Michael P. Wilczek, Ph.D.

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Education

2021 - 2022	Postdoctoral Research and Teaching Fellow The Roux Institute Northeastern University, Portland, ME
2015 - 2021	Ph.D. Program in Microbiology Department of Molecular and Biomedical Sciences The University of Maine, Orono, ME
2013 - 2015	Postbaccalaureate Educational Experience University at Albany, School of Public Health Rensselaer, NY
2013	Bachelor of Science, *cum laude* University at Albany, Albany, NY Major: Biological Sciences

Experience

2022 -	Assistant Teaching Professor Biotechnology and Bioinformatic Programs The Roux Institute Northeastern University, Portland, ME

Research Training

2021 - 2022	Postdoctoral Research and Teaching Fellow: • Life Sciences and Engineering Programs, The Roux Institute Northeastern University, Portland, ME Research Advisor: Aileen Huang-Saad, Ph.D., M.B.A. • OHDSI Center, The Roux Institute Northeastern University, Portland, ME Research Advisor: Kristin Kostka, M.P.H.
2015 - 2021	Graduate Student The University of Maine, Orono, ME Research Area: Genomic characterization of JC polyomavirus persistent and lytic infections Research Advisor: Melissa S. Maginnis, Ph.D.

2014 - 2015 Intern and Data Analyst
New York State Department of Health, Albany, NY
Bureau of HIV/AIDS Epidemiology
Research Area: Population analysis of individuals at high risk for HIV infection
Research Advisors: Amber H. Sinclair, M.P.H., Ph.D. and Bridget J. Anderson, Ph.D.

2012 - 2015 Undergraduate and Volunteer Research Assistant
New York State Department of Health, Guilderland, NY
Wadsworth Center, Griffin Laboratory
Research Area: Assessment of poly-infection of *Ixodes scapularis* ticks
Research Advisor: Laura Kramer, Ph.D.

Publications

1. Korutla, R.; Tedder, D.; Brogan, K.; Milosevic, M.; **Wilczek, M.P.;** Shehadeh, N.; Shara, N.; Ross, E.G.; Amal, S. Analysis and Visualization of Confounders and Treatment Pathways Leading to Amputation and Non-Amputation in Peripheral Artery Disease Patients Using Sankey Diagrams: Enhancing Explainability. *Biomedicines* **2025**, *13*, 258.

2. Pike, A.M.C.; Amal, S.; Maginnis, M.S.; **Wilczek, M.P**. Evaluating Neural Network Performance in Predicting Disease Status and Tissue Source of JC Polyomavirus from Patient Isolates Based on the Hypervariable Region of the Viral Genome. *Viruses* **2025**, *17*, 12.

3. Obeng B., Bennett L.J., West B.E., Wagner D.J., Fleming P.J., Tasker M.N., Lorenger M.K., Smith D.R., Systuk T, Plummer S.M., Eom J., Paine M.D., Frangos C.T., **Wilczek M.P.**, Shim J.K., Maginnis M.S., Gosse J.A. Antimicrobial cetylpyridinium chloride suppresses mast cell function by targeting tyrosine phosphorylation of Syk kinase. bioRxiv [Preprint]. 2024 Jul 8:2024.07.04.602096. doi: 10.1101/2024.07.04.602096. PMID: 39026716; PMCID: PMC11257455.

4. Bond A.C.S., Crocker M.A., **Wilczek M.P.,** DuShane J.K., Sandberg A.L., Bennett L.J., Leclerc N.R., Maginnis M.S. High-throughput drug screen identifies calcium and calmodulin inhibitors that reduce JCPyV infection. Antiviral Res. 2024 Jan 19;222:105817. doi: 10.1016/j.antiviral.2024.105817. Epub ahead of print. PMID: 38246207.

5. Wong C.N., **Wilczek M.P.,** Smith L.H., Bosse J.D., Richard E.L., Cavanaugh R., Manjourides J., Orkaby A.R., Olivieri-Mui B. Frailty Among Sexual and Gender Minority Older Adults: The All of Us Database. J Gerontol A Biol Sci Med Sci. 2023 Oct 28;78(11):2111-2118. doi: 10.1093/gerona/glad149. PMID: 37485864; PMCID: PMC10613018.

6. Mehmood K., **Wilczek, M.P.,** DuShane, J.K., Parent, M.T., Mayberry, C.L., Wallace, J.N., Levasseur, F.L., Fong, T.F., Hess, S.T., and Maginnis, M.S. Dynamics and Patterning of 5-Hydroxytryptamine 2 Subtype Receptors During JCPyV Infection. 2022

7. **Wilczek M.P.,** Pike A.M.C., Craig S.E., Maginnis M.S., King B.L. Rearrangement in the Hypervariable Region of JC Polyomavirus Genomes Isolated from Patient Samples and Impact on Transcription Factor-Binding Sites and Disease Outcomes. International Journal of Molecular Sciences. 2022; 23(10):5699.

8. **Wilczek M.P.**, Armstrong, F.J., Mayberry, C.L., King, B.J., and Maginnis, M.S. PI3K/AKT/mTor signaling pathway is required for JCPyV infection in primary astrocytes. *Cells, Special Issue, invited manuscript*. 2021 Nov 18;10(11):3218. doi: 10.3390/cells10113218. PMID: 34831441; PMCID: PMC8624856.

9. **Wilczek M.P.**, Armstrong, F.J., Geohegan, R.P., Mayberry, C.L., DuShane, J.K., King, B.J., and Maginnis, M.S. The MAPK/ERK Pathway and the Role of DUSP1 in JCPyV Infection of Primary Astrocytes. *Viruses.* 2021 Sep 14;13(9):1834. doi: 10.3390/v13091834. PMID: 34578413; PMCID: PMC8473072.

10. Mayberry, C.L., Bond, A.C.S., **Wilczek, M.P.**, Mehmood, K., and Maginnis, M.S. 2021. Sending mixed signals: polyomavirus entry and trafficking. *Current Opinion in Virology;* 47:95-105.

11. Mayberry, C.L., **Wilczek, M.P.**, Fong, T.M., Nichols, S.L., and Maginnis, M.S. 2020. GRK2 mediates β-arrestin interactions with 5-HT_2 receptors for JC polyomavirus endocytosis. *Journal of Virology;* 95(7): e02139-20. **[Spotlight Article].**

12. **Wilczek, M.P.**, DuShane, J.K., Armstrong, F.J., and Maginnis, M.S. 2020. Establishment of a primary cell model of JC polyomavirus infection reveals delayed progression of the infectious cycle in human astrocytes. *Journal of Virology*; 94(5): e00174-20. **[Cover Illustration, JVI09420-10 (Cover for JVI vol. 94, no. 10 (2020))]**.

13. DuShane, J.K., Mayberry, C.L., **Wilczek, M.P.**, Nichols, S.L. and Maginnis, M.S. 2019. JCPyV-induced MAPK signaling activates transcription factors during infection. *International Journal of Molecular Sciences*; 20(19): 4779.

14. DuShane, J.K., **Wilczek, M.P.**, Crocker, M.A., and Maginnis, M.S. 2019. High-throughput characterization of viral and cellular protein expression patterns by JC polyomavirus. *Frontiers in Microbiology*; 10: 783.

15. DuShane, J.K., **Wilczek, M.P.**, Mayberry, C.L., and Maginnis, M.S. 2018. ERK Is a critical regulator of JC polyomavirus infection. *Journal of Virology*; 92(7): e01529-17.

16. Aliota, M.T., Dupuis, A.P., **Wilczek, M.P.**, Peters, R.J., Ostfeld, R.S., and Kramer, L.D. 2014. The prevalence of zoonotic tick-borne pathogens in *Ixodes scapularis* collected in the Hudson Valley, New York State. *Vector Borne and Zoonotic Diseases*; 14(4): 245–250.

Grants

Davis Family Foundation, “MaineSeq: Bridging Education, Partnerships, and Translation with Omics”, 01/2025 – current, Total: $252, 188, Michael Wilczek (co-I). Status: Awarded

Davis Family Foundation, “STEM Coliseum AR Teacher PD”, 04/2025 – 12/3/2025, Total: $10,421, Michael Wilczek (Lead Educator)). Status: Awarded

Davis Family Foundation, "Broadening Rural Maine Access to Biotechnology with the Microsoft HoloLens", 04/2022 - current, Total: $100,000, Michael Wilczek (co-I). Status: Awarded

National Institute of Health, "Understanding the genetic architecture of frailty and associations with psychological resilience", Total: $333,367, Michael Wilczek (PI). Status: Pending

National Science Foundation, "Collaborative Research: Engineering Marine Protozoans Chassis for Industrial Applications”, Total: $128,038, Michael Wilczek (co-PI). Status: Pending

National Institute of Health, “JC Polyomavirus Quasispecies Dynamics: Interferon-Mediated Regulation in Kidney Cells and Lytic Infection in Astrocytes”, Total: $455,390, Wilczek (PI). Status: Submitted

Honors and Awards

2024 Community to Community (C2C) Policy Fellow, Project Title: *Creating Awareness of Life Science Careers for Rural Communities in Maine*, C2C Impact Engine, Boston, Massachusetts

2021 Award for 3rd place in the BioME Student Showcase/ Fast-pitch competition, Bioscience Association of Maine, Portland, Maine

2021 Recipient of the Outstanding Graduate Research Award in Molecular and Biomedical Sciences, Department of Molecular and Biomedical Sciences, University of Maine

2021 Dean of the Graduate School Undergraduate Mentoring Award, The University of Maine, Graduate Student Government

2021 Edith M. Patch Outstanding Ph.D. Student Award, College of Natural Sciences Forestry and Agriculture, The University of Maine

- Criteria evaluated on: (1) research and scholarly activity, (2) teaching, (3) professional activity, (4) university and public service, and (5) academic performance during the applicant’s current program of study

2021 Outstanding Service Award, College of Natural Sciences Forestry and Agriculture, The University of Maine

- Criteria evaluated on: (1) teaching accomplishments and quality, (2) service contributions to the university, (3) contributions to profession, and (4) public service activities during the applicant’s current program of study.

2020 Recipient of the Graduate Student Government (2020) Summer Research Fellowship, The University of Maine, Graduate Student Government, Total Funding: $5,000

2020 Award for 2nd Best Graduate Student Poster, 47th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory

2020 Recipient of the Anne Hanson Outstanding Graduate TA Award, Department of Molecular and Biomedical Sciences, University of Maine

2019 Awarded Degree-Related Grant, The University of Maine, Graduate Student Government, Total funding: $425

2019 Recipient of the Susan J. Hunter Teaching Fellowship, University of Maine Graduate School

2018 Recipient of the Anne Hanson Outstanding Graduate TA Award, Department of Molecular and Biomedical Sciences, University of Maine

2018 Award for Best Graduate Student Presentation in Biomedical Sciences, 2018 UMaine Student Symposium

2018 Awarded Degree-Related Grant, The University of Maine, Graduate Student Government, Total funding: $425

2017 Awarded Degree-Related Grant, The University of Maine, Graduate Student Government, Total funding: $637

Positions Held

2023 - Faculty Lead for the Biotechnology Program at Northeastern University

2018 - 2019 Member of the Executive Committee, Grants Officer for The University of Maine, Graduate Student Government, The University of Maine

- Managed and oversaw an ~$80,000 budget, reviewed ~200 grants submitted by both graduate students and organizations/clubs across all disciplines, organized and led reading sessions, directed the Grants Committee, implemented an Inter-rating reliability score across reading sessions to minimize reviewer bias, and served as a liaison between the Graduate Student Government and the Center for Innovation, Teaching and Learning (CITL), at the University of Maine

2017 Grant reviewer for the Graduate Student Government, The University of Maine

Courses taught

2024 Science Communication Problem Solving
College of Science, Northeastern University
The Roux Institute, Portland, ME

2023 - Instructor for Cutting-Edge Applications- Molecular Biotechnology
College of Science, Northeastern University
The Roux Institute, Portland, ME

2023 Molecular Cell Biology for Biotechnology

	College of Science, Northeastern University The Roux Institute, Portland, ME
2022 - 2024	Instructor for Biology in Ethics College of Science, Northeastern University The Roux Institute, Portland, ME
2022	Instructor for Bioinformatics Computational Methods 1 College of Science, Northeastern University The Roux Institute, Portland, ME
2022 - 2024	Instructor for Biotechnology Applications Laboratory College of Science, Northeastern University The Roux Institute, Portland, ME
2021 -	Instructor for Foundations in Biotechnology College of Science, Northeastern University The Roux Institute, Portland, ME
2021	Instructor for Basic Biotechnology Lab Skills College of Science, Northeastern University The Roux Institute, Portland, ME
2020	Instructor for HHMI SEA-PHAGES course: Genome Discovery II: From DNA to Genes Department of Molecular and Biomedical Sciences The University of Maine, Orono, ME
2019	Teaching Assistant for HHMI SEA-PHAGES course: Genome Discovery II: From DNA to Genes Department of Molecular and Biomedical Sciences The University of Maine, Orono, ME
2017 - 2020	Program Coordinator: Phage Enrichment: Peer mentoring for students in Phage Genome Discovery I Department of Molecular and Biomedical Sciences The University of Maine, Orono, ME
2016 - 2020	Teaching Assistant for HHMI SEA-PHAGES course: Phage Genome Discovery I, Department of Molecular and Biomedical Sciences The University of Maine, Orono, ME
	Teaching Assistant for Biochemistry Laboratory Department of Molecular and Biomedical Sciences

The University of Maine, Orono, ME

2015 - 2016 Teaching Assistant for Biochemistry Laboratory
Department of Molecular and Biomedical Sciences
The University of Maine, Orono, ME

Teaching Assistant for Fundamentals of Chemistry Laboratory
Department of Molecular and Biomedical Sciences
The University of Maine, Orono, ME

2013 - 2015 Academic Tutor for Introduction to Genetics
Center for Achievement, Retention, and Student Success, CARSS
University at Albany, Albany, NY

Student Research Training and Mentoring Experience

2024 - Faculty advisor for the Center of Undergraduate Research (CUGR) at the University of Maine

2024 Faculty supervisor and co-supervisor for three (3) cooperative education (co-op) students during the Summer and Fall 2024 cycle

2023 - Faculty advisor for The Roux Institute Summer Research Internship Program

2023 Faculty advisor for DREAM project

2022 Faculty advisor for Gordan Leadership Challenge Project, Northeastern University

2017 - 2021 Research mentor, The University of Maine, Orono, ME

- Developed a research project and mentored/trained students in laboratory techniques and data analysis, data presentation, and writing a final manuscript for the completion of senior Capstone Research Projects.

Name	Date Mentored	Past/Current Accomplishments
John (Max) Peters	2023 - 2025	- Successfully completed two summer internships - Awarded a fellowship to UMaine - Nominated for salutatorian and valedictorian at UMaine
Noah Berman	2024	- Currently finishing a Bachelor's in English at NU - co-op student - presented at The Roux Institute co-op presentations - designed 3D models - Helped complete an online skill builder in partnership with JMG
Oluwalaanu Adeboye	2024	- Currently finishing a bachelor's degree in engineering at NU - co-op student - presented at The Roux Institute co-op presentations - designed 3D models - Helped complete an online skill builder in partnership with JMG

Amoolya Palanati	2024 -	- Currently finishing a bachelor's degree in biomedical engineering at NU - co-op student - presented at The Roux Institute co-op presentations
Anusha Devanga	2024	- Currently finishing master's in computer science at The Roux Institute - Developed 3D models - Attended a Statewide conference
Aiden Pike	2021 - 2024	- Currently applying to Medical School -Manuscript published to *Viruses* -Awarded 2nd Best Undergraduate (1st and 2nd year) Student Poster, 48th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory - Awarded Frederick Radke Undergraduate Research Fellowship - Accepted into the 4 + 1 program at Northeastern/The Roux Institute in collaboration with University of Maine
Linda Line	2020 - 2021	-Currently at University of Southern Maine and preparing for the American Society of Virology 40th annual meeting
Remi Geohegan	2019 - 2021	-2020: Awarded Honorable Mention (1st and 2nd year) Student Poster, 47th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory -2021: Awarded Best Undergraduate Student Presentation in Biomedical Sciences, 2020 UMaine Student Symposium - 2021: Awarded Center for Undergraduate Research Academic Research Year Fellowship - 2021: Awarded BioME Academic Year Scholarship -Currently preparing for the American Society of Virology 40th annual meeting
Lauren Cusson	2020 - 2021	-Awarded 3rd Best Undergraduate (1st and 2nd year) Student Poster, 48th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory -Awarded 2nd Best Undergraduate (1st and 2nd year) Student Poster, 47th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory
Francesca Armstrong	2018 - 2020	-2019: Awarded Best Undergraduate Student Presentation in Biomedical Sciences, 2019 UMaine Student Symposium -2020: Awarded 3rd Best Undergraduate (3rd, 4th, and 5th year) Student Poster, 47th Maine Biological and Medical Sciences Symposium (Virtual Conference), Mount Desert Island Biological Laboratory
Laura Horowitz	2016 - 2017	-Attended University of New England College of Osteopathic Medicine

Partnership and Educational Outreach

2022 - Leverage the Microsoft HoloLens (a mixed reality technology) to bring biotechnology to rural, high school Mainers. Funded by the Davis Family Foundation

- Develop a curriculum that aligns with the High School Lessons in Science and Engineering standards and integrates an augmented reality/virtual reality (AR/VR) component.
- Partnering with JMG (formerly Jobs for Maine Graduates) to deliver a "skill builder" on 3D modeling

2021 - Facilitator for the development of The Maine Biotechnology Education Consortia, The Roux Institute, Portland, ME.

- Develop and maintain partnership with Biotechnology and academic partners across the State of Maine. (The University of New England, Maine Medical Center Research Institute, IDEXX, Bigelow Laboratory for Ocean Sciences, MDI Biological Laboratory, and The Jackson Laboratory).

Professional Development – Teaching

2024 Workshop: "AI in Curricula", CATLR, Northeastern University, Boston, Massachusetts

2023 Workshop: "Solving Common Teaching Problems with Universal Design for Learning", CATLR, Northeastern University, The Roux Institute, Portland, ME

2020 - 2022 Course faculty, Communicating Science, Mount Desert Island Biological Laboratories, Salisbury Cove, ME.

2020 Research mentor, Summer Research Fellowship Program, Mount Desert Island Biological Laboratories, Salisbury Cove, ME.

2019 Graduate Teaching Academy, CITL, The University of Maine, Orono, ME

- One-semester academy in classroom management and active learning strategies, translating skills outside of academia and creating a teaching philosophy for future careers.

2018 Workshop: "The Value of Story Boarding," CITL, The University of Maine, Orono, ME

2018 Summer Institute on Scientific Teaching, The University of Maine, Orono, ME

- Scientific Teaching Fellow in Evidence-Based Teaching

2017 Workshop: "Universal Design for Learning and Student Accessibility," CITL, The University of Maine, Orono, ME

2017 Research mentor, Upward Bound Math and Science Program, The University of Maine, Orono, ME

- Individually mentored two high school students for a 5-week program. Developed their research projects, trained them in laboratory techniques and data analysis, and guided them through poster design and preparation for writing a scientific manuscript.

2016 RiSE National Conference, Integrating STEM Education Research and Teaching: Understanding and Strengthening Student Reasoning, Critical Thinking, and Communication Skills, The University of Maine, Orono, ME

Bioinformatics and Real-World Evidence Research

2021 - 2023 Data analyst for a research project using data from the All of US Research Program. This analysis examines the frailty of sexual and gender minority (SGM) and non-SGM populations 50 years of age, and older. The Roux Institute, Portland, Maine.

2021 - Data analyst for a research project titled: "Inequalities in women's cancer screening and diagnosis in several regions in the United States during the COVID-19 Pandemic." A partnership with Northeastern University, The Roux Institute and ConcertAI, Portland, Maine, ConcertAI, Cambridge, MA, Bouve College of Health Sciences, Northeastern University, Boston, MA

2021 Analyzing COVID-19 testing data collected by Vault Health from August to February 2021 (~3 million individuals) and mentoring undergraduate students in data analysis and using statistical language programs, like R

Professional Development – Bioinformatics and Real-World Evidence Research

2020 Bioinformatics T3: Train the Trainer, Mount Desert Island Biological Laboratory, Salisbury Cove, ME

2019 Introductory High-Performance Computing workshop, The University of Maine, Orono, ME

2016 Applied Bioinformatics Course, Mount Desert Island Biological Laboratory, Salisbury Cove, ME

COVID-19 Outreach and Research

2020 - 2021 Collaborating with the Chemical and Biomedical Engineering Department, University of Maine, in testing a liquid surface to monitor SARS-CoV-2 in high-traffic areas such as healthcare centers and airports

2020 - 2021 Quantified the presence of SARS-CoV-2 using qPCR from environmental samples collected from local Maine hospital settings

2020 Member of The University of Maine COVID-19 Science and Medicine Task Force. Providing scientific communication to Bangor Public Health to navigate the COVID-19 pandemic.

Service to the Profession

2024 - 2025 Developed a course for students in the biotechnology and bioinformatic students at Northeastern University, Portland, ME

2017 - Judge, The Maine State Science Fair, ME

2024 Co-instructor for NIH SEPA workshop in Communicating Data at Mount Desert Island Biological laboratories, Salisbury Cove, ME

2019 Cofacilitator of a two-day workshop in *R for Reproducible Scientific Analysis*, The University of Maine, Orono, ME

2018 Graduate School Orientation Volunteer, University of Maine, Orono, ME

2018 Judge, The Maine Middle School State Science Fair, Bangor, ME

Conference Presentations

1. Pike, A. and **Wilczek, M.P.**, Evaluating Neural Networks for Predicting Disease Status and Tissue Source of JC Polyomavirus from Patient Isolates using the Hypervariable Region of the Viral Genome. Annual Maine Biological and Biomedical Sciences Symposium, April 2024. Oral presentation.

2. McCann, R.A. and **Wilczek, M.P.,** A Study of Genetic Variation Within JC Polyomavirus and its Impacts on Disease Progression to Progressive Multifocal Leukoencephalopathy. The Roux Institute Student Showcase, April 2024. Poster Presentation

3. Devanga, A., Isaacs, E., Pike, A., **Wilczek, M.P.**, Developing 3D Models and Science Curriculum to Create an Immersive Learning Experience for K-12 Students Across Maine. The Roux Institute Student Showcase, April 2024. Poster Presentation

4. Devanga, A., Isaacs, E., Pike, A., **Wilczek, M.P.**, Developing 3D Models and Science Curriculum to Create an Immersive Learning Experience for K-12 Students Across Maine. Annual Maine Biological and Biomedical Sciences Symposium, April 2024. Poster Presentation

5. Pike, A. and **Wilczek, M.P.**, Evaluating Neural Networks for Predicting Disease Status and Tissue Source of JC Polyomavirus from Patient Isolates using the Hypervariable Region of the Viral Genome. Annual Maine Biological and Biomedical Sciences Symposium, April 2024. Oral presentation.

6. **Wilczek, M.P.,** Partnership with life science companies across Maine to offer experiential learning for our PSM students in Biotechnology. National Professional Stem Master's Association (NPSMA). Tampa, Florida. November 2023. Oral presentation.

7. Grass, D., Pike, A., Laich, B., Huang-Saad, A., **Wilczek, M.P**. Broadening Rural Maine Access to Biotechnology with the Microsoft HoloLens. 2023 Visualization in Science and Education, Gordon Research Conference. Lewiston, ME. 2023. Poster presentation.

8. Wong, C.N., **Wilczek, M.P.**, Bosse, J., and Olivieri-Mui, B., Developing a frailty concept in the OMOP CDM among sexual minority older adults (age 50+) in the All of Us database. OHDSI Europe Symposium 2022. June 2022. Oral presentation.

9. Bond, A., Crocker, M., **Wilczek, M.P.**, Leclerc, N., and Maginnis, M.S. Repurposed therapeutics reduce JC polyomavirus infection. American Society for Virology 41st Annual Meeting, Madison, Wisconsin. 2022. Poster presentation.

10. **Wilczek, M.P.**, Kostka, K., Ray, H.E., Whyte, W.A., and Todorova, I., From bench-to-bedside: Assessing the impact of the COVID-19 pandemic on the inequalities in cervical and breast cancer diagnoses among women. Annual Maine Biological and Biomedical Sciences Symposium, April 2022. Poster presentation.

11. **Wilczek, M.P.**, and Huang-Saad, A., Leveraging critical reflections to examine experiential learning in exploring life sciences professions. Annual Maine Biological and Biomedical Sciences Symposium, April 2022. Oral presentation.

12. Bond, A., Crocker, M., **Wilczek, M.P.**, Leclerc, N., and Maginnis, M.S. JC polyomavirus infection is reduced by inhibition of cellular calcium pathways. Annual Maine Biological and Biomedical Sciences Symposium, April 2022. Poster presentation.

13. Pike, A., **Wilczek, M.P.**, and Maginnis, M.S. The Role of Calmodulin-dependent Protein Kinase IV in JC Polyomavirus Infection. Annual Maine Biological and Biomedical Sciences Symposium, April 2022. Poster presentation.

14. Geohegan, R., **Wilczek, M.P.**, Cusson, L., Craig, S. and Maginnis, M.S. Deciphering the Signaling Mechanisms of JC Polyomavirus. Annual Maine Biological and Biomedical Sciences Symposium, April 2022. Poster presentation.

15. Bond, A., Crocker, M., **Wilczek, M.P.**, Leclerc, N., and Maginnis, M.S. JC polyomavirus infection is reduced by repurposed therapeutics. 2022 UMaine Student Research Symposium, Orono, ME. April 2022. Poster presentation.

16. Pike, A., **Wilczek, M.P.**, and Maginnis, M.S. The Impact of Calmodulin Signaling on JC Polyomavirus Infection. 2022 UMaine Student Research Symposium, Orono, ME. April 2022. Poster presentation.

17. Geohegan, R., **Wilczek, M.P.**, Cusson, L., Craig, S. and Maginnis, M.S. Deciphering the Signaling Mechanisms of JC Polyomavirus. 2022 UMaine Student Research Symposium, Orono, ME. April 2022. Poster presentation.

18. Bond, A., Crocker, M., **Wilczek, M.P.**, and Maginnis, M.S. Drug screen reveals potential therapeutics for JC polyomavirus infection. American Society for Virology 40th Annual Meeting. July 2021. Poster presentation.

19. Line, L.A., **Wilczek, M.P.**, and Maginnis, M.S. Expression and regulation of heat shock proteins during JC polyomavirus astrocytic infection. American Society for Virology 40th Annual Meeting. July 2021. Poster presentation.

20. Geohegan, R.P., **Wilczek, M.P.**, and Maginnis, M.S., Mechanisms of MAPK pathway activation in JCPyV infection of primary and immortalized cells. American Society for Virology 40th Annual Meeting. July 2021. Poster presentation.

21. Cusson, L., Sandberg, A., **Wilczek, M.P.**, and Maginnis, M.S. Meta-analysis of COVID-19 RT-PCR test results from Vault Health saliva test. 48th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2021. Poster presentation.

22. Pike, A.M.C., **Wilczek, M.P.**, and Maginnis, M.S. Characterization of inflammation and immune response associated with dual specificity phosphatase 1 (DUSP1) in normal human astrocytes (NHAs). 48th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2021. Poster presentation.

23. Geohegan, R. **Wilczek, M.P.**, and Maginnis, M.S. Investigating the cell-type dependent cell signaling mechanisms of JCPyV infection. 48th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2021. Poster presentation.

24. Bond, A., Crocker, M., **Wilczek, M.P.**, Maginnis, M.S. Identification of repurposed therapeutics that reduce JC polyomavirus infection. 48th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2021. Poster presentation.

25. West, B., Bruno, J. **Wilczek, M.P.**, Gosse, J. Effects of oral-care antimicrobial cetylpyridinium chloride on tyrosine phosphorylation: a potential mechanism for mast cell inhibition assessed via In-Cell Western. 48th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2021. Poster presentation.

26. **Wilczek, M.P.,** Armstrong, F., Geohegan, R., and Maginnis, M.S. Drawing the road map to JC Polyomavirus infection in the brain: Using bioinformatics to elucidate the cell signaling pathways activated upon virus infection. 2020 UMaine Student Research Symposium, Orono, ME. September 2020. Oral Presentation.

27. Mehmood, K., DuShane, J.K., Parent, M., **Wilczek, M.P.**, Mayberry, C.L., Levasseur, F., and Maginnis, M.S. Defining localization dynamics of 5-HT2 receptor subtypes in JCPyV entry using super-resolution localization microscopy. 2020 UMaine Student Research Symposium, Orono, ME. September 2020. Oral Presentation.

28. Armstrong, F., **Wilczek, M.P.**, Geohegan R., and Maginnis, M.S. Utilization of a novel approach to decode the mechanisms of a fatal viral brain infection. 2020 UMaine Student Research Symposium, Orono, ME. September 2020. Oral Presentation.

29. Geohegan R., **Wilczek, M.P.**, and Maginnis, M.S. Impacts of ERK activation on JC polyomavirus infection. 2020 UMaine Student Research Symposium, Orono, ME. September 2020. Poster Presentation.

30. Cusson, L., Currie, L., Dagle, A., Dunn, E., **Wilczek, M.P.**, and Neely, M. Epsocamisio, the little *Gordonia* phage that could (without integrase). 2020 UMaine Student Research Symposium, Orono, ME. September 2020. Poster Presentation.

31. Line, L., **Wilczek, M.P.**, and Maginnis, M.S. Analyzing the regulation and expression of heat shock proteins during astrocytic infection of JC polyomavirus. Summer Student Symposium 2020. August 2020. Poster Presentation + 3 MT Presentation.

32. **Wilczek, M.P.**, Armstrong, F.J., Geohegan, R, Mayberry, C.L., and Maginnis, M.S. Characterization of JC polyomavirus infection and differential gene expression in primary human astrocytes. American Society for Virology 39th Annual Meeting. Abstract Accepted as Flash Talk + Poster Presentation (meeting canceled due to COVID-19 pandemic). June 2020.

33. Mehmood, K., DuShane, J.K., Parent, M.T., **Wilczek, M.P.**, Mayberry, C.L., Levasseur, F.L., Fong, T.M., Hess, S.T., and Maginnis, M.S. Localization-based dynamics of 5-HT_2 receptor subtypes in JCPyV infection using super-resolution localization microscopy. American Society for Virology 39th Annual Meeting. Abstract Accepted as Flash Talk + Poster Presentation (meeting canceled due to COVID-19 pandemic). June 2020.

34. **Wilczek, M.P.**, Armstrong, F.J., Geohegan, R, and Maginnis, M.S. Determining the road map to JC Polyomavirus infection in primary astrocytes: RNA sequencing reveals important cell signaling pathways activated upon virus infection. 47th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2020. Poster presentation.

35. Cusson, L., Currie, L., Dagle, A., Dunn, E., **Wilczek, M.P.**, and Neely, M. Epsocamisio, the little *Gordonia* phage that could (without integrase). 47th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2020. Poster presentation.

36. Mehmood, K., DuShane, J.K., Parent, M.T., **Wilczek, M.P.**, Mayberry, C.L., Levasseur, F.L., Fong, T.M., Hess, S.T., and Maginnis, M.S. Localization-based dynamics of 5HT_2 receptor subtypes in JCPyV entry using super-resolution localization microscopy. 47th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2020. Poster presentation.

37. Armstrong, F.J., **Wilczek, M.P.**, Geohegan, R, and Maginnis, M.S. Utilizing primary astrocytes to characterize the host-trafficking mechanism that are hijacked during a fatal viral brain infection. 47th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2020. Poster presentation.

38. Geohegan, R., **Wilczek, M.P.**, Armstrong, F.J., and Maginnis, M.S. ERK activation enhances JCPyV infection. 47th Annual Maine Biological and Biomedical Sciences Symposium, Virtual Symposium. April 2020. Poster presentation.

39. **Wilczek, M.P.**, DuShane, J.K., Armstrong, F.J., and Maginnis, M.S. Defining the role of primary human astrocytes in the pathogenesis of a fatal, uncurable disease. Maine Neuroscience Conference, 10th Annual meeting. Colby College, Waterville, ME, December 2019. Oral presentation.

40. Armstrong, F.J., **Wilczek, M.P.**, Mayberry, C.L., DuShane, J.K., and Maginnis, M.S. Characterizing a deadly viral infection in the brain by utilizing an innovative and unique approach. Maine Neuroscience Conference, 10th Annual meeting. Colby College, Waterville, ME, December 2019. Poster presentation.

41. **Wilczek, M.P.**, DuShane, J.K., Armstrong, F.J., and Maginnis, M.S. Utilizing primary astrocytes to understand early events of a deadly and untreatable viral infection in the brain. 46th Annual Maine Biological and Biomedical Sciences Symposium, Salisbury Cove, ME. April 2019. Oral presentation.

42. Armstrong, F.J., **Wilczek, M.P.**, Mayberry, C.L., DuShane, J.K., and Maginnis, M.S. Defining infection strategies of an elusive and deadly virus in primary human astrocytes. 46th Annual Maine Biological and Biomedical Sciences Symposium, Salisbury Cove, ME. April 2019. Oral presentation.

43. DuShane, J.K., Mehmood, K., **Wilczek, M.P.**, and Maginnis, M.S. Induction of the MAPK cascade is required by JC polyomavirus infection for viral transcription. 46th Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April 2019. Poster presentation

44. Crocker, M.A., DuShane, J.K., **Wilczek, M.P.**, and Maginnis, M.S. Development of a high-throughput screen for analysis of JC polyomavirus infection. 46th Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April 2019. Poster presentation

45. **Wilczek, M.P.**, DuShane, J.K., Armstrong, F.J., and Maginnis, M.S. Elucidating a recently discovered role for brain cells in a deadly and incurable viral infection. 2019 UMaine Student Research Symposium, Bangor, ME. April 2019. Oral presentation.

46. Armstrong, F.J., **Wilczek, M.P.**, Mayberry, C.L., DuShane, J.K., and Maginnis, M.S. Characterizing a deadly viral infection in the brain by utilizing an innovative and unique approach. 2019 UMaine Student Research Symposium, Bangor, ME. April 2019. Oral presentation.

47. DuShane, J.K., Mehmood, K., **Wilczek, M.P.**, and Maginnis, M.S. JCPyV-induced activation of the MAPK cascade is required for viral transcription. 2019 UMaine Student Research Symposium, Bangor, ME. April 2019. Oral presentation.

48. Crocker, M.A., DuShane, J.K., **Wilczek, M.P.**, and Maginnis, M.S. Development of a high-throughput screen for analysis of JC polyomavirus infection. 2019 UMaine Student Research Symposium, Bangor, ME. April 2019. Poster presentation.

49. **Wilczek, M.P.** and Maginnis, M.S. Human JC polyomavirus infection of primary astrocytes: a model for a deadly disease. 45th Annual Maine Biological and Biomedical Sciences Symposium, Salisbury Cove, ME. April 2018. Poster presentation.

50. **Wilczek, M.P.** and Maginnis, M.S. Human JC polyomavirus infection of primary astrocytes: a model for a deadly disease. 2018 UMaine Student Symposium: Research & Creative Activity, Bangor, ME. April 2018. Oral presentation.

51. **Wilczek, M.P.** and Maginnis, M.S. Establishment of a JC polyomavirus infection model in primary human astrocytes. Annual Maine Society for Neuroscience Annual Meeting, Biddeford, ME. November 2017. Poster presentation.

52. **Wilczek, M.P.** and Maginnis, M.S. Establishment of a JC polyomavirus infection model in primary human astrocytes. 7th Northeast Regional IDeA Conference, Burlington, VT. August 2017. Poster presentation.

53. **Wilczek, M.P.** and Maginnis, M.S. Elucidating the viral mechanisms of JC polyomavirus infection and disease progression in astrocytes. 44th Annual Maine Biological and Biomedical Sciences Symposium, Salisbury Cove, ME. April 2017. Poster presentation.

54. **Wilczek, M.P.** and Maginnis, M.S. Elucidating the viral mechanisms of JC polyomavirus infection and disease progression in astrocytes. UMaine Student Symposium: Research & Creative Activity, Bangor, ME. April 2017. Poster presentation.

55. Horowitz, L., **Wilczek, M.P.**, and Maginnis, M.S. Induced cellular stress effects on JC polyomavirus infection. UMaine Student Symposium: Research & Creative Activity, Bangor, ME. April 2017. Poster presentation.

56. **Wilczek, M.P.**, Maginnis, M.S., Wheeler, R., Sullivan, C., and Kim, C. Developing a zebrafish model system for JC polyomavirus infection. 43rd Maine Biological and Biomedical Sciences Symposium, Salisbury Cove, ME. April 2016. Poster presentation.

57. **Wilczek, M.P.**, Sinclair, A.H., Anderson, B.J., and Smith, L.C. Awareness and understanding of the Affordable Care Act in a low-income population. 2015 Council of State and Territorial Epidemiologists Annual Conference, Boston, MA. June 2015. Poster presentation.

58. **Wilczek, M.P.**, Sinclair, A.H., Malloy, R.H., Anderson, B.J., and Smith, L.C. A descriptive analysis of injection drug users (IDU) with HIV/HCV infection. 2014 New York City Hepatitis C Research Consortium, New York City, NY. September 2014. Poster presentation.