

CURRICULUM VITAE
Dylan Joseph Tuttle, PhD, CPH
University of Pittsburgh

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SUMMARY OF SKILLS

Immunology: ELISA, ELISpot, Flow cytometry, Immunofluorescence microscopy, PRNT, Meso Scale Discovery, tissue processing, cell culture in a BSL2+ environment, assay development and optimization
Cell Culture and Sequencing: RNA-seq, single cell RNA-seq, mammalian cell culture, human cell culture
Molecular Biology: RT-PCR, iSCA, IPDA, Column chromatography, northern, southern, and western blot, SDS PAGE, RNA and DNA extraction, assay development and optimization
Organic Chemistry: Organic synthesis, NMR spectroscopy, UV-Visible spectroscopy, mass spectrometry, IR spectroscopy
Software: Microsoft Office, ChemOffice Professional, IBM SPSS, Stata, GraphPad Prism, R Statistics, Adobe Photoshop, FlowJo, Discovery Workbench, Partek Flow

EDUCATION AND TRAINING

University of Pittsburgh, Johnstown PA April 25, 2020
BS: Bachelor of Science: Biology (*Cum Laude*)
Minor: Chemistry
Dean's List Spring 2017, 2019, Fall 2019

University of Pittsburgh School of Public Health, Pittsburgh PA August 16th, 2025
PhD: Doctor of Philosophy: Infectious Diseases and Microbiology
Dissertation Defense-Passed July 31, 2025
Dissertation: *Dynamics of the humoral immune response to the SARS-CoV-2 mRNA vaccines in people living with human immunodeficiency virus-1 (HIV-1)*

University of Pittsburgh School of Pharmacy, Pittsburgh PA October 20th, 2025
Postdoctoral Associate, Department of Pharmaceutical Sciences
Project: *PharmacoAnalytics Journey from 'Cell' to 'Cells': Advancing Cannabinoid Therapeutics via 3D Cryo-EM CB2 Signaling Complex, Generative AI Modeling and gene expression analysis*

CERTIFICATIONS

National Board of Public Health Examiners-Certified in Public Health (CPH), August 16th, 2025

RESEARCH EXPERIENCE

University of Pittsburgh, Pittsburgh, PA October 2025-Current
Project: G protein coupled receptor mechanism of action (MOA) in inflammatory responses and disease conditions
Advisor: Xiang-Qun Xie, PhD, EMBA

University of Pittsburgh, Pittsburgh, PA

August 2021-August 2025

Dissertation: Dynamics of the humoral immune response in SARS-CoV-2 immunization and disease pathogenesis

Advisor: Ernesto T. A. Marques, MD, PhD

University of Pittsburgh, Johnstown, PA

January 2020-April 2020

Topic: Synthetic efforts toward new toremifene derivatives to target the Filovirus GP1 envelope

Advisor: Matthew Tracey, PhD, Assistant Professor of Chemistry

University of Pittsburgh, Johnstown PA

September 2018-December 2019

Topic: Citrus juice-catalyzed green synthesis of Schiff bases and their sequential reaction: Undergraduate organic laboratory experiment

Advisor: Manisha Nigam, PhD, Associate Professor of Chemistry

Experiment incorporated into the curriculum at the University of Toronto and University of Pittsburgh, Spring 2020

WORK EXPERINCE

Postdoctoral Associate, University of Pittsburgh (October 2025-Current)

Graduate Student Researcher, University of Pittsburgh (August 2020-August 2025)

- Independent research in immunology and virology
- Assay development and optimization
- Presentation and publication of scientific results
- Higher education teaching
- Mentorship of first-year master's and doctoral students

Academic Success Center, University of Pittsburgh-Johnstown, (February 2020-April 2020), *Peer Tutor*

- Tutored for the class Medical Microbiology during the Spring 2020 Term

Office of the Dean, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh (Summers 2017, 2018, 2019), *Student Employee*

- Provided administrative and clerical support.
- Data Analysis for Teaching Evaluation Surveys.

Office of Graduate Studies, Kenneth P. Dietrich School of Arts and Sciences at the University of Pittsburgh (Summer of 2019), *Student Employee*

- Provided administrative and clerical support.

PREVIOUS EXTRACURRICULAR PROJECTS

UPJ Pandemic Preparedness Campaign, May 18th, 2020

- Aided in creating a public health campaign to inform the Johnstown region about COVID-19.
- Jill Henning, PhD, Professor of Biology, University of Pittsburgh-Johnstown

CURRENT FUNDING

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PREVIOUS FUNDING

Immune response to COVID-19 in HIV infected people.

NIH Parent Award: 1R01AI167711-01

9/1/2023-8/31/2024

PI: Charles Rinaldo, PhD

Co-Is: Ernesto T. A. Marques, MD, PhD, Robbie B. Mailliard, PhD, **Dylan J. Tuttle, BS**, Nicolas Sluis-Cremer, PhD

University of Pittsburgh Graduate Student Researcher (GSR) Position, 2023-2024

Advisor: Ernesto T. A. Marques, MD, PhD

University of Pittsburgh Graduate Student Researcher (GSR) Position, 2022-2023

Advisor: Ernesto T. A. Marques, MD, PhD

University of Pittsburgh Graduate Student Researcher (GSR) Position, 2021-2022

Advisor: Ernesto T. A. Marques, MD, PhD

Pitt AIDS Research Training (PART) Predoctoral Fellowship (T32)

NIH NRSA Award: 5T32AI065380-15

November 1, 2020-July 31, 2021

PI: Simon M. Barratt-Boyes, BVSc, PhD, DACVIM

Co-Is: Ernesto T. A. Marques, MD, PhD, Robbie B. Mailliard, PhD

ORGANIZATIONS AND LEADERSHIP

Sigma Xi Scientific Research Honor Society

Nominated and Inducted as Full Member, March 2025

School of Public Health Student Government Association

Editor-in-Chief, *The Public Health Journal* (2021-2022)

Journal-Contributing Member

Public Health Admitted Student Day Volunteer, Fall 2021

International Society for Vaccines

Member

American Public Health Association

HIV/AIDS Section Student Liaison Co-Chair 2023

HIV/AIDS Section Student Liaison 2023-2024

Reviewed abstracts for the 2023 APHA National Meeting

Beta Beta Beta Biological Honor Society

Lifetime Member

Former Phi Delta Chapter Secretary

Lymphoma and Leukemia Society Light the Night Walk, September 2017

Natural Science Admitted Student Day Volunteer Spring 2019, 2020

American Chemical Society

Member

Chem Camp Youth Chemistry Day, University of Pittsburgh-Johnstown, October 2019

Air Force Junior ROTC

Four Year Completion Certificate

American Association of Pharmaceutical Scientists

Member

American Association for the Advancement of Science

Member

TRAININGS AND SEMINARS

1. 2021 AAI Advanced Course in Immunology, Certificate of Completion
2. European Accreditation Council for Continuing Medical Education, International Workshop on COVID-19 Vaccines 2022, Utrecht (Livestream), Netherlands, July 6-August 6, 2022
3. 2022 Pittsburgh International Lung Conference: Metabolism and the Lung: Homeostasis, Immunity, and Disease, University of Pittsburgh Medical Center, September 8-9, 2022
4. Single Cell Analysis Bootcamp, Columbia University Mailman School of Public Health, 2023

HONORS AND AWARDS

1. Kitty Hawk Air Society Inducted Member
2. Sons of the American Revolution National ROTC Award
3. Veterans of Foreign Wars National ROTC Award
4. Civil Air Patrol, US Air Force Auxiliary, Aerospace Education Excellence Award, 2015
5. UPJ Achievement Scholarship, 2016, University of Pittsburgh Johnstown
6. Outstanding Poster Presentation Award, 2019, Duquesne University American Chemical Society Section
7. The Morgan-Korch Scholar Honors Convocation Award in Biological Science, 2020, University of Pittsburgh-Johnstown
8. Graduate School of Public Health Futures Scholarship, 2020, University of Pittsburgh Graduate School of Public Health
9. **2023 Annual Congress Award for PhD Students and Early Career Researchers. International Society for Vaccines. 2023**

PUBLICATIONS

1. Priscila M S Castanha, **Dylan J Tuttle**, Georgios D Kitsios, Jana L Jacobs, Ulisses Braga-Neto, Matthew Duespohl, Sanjay Rathod, Michelle M Marti, Sarah Wheeler, Asma Naqvi, Brittany Staines, John Mellors, Alison Morris, Bryan J McVerry, Faraaz Shah, Caitlin Schaefer, Bernard J C Macatangay, Barbara Methe, Christian A Fernandez, Simon M Barratt-Boyes, Donald Burke, Ernesto T A Marques, Contribution of Coronavirus-Specific Immunoglobulin G Responses to Complement Overactivation in Patients with Severe Coronavirus Disease 2019, *The Journal of Infectious Diseases*, Volume 226, Issue 5, 1 September 2022, Pages 766–777, <https://doi.org/10.1093/infdis/jiac091>
2. Manisha Nigam, **Dylan Tuttle**, Barbora Morra, Andrew P. Dicks & Jose Rodriguez (2023) Putting the squeeze on imine synthesis: Citrus juice as a reaction medium in the introductory organic laboratory, *Green Chemistry Letters and Reviews*, 16:1, DOI:10.1080/17518253.2023.2185107
3. Rick A-M, Lentscher A, Xu L, Wilkins MS, Nasser A, **Tuttle DJ**, et al. (2023) Impact of maternal SARS-CoV-2 booster vaccination on blood and breastmilk antibodies. *PLoS ONE* 18(6): e0287103. <https://doi.org/10.1371/journal.pone.0287103>
4. **Dylan J. Tuttle**, Priscila M. S. Castanha, Amro Nasser, Maris S. Wilkins, Deirdre E. Cuff, Prabal Chhibbar, Nicolas P. Sluis-Cremer, Jishnu Das, Robbie B. Mailliard, Charles R.

Rinaldo, Ernesto T. A. Marques; Correlates of COVID-19 mRNA vaccine humoral immune responses in men living with HIV-1. *J Immunol.* 1 May 2023; 210 (1_Supplement): 159.04. <https://doi.org/10.4049/jimmunol.210.Supp.159.04>

5. **Dylan J Tuttle**, Priscila M S Castanha, Amro Nasser, Maris S Wilkins, Tamara García Galarza, Mounia Alaoui-El-Azher, Deirdre E Cuff, Prabal Chhibbar, Jishnu Das, Yijia Li, Simon M Barratt-Boyes, Robbie B Mailliard, Nicolas Sluis-Cremer, Charles R Rinaldo, Ernesto T A Marques, SARS-CoV-2 mRNA Vaccines Induce Greater Complement Activation and Decreased Viremia and Nef Antibodies in Men With HIV-1, *The Journal of Infectious Diseases*, Volume 229, Issue 4, 15 April 2024, Pages 1147–1157, <https://doi.org/10.1093/infdis/jiad544>
6. Amro Nasser, **Dylan J Tuttle**, Maris Wilkins, Priscilla Da Silva Castanha, Ernesto T A Marques, Anne-Marie Rick, P-1988. COVID-19 vaccine induced antibodies in human milk: exploring form and function, *Open Forum Infectious Diseases*, Volume 12, Issue Supplement_1, February 2025, ofae631.2146, <https://doi.org/10.1093/ofid/ofae631.2146>
7. **Dylan J. Tuttle**, Phyllis Tien, Nicolas P. Sluis-Cremer, Robbie B. Mailliard, Charles R. Rinaldo, Ernesto T. A. Marques. Sex, age and HIV-1 status influence complement activation against SARS-CoV-2 mRNA vaccine Spike protein. *Vaccine*. **Manuscript under review**.

CONFERENCE ABSTRACTS AND INVITED PRESENTATIONS

1. **Dylan J. Tuttle**. *Citrus juice-catalyzed green synthesis of Schiff bases and their sequential reaction: Undergraduate organic laboratory experiment*. University of Pittsburgh-Johnstown Symposium for the Promotion of Academic and Creative Enquiry, Johnstown, PA. April 2019
2. **Dylan J. Tuttle**. *Citrus juice-catalyzed green synthesis of Schiff bases and their sequential reaction: Undergraduate organic laboratory experiment*. 33rd Annual ACS Student Member Symposium, Duquesne University April 2019 (**award winning poster**).
3. **Dylan J. Tuttle**. *Citrus juice-catalyzed green synthesis of Schiff bases and their sequential reaction: Undergraduate organic laboratory experiment*. ACS Spring 2020 National Meeting and Expo, Philadelphia, PA. March 2020 (Virtual)
4. **Dylan J. Tuttle**. *SARS-CoV-2 mRNA vaccine elicits lower virus-specific immunoglobulin response in men with HIV*. Presented at the MWCCS Executive Committee Meeting. May 17, 2022.
5. **Dylan J. Tuttle**, Priscila M. S. Castanha, Amro Nasser, Maris S. Wilkins, Deirdre E. Cuff, Prabal Chhibbar, Nicolas P. Sluis-Cremer, Jishnu Das, Robbie B. Mailliard, Charles R. Rinaldo, and Ernesto T. A. Marques. *SARS-CoV-2 mRNA vaccine elicits lower IgG response in men with HIV*. Presented at: Rustbelt CFAR Fall Retreat. Virtual. September 22, 2022.
6. **Dylan J. Tuttle**, Priscila M. S. Castanha, Amro Nasser, Maris S. Wilkins, Deirdre E. Cuff, Prabal Chhibbar, Nicolas P. Sluis-Cremer, Jishnu Das, Robbie B. Mailliard, Charles R.

Rinaldo, and Ernesto T. A. Marques *Correlates of COVID-19 mRNA vaccine humoral immune responses in men living with HIV-1*. Presented at the MWCCS Executive Committee Meeting. Baltimore, MD. May 2, 2023.

7. **Dylan J. Tuttle**, Priscila M. S. Castanha, Amro Nasser, Maris S. Wilkins, Deirdre E. Cuff, Prabal Chhibbar, Nicolas P. Sluis-Cremer, Jishnu Das, Robbie B. Mailliard, Charles R. Rinaldo, and Ernesto T. A. Marques. *Correlates of COVID-19 mRNA vaccine humoral immune responses in men living with HIV-1*. IMMUNOLOGY 2023. Poster P662. American Association of Immunologists. Washington DC. May 13, 2023.
8. **Dylan J. Tuttle**, Priscila M. S. Castanha, Amro Nasser, Maris S. Wilkins, Tamara Garcia-Galarza, Deirdre E. Cuff, Prabal Chhibbar, Yijia Li, Nicolas P. Sluis-Cremer, Jishnu Das, Robbie B. Mailliard, Charles R. Rinaldo, and Ernesto T. A. Marques. *SARS-CoV-2 mRNA vaccine induced immune responses in men with HIV-1 and impact on proviral reservoirs*. 2023 ISV Annual Congress. Poster 137. International Society for Vaccines. Lausanne, Switzerland. October 22-24, 2023.
9. **Dylan J. Tuttle**, Nicolas P. Sluis-Cremer, Robbie B. Mailliard, Charles R. Rinaldo, Ernesto T. A. Marques. *Complement Activation as a Mechanism of Protection by SARS-CoV-2 mRNA Vaccines in Men With HIV-1*. CROI 2024. Conference on Retroviruses and Opportunistic Infections. International AIDS Society. Denver, Colorado. March 3-6, 2024.
10. **Dylan J. Tuttle**, Nicolas P. Sluis-Cremer, Robbie B. Mailliard, Charles R. Rinaldo, and Ernesto T. A. Marques. *SARS-CoV-2 mRNA vaccine-induced immune responses in women with HIV-1 and impact on the complement system*. Presented at the MWCCS Executive Committee Meeting. Los Angeles, CA. May 15, 2024.
11. YM Bian, CR Xing, ZR Shang, C Gao, YJ Gao, **DJ Tuttle**, T McGuire, MZ Chen, JY Yuan, YX Hao, TJ Liang, GY Zhao, R Lahr, J Jun, J Cuyler, ZW Feng, ZX Xi, C Zhang, Xiang-Qun Xie. *PharmacoAnalytics Journey from 'Cell' to 'Cells': Advancing Cannabinoid Therapeutics via 3D Cryo-EM CB2 Signaling Complex and Generative AI Modeling*. Joint Carnegie Mellon-University of Pittsburgh Ph.D. Program in Computational Biology Open House Carnegie Mellon University. February 27, 2026.

TEACHING

1. **Course Facilitator (TA)**: IDM2003: Host response to Microbial Infection. University of Pittsburgh School of Public Health. Fall 2022, Fall 2023.
 - a. Course Director(s): Drs. Ernesto Marques and Robbie Mailliard
2. **Course Facilitator (TA)**: IDM2035: Vector-Borne Infectious Diseases: Research and Practice. University of Pittsburgh School of Public Health. Spring 2023.
 - a. Course Director: Dr. Ernesto Marques
3. **Course Facilitator (TA)**: IDM3440: Vaccines and Immunity. University of Pittsburgh School of Public Health. Spring 2023.
 - a. Course Director: Dr. Robbie Mailliard

MENTORSHIP

1. Tamara Garcia Galarza

University of Puerto Rico Mayaguez Campus

Rustbelt Center for AIDS Research RING Summer Research Fellowship. University of Pittsburgh. May-August 2023

Contacts: Nicolas P. Sluis-Cremer, PhD and Ernesto T. A. Marques, MD, PhD

Sponsored induction into Beta Beta Beta Biological Honor Society

2. Adit Patel
University of Pittsburgh School of Pharmacy
Undergraduate research student
Contact: Xiang-Qun Xie

SERVICE

1. Zhongrui (Ingrid) Shang
Service on Master of Science Thesis Committee
Department of Pharmaceutical Sciences
University of Pittsburgh School of Pharmacy