**EDUCATION**

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

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

**QUALIFICATIONS AND SKILLS SUMMARY**

* + Data Analysis
  + Oral/Written Communication
  + Project Management
  + Microsoft Office Suite
  + Coding (R, HTML, Python)
  + Cell Culture
  + Bacterial & Viral Culture
  + Aseptic Technique
  + PCR, qPCR, RT-qPCR
  + DNA/RNA isolation
  + Cloning
  + Science Communication
  + Science Education
  + Instructor-lead training
  + Social Media Application

**ACADEMIC RESEARCH EXPERIENCE**

**Postdoctoral Research Fellow Univ. of Michigan Medical School 2017-present**

Advisor: Tom Schmidt Ph.D., Infectious Disease

* Microbiome research related to the effects of dietary resistant starch supplements
* Culture banking and sequencing the human gut microbiota

**Postdoctoral Research Fellow Univ. of Michigan Medical School 2015-2017**

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.

**INDUSTRY EXPERIENCE**

**Intern in Quality Assurance Apple Computer 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**

**Instructor University of Michigan 2017-present**

* **Michigan Microbiome Project - Introductory Biology Lab**
* **Duties:** Lead lab section, teach undergraduates while they perform authentic research, maintain student records, hold office hours, lecture, write and grade exams, quizzes, and lab exercises

**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 Assistant UC Davis 2008-2013**

* **Introductory Microbiology Laboratory**
* **Duties**: Instructed two lab sections per week, proctored exams, maintained student records (e.g. grades); evaluated student entry visas, lab notebooks, and exit visas in a timely manner.
  + Quarters Taught: Summer1-2013, Spring 2013, Winter 2012, Summer1-2011 Winter 2011
  + Instructor of Record: Dr. Eric Mann Ph.D., Dept. of Microbiology
  + Received strong evaluations (available upon request)
* **Introduction to Biology: Essentials of Life on Earth (Discussion, Lecture, and Head TA)**
* **Duties**: Maintained/submitted student records (e.g. grades), proctored exams, took part in ta meeting, helped advise/mentor discussion TAs, Ran weekly discussion sections, maintained/submitted student records (e.g. grades), read/evaluated student essays, held weekly office hours, attended lectures, upload podcasts of lectures, proctored exams, attended weekly TA meeting, assisted students during discussion
  + Quarters taught: Winter 2013, Summer2-2011, Summer2-2010, Spring 2011, Summer1-2010, Winter 2010, Spring 2009, Winter 2009, Fall 2008, Spring 2008
  + Instructors of Record: Dr. Kirk Ehmsen Ph.D., Dr. Mitch Singer Ph.D., Dr. Alex Appleman Ph.D., and Dr. Karen Gerhart Ph.D.
    - **Overall Evaluation Score: 4.7/5**
* **General Microbiology Laboratory**
* **Duties**: Oversaw lab sections each week; attended weekly TA meeting, maintained student records; coordinated with tutors for lab technique demonstration; graded lab reports, weekly lab notebook and final notebook.
  + Quarters Taught: Fall 2012, Fall 2011, Fall 2010, and Spring 2010
  + Instructors of Record: Dr. Doug Nelson Ph.D., Dr. Michele Igo Ph.D., and Dr. Rebecca Parales Ph.D.
  + Received strong evaluations (available upon request)

**FELLOWSHIPS**

**American Society for Microbiology Teaching Fellowship 2013-2014**

* Participated in a five-month development opportunity to help prepare doctoral-trained students for science teaching positions at a variety of non-doctoral institutions.
* The experience is designed to help fellows deepen their understanding and strengthen their skills for science teaching positions at community colleges, minority-serving institutions, regional or state colleges, and primarily undergraduate institutes.

**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.
* Certified by the Powerhouse Science Center in Sacramento, CA as a science ambassador and excellent communicator.

**OUTREACH AND ACADEMIC 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.

**Judge, Teen Biotech Challenge 2013**

* Judged websites created by California high school students to demonstrate biotechnology’s impact on society in the focus area of “Drug Discovery & Biomanufacturing.”

**Admissions Committee Representative 2010**

Microbiology Graduate Student Association, UC Davis

* Represented the microbiology graduate students on the Microbiology Graduate Group Admissions Committee. Helped chose applicants to accept for interviews and matriculation into the Microbiology graduate group.

**Social Chair and Recruitment Coordinator 2009**

Microbiology Graduate Student Association, UC Davis

* Organized social events for the microbiology graduate students to encourage student networking.
* Assisted in planning and executing recruitment weekend for prospective students.

**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

**SOCIAL MEDIA**

Twitter: @DrMkDPhD

LinkedIn: www.linkedin.com/pub/matt-doherty-ph-d/70/3b1/a87/

**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.* (In preparation, Virulence).
2. **Doherty, M.K.,** Ding, T., Koumpouras, C., Telesco, S.E., Monast, C.S., Brodmerkel, C., and Schloss, P.D. Fecal microbiota signatures are predictive of response to Ustekinumab therapy among Crohn’s Disease patients. (Accepted for publication, mBio)