

# Reed M. Stubbendieck

ASSISTANT PROFESSOR

Department of Microbiology and Molecular Genetics, Oklahoma State University

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## Education

### Ph.D. Genetics

TEXAS A&M UNIVERSITY

2017

College Station, TX

- **Adviser:** Dr. Paul Straight
- **Dissertation:** Discovering Linear mycins in Bacterial Competition: Lysis, Autolysis, and Resistance

### Certificate - Microbial Specialised Metabolites: Origins and Applications

JOHN INNES CENTRE/RUDJER BOŠKOVIĆ SUMMER SCHOOL IN APPLIED MOLECULAR MICROBIOLOGY

2014

Dubrovnik, Croatia

### B.S. Biochemistry & Biological Sciences

UNIVERSITY OF NEBRASKA-LINCOLN

2011

Lincoln, NE

## Experience

### Assistant Professor

OKLAHOMA STATE UNIVERSITY - DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS

2022-Present

Stillwater, OK

### Postdoctoral Research Associate

UNIVERSITY OF WISCONSIN-MADISON - DEPARTMENT OF BACTERIOLOGY

2017-2022

Madison, WI

- **Adviser:** Dr. Cameron Currie

### Graduate Research Associate

TEXAS A&M UNIVERSITY - DEPARTMENT OF BIOCHEMISTRY & BIOPHYSICS

2012-2017

College Station, TX

- **Adviser:** Dr. Paul Straight

### Post-Baccalaureate Research Assistant

UNIVERSITY OF NEBRASKA-LINCOLN - DEPARTMENT OF BIOCHEMISTRY

2011

Lincoln, NE

- **Adviser:** Dr. Cheryl Bailey

### Undergraduate Research Assistant

UNIVERSITY OF NEBRASKA-LINCOLN - DEPARTMENT OF BIOLOGICAL SCIENCES

2008-2011

Lincoln, NE

- **Adviser:** Dr. Eileen Hebets

## Support

### GRANTS

#### Identification of Anti-*Staphylococcus aureus* Metabolites Produced by *Dolosigranulum pigrum* from the Human Nose

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

2024-Present

[1R03AI182770-01](#)

- **Role:** PI
- **Award:** \$136,056

#### Characterizing Pathogen-Mediated Production of Secondary Metabolites in the Human Aerodigestive Tract Microbiome

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

2024-Present

[1P20GM152333-01](#)

- **Role:** RPL
- **Award:** \$1,003,298
- NIH Centers of Biomedical Research Excellence Program - Phase I for the Oklahoma Center for Microbiome Research
- [Oklahoma State University Press Release](#)

## Identification of Antimicrobial Peptides against *Staphylococcus aureus* Produced by *Dolosigranulum pigrum* in the Nose

2023

OKLAHOMA CENTER FOR RESPIRATORY AND INFECTIOUS DISEASES PILOT PROJECT GRANT

- **Role:** PI
- **Award:** \$100,000 (Declined)

## Discovering Mechanisms of *Staphylococcus aureus* Inhibition by Commensal *Dolosigranulum pigrum*

2023-2024

OKLAHOMA STATE UNIVERSITY COLLEGE OF ARTS AND SCIENCES RESEARCH PROGRAM SEED GRANT

- **Role:** PI
- **Award:** \$10,000

## Determining the Role of Siderophores from Brown-Rot Fungi in Copper Tolerance

2020-2022

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

MSN244765

- **Roles:** preliminary data, analysis, and writing
- **Award:** \$10,000

## COVID-19 and the Nasal Microbiome: Potential Marker of Disease Outcomes and Novel Antivirals

2020-2021

WISCONSIN PARTNERSHIP PROGRAM

WPP4658

- **Roles:** project inception, writing, analysis, and management
- **Award:** \$49,452

## Identification of Novel MDR Antimicrobials from Human Microbiome Symbioses

2019-2022

NATIONAL INSTITUTE OF INFECTIOUS DISEASES CENTERS OF EXCELLENCE FOR TRANSLATIONAL RESEARCH

5U19AI142720-03 7250

- **Roles:** project inception, preliminary data, analysis, and writing
- **Award:** \$1,027,237

## FELLOWSHIPS & SCHOLARSHIPS

### Postdoctoral Fellowship in Computation and Informatics in Biology and Medicine

2018-2020

NATIONAL LIBRARY OF MEDICINE

- **Part of:** T15 LM007359
- **Award:** \$103,564

### Nebraska Institutional Development Award Program Networks of Biomedical Research Excellence Scholarship

2008-2011

NATIONAL INSTITUTES OF HEALTH

- **Part of:** P20 RR016469
- **Award:** \$10,450

### Nebraska Undergraduate Creative Activities and Research Experience Scholarship

2009-2010

UNIVERSITY OF NEBRASKA-LINCOLN

- **Award:** \$1000

## Publications

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\*, indicates co-first authorship. †, indicates corresponding author.

### PEER-REVIEWED PUBLICATIONS

1. **Reed M. Stubbendieck**, Jillian H. Hurst, & Matthew S. Kelly. (2024). *Dolosigranulum pigrum*: a promising nasal probiotic candidate. *PLOS Pathogens*. doi: [10.1371/journal.ppat.1011955](https://doi.org/10.1371/journal.ppat.1011955).
2. Rauf Salamzade, J.Z. Alex Cheong, Shelby Sandstrom, Mary Hannah Swaney, **Reed M. Stubbendieck**, Nicole Lane Starr, Cameron R. Currie, Anne M. Singh, & Lindsay Kalan. (2023). Evolutionary investigations of the biosynthetic diversity in the skin microbiome using *IsaBGC*. *Microbial Genomics*. doi: [10.1099/mgen.0.000988](https://doi.org/10.1099/mgen.0.000988).
3. **Reed M. Stubbendieck†**, Eishika Dissanayake, Peter M. Burnham, Susan E. Zelasko, Mia I. Temkin, Sydney S. Wisdorf, Rose F. Vrtis, James E. Gern, & Cameron R. Currie. (2023). *Rothia* from the human nose inhibit *Moraxella catarrhalis* colonization with a secreted peptidoglycan endopeptidase. *mBio*. doi: [10.1128/mbio.00464-23](https://doi.org/10.1128/mbio.00464-23). Highlighted in **mBio** and **Nature Reviews Microbiology**.

4. Eishika Dissanayake\*, Rebecca A. Brockman-Schneider\*, **Reed M. Stubbendieck**, Britney A. Helling, Zhumin Zhang, Yury A. Bochkov, Charmaine Kirkham, Timothy F. Murphy, Carole Ober, Cameron R. Currie, James E. Gern. (2023). Rhinovirus increases *Moraxella catarrhalis* adhesion to the respiratory epithelium. *Frontiers in Cellular and Infection Microbiology*. doi: [10.3389/fcimb.2022.1060748](https://doi.org/10.3389/fcimb.2022.1060748).
5. **Reed M. Stubbendieck†**, Susan E. Zelasko, Nasia Safdar, & Cameron R. Currie. (2021). Biogeography of Bacterial Communities and Specialized Metabolism in Human Aerodigestive Tract Microbiomes. *Microbiology Spectrum*. doi: [10.1128/Spectrum.01669-21](https://doi.org/10.1128/Spectrum.01669-21).
6. Ming Tang, Jie Lie, Wenpeng Hou, **Reed M. Stubbendieck**, Han Xiong, Jie Jin, Jiyi Gong, Chen Cheng, Xiaoxin Tang, Yinglong Liu, Zhaofeng Li, Jianfeng Wang, & Yin Yi. (2021). Structural variability in the bulk soil, rhizosphere, and root endophyte fungal communities of *Themeda japonica* plants under different grades of karst rocky desertification. *Plant and Soil*. doi: [10.1007/s11104-021-04969-y](https://doi.org/10.1007/s11104-021-04969-y).
7. **Reed M. Stubbendieck**, Hongjie Li, & Cameron R. Currie. (2019). Convergent evolution of signal-structure interfaces for maintaining symbioses. *Current Opinions in Microbiology*. doi: [10.1016/j.mib.2019.10.001](https://doi.org/10.1016/j.mib.2019.10.001).
8. Mia I. Temkin, Caitlin M. Carlson, Aaron L. Stubbendieck, Cameron R. Currie, & **Reed M. Stubbendieck†**. (2019). High Throughput Co-culture Assays for Investigation of Microbial Interactions. *Journal of Visualized Experiments*. doi: [10.3791/60275](https://doi.org/10.3791/60275).
9. Marc G. Chevrette\*, Jennifer R. Bratburd\*, Cameron R. Currie, & **Reed M. Stubbendieck†**. (2019). Experimental Microbiomes: Models Not to Scale. *mSystems*. doi: [10.1128/mSystems.00175-19](https://doi.org/10.1128/mSystems.00175-19).
10. **Reed M. Stubbendieck†**, Daniel S. May, Marc G. Chevrette, Mia I. Temkin, Evelyn Wendt-Pienkowski, Julian Cagnazzo, Caitlin M. Carlson, James E. Gern, & Cameron R. Currie. (2019). Competition among Nasal Bacteria Suggests a Role for Siderophore-Mediated Interactions in Shaping the Human Nasal Microbiota. *Applied and Environmental Microbiology*. doi: [10.1128/AEM.02406-18](https://doi.org/10.1128/AEM.02406-18).
11. **Reed M. Stubbendieck**, Dakota J. Brock, Jean-Philippe Pellois, Jason J. Gill, & Paul D. Straight. (2018). Linearmycins are lytic membrane-targeting antibiotics. *The Journal of Antibiotics*. doi: [10.1038/s41429-017-0005-z](https://doi.org/10.1038/s41429-017-0005-z).
12. B. Christopher Hoefler\*, **Reed M. Stubbendieck\***, N. Kalyani Josyula, Sabrina M. Moisan, Emma M. Schulze, & Paul D. Straight. (2017). A Link between Linearmycin Biosynthesis and Extracellular Vesicle Genesis Connects Specialized Metabolism and Bacterial Membrane Physiology. *Cell Chemical Biology*. doi: [10.1016/j.chembiol.2017.08.008](https://doi.org/10.1016/j.chembiol.2017.08.008).
13. **Reed M. Stubbendieck**, & Paul D. Straight. (2017). Linearmycins Activate a Two-component Signaling System Involved in Bacterial Competition and Biofilm Morphology. *Journal of Bacteriology*. doi: [10.1128/JB.00186-17](https://doi.org/10.1128/JB.00186-17).
14. **Reed M. Stubbendieck**, Carol Vargas-Bautista, & Paul D. Straight. (2016). Bacterial Communities: Interactions to Scale. *Frontiers in Microbiology*. doi: [10.3389/fmicb.2016.01234](https://doi.org/10.3389/fmicb.2016.01234).
15. **Reed M. Stubbendieck**, & Paul D. Straight. (2016). Multifaceted Interfaces of Bacterial Competition. *Journal of Bacteriology*. doi: [10.1128/JB.00275-16](https://doi.org/10.1128/JB.00275-16).
16. **Reed M. Stubbendieck**, & Paul D. Straight. (2015). Escape from Lethal Bacterial Competition through Coupled Activation of Antibiotic Resistance and a Mobilized Subpopulation. *PLOS Genetics*. doi: [10.1371/journal.pgen.1005722](https://doi.org/10.1371/journal.pgen.1005722).
17. **Reed M. Stubbendieck**, Anthony J. Zera, & Eileen A. Hebets. (2013). No evidence for a relationship between hemolymph ecdysteroid levels and female reproductive behavior in *Schizocosa* wolf spiders. *The Journal of Arachnology*. doi: [10.1636/B12-71.1](https://doi.org/10.1636/B12-71.1).

#### BOOK CHAPTERS

1. **Reed M. Stubbendieck**, & Paul D. Straight. (2020). Specialized Metabolites for Bacterial Communication. *Comprehensive Natural Products III: Chemistry and Biology*. doi: [10.1016/B978-0-12-409547-2.14803-6](https://doi.org/10.1016/B978-0-12-409547-2.14803-6).

## Licenses

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### Fluorescent-Tagged *Moraxella catarrhalis* For Cell Culture Experiments

2021

WISCONSIN ALUMNI RESEARCH FOUNDATION

P210244US01

## Awards

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### PLATFORM PRESENTATION AND POSTER AWARDS

#### Molecular Genetics of Bacteria and Phages Meeting

2016

OUTSTANDING POSTER AWARD

#### 24<sup>th</sup> Annual Texas A&M University Biochemistry & Biophysics Graduate Student Oral Research Competition

2016

1<sup>ST</sup> PLACE AWARD

#### 1<sup>st</sup> Annual Texas A&M University Genetics Graduate Student Oral Research Competition

2016

1<sup>ST</sup> PLACE AWARD

#### Texas A&M University Genetics Graduate Student Poster Competition

2016

4<sup>TH</sup> PLACE AWARD

#### Nebraska's Institutional Development Awards Networks of Biomedical Research Excellence Annual Convention Poster Competition

2016

2<sup>ND</sup> PLACE AWARD

### TRAVEL AWARDS

#### Oklahoma State University College of Arts and Sciences Travel Award

2023

RECIPIENT

- **Award:** \$1200

#### Texas A&M Genetics Graduate Student Association Travel Award

2016

RECIPIENT

- **Award:** \$500

#### Texas A&M Genetics Graduate Student Association Travel Award

2015

RECIPIENT

- **Award:** \$500

#### Texas A&M Biochemistry Graduate Student Association Travel Award

2014

RECIPIENT

- **Award:** \$500

#### Texas A&M Genetics Graduate Student Association Travel Award

2014

RECIPIENT

- **Award:** \$500

## Mentoring

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OKLAHOMA STATE UNIVERSITY (CURRENT: 6, TOTAL: 13)

### Graduate Students (Current: 1, Total: 1)

#### Niladri Bhowmik

2023-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

### Rotating Graduate Students (Total: 3)

#### Md. Ikram Rafid

2023

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

#### Niladri Bhowmik

2023

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

**Undergraduate Students (Current: 3, Total: 8)**

**Jonathan Lee**

2023-Present

**Kalen Strunk**

2023-Present

**Madeline Reichert**

2023-Present

**Helen Zaghloul**

2023

**Addison Browning**

2023

**Reagan Decker**

2022-2023

**Luke Myers**

2022-2023

**Claire Daniel**

2022-2023

**Other Staff (Current: 1, Total: 1)**

**Mercedes Perez**

2023-Present

LAB MANAGER

**UNIVERSITY OF WISCONSIN-MADISON (TOTAL: 7)**

**Rotating Graduate Students (Total: 3)**

**Susan Zelasko**

2018

MICROBIOLOGY DOCTORAL TRAINING PROGRAM M.D./PH.D. STUDENT

**Kirsten Gotting**

2017

GENETICS PH.D. STUDENT

**Lauren Lucas**

2017

MICROBIOLOGY DOCTORAL TRAINING PROGRAM PH.D. STUDENT

**Undergraduate Students (Total: 4)**

**Kristi Hetchler**

2019-2020

- **Project Title:** Detecting and Determining Mode of Action of Bacteria that Inhibit *Moraxella catarrhalis* Using Stress Response Promoters

**Timothy Davenport**

2019-2020

- **Project Title:** Sticking Our Noses in *Moraxella catarrhalis* Sensitivity to the Human Nasal Microbiome

**Quin Perrault**

2019

- **Project Title:** The Susceptibility of Nasal Bacteria to Lysozyme

**Mia Temkin**

2018-2019

- **Thesis Title:** Investigating the inhibition of *Moraxella catarrhalis* by the nasal microbiota

## TEXAS A&M UNIVERSITY (TOTAL: 14)

### Rotating Graduate Students (Total: 10)

<b>Paul Merlau</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2016
<b>Neha Deshpande</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2016
<b>Huajun Han</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2015
<b>Donna Iadarola</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2015
<b>Ishita Chandel</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2015
<b>John Mosior</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2015
<b>Dakota Brock</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2014
<b>Chengxi Zhang</b> BIOCHEMISTRY & BIOPHYSICS PH.D. STUDENT	2014
<b>Yue Xing</b> GENETICS PH.D. STUDENT	2013
<b>Diana Medina</b> GENETICS PH.D. STUDENT	2013

### Undergraduate Students (Total: 4)

<b>Paolo Giovanelli</b> • <b>Thesis Title:</b> Isolation and partial characterization of a specialized metabolite that induces sliding motility in <i>Bacillus subtilis</i>	2016
<b>Yifan Ma</b>	2016
<b>Roosheel Patel</b> • <b>Thesis Title:</b> <i>In vivo</i> transposon mutagenesis of <i>Streptomyces</i> sp. Mg1	2013-2015
<b>Daniel Labuz</b> NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCES FOR UNDERGRADUATES STUDENT • <b>Project Title:</b> Transposon mutagenesis to identify <i>Bacillus subtilis</i> resistance to lytic/degradative activity	2018-2019

## UNIVERSITY OF NEBRASKA-LINCOLN (TOTAL: 1)

### Undergraduate Students (Total: 1)

<b>Travis Jensen</b> • <b>Project Title:</b> A Simplistic Bioinformatics Approach to Clade Identification in <i>Chlorella</i> -like Green Algae	2011
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# Teaching

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## COURSES

### Oklahoma State University

#### Microbes: Friends or Foes

PRIMARY INSTRUCTOR

2023-Present

MICR 3103 (N)

#### Seminar

PRIMARY INSTRUCTOR

2023-Present

MICR 5160

#### Special Problems: Research

PRIMARY INSTRUCTOR

2022-Present

MICR 4990

### Texas A&M University

#### Comprehensive Genetics Laboratory for Non-Majors and Majors

LABORATORY INSTRUCTOR

2015-2016

GENE 311 & 312

#### Comprehensive Genetics Laboratory for Non-Majors and Majors

LABORATORY INSTRUCTOR

2011-2012

GENE 301 & 302

### University of Nebraska-Lincoln

#### Independent Research in Bioinformatics

TEACHING ASSISTANT

2010-2011

BIOC 498

#### Biochemistry I

TEACHING ASSISTANT

2010-2011

BIOC 431

#### General Chemistry I and II

UNDERGRADUATE TEACHING ASSISTANT CORPS

2009-2011

CHEM 109-110

#### Organismal Biology Laboratory

LABORATORY INSTRUCTOR

2009

BIOS 103

## GUEST LECTURES

#### Advanced Honors Experience in Chemistry

OKLAHOMA STATE UNIVERSITY

2023

CHEM 3890

- **Instructor:** Dr. David Miller
- **Lecture:** Antibiotics and the Microbiome

#### The Role of the Human Microbiome in Health and Disease

UNIVERSITY OF WISCONSIN-MADISON

2021

MMI 902

- **Instructor:** Dr. Lindsay Kalan
- **Lecture:** Airway Microbiomes

#### Introduction to Biomedical Engineering

UNIVERSITY OF CENTRAL OKLAHOMA

2019

BME 1311

- **Instructor:** Dr. Scott Mattison
- **Lecture:** Antibiotics: From Below Your Toes to Inside Your Nose

#### Diversity, Ecology, and Evolution of Microorganisms

UNIVERSITY OF WISCONSIN-MADISON

2018-2019

MICRO 450

- **Instructors:** Drs. Cameron Currie & Federico Rey
- **Lecture:** Community Ecology and Microbial Interactions

# Service

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## PEER REVIEW

Ad Hoc Peer Reviewer for *Applied and Environmental Microbiology*, *Frontiers in Bacteriology*, *Frontiers in Microbiology*, *Journal of Bacteriology*, *Journal of Visualized Experiments*, *Microbial Genomics*, *Microbiology Spectrum*, *mSystems*, *PeerJ*, *Scientific Reports*, *Trends in Microbiology*, and *World Journal of Microbiology and Biotechnology* (see [Web of Science](#) for a full list of verified reviews).

## EDITORIAL ROLES

### **Frontiers in Bacteriology**

2022-Present

REVIEW EDITOR

Section: Molecular Bacteriology and Microbiome

## ADVISING ROLES

### **American Medical Student Association (Pre-Med) - Oklahoma State University**

2023-Present

CO-ADVISER

## STUDENT DISSERTATION & THESIS COMMITTEES

### **Oklahoma State University (Current: 7, Total: 8)**

#### **Rashna Sharmeen Shama**

2024-Present

MICROBIOLOGY AND MOLECULAR GENETICS M.S. STUDENT

#### **Bableen Kaur**

2024-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

#### **Niladri Bhowmik**

2023-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

#### **Abigail Meek**

2023

MICROBIOLOGY AND MOLECULAR GENETICS ACCELERATED M.S. STUDENT

#### **Mehraj Ansari**

2023-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

#### **Himidu Pitigala Arachchilage**

2023-Present

INTEGRATIVE BIOLOGY PH.D. STUDENT

#### **Autumn Hansen**

2023-Present

MICROBIOLOGY AND MOLECULAR GENETICS M.S. STUDENT

#### **Damilare Ajagbe**

2022-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

## OUTREACH

### **Skype a Scientist**

2018-Present

ONLINE

I meet with K-12 classes virtually across the United States for informal conversations about how microbiology influences our lives and to answer students' questions about careers in STEM fields.

### **Wisconsin Science Expeditions**

2017-2022

THE CURRIE LABORATORY - UNIVERSITY OF WISCONSIN-MADISON

Using interactive activities and a living display of a fungus-farming ant colony, members of the Currie laboratory educate the Madison community about symbiosis between animals and microbes, antimicrobial drug discovery, and the development of biofuels.

### **Scientific Sidequests**

2018-2019

ONLINE

I contributed articles to a blog called Scientific Sidequests that focused on explaining scientific concepts to a lay audience using examples from popular culture.



## Nebraska Science Olympiad

2011

SCIENCE OLYMPIAD

I generated and reviewed questions for the biology section of the Nebraska Science Olympiad contest.

## Upward Bound

2009-2011

THE HEBETS LABORATORY - UNIVERSITY OF NEBRASKA-LINCOLN

As a member of the Hebets laboratory, I was part of a university program that invited low-income first-generation high school students to participate in summer research experiences with the goal of helping students recognize their potential and encourage them to pursue future STEM education.

## Professional Activities

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### PLATFORM PRESENTATIONS & SEMINARS

#### Oklahoma State University

2024

OKLAHOMA CENTER FOR RESPIRATORY AND INFECTIOUS DISEASES

- **Talk Title:** Bacterial Competition as a Means To Identify Antimicrobials from the Human Microbiome

#### University of Oklahoma Health Sciences Center

2023

DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

- **Talk Title:** Actinobacteria Mediate Pathogen Inhibition and Iron Competition in the Nose

#### Southern Methodist University

2023

DEPARTMENT OF EARTH SCIENCES SEMINAR SERIES

- **Talk Title:** Actinobacteria Mediate Pathogen Inhibition and Iron Competition in the Nose

#### Society for Industrial Microbiology and Biotechnology Annual Meeting

2023

CONFERENCE PRESENTATION

- **Talk Title:** Mining for Gold: Uncovering Biosynthetic Gene Clusters in the Human Nose, Mouth, and Beyond
- Invited Speaker

#### University of Central Oklahoma

2023

TRI-CENTER SYMPOSIUM

- **Talk Title:** The Nose Knows: Commensal Actinobacteria as an Alternative to Traditional Antimicrobials
- Invited Keynote Speaker

#### University of Oklahoma

2023

DEPARTMENT OF MICROBIOLOGY AND PLANT BIOLOGY SEMINAR SERIES

- **Talk Title:** Actinobacteria Mediate Pathogen Inhibition and Iron Competition in the Nose

#### Texas A&M University

2022

GENETICS AND GENOMICS SEMINAR SERIES

- **Talk Title:** Actinobacteria Compete for Iron and Reduce Pathogen Colonization in the Human Nose

#### International Society for the Biology of Actinomycetes

2022

CONFERENCE PRESENTATION

- **Talk Title:** Actinobacteria Reduce Pathogen Colonization in the Human Nose

#### Oklahoma State University

2022

DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS SEMINAR

- **Talk Title:** Microbial Competition: From Beneath Your Toes to Inside Your Nose

#### Auburn University

2021

DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY SEMINAR

- **Talk Title:** Natural Products in Microbial Competition: From Beneath Your Toes to Inside Your Nose

#### University of Wisconsin-Milwaukee

2021

DEPARTMENT OF BIOLOGICAL SCIENCES SEMINAR

- **Talk Title:** Bacterial Competition: From Beneath Your Toes to Inside Your Nose

## University of North Carolina Chapel Hill

2021

CATALYST SYMPOSIUM

- **Talk Title:** Competition and Specialized Metabolism Shape Bacterial Communities in Aerodigestive Tract Microbiomes
- Invited Speaker
- Online Due to COVID-19 Pandemic

## University of Wisconsin-Madison

2020

COMPUTATION AND INFORMATICS IN BIOLOGY AND MEDICINE SEMINAR SERIES

- **Talk Title:** Aerodigestive Tract Microbiomes Possess Extensive and Varied Potential for Specialized Metabolism
- Online Due to COVID-19 Pandemic

## National Library of Medicine Informatics Training Conference

2020

HOSTED AT OREGON HEALTH AND SCIENCES UNIVERSITY

- **Talk Title:** Investigating the Antibiotic Biosynthetic Potential of the Aerodigestive Tract Microbiome
- Online Due to COVID-19 Pandemic

## Prokaryotic Pathogens Seminar Series

2020

ONLINE

- **Talk Title:** Competition among Nasal Bacteria Suggests a Role for Siderophore-Mediated Interactions in Shaping the Human Nasal Microbiota

## Rutgers University

2019

SYMPOSIUM CELEBRATING 75<sup>TH</sup> ANNIVERSARY OF DISCOVERY OF STREPTOMYCIN

- **Talk Title:** Ants, Agriculture, and Antibiotics: Drugs from Bugs of Bugs and Beyond
- Keynote Speaker

## University of Wisconsin-Madison

2018

COMPUTATION AND INFORMATICS IN BIOLOGY AND MEDICINE SEMINAR SERIES

- **Talk Title:** Microbial Competition from Below Your Toes to Inside Your Nose

## Conference on Beneficial Microbes

2018

HOSTED AT THE UNIVERSITY OF WISCONSIN-MADISON

- **Talk Title:** Bacterial Competition Mediated by Siderophore Production from the Human Nasal Microbiota

## Texas A&M University

2016

STUDENT RESEARCH WEEK

- **Talk Title:** Crisis Control: Adaptation to Microbial Competition

## Texas A&M University

2016

24<sup>TH</sup> ANNUAL BIOCHEMISTRY & BIOPHYSICS GRADUATE STUDENT ORAL RESEARCH COMPETITION

- **Talk Title:** Escape from Lethal Bacterial Competition through Coupled Activation of Antibiotic Resistance and a Mobilized Subpopulation
- 1<sup>st</sup> Place Award

## Texas A&M University

2016

1<sup>ST</sup> ANNUAL GENETICS GRADUATE STUDENT ORAL RESEARCH COMPETITION

- **Talk Title:** Escape from Lethal Bacterial Competition through Coupled Activation of Antibiotic Resistance and a Mobilized Subpopulation
- 1<sup>st</sup> Place Award

## Texas A&M University

2015

GENETICS GRADUATE STUDENT SEMINAR SERIES

- **Talk Title:** Escape from Lethal Bacterial Competition through Coupled Activation of Antibiotic Resistance and a Mobilized Subpopulation

## Texas A&M University

2015

BIOCHEMISTRY GRADUATE STUDENT SEMINAR SERIES

- **Talk Title:** Chemical Genetic Approach to Understanding Lysis and Degradation of *Bacillus subtilis* by *Streptomyces* sp. Mg1

- Texas A&M University** 2013  
5<sup>TH</sup> ANNUAL A. I. SCOTT SYMPOSIUM FOR EXCELLENCE IN BIOLOGICAL CHEMISTRY
- **Talk Title:** Lysis and Degradation of *Bacillus subtilis* in Competition with *Streptomyces* sp. Mg1
- Nebraska Academy of Sciences** 2010  
ANNUAL MEETING
- **Talk Title:** The Relationship between 20-Hydroxyecdysone and Reproductive Behavior and Physiology in Wolf Spiders
- Nebraska's Institutional Development Award Networks of Biomedical Research Excellence** 2009  
ANNUAL RESEARCH CONFERENCE
- **Talk Title:** Radioimmunological Determination of Ecdysteroid Titters in *Schizocosa* Wolf Spiders
- Nebraska Academy of Sciences** 2009  
ANNUAL MEETING
- **Talk Title:** The Effect of 20-Hydroxyecdysone in *Schizocosa* Wolf Spiders
- POSTER PRESENTATIONS
- Molecular Genetics of Bacteria and Phages Meeting** 2023  
UNIVERSITY OF WISCONSIN-MADISON
- **Poster Title:** *Rothia* from the human nose inhibit *Moraxella catarrhalis* colonization with a secreted peptidoglycan endopeptidase
- Conference on Beneficial Microbes** 2022  
UNIVERSITY OF WISCONSIN-MADISON
- **Poster Title:** Human nasal *Rothia* mitigate *Moraxella catarrhalis* infection through production of secreted antimicrobial proteins
- Computation and Informatics in Biology and Medicine Training Program and the Bio-Data Science Program Annual Retreat** 2019  
UNIVERSITY OF WISCONSIN-MADISON
- **Poster Title:** Investigating the Human Nasal Cavity Microbiome as a Source of Novel Narrow-Spectrum Antibiotics
- Molecular Genetics of Bacteria and Phages Meeting** 2019  
ANNUAL MEETING
- **Poster Title:** Digging for Antibiotic Gold from the Human Nasal Cavity Microbiome
- Computation and Informatics in Biology and Medicine Training Program and the Bio-Data Science Program Annual Retreat** 2018  
UNIVERSITY OF WISCONSIN-MADISON
- **Poster Title:** Bacterial Competition Mediated by Siderophore Production in the Human Nasal Cavity
- Madison Microbiome Meeting** 2018  
UNIVERSITY OF WISCONSIN-MADISON
- **Poster Title:** Bacterial Competition Mediated by Siderophore Production in the Human Nasal Cavity
- Molecular Genetics of Bacteria and Phages Meeting** 2016  
ANNUAL MEETING
- **Poster Title:** Interface of Specialized Metabolism and Developmental Functions to Promote the Fitness of Bacteria in Competition
  - Outstanding Poster Award
- 5<sup>th</sup> Conference on Prokaryotic Cell Biology** 2015  
AMERICAN SOCIETY FOR MICROBIOLOGY
- **Poster Title:** Lysis of *Bacillus subtilis* in Competition with *Streptomyces* sp. Mg1

**Genetics Graduate Program Graduate Research Competition** 2015

TEXAS A&M UNIVERSITY

- **Poster Title:** A Mechanism of Resistance in a Model Bacterial Competition
- 4<sup>th</sup> Place Award

**Microbial Specialised Metabolites: Origins and Applications** 2014

5<sup>TH</sup> JOHN INNES-RUDJER BOÅIKOVIC SUMMER SCHOOL IN APPLIED MOLECULAR MICROBIOLOGY

- **Poster Title:** Chemical Genetic Approach to Understanding Lysis and Degradation of *Bacillus subtilis* by *Streptomyces* sp. Mg1

**Microbial Stress Response** 2014

GORDON RESEARCH CONFERENCES

- **Poster Title:** Chemical Genetic Approach to Understanding Lysis and Degradation of *Bacillus subtilis* by *Streptomyces* sp. Mg1

**6<sup>th</sup> Annual Genetics Graduate Student Association Mini-Symposium** 2014

TEXAS A&M UNIVERSITY

- **Poster Title:** Chemical Genetic Approach to Understanding Lysis and Degradation of *Bacillus subtilis* by *Streptomyces* sp. Mg1

**Genetics Graduate Student Research Competition** 2014

TEXAS A&M UNIVERSITY

- **Poster Title:** Chemical Genetic Approach to Understanding Lysis and Degradation of *Bacillus subtilis* by *Streptomyces* sp. Mg1

**5<sup>th</sup> Annual Genetics Graduate Student Association Mini-Symposium** 2013

TEXAS A&M UNIVERSITY

- **Poster Title:** Identifying Molecules Responsible for Competitive Lysis and Degradation of *Bacillus subtilis*

**Genetics Graduate Student Research Competition** 2013

TEXAS A&M UNIVERSITY

- **Poster Title:** Identifying Molecules Responsible for Competitive Lysis and Degradation of *Bacillus subtilis*

**Biochemistry Department Bioinformatics Poster Session** 2010

UNIVERSITY OF NEBRASKA-LINCOLN

- **Poster Title:** Annotation of the CG11148 Isoform Splice Sites and fd19B Gene Location in *Drosophila grimshawi*

**Nebraska's Institutional Development Awards Networks of Biomedical Research Excellence Annual Research Convention** 2010

ANNUAL RESEARCH CONFERENCE

- **Poster Title:** Investigating the Functions of Ecdysteroids in *Schizocosa* Wolf Spiders
- 2<sup>nd</sup> Place Award

**Biochemistry Department Bioinformatics Poster Session** 2010

UNIVERSITY OF NEBRASKA-LINCOLN

- **Poster Title:** Proposed Annotation for an ATP Synthase F0 Subcomplex b Subunit Gene in *Cellulomonas flavigena*

**Undergraduate Creative Activities and Research Experience Annual Poster Session** 2010

UNIVERSITY OF NEBRASKA-LINCOLN

- **Poster Title:** The Effect of 20-Hydroxyecdysone in *Schizocosa* Wolf Spiders

## Affiliations & Memberships

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**Oklahoma Center for Respiratory and Infectious Diseases**

OKLAHOMA STATE UNIVERSITY

2023-Present

- Member (2023-Present)

**American Society for Microbiology**

WASHINGTON, DC

2014-Present

- Member (2014-Present)

## Biochemistry Graduate Student Association

TEXAS A&M UNIVERSITY

2012-2017

- Member (2012-2017)

## Genetics Graduate Student Association

TEXAS A&M UNIVERSITY

2011-2017

- President (2013-2014)
- Treasurer (2012-2013)
- Member (2011-2017)

## Professional Development Courses & Workshops Attended

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### Raising Resilient Scientists

NATIONAL INSTITUTES OF HEALTH

2024

### Safe Zone Training

OKLAHOMA STATE UNIVERSITY - OFFICE OF MULTICULTURAL AFFAIRS

2023

### Early Career Faculty Program

OKLAHOMA STATE UNIVERSITY - INSTITUTE FOR TEACHING AND LEARNING EXCELLENCE

2022

### Wisconsin Idea STEM Fellows Workshop

MORGRIDGE INSTITUTE FOR RESEARCH

2020

### Deciphering the Microbiome Workshop

NATIONAL SCIENCE FOUNDATION

2019

- Invited Participant

### Interacting with the Media: Tips for Scientists Workshop for Postdocs

UNIVERSITY OF WISCONSIN-MADISON

2019

### Delta Internship Seminar Series

UNIVERSITY OF WISCONSIN-MADISON - CENTER FOR THE INTEGRATION OF RESEARCH, TEACHING AND LEARNING COURSE

2019

### Writing Across the Curriculum

UNIVERSITY OF WISCONSIN-MADISON - CENTER FOR THE INTEGRATION OF RESEARCH, TEACHING AND LEARNING COURSE

2019

### Teaching in an Internationally Diverse Classroom

UNIVERSITY OF WISCONSIN-MADISON - CENTER FOR THE INTEGRATION OF RESEARCH, TEACHING AND LEARNING COURSE

2018

### Did Your Students Learn What You Wanted Them To? Writing Effective/Measurable Learning Outcomes

UNIVERSITY OF WISCONSIN-MADISON

2018

### Research Mentorship Series

UNIVERSITY OF WISCONSIN-MADISON

2018

### Project Management Workshop

UNIVERSITY OF WISCONSIN-MADISON

2018

### Applying for NIH K Awards

UNIVERSITY OF WISCONSIN-MADISON

2018

### Microbiota Data Analysis in R

UNIVERSITY OF WISCONSIN-MADISON - BIOTECHNOLOGY CENTER

2017

### Microbiota Data Analysis in mothur

UNIVERSITY OF WISCONSIN-MADISON - BIOTECHNOLOGY CENTER

2017

### Assessing Your Transferrable Skills

UNIVERSITY OF WISCONSIN-MADISON

2017

### Mentoring Undergraduates

TEXAS A&M UNIVERSITY

2011