Daniel Peipert, Ph.D.

University of Vermont

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Education

University of Vermont — Burlington, VT
Neuroscience PhD, Neuroscience Graduate Program — 2020-2025

University of Vermont — Burlington, VT
BS in Neuroscience, College Honors — 2012-2016

Teaching Philosophy Statement

I believe science is inextricably reliant upon learning, unlearning, and relearning as knowledge of the natural and physical environment changes. Thus, my teaching philosophy is rooted in building foundational knowledge of science, facilitating critical thinking, and guiding others through evidence-based ideation. I center inquiry-based learning, real-world applications and assignments, graphical creation and presentation, equitable engagement strategies, and adaptable lesson-planning in my teaching, mentorship, and outreach. In doing so, I hope to inspire diverse students to pursue science and empower them to apply scientific literacy.

Courses Taught

2025	Co-instructor, NSCI 2100: **Exploring Neuroscience**, U. of Vermont A sophomore-level course introducing students to neuroscience.
2025	Instructor, BIOL 3510: **Model Systems in Neuroscience**, U. of Vermont An upper-level elective course covering model organisms and non-organism systems and techniques used in neuroscience research with an emphasis on presenting literature and writing research proposals.
2025	Instructor, NSCI 4500: **Diseases of the Nervous System**, U. of Vermont A senior-level capstone course dedicated to rare neurological diseases focused on student presentations and writing.

Teaching Workshops

2025	When is it okay to use AI?
2025	Developing your Assignment Feedback Strategy
2025	Brightspace: Setting up the Grade Book
2025	Brightspace: Assignments
2025	Brightspace: Quick Start

Other Teaching and Mentorship Experiences

2025	Middle and High School Educator for Brain Awareness Week
2025	ECHO Leahy Center for Lake Champlain E-Team Guest Speaker
2024	Guest Lecture for Cell Biology and Disease

2024	Undergraduate Poster Reviewer
2023-present	Undergraduate Research Assistant Mentor
2023	UVM Exam Proctor
2022-2023	UVM Graduate Teaching Program
2022	Graduate Student Career Panelist for NSCI 195: Professional Development
2021-present	Vermont Brain Bee Volunteer
2021	Graduate Teaching Assistant for NSCI 2100: Exploring Neuroscience
2016	Undergraduate Teaching Assistant for BCOR 1400: Exploring Biology
2015	Undergraduate Tutor for BCOR 2300: Genetics

Research Statement

The gut-brain-immune axis is an increasingly relevant field of research within neuroscience and immunology. As the son of a registered dietician with multiple sclerosis, my current research improves our understanding of how gut microbiota and diet can be utilized to ameliorate disease and improve human health. Specifically, the work focuses on how the commensal gut bacteria, *Akkermansia muciniphila*, and their metabolites modulate the host immune system and brain functioning to predispose or protect against mouse models of multiple sclerosis.

Research Experiences

Graduate Researcher University of Vermont, Burlington, VT
Department of Biomedical and Health Sciences 2021-Present

- Investigate the role of *Akkermansia muciniphila* in mouse models of multiple sclerosis
- Perform lab techniques, including anaerobic culture, DNA extraction, qPCR, and induction of experimental autoimmune encephalomyelitis
- Mentor an undergraduate research assistant through benchtop techniques, scientific questioning, and academic advising

PI: Dimitry Krementsov, PhD

Research Assistant Dartmouth-Hitchcock Medical Center, Lebanon, NH
Department of Neurology 2018-2020

- Researched environmental and genetic factors associated with amyotrophic lateral sclerosis
- Consented and processed biospecimens from research participants
- Managed REDCap databases and biospecimen inventories

PI: Elijah Stommel, PhD, MD

Volunteer Research Assistant Indiana University, Indianapolis, IN
Department of Obstetrics and Gynecology 2018

- Assisted the investigating of genetic factors associated with endometrial cancer
- Performed genotyping, cell culture assays, and immunohistochemistry

PI: Shannon Hawkins, PhD, MD

Volunteer Research Assistant University of Vermont, Burlington, VT
Department of Psychological Science 2017

- Volunteered in research investigating methamphetamine addiction and estrogen

- Administered rodent behavior modules, injections, and surgeries

PI: Donna Toufexis, PhD

Consulting Intern South Burlington, VT
EQUITAS Life Sciences 2017

- Created portfolios of global pharmaceutical approvals and market trends
- Implemented data management models for medical product databases
- Formulated market forecasting tools for genetic testing products

Undergraduate Research Assistant University of Vermont, Burlington, VT
Vermont Center on Behavior and Health 2015-2016

- Aided with study recruitment, screenings, scheduling, and data entry for study on low nicotine content cigarettes in vulnerable populations
- Defended undergraduate thesis on depression-related predictors of smoking topography in people with affective disorders using study data

PI: Stephen Higgins, PhD

Research Trainee Washington University in St. Louis, St. Louis, MO
Institute of Clinical and Translational Research 2014

- Attended classes and seminars on clinical research and SPSS software
- Administered drug history interviews and genetic tests for 23andMe Genetic Study of Smoking

PI: Laura Bierut, MD

Publications

Peipert, D., Montgomery, T.L., Toppen, L.C., Lee, M.J.J., Scarborough, M.J., Krementsov, D.N. (2025). Intestinal colonization by *Akkermansia muciniphila* modulates EAE in an ecological context-dependent manner. *In review.*

Montgomery, T.L., **Peipert, D.**, Krementsov, D.N. (2024). Modulation of multiple sclerosis risk and pathogenesis by the gut microbiota: Complex interactions between host genetics, bacterial metabolism, and diet. Immunol Reviews, 325(1):131-151. doi: 10.1111/imr.13343

Andrew, A., Zhou, J., Gui, J., Shi, X., Li, M., Harrison, A., Guetti, B., Nathan, R., Butt, T., **Peipert, D.,** Tischbein, M., Pioro, E. P., Stommel, E., & Bradley, W. (2022). ALS risk factors: Industrial airborne chemical releases. Environmental Pollution, 295, [118658]. https://doi.org/10.1016/j.envpol.2021.118658

Andrew, A. S., Bradley, W. G., **Peipert, D.,** Butt, T., Amoako, K., Pioro, E. P., Tandan, R., Novak, J., Quick, A., Pugar, K. D., Sawlani, K., Katirji, B., Hayes, T. A., Cazzolli, P., Gui, J., Mehta, P., Horton, D. K., & Stommel, E. W. (2021). Risk factors for amyotrophic lateral sclerosis: A regional United States case-control study. Muscle & nerve, 63(1), 52–59. https://doi.org/10.1002/mus.27085

Andrew, A. S., Pioro, E. P., Li, M., Shi, X., Gui, J., Stommel, E. W., Butt, T. H., **Peipert, D.,** Henegan, P., Tischbein, M., Cazzolli, P., Novak, J., Quick, A., Pugar, K. D., Sawlani, K., Katirji, B., Hayes, T. A., Horton, D. K., Mehta, P., & Bradley, W. G. (2021). The Incidence

of Amyotrophic Lateral Sclerosis in Ohio 2016-2018: The Ohio Population-Based ALS Registry. Neuroepidemiology, 55(3), 196–205. https://doi.org/10.1159/000515103

Presentations

Peipert, D. (2025). Intestinal colonization of Akkermansia muciniphila exacerbates EAE dependent on the microbiota context. Neuroscience Behavior and Health Forum. University of Vermont, Burlington, VT.

Peipert, D. (2025). Multiple Sclerosis, the Gut Microbiome, and Me. ECHO Leahy Center for Lake Champlain. Burlington, VT.

Peipert, D. (2024). Multiple Sclerosis Guest Lecture for Cell Biology and Disease. University of Vermont, Burlington, VT.

Peipert, D. (2024). Gut bacterium exacerbates disease in a mouse model of multiple sclerosis. Three Minute Thesis competition. University of Vermont, Burlington, VT.

Peipert, D. (2019). Cyanobacteria and Human Disease. 2019 Emerging Contaminants in the Environment Conference, University of Illinois Urbana-Champaign, IL.

Posters

Peipert, D., Montgomery, T., Dimitry, D.N. (2024). Mechanisms of EAE modulation by intestinal colonization with Akkermansia muciniphila. Presented at the FASEB Translational Neuroimmunology, Niagara Falls, NY, the Northern New England Microbiome Symposium, Burlington, VT, the Neuroscience Behavior and Health Forum, Burlington, VT, and Keystone microbiome conferences, Banff, Alberta, Canada.

Andrew, A.S., Shi, X., Guetti, B., Butt, T., **Peipert, D.**, Pioro, E.P., Stommel, E.W., Bradley W.G. (2019). Residential history of volatile solvent exposure and ALS risk: an interdisciplinary GIS-based spatiotemporal approach. Presented at the 30th International Symposium on ALS/MND, Perth, Australia.

DeWitt, J., Butt, T., Rueckert, J., Buskey, A., Martindale, R., Andrew, A., Shi, X., **Peipert, D.,** Bradley, W.G., Stommel, E.W. (2019). Cyanobacterial Exposure and Neurodegenerative Disease at Autopsy. Presented at the 30th International Symposium on ALS/MND, Perth, Australia.

Bradley, W.G., Andrew, A.S., Chio, A., D'Ovidio, F., Pioro, E.P., Shi, X., Guetti, B., Torbick, N., Butt, T., **Peipert, D.,** Traynor, B., Gui, J., Stommel, E.W. (2019). Critical epochs of environmental exposures and gene-environment-time interactions in ALS. Presented at the 30th International Symposium on ALS/MND, Perth, Australia.

Butt, T., **Peipert, D.,** Dannenberg, M.D., Bratches, R.W.R., Haslett, W., Cohen, J., Barr. P.J. (2019). ALS Clinic Recordings: Testing the feasibility and acceptability of audio/video recordings in a multidisciplinary clinic setting. Presented at the 1st Annual Dartmouth-Hitchcock and Dartmouth College Scientific Retreat, Hanover, NH.

Facciponte, D., Bough, M., **Peipert, D**., Seidler, D., Carroll, J., Dessaint, J., Andrew, A., Tsongalis, G., Vaickus, L., Rauhe, J., Butt, T., Stommel, E.W. (2019). Identifying Aerosolized Cyanobacteria as an Environmental Risk Factor for Amyotrophic Lateral Sclerosis (ALS) Using Human Bronchoalveolar Lavage and Nasal Swab Specimens. Presented at the 2019 International BMAA Conference, Salt Lake City, UT.

Grants

2024	NINDS F31 Resubmission, Not Funded Impact Score: 32; Percentile Score: 32
2023	NIAID F31 Submission, Not Funded Impact Score: 30; Percentile Score: 29+
2022	Danone North America Gut Microbiome, Yogurt and Probiotics Fellowship Grant, Not Funded

Service

2024-2025	VCIID Invited Speaker Committee
2024	Neurological Sciences Journal Club Moderator
2023	UVM Board of Trustees Budget, Finance, and Investment Committee Graduate Student Representative, University of Vermont
2023	UVM Neuroscience Graduate Program Admissions Committee
2022	UVM Neuroscience Graduate Program Visit Coordinator
2022	Time Management Workshop Evaluator
2022-2025	Graduate Student Senator with appointments on the Housing, Transportation, and Climate Committee and Operations Committees, University of Vermont
2021-2024	UVM Neuroscience Graduate Program Buddy and Buddy Coordinator

References

Dimitry Krementsov, PhD
Associate Professor
Dimitry.Krementsov@uvm.edu
Dimitry is my PhD advisor at the University of Vermont. I have worked with him closely over 5 years as a graduate student.

Rachel Plouffe, PhD
Lecturer
Rachel.Plouffe@uvm.edu
I have worked with Rachel when I was a teaching assistant for her laboratory course and as a guest speaker and lecturer for her courses.

Anthony Morielli, PhD
Associate Professor
Anthony.Morielli@uvm.edu
Tony has been the director of my graduate program for almost the entirety of my time as a student.

Elijah Stommel, MD, PhD
Professor of Neurology
Elijah.W.Stommel@hitchcock.org
Dr. Stommel was my previous research mentor at Dartmouth-Hitchcock Medical Center.