

Michael F. McCoy III

PhD Student in Translational Biomedical Sciences (Neuroscience)

Rowan University

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Education

- 2025–Present **Ph.D. in Translational Biomedical Sciences (Neuroscience)**, Rowan University, Stratford, NJ
- 2022 **B.A. in Psychology**, Minor in Neuroscience, Honors Program, Arcadia University, Glenside, PA
Study Abroad, University of Stirling, Stirling, Scotland, UK (2019)

Research Interests

- Cancer immunotherapy and leukemia biology: cellular mechanisms underlying targeted therapies in B-ALL and T-ALL.
- Hedgehog signaling and sensory biology: signaling mechanisms in taste/tongue systems and epithelial-neural communication.
- Behavioral neuroscience: body perception, cognition, and rodent behavioral paradigms.
- Translational biomedical research: integrating wet-lab experimentation with computational research workflows and reproducible data tools.

Research Experience

- 2023–2025 **Research Technician III**, Children's Hospital of Philadelphia
PI: David T. Teachey and Caroline J. Diorio
Conducted survival and bioluminescent imaging studies to track progression of targeted B-cell and T-cell therapies in acute lymphoblastic leukemia using patient-derived xenograft models in immunocompromised mice. Developed interactive R Shiny / Quarto dashboards to document experimental workflows and monitor treatment efficacy and disease progression.
- 2022–2023 **Laboratory Animal Caretaker**, Children's Hospital of Philadelphia, Department of Veterinary Resources
Maintained AALAS and AAALAC standards for research animal care and husbandry, conducted daily welfare checks, and supported SOP/GLP-compliant animal facility operations involving mice, rats, sheep, and pigs.
- 2020–2022 **Research Assistant**, Rodent Altruism and Psycho-Pharmacology Lab, Arcadia University
PI: Logan J. Fields and Juan F. Duque
Administered oral cannabidiol treatments in rodent models of early-life stress, developed SOPs for open field and novel object recognition tasks, and contributed to IACUC protocol development and approval.
- 2020 **Animal Care Staff**, Arcadia University

Provided hands-on husbandry for laboratory rats, including handling, bedding changes, weighing, and feeding.

Publications

A. Refereed Journal Articles

1. Jason Xu, **Michael McCoy**, Zachary Martinez, Jonathan H Sussman, Daniel Gao, Tiffany Vincent, Hunter Wang, Connie Ma, Omar Elghawy, Gregory M Chen, Austin G Yang, Petri Pölönen, Keanu Natan, Rawan Shraim, Haley Newman, Ted J Hoffman, Samantha Scoma, Amanda M DiNofia, Stephen P Hunger, Jun J Yang, Charles G Mullighan, Kathrin M Bernt, Elizabeth O Hexner, Stephan A Grupp, Keisuke Watanabe, Carl H June, Kai Tan, David T Teachey, Caroline Diorio (2026) "CCR4 expression defines a targetable subset of T-cell acute lymphoblastic leukemia" *Blood Advances* DOI: [10.1182/bloodadvances.2025018600](https://doi.org/10.1182/bloodadvances.2025018600)
2. Newman, H., Lee, S. H. R., Pölönen, P., Shraim, R., Li, Y., Liu, H., Aplenc, R., Bandyopadhyay, S., Chen, C., Devidas, M., Diorio, C., Dunsmore, K., Elghawy, O., Elhachimi, A., Fuller, T., Gupta, S., Hall, J., Hughes, A. D., Hunger, S. P., Loh, M. L., ... Teachey, D. T. (2025) "Impact of Genetic Ancestry on Genomics and Survival Outcomes in T-cell Acute Lymphoblastic Leukemia" *Blood Cancer Discovery* DOI: [10.1158/2643-3230.BCD-25-0049](https://doi.org/10.1158/2643-3230.BCD-25-0049)
3. Fields, L. J., Roberts, W., Schwing, I., **McCoy, M.**, Verplaetse, T. L., Peltier, M. R., Carretta, R. F., Zakiniaieiz, Y., Rosenheck, R., & McKee, S. A. (2023) "Examining the Relationship of Concurrent Obesity and Tobacco Use Disorder on the Development of Substance Use Disorders and Psychiatric Conditions: findings from the NESARC-III" *Drugs and Alcohol Dependence Reports* DOI: [10.1016/j.dadr.2023.100162](https://doi.org/10.1016/j.dadr.2023.100162)

B. Research Projects

1. **McCoy, M.**, Fuller, T., Martinez, Z., Elhachimi, A., Teachey, D., Diorio, C., Shi, G., & Uppuluri, L. "Investigating the Role of CD3 in T-cell Activation and Complement Response in CART19 Therapy Using NSG-Hc1 Mouse Models of B-ALL" *Research project*
2. **McCoy, M.**, Fuller, T., Martinez, Z., Elhachimi, A., Teachey, D., Diorio, C., Shi, G., & Uppuluri, L. "Therapeutic Efficacy of Dasatinib Treatment in NSG Mouse Models of T-ALL" *Research project*
3. **McCoy, M.**, Fuller, T., Martinez, Z., Elhachimi, A., Teachey, D., Diorio, C., Shi, G., & Uppuluri, L. "Therapeutic Efficacy of Palbociclib Treatment in NSG Mouse Models of T-ALL" *Research project*
4. Duque, J., Fields, L., Matos, M., & **McCoy, M.** "Effects of cannabidiol on behavioral deficits induced by early life stress in rodents" *Research project*
5. Fields, L., Roberts, W., & **McCoy, M.** "Sex and racial disparities in quit attempts in a nationally representative sample of quit interested smokers: Evidence from the Population Assessment of Tobacco and Health" *Research project*

C. Thesis

1. **McCoy, M.**, Fields, L., & Duque, J. (2022) "Exploring body boundary perception in rats using the rubber tail illusion" *Ugrad Thesis*

Presentations

Total Presentations by Category: Conference Presentations (1), Poster Presentations (4)

A. Conference Presentations

1. "R/Medicine Lightning Talk: in_vivo_research_dashboard.Rmd". R/Medicine, Remote. June 14, 2024.

B. Poster Presentations

1. "Therapeutic Efficacy of CCR4-CART Treatment in NSG Mouse Models of T-ALL". With Fuller, T.; Martinez, Z.; Aplenc, R.; Glisovec-Aplenc, T.; Gill, S.; Tasian, S.; Teachey, D.; Diorio, C.; Uppuluri, L.. CHOP 2024 Poster Day and Scientific Symposium, Philadelphia, PA, United States. May 01, 2024.
2. "Exploring body boundary perception in rats using the rubber tail illusion". With Fields, L.. Wistar Trainee Symposium, Wistar Institute, Philadelphia, PA, United States. February 23, 2024.
3. "Exploring body boundary perception in rats using the rubber tail illusion". With Fields, L.. Annual Laurel Highlands Undergraduate Psychology Research Conference, Saint Francis University, Loretto, PA, United States. April 23, 2022.
4. "Barriers and risk factors related to tobacco quit rate and success". With Fields, L.; Roberts, W.. Annual Eastern Psychological Association Conference, New York City, NY, United States. March 05, 2022.

Honors / Awards

- CHOP/Penn Science Slam Competition - Research Staff Award (First place): Awarded for effectively communicating the significance and outcomes of my rubber tail illusion research in a concise format, following the Three Minute Thesis (3MT®) guidelines. (2023)
- Student Conference Travel Fund Grant: Awarded \$400 from Arcadia University to support travel to the Eastern Psychological Association meeting in New York to present research. (2022)
- Phi Beta Delta Honor Society, awarded by the Epsilon Kappa Chapter: Recognized for academic excellence, international experience from studying abroad at the University of Stirling in Scotland, and active involvement in extracurricular activities. (2020)
- SECTF Inaugural Competition Hosted by Temple University (Second place): A social engineering capture-the-flag competition and training event focused on open-source intelligence, phishing, and vishing tactics. (2020)
- Second-Year Leader of the Year Award, The Office of Engagement and New Student Programs: Awarded for demonstrating outstanding contributions to the campus community and making a meaningful impact through dedicated involvement. (2020)
- Professional Development Certificate from the Office of Career Education: Completed a step-by-step career action plan program that equips students with tools for engaging with employers. (2020)

Teaching Experience

Semester	Role	Course	Level
Spring 2022	Teaching Assistant	Drugs and Behavior Lecture	Ugrad
Fall 2021	Teaching Assistant	Learning \& Cognition Lecture	Ugrad
Spring 2021	Teaching Assistant	Behavioral Neuroscience Lab	Ugrad
Fall 2020	Teaching Assistant	Learning \& Cognition Lab	Ugrad

Service and Community Involvement

A. University Service

- Arcadia University Psychology Club — Executive Board, Vice President. Organized events for psychology-oriented careers, graduate school preparation, note-taking, study strategies, and research resources. (2019 – 2022).
- Arcadia University Office of Engagement and New Student Programs — Orientation Leader. Facilitated and accommodated the transition of incoming first-year students to campus. (2019 – 2022).
- Arcadia University Office of Enrollment Management — Ambassador. Delivered weekly campus tours to prospective students, families, and visitors. (2018 – 2022).
- Arcadia University Class of 2022 Officer — Vice President. Organized events to promote class spirit and addressed issues affecting the class and the community. (2018 – 2021).

B. Community / Professional Involvement

- Tri-County Umpire Group — Baseball Umpire. Umpired over 200 games from minor league to senior league levels. (2024 – Present).
- Norwood Athletic Club — Baseball Coach. Coordinated instructional team practices and games while supporting the athletic development of nearly 30 players aged 13–16. (2021 – 2023).

Skills

- Data Analysis: R, SPSS, JASP, jamovi, FlowJo; t-tests, ANOVA, linear regression
- Programming / Reproducible Research: R, Python, SQL, Markdown, Quarto, Git/GitHub
- Molecular & Cellular Techniques: Flow cytometry; DNA/RNA/protein extraction; PCR; gel electrophoresis; ELISA
- Histology & Imaging: Tissue processing, cryosectioning, microtomy, immunohistochemistry, fluorescent immunostaining, fluorescence imaging
- In Vivo / Murine Techniques: IP, IV, and intragastric injections; retro-orbital bleeding; necropsy; spleen and bone marrow harvest; ABSL-2 sterile hood technique
- Research Platforms: IVIS Spectrum, EthoVision XT, Qualtrics, SONA, Microsoft Office, VS Code, Zotero, EndNote, Notion, Obsidian, Canvas

- Research Data Management: R/Quarto dashboards with Plotly and Shiny for workflow tracking and experimental documentation