

Kate M. Van Pelt, Ph.D.

Senior Research Specialist | University of Michigan Medical School

3278 BSRB, 109 Zina Pitcher Pl, Ann Arbor, MI, 48109

 kmvanpelt.com |  313-268-9420 |  k8mvanpelt@gmail.com |  katevanpelt

EDUCATION

University of Michigan Medical School

Ph.D., Cellular and Molecular Biology

◦ Advisor: Matthias C. Truttmann, Ph.D.

2018 - 2025

Ann Arbor, Michigan

Oberlin College

B.A., Neuroscience

◦ Minors in Chemistry and Philosophy

◦ GPA: 3.76/4.00

2014-2018

Oberlin, OH

RESEARCH EXPERIENCE

University of Michigan Medical School

Research Lab Specialist

◦ Principal Investigator: Matthias C. Truttmann, Ph.D.

June 2025 - Present

Ann Arbor, MI

University of Michigan Medical School

Graduate Research Assistant

◦ Advisor: Matthias C. Truttmann, Ph.D.

◦ Dissertation: *AMPylation-mediated proteostasis regulation in polyglutamine diseases*

2018 - 2025

Ann Arbor, MI

Oberlin College

Research Assistant

◦ Advisor: Brad Carter, Ph.D.

◦ Research Project: *Effects of methylene chloride on larval zebrafish motor function*

2017-2018

Oberlin, OH

University of Vermont

Summer Research Fellow (Funding: NIH)

◦ Advisors: Gregory Holmes, M.D., & Jeremy Barry, Ph.D.

◦ Research Project: *Non-selective optogenetic control of the septohippocampal network*

2017

Burlington, VT

Wayne State University School of Medicine

Summer Research Fellow (Funding: Summer Undergraduate Research Program)

◦ Advisor: Alexander Gow, Ph.D.

◦ Research Project: *Interhemispheric coherence in a novel mouse model of multiple sclerosis*

2016

Detroit, MI

AWARDS, FELLOWSHIPS, AND GRANTS

NIH NRSA Individual Predoctoral Fellowship (Parent F31)

National Institute of Neurological Disorder and Stroke

◦ Award Number: F31NS127485

2022-2025

Rackham Candidate Research Grant

Rackham Graduate School, University of Michigan

2023

NIH NRSA Institutional Research Training Grant (T32)

Career Training in the Biology of Aging - National Institute on Aging

◦ Award Number: T32-AG000114

2022

◦ Declined for F31 award

COVID-19 Relief Fund Award

2021

Program in Cellular & Molecular Biology, University of Michigan

Rackham Pre-Candidate Research Grant

2020

Rackham Graduate School, University of Michigan

NIH NRSA Institutional Research Training Grant (T32)

2019-2020

National Institute of General Medical Sciences

- Cellular & Molecular Biology Training Program
- Award Number: T32-GM007315

Nancy Robell Memorial Prize in Neuroscience

2018

Department of Neuroscience, Oberlin College

PUBLICATIONS

Van Pelt, K.M., Costa, M.C.C., & Truttmann, M.C. (2025). *Ficd* deletion ameliorates motor phenotypes in a mouse model of spinocerebellar ataxia type 3. (*In Preparation*).

Van Pelt, K.M. & Truttmann, M.C. (2025). Loss of FIC-1-mediated AMPylation activates the UPR^{ER} and upregulates cytosolic HSP70 chaperones to suppress polyglutamine toxicity. *PLOS Genetics*: 10.1371/journal.pgen.1011723

Urban, N.D., Lacy, S.M., **Van Pelt, K.M.**, Abdon, B., Mattiola, Z., Klaiss, A., Tabler, S., & Truttmann, M.C. (2025). Functionally diversified BiP orthologs control body growth, reproduction, stress resistance, aging, and ER-Phagy in *Caenorhabditis elegans*. *bioRxiv*: 10.1101/2025.01.14.633073. (*In Revision*).

Nath, S.R., Lieberman, M.L., Yu, Z., Marchioretto, C., Jones, S.T., Danby, E.C.E., **Van Pelt, K.M.**, Soaru, G., Robins, D.M., Bates, G.P., Pennuto, M., Lieberman, A.P. (2020). MEF2 impairment underlies skeletal muscle atrophy in polyglutamine disease. *Acta Neuropathologica*: 10.1007/s00401-020-02156-4

Van Pelt, K.M. & Truttmann, M.C. (2020). *Caenorhabditis elegans* as a model system for studying aging-associated neurodegenerative diseases. *Translational Medicine of Aging*: 10.1016/j.tma.2020.05.001

ORAL AND POSTER PRESENTATIONS

Van Pelt, K.M. & Truttmann, M.C. (January 2025). *Loss of FIC-1-mediated AMPylation activates the UPR^{ER} and upregulates cytosolic HSP70 chaperones to suppress polyglutamine toxicity*. Midwest Stress Response & Molecular Chaperones Meeting. Northwestern University. Evanston, IL. (Poster).

Van Pelt, K.M. (March 2024). *Roles for chaperone AMPylation in polyglutamine toxicity - a journey from worms to mice*. Neurodegeneration Group Meeting. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M. (January 2024). *Loss of FIC-1-mediated AMPylation engages the UPR^{ER} in C. elegans models of polyglutamine toxicity*. Midwest Stress Response & Molecular Chaperones Meeting. Northwestern University. Evanston, IL. (Oral).

Van Pelt, K.M. (April 2023). *AMPylation-dependent and -independent mechanisms of coping with polyglutamine toxicity*. Neurodegeneration Group Meeting. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M. (May 2022). *Uncovering and exploring cellular mechanisms regulating pathological polyQ repeat toxicity*. Neurodegeneration Group Meeting. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M. (November 2021). *FIC-1/FICD-mediated AMPylation of HSP70 family chaperones modulates polyglutamine toxicity*. Program in Cellular & Molecular Biology 4th Year Seminar. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M. (October 2021). *Investigating a role for FIC-1-mediated AMPylation in C. elegans models of polyglutamine toxicity*. Protein Folding Diseases Initiative (PDFI) Young Investigators Symposium. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M. & Truttmann, M.C. (May 2021). *Loss of FIC-1-mediated AMPylation enhances proteostasis stress tolerance in a C. elegans model of polyglutamine aggregation*. Geriatrics Center Annual Symposium. University of Michigan. Ann Arbor, MI. (Oral).

Van Pelt, K.M., Hull, K., Klimpert, N., & Carter, B. (September 2017). *Creating an effective set-up for assessing larval zebrafish movement*. Midwest/Great Lakes Undergraduate Research Symposium in Neuroscience. Ohio Wesleyan University. Delaware, OH. (Poster).

Van Pelt, K.M., White, S.L., Mouchati, P.R., Holmes, G.L., & Barry, J.M. (August 2017). *Characterization of GABAergic and cholinergic medial septal neurons for non-selective optogenetic control of the septohippocampal network*. SNURF Research Symposium. Burlington, VT. (Poster).

Van Pelt, K.M. (August 2016). *Changes in cortical activity in the OBiden model of multiple sclerosis*. Center for Molecular Medicine & Genetics SURP Research Symposium. Wayne State University School of Medicine. Detroit, MI. (Oral).

SCIENCE OUTREACH AND VOLUNTEER EXPERIENCE

Graduate Student Mentor

2019-2024

University of Michigan

- Mentorship of two undergraduate students conducting independent research through the Undergraduate Research Opportunity Program (UROP) in the Truttmann Lab
- Direct supervision of a Neuroscience student's honors thesis research, which resulted in data contributing to a primary research paper (in-progress)

Host & Content Developer

2021-2022

A Month in Neurodegenerative Disease Research (AMiNDR)

- Content focus: Tau pathology, proteostasis, autophagy
- Writing and production of monthly podcasts summarizing recent advances in Alzheimer's disease research

Graduate Student Mentor

2019

Community College Summer Fellowship Program - University of Michigan

- Mentored a community college student in the Truttmann Lab as part of a 10-week research fellowship program
- Supported student in successfully applying to transfer to the University of Michigan

Curriculum Developer

2018-2019

MI DNA Day - University of Michigan

- Annual event that brings scientists to local high schools to teach hands-on workshops on genetics and genomics
- Worked with other graduate students to develop a Microbiology & Immunology module for DNA Day 2019
- Developed a sub-module in Neuroimmunology for upper-level high school students

TEACHING AND WORK EXPERIENCE

Graduate Student Instructor (GSI)

Fall 2020

Department of Biochemistry, University of Michigan

- GSI for Descriptive Biochemistry (BIOLCHEM 212), a course covering fundamental topics in biochemistry for undergraduate students in nursing and allied health professional programs
- Developed biweekly problem sets for use in GSI-led interactive workshops with students
- Assisted in content development, grading, and other administrative tasks

- In addition to teaching GSI-led workshops, hosted weekly office hours

Media Associate

2016-2018

Media Center, Oberlin College

- Provided weekly drop-in assistance for graphics programs (Adobe Photoshop, InDesign, Illustrator) and image processing software for scientific analysis (ImageJ/Fiji)
- Provided multimedia support for courses and individual research projects at Oberlin College as requested
- Taught one-day workshops on Photoshop and other media tools for classes at Oberlin College

Tutor

2015-2018

Student Academic Services, Oberlin College

- Recommended by faculty to tutor the following courses: Introductory Neuroscience, General Chemistry I and II, Organic Chemistry, and Bioorganic Chemistry
- Worked with students individually or in groups providing weekly assistance on a drop-in basis

Note Taker

2016-2018

Office of Disabilities, Oberlin College

- Provided clear and concise lecture notes for students with registered accommodations through the Office of Disability Services

Grading Assistant

2017

Department of Chemistry & Biochemistry, Oberlin College

- Assisted in grading problem sets and exams for Principles of Chemistry (CHEM102)

MENTORED STUDENTS

Sarah Wallace

Winter 2022 - Spring 2024

Undergraduate Neuroscience Major, University of Michigan

- Honors thesis: *Exploring the role of aconitase function and broader citric acid cycle metabolism in a C. elegans model of polyglutamine toxicity*
- Current position: Medical student, University of Illinois College of Medicine

Corey Stewart

Spring 2024

Ph.D. Rotation Student, University of Michigan

- Current position: Neuroscience Ph.D. Candidate, Truttmann Lab, University of Michigan

Kayla Moehn, M.S.

Fall 2024

Ph.D. Rotation Student, University of Michigan

- Current position: Neuroscience Ph.D. Candidate, Emrick Lab, University of Michigan

Autumn Allemon

2023-2024

Work-Study Student, University of Michigan

- Current position: M.S. Student in Human Genetics, University of Michigan

Marc-Antonio Padilla

Winter 2022

Ph.D. Rotation Student, University of Michigan

- Current position: Neuroscience Ph.D. Candidate, Yadlapalli Lab, University of Michigan

Indeya Lawrence

2019-2021

CCSFP & UROP Student, University of Michigan

- Current position: Patient Services Associate, Michigan Medicine

COMMITTEE AND DEPARTMENTAL SERVICE

Newsletter Committee - Program in Cellular & Molecular Biology

2021-2022

University of Michigan

- Worked with other students to produce and distribute the Cellular & Molecular Biology Program Newsletter each semester

PhD Student Host - PIBS Interview Weekend

2018-2019

University of Michigan

- Hosted prospective students interviewing for the Program in Biomedical Sciences

Chapter President - Nu Rho Psi

2017-2018

Department of Neuroscience, Oberlin College

- President of Oberlin College's chapter of Nu Rho Psi, the National Honors Society in Neuroscience
- Coordinated outreach events, department seminars, and ran the induction ceremony for new members

Marketing Chair - Neuroscience Majors & Department Association

2016-2017

Department of Neuroscience, Oberlin College

- Responsible for publicizing all NMDA events, including department social events and outreach opportunities
- Worked with other committee members to organize events and conduct annual elections
- Directed all funding events and merchandise sales

PROFESSIONAL MEMBERSHIPS

Nu Rho Psi - The National Honors Society in Neuroscience

May 2017 - Present