

Michael Paxhia

210 Whitehall Rd, Apt 19B, Athens GA 30605 – (269) 729 6067 – mpaxhia@uga.edu

Education

- 2014 – Pres. Ph.D. Candidate and NSF GRFP Fellow in the Microbiology Ph.D. program – GPA: 3.82
University of Georgia, Athens, GA
- 2009 – 2013 B.S. in Biochemistry, Molecular Biology & Biotechnology with honors – GPA: 3.78
Additional major in Genomics and Molecular Genetics
Michigan State University, East Lansing, MI

Research Experience

- 2014 – Pres. Graduate Research Assistant with Diana Downs, Ph.D., Athens, GA.
Investigating how the incorporation of a heterologous pathway for thiamine synthesis affects the structure and function of the metabolic network of *Salmonella enterica*.
- 2013 – 2014 Genetics Intern at Pfizer, Inc., Kalamazoo, MI.
Worked with Pankaj Soni, Ph.D., and Yousong Ding, Ph.D. in the Bioprocess Development Group to engineer industrial enzymes with increased activity and stereospecificity for substrates involved in active pharmaceutical ingredient (API) production. Also worked with Jyh-Song Horng, Ph.D. to metabolically engineer production strains to improve API fermentations.
- 2009 – 2013 Undergraduate Research Assistant with Gemma Reguera, Ph.D., East Lansing, MI.
Worked on genetic analysis of the role of the lipopolysaccharide of *Geobacter sulfurreducens* in mediating electronic contacts between the cell and metals, the cell and other cells, and its interaction with electroconductive pili (protein nanowires).
- Summer 2012 Corn Milling Quality Management Intern at Cargill, Wahpeton, ND.
Determined the difference in efficacy of a process change to industrial saccharification of starch using thermostable amylases.
- Summer 2011 Nutritional Chemistry Intern at Covance, Inc., Battle Creek, MI.
Collaborated with analytical chemists and microbiologists to design a quality control program to improve beer shelf life for a client.

Publications

- Palmer LD, Paxhia MD, Downs DM. 2015. Induction of the sugar-phosphate stress response allows *Saccharomyces cerevisiae* 2-methyl-4-amino-5-hydroxymethylpyrimidine phosphate synthase to function in *Salmonella enterica*. J Bacteriol 197:3554-3562.

Fellowships, Awards and Honors

- 2018 Gene Michaels Fellowship for career development
- 2016 – 2020 NSF GRFP Fellow
- 2016 Wind River Student Travel Award

2016 Graduate Travel Award – NSF GRFP Proposal

2015 Journal of Bacteriology Spotlight – Highlighted Palmer et. al. 2015 as an article of significant interest in November

2015 Graduate Travel Award – NSF GRFP Proposal

2013 Gerhardt Award for Outstanding Undergraduate Research in Microbiology at MSU

2013 First place poster at MSU's University Undergraduate Research and Arts Forum (UURAF) in the category of Microbiology, Immunology and Infectious Disease

2013 MSU Undergraduate Research Showcase – Invited to display UURAF poster from 2012

2012 – 2013 MSU Dean's Research Scholar for the College of Natural Science

2012 First place poster at MSU's UURAF in the category of Cell Biology, Genetics and Genomics

2012 Frank Peabody Microbiology Student Research Award at MSU

Fall 2011 – Spring 2013 – MSU College of Natural Science Undergraduate Research Fellowship

2009 – 2011 – MSU Professorial Assistantship Fellowship

Oral Presentations

Michael D. Paxhia and Diana Downs. "Defining Requirements for Yeast Thi5p Activity *In Vitro* and in a Heterologous Network." Department of Microbiology, University of Georgia. March 21, 2017.

Michael D. Paxhia and Diana Downs. "Initial characterization of *LpTHI5*, the HMP-P synthase from *Legionella pneumophila*." 60th Wind River Conference on Prokaryotic Biology. Estes Park, CO. June 2, 2016.

Michael D. Paxhia and Diana Downs. "Heterologous function of yeast Thi5p in *Salmonella enterica*." Department of Microbiology, University of Georgia. October 6, 2015.

Poster Presentations

Michael D. Paxhia, Lauren D. Palmer, and Diana Downs "Metabolic impacts of replacing *thiC* from *Salmonella enterica* with the *THI5* gene from *Saccharomyces cerevisiae*" ASM General Meeting 2015. New Orleans, LA. June 2.

Michael D. Paxhia, Jenna M. Young, Michael P. Manzella, and Gemma Reguera "Using lipopolysaccharide truncation mutants to investigate surface characteristics and metal reduction in *Geobacter sulfurreducens*" University Undergraduate Research and Arts Forum 2013. East Lansing, MI. April 12.

Michael D. Paxhia, Jenna M. Young, Michael P. Manzella, and Gemma Reguera "Using lipopolysaccharide truncation mutants to investigate surface characteristics and metal reduction in *Geobacter sulfurreducens*" University Undergraduate Research and Arts Forum 2012. East Lansing, MI. April 13.

Teaching/Mentoring Experience

Aug 17 – Apr 18 Riya Gohil, Undergraduate, University of Georgia
Summer 2017 Jamika Page, REU, Cheyney University
Jan 17 – Dec 17 Alliyah Byrd, Undergraduate, University of Georgia
Jun – Oct 2016 Jaqueline Dixon, Post-Baccalaureate, University of Georgia
Summer 2016 Teaching Assistant, Introductory Microbiology Lab, University of Georgia

Professional Development

May 2018 “The Whole Scientist” course at The Jackson Laboratory, Bar Harbor, ME
Summer 2017 Entering Mentoring Workshop
Spring 2015 Completed Responsible Conduct of Research course – GRSC 8550
Fall 2014 Became a Center for the Integration of Research, Teaching and Learning Associate

Outreach

March 2018 Georgia Science and Engineering Fair (GSEF) Judge and Category Leader in Biochemistry, Cellular & Molecular Biology
March 2017 GSEF Judge in Microbiology
March 2016 GSEF Judge and Junior Division Category Leader in Chemistry
Nov 2015 Presented my undergraduate and graduate research and discussed careers in biotechnology at the Battle Creek Area Mathematics and Science Center (Invited presentation)
Fall 2015 Clarke County School District – 21st Century Skills after-school program – Led weekly science tutoring sessions for middle school students
June 2015 J.W. Fanning Institute for Leadership Development’s Leadership Without Limits – Led a microbiology demonstration through a summer program for migrant youth
March 2015 GSEF Judge and Junior Division Category Leader in Chemistry, Microbiology
Feb 2015 Georgia Junior Science & Humanities Symposium Paper and Poster Judge in Microbiology
Spring 2015 Experience UGA Group Leader – Assisted scientific demonstrations by leading groups of middle school students from the Clarke County School District
May 2014 Presented my undergraduate research and discussed careers in biotechnology at the Battle Creek Area Mathematics and Science Center (Invited presentation)
2012 – 2013 Dean’s Research Scholar for the College of Natural Science at MSU
Representative of the College of Natural Science at conferences and events, presenting my research to the general public and promoting investment into undergraduate research. Assisted in raising \$510,000 in pledges to help support the College of Natural Science and undergraduate research.