

Jennifer German

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Education

PhD, Biology: University of Maryland, College Park, MD 2013

Dissertation title: Characterization of the West Nile virus pathogen associated molecular patterns

Bachelor of Science: Cedar Crest College, Allentown, PA 2005

Major: Genetic Engineering, Minor: Chemistry

Thesis title: Identification of stem cells in the retina of a model fish species, *Cichlasoma octofasciata*

Professional Experience

Assistant Clinical Professor, Maryland Institute of Applied Environmental Health 2017-current

University of Maryland College Park, College Park MD

- Directly responsible for training and mentoring the undergraduate Research Assistants (RAs) (average of 40 students/semester) working with lab-associated research projects, including the CATCH the Virus (2017- spring 2020) and StopCOVID (fall 2020-current) studies.
- Responsible for developing (including initial curriculum creation) and teaching all class sections in which RAs are enrolled (courses: MIEH309, MIEH225, MIEH325).
- Coordinate with university organizations and departments regarding study-related issues, including study outreach and recruitment, and collaborate with lab members and other lab groups for sample analysis.
- Process and analyze samples collected as part of the CATCH study, including isolating PBMCs, extracting RNA and DNA from nasal swabs, utilizing qRT-PCR to identify pathogens from swab samples, and quantifying infectious virus from samples via Fluorescent Focus Assay and other tissue culture-based assays.

Assistant Clinical Professor, First-year Innovation & Research Experience 2014-2017

University of Maryland College Park, College Park MD

- Worked with other FIRE staff to implement the initial FIRE curricula, including course design, syllabus development, and submission for university approval (FIRE152, FIRE252).
- Was responsible for program administration, including: development and supervision of the FIRE Peer Mentor program, Peer Mentor training (in collaboration with the UMD Teaching and Learning Transformation Center's Academic Peer Mentor program), and representing and advocating for the FIRE program during university recruitment events
- Engaged students in authentic, independent research examining pathogen contamination of waterways in the Chesapeake Bay watershed as part of a Howard Hughes Medical Institute Science Education Program grant to the University of Maryland.
- Provided training on basic lab methodology related to microbiology and molecular biology.
- Managed the lab operation, including supply inventory, ordering, and budget maintenance.
- Provided direct, one-on-one mentoring to students both in- and outside the laboratory and classroom setting, including fostering relationships with students selected as Peer Mentors.

Professor, HHMI Research Bootcamp

Winter Semester 2013, 2014

University of Maryland, Shady Grove, Rockville, MD

- Coordinated with the UMD Shady Grove Biology lab manager with organization and set up of the laboratory space and the procurement of laboratory supplies.
- Planned and delivered daily lectures on a variety of biology-related topics, including basic molecular biology concepts, biomedical research, and specialty topic areas such as bioethics.
- Organized and implemented daily laboratory exercises to expose students to fundamental research techniques including cloning, PCR, gel electrophoresis, and DNA extraction from bacterial cells.

Graduate Researcher and Teaching Assistant,

2007-2013

University of Maryland, College Park, MD

- Investigated the innate immune response to West Nile virus infection through the pattern recognition receptor RIG-I in order to identify the pathogen associated molecular pattern(s) produced during the course of West Nile virus infection.
- Utilized a variety of molecular and cell biology and immunology techniques in order to accomplish the above, including mammalian cell culture, Western blotting, PCR, RNA/DNA extraction, RNA transfection,
- Worked with BSL2+ pathogens and Radioactivity.
- Responsible for proctoring and grading all in-class examinations in a timely and efficient manner.
- Set up and executed weekly laboratory exercises, administered final laboratory examination and graded all laboratory experimental reports and presentations.
- Assisted students in the understanding of course material by providing feedback and additional explanation of class concepts, as well as serving as a go-between for students and the professor.

Senior Laboratory Technician,

2005-2007

Johns Hopkins University, Baltimore, MD

- Contributed to two graduate student projects: 1) studying T-regulatory cells in the gut-associated lymphoid tissues of SIV-infected Macaques and 2) examining HIV pathogenesis in the context of signals that induce CD4+ T cell depletion.
- Utilized a multidisciplinary approach when working on the above projects, including interactions with clinical physicians and HIV+ patients, methods related to biochemistry and molecular biology and computational methods.
- Managed basic aspects of running a lab, such as placing orders and prepping stock solutions.

Publications

- Zhu S, Jenkins S, Addo K, Heidarinejad M, Romo SA, Layne A, Ehizibolo J, Dalgo D, Mattise NW, Hong F, Adenaiye OO, Bueno de Mesquita JP, Albert BJ, Washington-Lewis R, **German J**, Tai S, Youssefi S, Milton DK, Srebric J. (2020). Ventilation and laboratory confirmed acute respiratory infection (ARI) rates in college residence halls in College Park, Maryland. *Environment International*. Feb;137
- Hines, SE, Tai, S., **German, J.**, Chen, H., Madden, M, Lulaj, E., Tong, C., Apte, M., Hermann, S., Birrell, A., Miton, D., McDiarmid, MA. (2020). Halo Respirator Assessment of Reprocessing and Cleaning (ARC). *J. Inter. Soc. Resp. Protection*. 137

- **Shipley JG**, Vandergaast R, Deng L, Mariuzza RA, Fredericksen, BL. (2012). Identification of multiple RIG-I specific pathogen associated molecular patterns within the West Nile virus genome and antigenome. *Virology*. July;(432):232-238
- Injaian L, Smith AC, **Shipley JG**, Marbach-Ad G, Fredericksen B. (2011). Antiviral Drug research proposal activity. *J Microbiol Biol Educ*. May;12(1):18-28
- Sedaghat AR, **German J**, Teslovich TM, Cofrancesco J Jr, Jie CC, Talbot CC Jr, Siliciano RF. (2008). Chronic CD4+ T-cell activation and depletion in human immunodeficiency virus type 1 infection: type I interferon-mediated disruption of T-cell dynamics. *J Virol*. Feb;82(4):1870-83
- Chase AJ, Sedaghat AR, **German JR**, Gama L, Zink MC, Clements JE, Siliciano RF. (2007). Severe Depletion of CD4+CD25+ Regulatory T Cells from the Intestinal Lamina Propria but not Peripheral Blood or Lymph Nodes During Acute SIV Infection. *J Virol*. Dec;81(23):12748-57

Meeting Presentations

- **German, J**, Page, I, and Killion, P (2016) FIRE: Constructivist Learning Through Scaffolded Research Experiences for First-Year Students. Oral presentation at UMD Innovations in Teaching and Learning Conference, College Park, MD August 2016
- **German, J** and Fredericksen, BL (2012) Characterization of West Nile virus pathogen associated molecular patterns. Oral presentation at the American Society of Virology Annual Meeting, Madison, WI, July 2012
- **German, J** and Fredericksen, BL (2011) Characterization of West Nile virus pathogen associated molecular patterns. Oral presentation at the American Society of Virology Annual Meeting, Minneapolis, MN July 2011
- **German, J** and Fredericksen, BL (2010) Characterization of West Nile virus pathogen associated molecular patterns. Oral presentation at the American Society of Virology Annual Meeting, Bozeman, MT. July 2010
- **German, J**, Sadler, D, and Ettinger, AJ. (2005) Identification of stem cells in the retina of a model fish species, *Cichlasoma octofasciatum*. Poster presentation at the Pennsylvania Academy of Sciences annual meeting, Harrisburg, PA 2005

Awards and Honors

- American Society of Virology Annual Meeting Student Travel Award, 2010 and 2011
- University of Maryland, College Park Department of Molecular and Cell Biology Student Travel Award: 2010, 2011 and 2012

Professional Associations

- American Society of Microbiology
- Women in Biology, Washington DC chapter
- Tri-Beta Biological Honor Society