

Jonathan R. Mattingly

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Education

The University of Washington, Seattle, WA

Aug. 2023–Present

Ph.D. Immunology Candidate

GPA: 3.93

The University of Iowa, Iowa City, IA

Aug. 2017–May 2021

B.S. Microbiology, *with Highest Distinction, with honors*

Minors: Anthropology, Spanish

Overall GPA: 4.02

Research Experience

Ph.D. Candidate — University of Washington

Aug. 2023–Present

Advisor: Autumn York, PhD

- Developing probe-based biochemical labeling assays to identify the targets and function of lipid post-translational modifications to proteins in immune cells
- Using bioinformatic, biochemical, genetic, and molecular biology techniques to identify lipid post-translational modifications critical for the initiation and resolution of inflammatory immune programs
- Optimized a new approach for in vivo identification of vascular surveilling cDC1 and NK cells using intravenous delivery of anti-XCR1 and anti-NK1.1 antibodies
- Employed in vivo staining and confocal microscopy techniques to identify and live image tumor-cDC1 and tumor-cDC1-NK cell interactions in live lung tissue

Research Analyst — University of Chicago

June 2021–Apr. 2023

Advisor: Albert Bendelac, MD, PhD

- Designed 30+ color flow cytometry panel to probe for perturbations of immune cell populations in an immunoglobulin A (IgA) deficient model
- Optimized swiss roll tissue preparation and immunofluorescence staining protocol to visualize difference in immune cell composition of the small intestine
- Cultured and administered aerobic and anaerobic bacterial isolates and consortia to identify specific microbes resulting in immune compartment dysbiosis
- Prepared 16s sequencing to identify bacterial populations
- Prepared 10x sequencing to identify gene expression changes in the immune cells from IgA deficient hosts

Undergraduate Researcher — University of Iowa

Aug. 2018–May 2021

Advisor: Kevin Legge, PhD

- Purified nucleocapsid protein (NP) from influenza A virus to use in ELISAs to probe for anti-NP antibodies and antigen persistence in a universal influenza vaccine model
This work resulted in an honors thesis

Peer-Reviewed Publications

Earley ZM, Lisicka W, Sifakis JJ, Erickson SA, **Mattingly JR**, Wu-Woods NJ, Krishnamurthy SR, Ismagilov RF, Riesenfeld SJ, Belkaid Y, Cyster JG, Bendelac A, Jabri B. (2025) Immunoglobulin A controls enteric virus colonization to preserve intestinal immune homeostasis. *Cell host & microbe*, 33(4), 498–511. e10. PMID: 40154490

Mattingly, JR, Wu, A, & York, AG (2025). Regulation of Adaptive Immunity by Lipid Post-translational Modifications. *Immune network*, 25(1), e11. PMID: 40078786

Pre-Print Articles

Steach, HR, York, AG, **Mattingly, JR**, Skadow, MH, Chen, S, Zhao, J, Williams, KJ, Zhou, Q, Hsieh, WY, Brewer, JR, Qu, R, Shyer, JA, Harman, C, Sefik, E, Mowell, WK, Bailis, W, Cui, C, Kluger, Y, Bensinger, SJ, Craft, J, & Flavell, RA. (2024). IL-4 Licenses B Cell Activation Through Cholesterol Synthesis. *bioRxiv: the preprint server for biology*, 2024.05.13.593964.

Abstracts

Mattingly JR, Wu A, Li M, York AG. (2025) “Defining the Role of *de novo* Lipid Synthesis in B cell Responses” KAI 2025, Incheon, South Korea.

Earley ZM, **Mattingly JR**, Lisicka W, Jabri B, Bendelac A. (2022) “Immunoglobulin A Controls the Microbiota from Driving Dysregulated Host Adaptive Immune Responses” Cytokines 2022 & ILC4 2022, Kailuna Kona, Hawaii USA.

Presentations

Mattingly JR, Wu A, Li M, York AG. 2025 October “Defining the Role of *de novo* Lipid Synthesis in B cell Responses” KAI 2025, Incheon, South Korea. Poster.

Mattingly JR, Wu A, Li M, York AG. 2025 September “Defining the role of *de novo* cholesterol and fatty acid synthesis in B cell responses” University of Washington – Department of Immunology Retreat, Seattle, WA. Poster.

Mattingly JR, Wu A, Li M, York AG. 2025 September “Defining the role of *de novo* cholesterol and fatty acid synthesis in B cell responses” University of Washington – Department of Immunology Retreat, Seattle, WA. Lightning Talk.

Mattingly JR, Wu A, Li M, York AG. 2024 September “Elucidating the role of S-palmitoylation in B cells” University of Washington – Department of Immunology Retreat, Leavenworth, WA. Poster.

Mattingly JR. 2024 September “S-palmitoylation in B cells: Does it do anything?” University of Washington – Department of Immunology Retreat, Leavenworth, WA. Lightning Talk.

Mattingly JR. 2021 May “Contribution of Nucleocapsid Protein to Antibody Immunity after Intranasal Polyanhydride Nanoparticle Vaccination against Influenza A Virus” Microbiology Honors Symposium, Iowa City, IA.

Teaching Experience

Graduate Teaching Assistant — University of Washington Sep. 2024–Dec. 2024

- Facilitated review sessions for 20 undergraduate students in an introductory Immunology course
- Utilized active learning strategies to engage students and promote peer-to-peer learning

Undergraduate Teaching Assistant — University of Iowa Jan. 2021–May 2021

- Leading instruction of 160 students in an introductory Microbiology laboratory course
- Hosting office hours to address student questions

College Transition Workshop Leader — University of Iowa Aug. 2019–Dec. 2020

- Facilitating group learning sessions for 20 first-year students
- Designing daily lesson plans and writing practice questions

Biology Lab Intern — University of Iowa Aug. 2019–Dec. 2019

- Assisting in teaching introductory Biology course of 24 students

Scholarships & Awards

- Travel Awardee (2025)
Korean Association of Immunologists (KAI) Conference
- Honorable Mention (2025)
NSF GRFP
- Old Gold Scholarship (2017-2021)
University of Iowa, merit-based scholarship
- Invitation (Feb. 2021)
Phi Beta Kappa Honor Society, University of Iowa, Iowa City, IA
- President’s List (Spring 2020–Spring 2021, 3 semesters)
- Dean’s List (Fall 2017–Spring 2021, 8 semesters)

Service & Outreach

- Outreach committee member Aug. 2025–Present
Dept. of Immunology, University of Washington, Seattle, WA
- Biochemistry undergraduate reading program (BURP) mentor Sept. 2025–Dec. 2025
University of Washington, Seattle, WA

- Course Assistant; Lab and Research Committee
SoundBio, Seattle, WA July 2024–Jan. 2025
- Social Committee
Dept. of Immunology, University of Washington, Seattle, WA Aug. 2023–Aug. 2025