**EDUCATION**

**Ph.D. in Microbiology** - University of California, Davis Dec 2013

**Bachelor of Science in Biology** - University of Notre Dame May 2006

**SKILLS SUMMARY**

* + Cell Culture (Bacterial/Mammal)
  + Rodent Handling
  + PCR, qPCR, RT-qPCR
  + DNA/RNA isolation
  + Next Generation Sequencing
  + Cloning
  + Data Analysis
  + Coding (R, Python, SQL)
  + Oral/Written Communication
  + Quality Assurance
  + Project Management
  + Microsoft Office Suite
  + Science Communication
  + Science Education
  + Instructor-lead training

**ACADEMIC RESEARCH EXPERIENCE**

**Postdoctoral Research Fellow Univ. of Michigan Medical School 2015-present**

Advisor: Patrick D. Schloss Ph.D., Microbiology and Immunology

* Determining the role of the fecal microbiome in inflammatory bowel disease and bowel cancer, as well as whether the fecal microbiome can be a useful biomarker for disease severity or therapeutic response.

**Graduate Student Researcher UC Davis 2010-2013**

Advisor: Bart C. Weimer Ph.D., School of Veterinary Medicine

* Investigated single stranded DNA (aptamers) linked to an immunogenic sugar as a potential therapeutic for methicillin resistant *S. aureus* (MRSA) via mouse models of Staphylococcal sepsis.
* Mentored/trained undergraduate researchers.

**Graduate Student Researcher UC Davis 2006-2010**

Advisor: Thomas W. North Ph.D., Center for Comparative Medicine

* Investigated the mechanism of inhibition of a novel HIV drug, DCM205, developed in the lab of Prof. Gervay-Hague with Dr. Chris Meadows at UC Davis, via drug resistance studies and direct viral assays.

**Undergraduate Research Assistant Univ. of Notre Dame 2005-2006**

Advisor: Edward E. McKee Ph.D., Biochemistry and Molecular Biology Indiana University School of Medicine - South Bend

* Examined the effects of antiretroviral drugs on mitochondria and thymidine phosphorylation using the radiolabeled drugs in the perfused rat heart model.

**Intern in Quality Assurance Apple Computer Summer 2003, 2004**

* Worked independently and collaboratively as part of top customer service tier addressing major customer issues with iTunes.
* Worked within deadlines to push new, quality assured content to www.mac.com and in customer support for related applications including, iCal, Back-up, iPhoto, and email.
* Demonstrated problem solving abilities by creating work-arounds for customer issues.
* Provided clear instructions for bug detection to software developers for correction.

**TEACHING EXPERIENCE**

**Adjunct Professor National University, Sacramento 2013-2015**

* **Introductory Microbiology Lecture and Lab**
* **Introductory Chemistry Lecture and Lab**
* **Duties:** Led lecture and lab sections, maintained student records, held office hours, wrote and graded exams, quizzes, and lab exercises.

**Teaching Assistantships UC Davis 2008-2013**

**Introductory Microbiology Laboratory**

* Quarters Taught: Summer1-2013, Spring 2013, Winter 2012, Summer1-2011 Winter 2011

**Introduction to Biology: Essentials of Life on Earth (Discussion, Lecture, and Head TA)**

* Quarters taught: Winter 2013, Summer2-2011, Summer2-2010, Spring 2011, Summer1-2010, Winter 2010, Spring 2009, Winter 2009, Fall 2008, Spring 2008

**General Microbiology Laboratory**

* Quarters Taught: Fall 2012, Fall 2011, Fall 2010, and Spring 2010
  + Received strong evaluations (available upon request)

**SERVICE**

**Michigan DNA Day** 2017

* Taught the Genomics & Inheritance module at Huron High School as part of the annual event where scientists visit local high schools to present interactive, hands-on lessons about genetics, genomics, and biotechnology.

**Science Communication Fellowship - Powerhouse Science Center** 2013

* Participated in a course to develop science communication skills and a hands-on outreach activity, related to my research, for presentation to diverse audiences at the museum
* Fellows are researchers and other science-based professionals certified by the Powerhouse Science Center in Sacramento, CA as science ambassadors and excellent communicators

**PROFESSIONAL AFFILIATIONS**

Member, American Society of Microbiology

Member, American Academy for the Advancement of Science

**HONORS/AWARDS**

Notre Dame Student Athlete Academic Excellence 2005, 2006

Braco Award for Excellence in Undergraduate Cellular Biology Research 2004

**PRESENTATIONS**

1. “The Fecal Microbiome as a Tool for Monitoring and Predicting Response Outcomes in Ustekinumab-Treated, Anti-TNFα Refractory Crohn’s Disease Patients: Results from the CERTIFI Study.” **M.K. Doherty**,C. Koumpouras, S.E. Telesco, C.S. Monast, C. Brodmerkel, P.D. Schloss. DDW 2017. Chicago, IL. May, 2017. (Oral Presentation).
2. “The Fecal Microbiome, Disease Severity, and Predicting Therapeutic Response in Crohn’s Disease.” **Matthew Doherty**, Charlie Koumpouras, Shannon Telesco, Calixte Monast, and Patrick Schloss. UM / MSU Microbiology Retreat. Kellogg Biological Station, Hickory Corners, MI. October 2016. (Poster).
3. “The Microbiome, Disease Severity, and Predicting Therapeutic Response.” Microbiome Group Seminar Series, University of Michigan Host Microbiome Initiative. Ann Arbor, MI. September 2016. (Seminar).
4. “Vancomycin and aptamer to *Staphylococcus aureus* are synergistic *in vivo.*” **Doherty, Matthew K.**, Prerak Desai, Leslie Woods, Mai Lee Yang, Janneth Pinzon, Nguyet Dao, and Bart C. Weimer. 113th General Meeting. American Society for Microbiology. Denver, CO.  May 2013. (Poster).
5. “Human Immunodeficiency Virus and Targets for Treatment” General Microbiology (MIC102). University of California, Davis. Davis, CA. Spring 2012. (Lecture).
6. “Determining the Mechanism of HIV-1 Inhibition by DCM205.” **Doherty, M.K**., Duong, Y.T., Meadows, D.C., Gervay-Hague, J., and North, T.W. First Annual UC Davis Microbiology Graduate Group - Spotlight on Graduate Research Symposium. Davis, CA February 2009. (Poster).

**PUBLICATIONS**

1. **Doherty, M.K**., Desai, P., Woods L., Yang M.L., Pinzon, J., Dao, N., and Weimer, B.C. Vancomycin and aptamer to *Staphylococcus aureus* are synergistic *in vivo.* (Submitted, Virulence).
2. **Doherty, M.K.,** Ding, T., Koumpouras, C., Telesco, S.E., Monast, C.S., Brodmerkel, C., and Schloss, P.D. The fecal microbiome as a tool for monitoring and predicting response outcomes in Ustekinumab-treated, anti-TNF-alpha refractory Crohn’s Disease patients. (Manuscript in preparation for mBio)