd</sup> Place Poster Award BCM Graduate Student Research Symposium
2009-2010	Gulf Coast Consortia/Keck Center Pharmacoinformatics Training Program Fellowship
2009	American Society for Microbiology Corporate Activities Program Student Travel Grant
2007	Acres of Diamonds Award from the Minority Trainee Research Forum
2005-2006	National Institute of General Medical Sciences Initiative for Minority Student Development Predoctoral Fellowship
2005	Harris Busch Achievement Award
2003	Cell Biology Society of UTMB Award

## **Institutional Service and Community Engagement**

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2023-Present	Black Microbiologists Association- Programming Committee Member
2020-Present	Bates College Africana Program Committee Member
2019-Present	Charter member of Zeta Phi Beta Sorority, Incorporated (Community Service Organization), Gamma Alpha Nu Zeta Chapter (Nashua, NH); Inaugural Secretary and Scholarship Chair
2018-Present	Science Alumni Chapter of the PVAMU National Alumni Association (Formerly the Annual PVAMU Biology Department Symposium Committee); (2020-Present) President (2018-2020) Board member
2023	Maine Department of Education Science Standards Steering Committee
2022-2023	Bates College Curriculum Review Committee
2020-2022	Center for Black Community Development Committee Member (Within the Permanent Commission on the Status of Racial, Indigenous and Maine Tribal Populations)
2020-2022	Bates College Institutional Review Board Member
2020	Bates Biology Lab Classroom Social Distancing Working Group Member
2020	Bates COVID Testing Center Volunteer
2015-2017	Alkek Center for Metagenomics and Microbiome Research Postdoc President

- 2016 7th Annual REACH-IRACDA Symposium Planning Committee
- 2013 University of Texas Postdoc Association Abstract Competition Review Committee
- 2012-2014 University of Texas Postdoc Association Executive Committee
- 2008-2009 BCM Graduate Student Council Representative

**Teaching and Mentoring Activities**

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I have been fortunate to share my love of all things science with others at various stages of their education. In those moments, I always aim to incorporate problem-solving and critical thinking activities to maximize learner benefit, whether in the classroom or the lab. I think it's important to share one's failures in addition to the successes so that students have a balanced understanding of the practice of science.

- 2020-Present Society for the Advancement of Chicanos and Native Americans (SACNAS) Inaugural Chapter Advisor at Bates College
- 2020 Bates College Biology Student Journal Club Guest
- 2020 Bates College Ask Me Anything Panelist
- 2015-2019 UTHHealth Individual Development Plan Bootcamp Mentor
- 2013-2019 UTHHealth Association of Minority Biomedical Researchers Graduate Student Mentor
- 2006-2018 PVAMU Biology Department Symposium Poster Judge
- 2016 BCM Postdoc Association Research Mentor Training Certificate (National Research Mentoring Network)
- 2008- 2011 BCM Initiative for Minority Student Development, Houston, TX  
Tutor for Molecular Methods, Molecular Interactions, Structure of Macromolecules, Molecular Biology of the Cell-Protein Lecture
- 2009-2010 BCM First-year Initiative Mentorship Program  
First-year student mentor

**Science Literacy and Community Outreach Activities**

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In addition to volunteering at numerous science and career fairs, my efforts outside of the lab have focused on expanding science literacy in underserved populations, and communicating scientific literature to the lay public. In my other community associations a Girl Scout leader, and as a member of Zeta Phi Beta Sorority Inc., I speak to girls, children of color, and low-income youth about pursuing STEM careers. In the wake of the SARS-CoV2 pandemic, I have also contributed to several community information sessions about infectious diseases, vaccines and public health.

- 2022-Present Girl Scouts of Maine Science Literacy Volunteer
- 2020-2021 COVID-19 Science Cafe- Co-organizer and Speaker  
Weekly Webinar Series about SARS-CoV2, COVID-19, and related public health issues for members of the Bates Community
- 2020-2021 Straight Talk with Sistahs in Science, Co-organizer and Panelist  
Weekly Facebook townhall about SARS-CoV2, COVID-19, and related public health issues for the general public
- 2020 Bates Townhall- CORONAVIRUS - The Economic and Public Health Impact of the Outbreak Panelist

2020	Community Engaged Learning Plan Development with Promise Early Education Center (Lewiston, ME)
2019	United Nations International Day of Women and Girls in Science Speaker at Baylor College of Medicine Biotech Academy at Rusk Middle School (Houston ISD)
2018-2019	MacGregor Elementary School Career Day (Houston ISD)
2016-2019	Present “Strawberry DNA Extraction” modules to Houston-area preschool/elementary groups in conjunction with BCM HGSC; Includes cell biology lesson and coloring books from Cell Press/BioRad.
2018	Baylor College of Medicine Academy at Ryan Middle School DNA Day Presenter (Houston ISD)
2018	Prairie View A&M University Land Grant Research Symposium Panelist
2018	Drew Academy Career Fair (Aldine ISD)
2018	Cross Roads Community Church College Fair
2018	Science and Engineering Fair of Houston
2018	Edgar Allen Poe Elementary School Science Day (Houston ISD)
2017	March for Science Houston Science Demonstration Leader
2017	Lambda Zeta Chapter Scholarship Luncheon Speaker; “Pinky and the Brain: Lessons for Success”.
2017	Lambda Zeta Chapter Archonette Club Teen Summit Career Speaker; “Enjoying Life as a Scientist”.
2009-2011	Reviving Baseball In Inner Cities (RBI) High School SAT Prep Houston, TX Tutored reading comprehension and mathematics for local inner-city youth baseball team.

### **Research Summary**

My primary research interests lie in understanding the molecular mechanisms that govern host-pathogen interactions. Defining the structure and function of molecules at this interface will further our understanding of how pathogens sense their host environments and lead to the development of new therapeutic tools. My laboratory is currently focused on proteins key to the replication and pathogenesis of rotavirus, and identifying small molecules that inhibit their function.

### **Publications (\* denotes co-authorship)**

1. A Weissman\*, J Bennett \*, N Smith, C Burdorf, E Johnston, B Malachowsky, **L Banks**. Computational Modeling of Virally-encoded Ion Channel Structure. Research Square (preprint). *Under review for The Journal of Biological Physics*. June, 2023. DOI: <https://doi.org/10.21203/rs.3.rs-2182743/v1>
2. **L Banks**, A McDonough, D Whittington, D Murray. An Active Approach to Teaching Central Dogma. *The FASEB Journal*. 14 May 2021. DOI: 10.1096/fasebj.2021.35.s1.01708. *Proceedings of the American Society for Biochemistry and Molecular Biology 2021*.
3. K Engevik, **L Banks**, J Petrosino, M Engevik, J Hyser. Exploring the interaction between rotavirus and *Lactobacillus*. *The FASEB Journal*. 14 May 2021. DOI: 10.1096/fasebj.2021.35.s1.04505. *Proceedings of Experimental Biology 2021*.

4. D Murray, J Drummond, D Ritter, K Martin, **L Banks**, D Whittington. Bioinformatics Bootcamp: A model for training clinical researchers. Medical Research Archives. Vol 8 No 5 (2020): Vol.8 issue 5 May 2020. DOI: <https://doi.org/10.18103/mra.v8i5.2108>.
5. MA Engevik, **LD Banks**, KA Engevik, AL Chang-Graham, JL Perry, DS Hutchinson, NJ Ajami, JF Petrosino, JM Hyser. Microbial Degradation of Ileal Mucus Promotes Rotavirus Infection. Gastroenterology. Volume 158, Issue 6, Supplement 1, S-226-S-227, MAY 01, 2020. [https://doi.org/10.1016/S0016-5085\(20\)31254-3](https://doi.org/10.1016/S0016-5085(20)31254-3). Proceedings of the 2020 Digestive Diseases Week.
6. \*MA Engevik, \***LD Banks**, KA Engevik, AL Chang-Graham, JL Perry, DS Hutchinson, NJ Ajami, JF Petrosino, JM Hyser. Rotavirus infection induces glycan availability to promote ileum-specific changes in the microbiome aiding rotavirus virulence. Gut Microbes. 2020 Sep 2;11(5):1324-1347. doi: 10.1080/19490976.2020.1754714. Epub 2020 May 13. PMID: 32404017.
7. TG Hammerstrom, **LB Horton**, MC Swick, A Joachimiak, J Osipiuk, TM Koehler. Crystal structure of *Bacillus anthracis* virulence regulator AtxA and effects of phosphorylated histidines on multimerization and activity. Molecular Microbiology. 2015 Feb;95(3):426-41. doi: 10.1111/mmi.12867. PMID: 25402841.
8. CJ Adamski, AM Cardenas, NG Brown, **LB Horton**, B Sankaran, BV Prasad, HF Gilbert, T Palzkill. Molecular basis for the catalytic specificity of the CTX-M extended-spectrum  $\beta$ -lactamases. Biochemistry. 2015 Jan 20;54(2):447-57. doi: 10.1021/bi501195g. PMID: 25489790.
9. NP Sastri, M Viskovska, JM Hyser, MR Tanner, **LB Horton**, B Sankaran, BV Prasad, MK Estes. Structural plasticity of the coiled-coil domain of rotavirus NSP4. Journal of Virology. 2014 Dec;88(23):13602-12. doi: 10.1128/JVI.02227-14. PMID: 25231315.
10. **LB Horton**, S Shanker, R Mikulski, NG Brown, K Phillips, E Lykissa, BVV Prasad, TG Palzkill. Mutagenesis of zinc ligand residue Cys221 reveals plasticity in the IMP-1 metallo- $\beta$ -lactamase active site. Antimicrobial Agents and Chemotherapy. 2012 Nov;56(11):5667-77. PMID: 22908171.
11. P Chen, **LB Horton**, R Mikulski, L Deng, S Sundryal, TG Palzkill, Y Song. 2-Substituted 4,5-Dihydrothiazole-4-carboxylic Acids are novel inhibitors of Metallo- $\beta$ -lactamases. Bioorganic & Medicinal Chemistry Letters. 2012 Oct 1;22(19):6229-32. PMID: 22921080.
12. \*NG Brown, \***LB Horton**, \*W Huang, S Vongpunsawad, T Palzkill. Analysis of the functional contributions of Asn233 in the IMP-1 metallo- $\beta$ -lactamase. Antimicrobial Agents and Chemotherapy, 2011 Dec;55(12):5696-702. PMID:21896903
13. C Gorbea, KA Makar, M Pauschinger, G Pratt, JL Bersola, J Varela, RM David, **L Banks**, CH Huang, H Li, HP Schultheiss, JA Towbin, JG Vallejo, NE Bowles. A role for Toll-like receptor 3 variants in host susceptibility to enteroviral myocarditis and dilated cardiomyopathy. Journal of Biological Chemistry. 2010 Jul 23;285(30):23208-23. PMID: 20472559.
14. LB Boyd, MJ Maynard, SK Morgan-Linnell, **LB Horton**, R Sucgang, RJ Hamill, JR Jimenez, J Versalovic, D Steffen, and EL Zechiedrich. Relationships among ciprofloxacin, gatifloxacin, levofloxacin, and norfloxacin MICs in fluoroquinolone-resistant *Escherichia coli* clinical isolates. Antimicrob Agents and Chemotherapy. 2009 Jan;53(1):229-34. PMID: 18838594.

## **Invited Talks**

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1. Gordon Research Conference on Undergraduate Biology Education Research. STEM Identity and Octavia Butler. June 27, 2023. Bates College, Lewiston, ME.
2. Wellsley College Science Center Summer Research Program (SRP). "Being Data-driven". June 21, 2023. Wellsely, MA (virtual).
3. The University of Maryland Eastern Shore School of Pharmacy and Health Professions Spring Pharmaceutical Sciences Seminar. "Anti-Viroporin Drug Development for Rotavirus Treatment". May 4, 2023. Princess Anne, MD (virtual)
4. Bates College 2022 Kroepsch Award for Excellence in Teaching Panel (Honoring Dr. Sue Houchins), Courage to Transgress: Engaging Dangerous Ideas in the Classroom. Panelist. October 2022. Lewiston, ME.
5. Baylor College of Medicine Graduate School of Biomedical Sciences Graduate Student Symposium. Joseph L. Melnick Distinguished Guest Speaker (keynote). "Pinpointing the Center of Evil". May 2022. Houston, TX (virtual).
6. BioScience Research Collaborative at Rice University, Keck Center Innovation and Diversity in Biomedical Science Series. "The Pursuit of Global Domination". April 2022. Houston, TX (virtual).
7. Colgate Univeristy Biology Department Seminar. Pinpointing the Center of Evil: A Novel Anti-viral Design Approach. April 2022. Hamilton, NY.
8. The University of New England School of Osteopathic Medicine Department of Microbiology and Infectious Diseases Seminar- "Fighting Old Foes with New Friends". February 2022. Biddenford, ME (virtual).
9. Barnard College UPLiFT Seminar Series. "New Insights into Rotavirus NSP4 Molecular Structure". February 2021 (virtual).
10. San Francisco State University Department of Biology Seminar- "Knowing Your Enemy and Knowing Yourself: Combating Viral Infections from Many Angles". October 2020, San Francisco, CA (virtual).
11. Bates College Indigenous Peoples' Day Celebration, Co-organizer, and Discussion Panelist. October 2020. Lewiston, ME.
12. Premdecial Concepts Institute Biology VSE Panel Discussion - "The PCI Chronicles: Confessions of the Biology Elite?" Panelist. July 2020, Prairie View, TX. Virtual.
13. Bates Forté Foundation Speaker Series: Resilience. Guest speaker. June 2020. Lewiston, ME. Virtual.
14. PVAMU Spring 2020 BIOL1031 Seminar Course. Guest speaker. April 2020. Prairie View, TX. Virtual.
15. Boston Bates Business Network: Research, Biotech, and Pharma. Panelist. October 2019.
16. Bates College Center for Purposeful Work Grad School 101 Session. Panelist. October 2019.
17. Inaugural Bates College Indigenous Peoples' Day Celebration, Co-organizer, and Book Discussion Panelist. October 2019. Lewiston, ME.
18. *Segmental Changes of the Intestinal Microbiome in Rotavirus Diarrhea*. Panelist and Speaker at the New Scholars Symposium on Fostering Diversity in Microbiology: Research, Pedagogy, and Climate in STEM. January 2018, Bates College, Lewiston, Maine.
19. *March of Dimes Project ≥39*. Keynote speaker at the Zeta Phi Beta Sorority, Inc., Lambda Zeta Chapter, Stork's Nest Education Program Graduation. April 2017, Houston, TX.
20. *Structure Function Studies of Metallo-β-lactamase*. Keynote speaker at the Annual Biology Research Symposium at Prairie View A&M University, October 2009, Prairie View, TX.

### **Podcast and Other Interviews**

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1. **L Banks**. WISEcast from The Wisest Women, LLC. Title TBD. February 2023.
2. **L Banks**. Sun Journal. Portland, ME. 'COVID-19 created the perfect storm' for superbugs, CDC report says. July 14, 2022. <https://www.sunjournal.com/2022/07/14/covid-19-created-the-perfect-storm-for-superbugs-cdc-report-says/?fbclid=IwAR1-rLwTWiJscUQeUYrkb2qmSy2FWkar6FlZ2uYdnT4dX7jmhwf2C5diicc>
3. **L Banks**. Black Feminism, STEM, and me/ME. University of Maine Black Feminist Thought and Expression Course. November 2021.
4. **L Banks**. Stations WMTW and WGME Portland, Maine. Interviews about COVID-19 public health policies. Contributor 2021-2022.
5. **L Banks**. Interview about school masking policies (COVID-19). Maine Public Radio. All Things Considered. August 3, 2021.
6. L Batts, **L Banks**. Technically 200 Talks: Moms on STEM. June 3, 2021. Code2College.org. <https://technically200.com/lakeisha-batts-lori-banks/> .
7. **L Banks**. Dr. Lori Banks Named One of 1,000 Inspiring Black Scientists in America. The Bates Student. April 2021. <https://thebatesstudent.com/21777/features/dr-lori-banks-named-one-of-1000-inspiring-black-scientists-in-america/>
8. **L Banks**. Vaccinating the Virus. Rainier Olympic Nurses Association Newsletter. Spring 2021. [https://rainierolympicnurses.org/wpcontent/uploads/2021/04/RONA\\_Nwsltr\\_202103\\_WEB.pdf](https://rainierolympicnurses.org/wpcontent/uploads/2021/04/RONA_Nwsltr_202103_WEB.pdf)
9. **L Banks**. Why Clean Energy Should Be King: Contributing Piece by Dr. Lori Banks. March 10, 2021. <https://www.revisionenergy.com/blogs/why-isnt-clean-energy-king-it-should-be/>.
10. **L Banks**. The Gift of Science. Language of God, Episode 68. February 25, 2021. Biologos.org. <https://biologos.org/podcast-episodes/lori-banks-the-gift-of-science> .

## **Conferences and Meetings**

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### *Talks*

1. EC Duffy, **L Banks**. Preclinical Drug Development of a Novel Antiviral Target in Rotavirus. American Society for Biochemistry and Molecular Biology General Meeting. April 2022. Philadelphia, PA.
2. **L Banks**, R Simon, J Smith, M Zis. Connecting Classrooms to Communities: Empowering Students to Address Grand Challenges. Association of American Colleges and Universities Annual Meeting. January 2022. Washington, DC.
3. **L Banks**, D Elfman. Encouraging Students to See Themselves in STEM Careers. SO Connected Labster.com Conference. November 2021. Virtual.
4. A Delong, **L Banks**, A Dauge-Roth. Faculty Engagement and Purposeful Work at Bates College: Connecting the Classroom and the Laboratory to the World of Work. Annual Conference of the Coalition for Life-Transformative Education. September 2021. Virtual.
5. **L Banks**. Mutation Tolerance of the Rotavirus NSP4 Viroporin Domain. 47th Maine Biological and Medical Sciences Symposium. April 2020, Mount Desert Island, ME. Virtual.
6. **L Banks**, J Auchtung, DS Hutchinson, JL Perry, JF Petrosino, JM Hyser. Neonatal rotavirus infection alters the microbial geography of the small intestine. BCM 2016 Postdoc Seminar Series. March 2016. Houston, TX.
7. **LB Horton**, TG Hammerstrom, TM Koehler. A Phosphomimetic Mutant of the Bacillus anthracis Virulence Gene Regulator AtxA Exhibits Decreased Multimerization and Activity.



Talk presented at the International Conference on Bacillus anthracis, Bacillus cereus, and Bacillus thuringiensis, September 2013. Victoria, British Columbia, Canada.

8. **L Banks**, W Huang, and T Palzkill. Substrate Specificity Determinants of TEM-1  $\beta$ -Lactamase. Presented at the Minority Trainee Research Forum, September 2007. Fort Lauderdale, FL.

#### *Posters*

1. Gordon Research Conference on Undergraduate Biology Education Research. The Biochemistry of Health Disparities. June 28, 2023. Bates College, Lewiston, ME.
2. EC Duffy, **L Banks**. Preclinical Drug Development of a Novel Antiviral Target in Rotavirus. American Society for Biochemistry and Molecular Biology General Meeting. April 2022. Philadelphia, PA.
3. **L Banks**, A McDonough, D Whittington, D Murray. An Active Approach to Teaching Central Dogma. American Society for Biochemistry and Molecular Biology. April 2021.
4. K Engevik, **L Banks**, J Petrosino, M Engevik, J Hyser. Exploring the interaction between rotavirus and Lactobacillus. April 2021. Experimental Biology. April 2021.
5. J Bennett, **L Banks**. Computational Modeling of Viroporin Proteins From RNA Viruses. Biophysical Society Annual Meeting. February 2021. Virtual.
6. **L Banks**, M Engevick, DS Hutchinson, PB Ganesh, J Auchtung, A Chang-Graham, NJ Ajami, J Versalovic, JF Petrosino, JM Hyser. The Gut Microbiome and Host Contribute to Mucus Loss During Rotavirus Diarrhea. BCM Molecular Virology and Microbiology Retreat, October 2017. Houston, TX.
7. **L Banks**, DS Hutchinson, BP Ganesh, J Auchtung, NJ Ajami, J Versalovic, JF Petrosino, JM Hyser. Early Childhood Rotavirus Infection Alters Microbial Geography of The Small Intestine. Poster presented at the Molecular Basis of Infectious Disease (MBID) Retreat, March 2017. Houston, TX.
8. **L Banks**, DS Hutchinson, BP Ganesh, J Auchtung, NJ Ajami, J Versalovic, JF Petrosino, JM Hyser. Early Childhood Rotavirus Infection Alters Microbial Geography of The Small Intestine. Poster presented at the Frontiers in Digestive Diseases Symposium, February 2017. Houston, TX.
9. **L Banks**, DS Hutchinson, J Auchtung, JF Petrosino, JM Hyser. Spatial and Temporal Alterations of Infant Gut Microbial Geography during Acute Rotavirus Diarrhea. Poster presented at the International Human Microbiome Consortium, November 2016. Houston, TX.
10. **L Banks**, DS Hutchinson, J Auchtung, R Britton, JM Hyser. Spatial and Temporal Alterations of Infant Gut Microbial Geography during Acute Rotavirus Diarrhea. BCM Molecular Virology and Microbiology Retreat, October 2016. Houston, TX.
11. **L Banks**, DS Hutchinson, J Auchtung, R Britton, JM Hyser. Spatial and Temporal Alterations of Infant Gut Microbial Geography during Acute Rotavirus Diarrhea. Poster presented at the National IRACDA Conference, June 2016. Tucson, AZ.
12. **L Banks**, SE Blutt, JM Hyser, M Conner. Neonatal Rotavirus Infection Alters the Adult Gut Microbiome in Mice. Poster presented at the 7th Annual Frontiers in Digestive Diseases Symposium, February 2016. Houston, TX.
13. **LB Horton**, TG Hammerstrom, TM Koehler. Phosphoregulation of the Bacillus anthracis Virulence Regulator AtxA. Presented at the Molecular Basis of Infectious Disease (MBID) Retreat, March 2013. Houston, TX.

14. **L Horton**, T Palzkill. The Role of Cysteine 221 in IMP-1 Metallo- $\beta$ -lactamase Function. Poster presented at the American Society of Microbiology General Meeting, May 2009, Philadelphia, PA.
15. **L Banks**, W Huang, and T Palzkill. Role of Residues 101-114 in Specificity of TEM-1  $\beta$ -Lactamase. Presented at the Molecular Basis of Infectious Disease (MBID) Retreat, March 2008. Houston, TX.
16. **L Banks**, CH Huang, J Bersola, JS Baker, HS Hardarson, M Pauschinger, K Fitzgerald, JG Vallejo, NE Bowles. A novel mutation in the Toll/IL-1R domain-containing adapter inducing IFN $\beta$  (TRIF) gene and its potential association with virus-induced dilated cardiomyopathy. Presented at Annual Meeting of the Society for Pediatric Research, May 2005. Washington, D.C.
17. **L Banks**, LA Denner, RG Tilton. Analysis of NF- $\kappa$ B Pathway Components in Human Renal Cortex from Diabetic and Normal Patients. Presented at Intercultural Cancer Council Biennial Meeting, May 2004. Washington, D.C.

### **Current Research Support**

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1. NIH P20 GM103423      Banks Role: INBRE Subaward PI  
07/01/19 – 04/30/22      NIH/NIGMS  
05/01/22 – 04/30/24      Competative Renewal  
<https://maineinbre.org/research-projects/current-investigator-research/>

### **Completed Research Support**

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1. Roger C. Schmutz Grant for Faculty Research (Bates College)  
10/10/21 – 08/30/22
2. NIH R25-HG006674-02      Gibbs (PI), Banks Role: Instructor  
03/20/12 – 04/30/18      NIH/NHGRI
3. NIH K12 GM084897      Slaughter (PI), Banks Role: REACH-IRACDA Postdoctoral Fellow  
07/01/15-02/28/18      NIH/NIGMS
4. NIH 5R01AI033537      Supplement Koehler (PI), Horton Role: Postdoctoral Fellow  
07/01/12-06/30/14      NIH/NIAID
5. NIH T90DK070109      Stancel (PI), Horton Role: Predoctoral Fellow  
06/01/09-05/31/10      NIH/NIDDK
6. NIH 3R01GM062474      Supplement Vallejo (PI), Banks Role: Postbaccalaureate Fellow  
07/01/04-06/30/05      NIH/NIGMS

### **Current Teaching Support**

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1. Bonner Foundation Fellowship for Community Engaged Learning (CEL) in STEM. Designing and expanding CEL projects connected to STEM courses at Bates College. 2022-2023

### **Completed Teaching Support**

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1. Arthur Vining Davis Foundations Periclean Faculty Leaders in STEM and Social Sciences- Redesign of BIO321 Cellular Biochemistry Course to focus on the influence of public policy on the health of individuals through food availability. 2021-2022
2. Harvard Center for Community Partnerships Community-Engaged Learning Project Grant

Fall 2021 for BIO321 Cellular Biochemistry Course to provide food for nutritional biochemistry project with Lewiston Middle School.

3. Harvard Center for Community Partnerships Community-Engaged Learning Project Grant Winter 2020 for BIO315 Microbiology Course to focus on lay communication of science.

### **Patents**

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U.S. Patent Application 20120329842, “Small Molecule Compounds as Broad-Spectrum Inhibitors of Metallo-beta-lactamases”, invented by Yongcheng Song, Timothy Palzkill, Prasad B.V. Venkatar, **Lori B. Horton**, and Pinhong Chen. Published December 27, 2012.

### **Professional Memberships**

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2022-Present	Molecular Education and Research Consortium in Undergraduate computational chemistRY (MERCURY)
2021- Present	Black Microbiologists Association
2020- Present	American Chemical Society
2019-Present	American Society for Biochemistry and Molecular Biology
2016- Present	Black Women in Science and Engineering
2006- Present	American Society for Microbiology
2005- Present	Society for the Advancement of Chicanos and Native Americans in Science (Bates Chapter Advisor 2020-Present)