

# Malak Bazzi

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## EDUCATION

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### UNIVERSITY OF MICHIGAN

July, 2024

*Ph.D. Molecular, Cellular & Developmental Biology*

*Gary Huffnagle Lab*

GPA: 3.88/4.00

Rackham Merit Fellow '18

Science Communication Fellow '23

### UNIVERSITY OF MICHIGAN

May, 2018

*Bachelor of Science in Microbiology*

GPA: 3.50/4.00

William Brehm Scholar, May-Walt LSA Science Scholar, Lebanese Student Association Vice President

## TEACHING EXPERIENCE

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### ASSISTANT PROFESSOR OF BIOLOGY, ADRIAN COLLEGE

Adrian, MI

Aug. 2024-present

- BIOL327: Advanced Microbiology
- BIOL326: Microbiology + Laboratory
- BIOL131: General Biology I – Molecules and Cells + Laboratory

### ADJUNCT PROFESSOR OF MICROBIOLOGY, ADRIAN COLLEGE

Adrian, MI

Jan. – May 2024

- Responsible for constructing and teaching an upper-level Microbiology course and Microbiology Laboratory for undergraduate students.

### UNIVERSITY OF MICHIGAN

Ann Arbor, MI

#### Graduate Student Instructor (GSI) – BIO207 (Microbiology)

Jan. 2021-present

- After multiple semesters of teaching this undergraduate course, I have developed extremely good teaching skills and organizational skills
- Experienced in teaching remotely and in-person.
- Held weekly office hours; involved in the planning and decision-making for the course.

### GRADUATE STUDENT MENTOR

Ann Arbor, MI

Sept. 2023-present

- Observing the teaching of first-time graduate student instructors (GSIs).
- Consistently providing advice and guidance to GSIs.

## **UM GUEST LECTURER: MCDB 408 - Genomic Biology**

Ann Arbor, MI  
March 6-8, 2023

- Invited to prepare two 90 minute lectures for a senior undergraduate course at the University of Michigan.
- I covered topics ranging from the earliest microbial diversity found on Earth to the complex systems we share with microbes in our everyday life.
- I took students on my journey of microbiome research over the past decade by sharing some of the most novel discoveries and the best practices for analyzing microbiome studies.
- I assigned students a research paper to read and led a thoughtful discussing during the next meeting.

## **LUMIERE EDUCATION**

*Apr. 2021-present*

- PhD-level research mentor for high-achieving, self-motivated students worldwide looking to partake in publication-worthy research.
- Held weekly one-on-one meetings with students to advance their research and writing. Sessions included brainstorming a research question of interest, collecting literature for the student, creating a timeline/structure for the research project, reading and revising the student's writing, and aiding in the submission to a target journal or conference.

## **UNIVERSITY OF MICHIGAN**

Ann Arbor, MI

### **Graduate Student Instructor (GSI) – BIO173 (ARC)**

*Sept. 2019-Dec. 2019*

- Laboratory instructor for a biology course that exposes undergraduate students to real-world human microbiome research.
- Held office hours weekly and worked closely with students in the laboratory.
- Involvement in the planning of experiments, and decision-making for the course overall.

## **UNIVERSITY OF MICHIGAN**

Ann Arbor, MI

### **Undergraduate Instructor (UI) – U-M Introductory Biology Lab**

*Sept. 2015-Jan. 2017*

- Helped instruct a class of undergraduates study their own microbiome for a Michigan Microbiome Project study.
- Pre-ran experiments, set up all laboratory equipment and materials, organized and trained the new UIs hired.
- Involved in the planning and decision-making for the course.

## **RESEARCH EXPERIENCE**

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## **UNIVERSITY OF MICHIGAN**

Ann Arbor, MI

### **Graduate Student Researcher, Huffnagle Lab**

*Sept. 2018-Jul. 2024*

- Investigated changes in microbial ecology of the intestinal epithelium as a result of amoxicillin treatment in a murine model.
- Investigated changes in the intestinal host response as a result of amoxicillin treatment in a murine model.
- Explored the mucosal immunobiology of *Candida albicans* infection on the gastrointestinal epithelium and microbiome.
- Explored differences in the colonization kinetics of *C. albicans* strains SC5314 and CHN1 in the mouse intestinal tract.

- Proficient in techniques ranging from culture-based microbiology methods to culture-independent methods. Examples include, and are not limited to, PCR, quality control, working with a mouse model, biological tissue collection, DNA/RNA extraction from specimens, high-throughput sequencing (Illumina Sequencing and quantitative PCR (qPCR)), data and statistical analyses using R and PRISM.

**UNIVERSITY OF MICHIGAN**

Ann Arbor, MI

**Undergraduate Researcher, Kamada Lab**

Sept. 2016-May 2018

- Explored the competition between commensal and pathogenic *E. coli* in the mouse gut.

**UNIVERSITY OF MICHIGAN**

Ann Arbor, MI

**Undergraduate Researcher, Schmidt Lab**

Sept. 2015-Aug. 2016

- Investigated the effects of different resistant starches on butyrate levels and the microbiome in mice.

**PUBLICATIONS**

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***Scientific Manuscript (in preparation for review)***

TBD

“Microbial Ecology of Intestinal Microbiome Reassembly and Epithelium Immune Response Post Amoxicillin Treatment in Mice”

Malak H. Bazzi, Nicole R. Falkowski, Christopher A. Brown, Gary B. Huffnagle

***Scientific Manuscript - MBio (in preparation for review)***

TBD

“Modulation of Intestinal Microbiome Reassembly by *Candida albicans* Following Antibiotic Therapy”

Malak H. Bazzi, Karen D. Zeise, Shipra Garg, Nicole R. Falkowski, Kathryn L. Nawrocki, Christopher A. Brown, Piyush Ranjan, John R. Erb-Downward, Gary B. Huffnagle

***Scientific Review Article – The Journal of Infectious Diseases***

June 2021

“Inter-Kingdom Communication and Regulation of Mucosal Immunity by the Microbiome”

Alexander D. Ethridge<sup>1</sup>, Malak H. Bazzi<sup>2</sup>, Nicholas W. Lukacs<sup>1,3,4</sup>, Gary B. Huffnagle<sup>1,2,4,5,6</sup>

***Scientific Paper – Nature Microbiology Journal***

October 2017

“Dietary L-serine confers a competitive fitness advantage to Enterobacteriaceae in the inflamed gut”

Sho Kitamoto<sup>1</sup>, Christopher J. Alteri<sup>2</sup>, Hiroko Nagao-Kitamoto<sup>1</sup>, Malak Bazzi<sup>1</sup>, Shoji Yamada<sup>1</sup>, Atsushi Hayashi<sup>1</sup>, Kenneth W. Simpson<sup>7</sup>, Harry L. T. Mobley<sup>3</sup>, Eric C. Martens<sup>3</sup>, John Y. Kao<sup>1</sup>, Shinji Fukuda<sup>4</sup>, Nicolas Barnich<sup>5</sup> and Nobuhiko Kamada<sup>1</sup>

**PRESENTATIONS**

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**American Society for Microbiology**

Los Angeles, CA

June 19-23, 2025

- Intestinal Microbiome Reassembly and Host Gene Expression Following Amoxicillin Treatment in BALB/c Mice in the Presence and Absence of *Candida albicans* Colonization

**Malak Bazzi, PhD** and Gary Huffnagle, PhD

### **American Society for Microbiology**

Houston, TX

June 14-19, 2023

- Modulation of Intestinal Microbiome Reassembly Following Antibiotic Therapy and Subsequent *Candida albicans* Colonization

**Malak H. Bazzi**, Nicole R. Falkowski, Christopher A. Brown, Gary B. Huffnagle

### **Midwest Neglected Infectious Diseases Meeting**

Notre Dame, IN

*August 12-13, 2022*

- Modulation of Intestinal Microbiome Reassembly by *Candida albicans* Following Antibiotic Therapy

**Malak H. Bazzi**, Karen D. Zeise, Katie L. Nawrocki, Shipra Garg, Piyush Ranjan, Christopher A. Brown, Nicole R. Falkowski, John Erb-Downward, and Gary B. Huffnagle

### **8<sup>th</sup> Conference on Beneficial Microbes**

Madison, WI

*July 10-14, 2022*

- Modulation of Intestinal Microbiome Reassembly by *Candida albicans* Following Antibiotic Therapy

**Malak H. Bazzi**, Karen D. Zeise, Katie L. Nawrocki, Shipra Garg, Piyush Ranjan, Christopher A. Brown, Nicole R. Falkowski, John Erb-Downward, and Gary B. Huffnagle

### **M-FARA Research Symposium: Advancing the Science of Food Allergy.**

Ann Arbor, MI

June 1-2, 2022

- The Microbial Ecology of *Candida albicans* strains CHN1 and SC5314 in Mice  
**Malak H. Bazzi**, Katie L. Nawrocki, Shipra Garg, Christopher A. Brown, Nicole R. Falkowski, Kelsey G. Stark, and Gary B. Huffnagle

***Candida and Candidiasis Conference - Poster Presentation*** *March 2021*

- The Microbial Ecology of *Candida albicans* strains CHN1 and SC5314 in Mice  
**Malak H. Bazzi**, Katie L. Nawrocki, Shipra Garg, Christopher A. Brown, Nicole R. Falkowski, Kelsey G. Stark, and Gary B. Huffnagle

***Kamada Lab Conference*** *September 2017*

- Orally presented on the competition between commensal and pathogenic *E. coli* in the mouse gut microbiome.

***Kenneth Rainin Foundation 2017 Innovations Symposium*** San Francisco, CA  
*July 24-25, 2017*

- Presented by my post-doctoral advisor, Dr. Sho Kitamoto - Dietary amino acids allow pathobionts to thrive in Crohn's disease patients
- Sho Kitamoto<sup>1</sup>, Christopher J. Alteri<sup>2</sup>, Hiroko Nagao-Kitamoto<sup>1</sup>, **Malak Bazzi**<sup>1</sup>, Peter Kuffa<sup>1</sup>, Atsushi Hayashi<sup>1</sup>, Shinji Fukuda<sup>3</sup>, Nicholas A. Pudlo<sup>2</sup>, Eric C. Martens<sup>2</sup>, Harry L. T. Mobley<sup>2</sup>, Nicolas Barnich<sup>4</sup> and Nobuhiko Kamada<sup>1</sup>

***Keystone Symposia on Molecular and Cellular Biology*** Keystone, CO  
*Feb. 5-9, 2017*

- Presented by Dr. Sho Kitamoto – Gut inflammation-driven metabolic reprogramming regulates the competitive fitness of pathogenic *E. coli*
- Sho Kitamoto<sup>1</sup>, Christopher J. Alteri<sup>2</sup>, Hiroko Nagao-Kitamoto<sup>1</sup>, **Malak Bazzi**<sup>1</sup>, Atsushi Hayashi<sup>1</sup>, Peter Kuffa<sup>1</sup>, Peter D. R. Higgins, Shinji Fukuda<sup>3</sup>, Nicolas Barnich and Nobuhiko Kamada<sup>1</sup>

***University of Michigan Biological Sciences Undergraduate Research Poster Session***  
*April, 2016*

- The effects of dietary supplementation on butyrate levels and the structure and function of the gut microbiome.
- **Malak Bazzi**, Sarah Schmielewski, Marko Lubardic, Daniel Paglia

## **CERTIFICATIONS**

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- **Online Teaching Certification**
- **Science Communication Fellowship Program**
  - Univ. of Michigan Museum of Natural History, Class of 2023
- **Biotech Career Development Program**
  - Univ. of Michigan, Class of 2023
- **IACUC Animal Use Training**
  - ULAM: Laboratory Rat and Mouse Handling
  - ULAM: Animal Room Procedures for Rodents

- ABLIS-2 Containment Housing Training
- **Responsible Conduct of Research and Scholarship (RCRS) Training**
- **Bloodborne Pathogens (BBP) Training for Research Labs**
- **General Lab Safety Training**
- **Centrifuge Training**
- **Autoclave Training**

## **ADDITIONAL SKILLS**

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- Medical Terminology Proficiency
- Medical and Scientific Writing
- Experience managing undergraduate research projects.
- Successful in writing grant proposals and manuscripts for peer-reviewed publication.
- Self-managing team player with strong communication and organizational skills.
- Skilled in presenting findings and research at national and international meetings.
- Expert in Word, PowerPoint, Excel, and PRISM
- Proficient in R