

Reed M. Stubbendieck

ASSISTANT PROFESSOR

Department of Microbiology and Molecular Genetics, Oklahoma State University

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This is an abbreviated CV with items from 2021 and beyond. See [here](#) for the full-length version

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

Publications

*, 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).

Licenses

Fluorescent-Tagged *Moraxella catarrhalis* For Cell Culture Experiments

2021

WISCONSIN ALUMNI RESEARCH FOUNDATION

[P210244US01](#)

Awards

TRAVEL AWARDS

Oklahoma State University College of Arts and Sciences Travel Award

2023

RECIPIENT

- **Award:** \$1200

Mentoring

OKLAHOMA STATE UNIVERSITY (CURRENT: 6, TOTAL: 18)

Graduate Students (Current: 2, Total: 2)

Madeline Reichert

2024-Present

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

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

Yashi Batra

2023

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

Undergraduate Students (Current: 2, Total: 10)

Hariette Diarra

2024-Present

Elixiva Marcum

2024-Present

Jonathan Lee

2023-2024

Kalen Strunk

2023-2024

Madeline Reichert

2023-2024

Helen Zaghloul

2023

Addison Browning

2023

Reagan Decker

2022-2023

Luke Myers

2022-2023

Claire Daniel

2022-2023

Other Staff (Current: 2, Total: 3)

Elixiva Marcum

LABORATORY TECHNICIAN

2024

Akram Al Daerwsh

LABORATORY TECHNICIAN

2024-Present

Mercedes Perez

LAB MANAGER

2023-Present

Teaching

COURSES

Oklahoma State University

Microbes: Friends or Foes

PRIMARY INSTRUCTOR

2023-Present

MICR 3103 (N)

Seminar

PRIMARY INSTRUCTOR

2023-2024

MICR 5160

Special Problems: Research

PRIMARY INSTRUCTOR

2022-Present

MICR 4990

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

Service

PEER REVIEW

Ad Hoc Peer Reviewer for *Applied and Environmental Microbiology*, *Frontiers in Bacteriology*, *Frontiers in Microbiology*, *International Journal of Systematic and Evolutionary 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

REVIEW EDITOR

2022-Present

Section: Molecular Bacteriology and Microbiome

ADVISING ROLES

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

CO-ADVISER

2023-Present

JUDGING

Oral Presentation Judge at the 9th Conference on Beneficial Microbes

2024

STUDENT DISSERTATION & THESIS COMMITTEES

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

Rashna Sharmeen Shama

MICROBIOLOGY AND MOLECULAR GENETICS M.S. STUDENT

2024-Present

Bableen Kaur

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

2024-Present

Niladri Bhowmik

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

2023-Present

Abigail Meek

MICROBIOLOGY AND MOLECULAR GENETICS ACCELERATED M.S. STUDENT

2023

Mehraj Ansari

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

2023-Present

Himidu Pitigala Arachchilage

INTEGRATIVE BIOLOGY PH.D. STUDENT

2023-Present

Autumn Hansen

MICROBIOLOGY AND MOLECULAR GENETICS M.S. STUDENT

2023-Present

Damilare Ajagbe

MICROBIOLOGY AND MOLECULAR GENETICS PH.D. STUDENT

2022-Present

OUTREACH

Latin American Natural Product Genome Mining Workshop

CENTRO DE INVESTIGACIÓN EN MATEMÁTICAS

- **Roles:** Organizer and Faculty Instructor
- **Topics:** Introduction to Natural Product Biosynthesis & Ecology and Evolution of Natural Products

The Latin American Natural Product Genome Mining Workshop aims to engage with early career researchers across Latin America interested in natural products, their regulation and biosynthesis in an ecological context. For more information please see [here](#).

2024

Skype a Scientist

ONLINE

I met 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.

2018-2022

Wisconsin Science Expeditions

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.

2017-2022

Professional Activities

PLATFORM PRESENTATIONS & SEMINARS

Centro de Investigación en Matemáticas

LATIN AMERICAN NATURAL PRODUCT GENOME MINING WORKSHOP

- **Talk Title:** Bacterial Interactions and Secondary Metabolism the Human Aerodigestive Tract

2024

Oklahoma State University

OKLAHOMA CENTER FOR MICROBIOME RESEARCH

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

2024

Oklahoma State University

OKLAHOMA CENTER FOR RESPIRATORY AND INFECTIOUS DISEASES

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

2024

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

POSTER PRESENTATIONS

Molecular Genetics of Bacteria and Phages Meeting 2024

UNIVERSITY OF WISCONSIN-MADISON

- **Poster Authors:** Madeline Reichert, Mercedes Perez Perez, Luke Myers, James E. Gern, **Reed M. Stubbendieck**
- **Poster Title:** Genomic Insight Into Mechanisms Underlying Pathobiont Protection by Nasal Probiotic *Dolosigranulum pigrum*

Conference on Beneficial Microbes 2024

UNIVERSITY OF WISCONSIN-MADISON

- **Poster Authors:** Niladri Bhowmik, Akram Al Daerwish, Elixiva Marcum, **Reed M. Stubbendieck**

- **Poster Title:** Identification of Secondary Metabolites and Biosynthetic Gene Clusters from Cystic Fibrosis Microbiomes

Annual Undergraduate Research Symposium

2024

OKLAHOMA STATE UNIVERSITY

- **Poster Authors:** Jonathan Lee & **Reed M. Stubbendieck**
- **Poster Title:** Investigation of the Effects of L-Lactic Acid on the Pathobiont *Moraxella catarrhalis*

Oklahoma Center for Respiratory and Infectious Diseases

2024

OKLAHOMA STATE UNIVERSITY

- **Poster Authors:** Niladri Bhowmik & **Reed M. Stubbendieck**
- **Poster Title:** Identification of Secondary Metabolites and Biosynthetic Gene Clusters from Cystic Fibrosis Microbiomes

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

Affiliations & Memberships

Latin American Natural Product Genome Mining Workshop

GUANAJUATO, MEXICO

2024-Present

- Faculty Instructor (2024-Present)
- Organizer (2024-Present)

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)

Professional Development Courses & Workshops Attended

Raising Resilient Scientists

2024

NATIONAL INSTITUTES OF HEALTH

Safe Zone Training

2023

OKLAHOMA STATE UNIVERSITY - OFFICE OF MULTICULTURAL AFFAIRS

Early Career Faculty Program

2022

OKLAHOMA STATE UNIVERSITY - INSTITUTE FOR TEACHING AND LEARNING EXCELLENCE