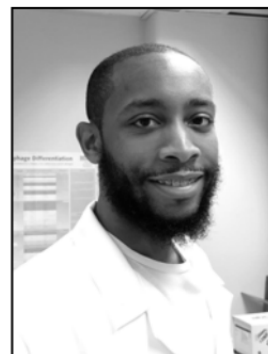


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Pre-doctoral Student*

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Primary Research Field

Patho-mechanisms of shock/sepsis and ARDS, innate immunity, single cell methods of RNA sequencing

Education

2018-present	Ph.D. Graduate Student Pathobiology Program, Brown University, Providence, R.I.
2016-2018	M.S. Biotechnology, Brown University, Providence, RI
2008-2012	B.S. Biology, Penn State University, University Park, P.A.

Professional Experience

Penn State-University Park, P.A.

Forestry Resources Department

Stuaffer Lab-Undergraduate Independent Study 1/2011-12/2011

Biology Department

Buanafina Lab-Research Assistant 9/2011-4/2012

Northwell Health-Manhasset, N.Y.

The Feinstein Institute for Medical Research

Robert S. Boas Center for Genomics and Human Genetics

Gregersen Lab-Research Assistant 7/2012-8/2016

Brown University-Providence, R.I.

Microbiology and Molecular Immunology Department

Bennett Lab-Master of Science student 9/2016-5/2018

Rhode Island Hospital, Division of Surgical Research

Ayala Lab-Pre-doctoral student 4/2019-Present

Publications

1. Simpfordorfer, K. R., Armstead, B. E., Shih, A., Li, W., Curran, M., Manjarrez-Orduño, N., Lee, A. T., Diamond, B. and Gregersen, P. K. (2015), Autoimmune Disease-Associated Haplotypes of BLK Exhibit Lowered Thresholds for B Cell Activation and Expansion of Ig Class-Switched B Cells. *Arthritis & Rheumatology*, 67: 2866–2876.

2. Tindal, E.W.*, **Armstead, B.E.***, Monaghan, D.S., Heffernan, D.S., Ayala, A. (2021) Emerging therapeutic targets for sepsis. *Expert Opin. Thera. Targets*. 25:175-189 (*E.W.T. and B.E.A. contributed equally as first authors to this work).
3. Morris-Love, J., O'Hara, B.A., Gee, G.V., Dugan, A.S., O'Rourke, R.S., **Armstead, B.E.**, Assetta, B., Haley, S.A., Atwood, W.J. (2022). Biogenesis of JC polyomavirus associated extracellular vesicles. *J. Extracell. Biol.* 1(5):e43.
4. **Armstead, B.E.**, Lee, C.S., Chen, Y., Zhao, R., Chung, C-S., Fredericks, A., Monaghan, S.F., Ayala, A. (2023) Application of single cell multiomics approaches points to changes in chromatin accessibility of calcitonin receptor like receptor and a possible role for adrenomedullin in the post-shock lung microenvironment. *Front. Med.* 10:1003121.
5. Wakeley, M.E., **Armstead, B.E.**, Gray, C.C., Tindal, E.W., Heffernan, D.S., Chung, C-S., Ayala, A. 2023. Lymphocyte HVEM/BTLA co-expression after critical illness demonstrates severity indiscriminate upregulation, impacting critical illness induced immunosuppression. *Front. Med.* 10:1176602.

Abstracts

1. Adaptive Immune Cell Co-expression of HVEM and BTLA in Immunosuppression of Critical Illness. Wakeley, M.E, **Armstead, B.E.**, Gray, C.C., Tindal, E.W., Heffernan, D.S., Chung, C-S., Ayala, A.
2. Ferreting Through the Significance of Immunological Status in the Septic: Polymicrobial Sepsis Alters Co-Expression of Immune Checkpoint Proteins HVEM and BTLA on Murine Lymphocytes After CLP. **Armstead, B.E.**, Wakeley, M.E., Gray, C.C., Tindal, E.W., Chen, Y., Ayala, A. Brown University Graduate Program Retreat (August 2019).
3. Resolving the impact of hypovolemic shock on gene expression by immune subsets. **Armstead, B.E.**, Lee, S., Chen, Y., Zhao, R., Chung, C., Monaghan, S., Ayala, A. 2021. *Shock* 55:(On-line Abst. Supplt.).
4. Experimental shock impacts lung associated inflammatory molecular targets as resolved by single cell RNA sequencing. **Armstead, B.E.**, Lee, C.S., Chen, Y., Zhao, R., Chung, C-S., Monaghan, S., Ayala, A. 2022. *Shock* 57:(On-line Abst. Supplt.).
5. Striking a delicate balance: VISTA regulates the Treg and $\gamma\delta$ T cell population to promote sepsis survival. Gray, C.C., Chung, C-S., **Armstead, B.E.**, Chen, Y., Ayala, A. 2022. *J. Leuko. Biol.* (On-line Abst. Supplt.).
6. Use of single cell multiomics points to alterations in lung endothelial adrenomedullin receptor genes *Calcrl* and *Ramp2* following shock-induced priming. **Armstead, B.E.**, Lee, C.S., Chen, Y., Zhao, R., Chung, C-S., Monaghan, S., Ayala, A. 2023. *Shock* 57:(in press).
7. Investigating the role of V-domain Ig suppressor of T-cell activation (VISTA) in the morbidity and mortality of neonatal sepsis using a mouse model. Petros, H., Hensler, E., Jiang, J., **Armstead, B.E.**, Gray, C., Chung, C-S., Chen, Y., Ayala, A. 2023. *Shock* 57:(in press).

Presentations (Oral & Poster)

1. Brown University Pathobiology Graduate Program Journal Club Presentation (5/2019)
2. Brown University Pathobiology Graduate Program Retreat-Student Poster (9/2019)
3. Brown University Pathobiology Graduate Program Journal Club Presentation (11/2020)
4. Rhode Island Hospital Division of Surgical Research-Divisional Seminar Series Presentation (1/2020)
5. Brown University Pathobiology Graduate Program Retreat-Flash Talk (9/2020)
6. Brown Respiratory Research Training Program-Seminar Presentation (10/2020)
7. Brown University Pathobiology Graduate Program Journal Club Presentation (12/2020)
8. Rhode Island Hospital Division of Surgical Research-Divisional Seminar Series Presentation (1/2021)
9. Brown University Pathobiology Graduate Program Retreat-Flash Talk (9/2021)
10. Brown Respiratory Research Training Program-Seminar Presentation (10/2021)
11. Brown University Pathobiology Graduate Program Retreat-Flash Talk (9/2022)
12. Rhode Island Hospital Division of Surgical Research-Divisional Seminar Series Presentation (4/2023)

Awards and Honors

- Sigma Xi Scientific Research Honor Society-Associate Member (March 2020-Present)
- Bernard E. Bruce Award for graduating minority students of Brown University's Graduate School (Spring 2018)
- *Nancy L. Thompson Graduate Award in 'Infection & Inflammation Research'* from Brown University's-Graduate Pathobiology Program (August 2023)

Funding Source

- Pre-Doctoral Research Fellow in *Brown Respiratory Research Training Program* - (June 2020-2022) NIH T-32HL134625
- Pre-doctoral fellow via NIH-NIGMS Administrative Supplement to Promote Diversity in Health-Related Research: "Mechanisms of Immune Dysfunction and Morbid Outcome in Response to Shock/Sepsis." (June 2022-present) R35 GM118097-07S1 (Project PI: Ayala, A.)

Community Outreach and Mentoring

- Brown Junior Researchers Program (Fall 2019-Present) Student mentor
- Summer Leadership Alliance Program (Summer 2020) Mentor to summer undergraduate intern (co-mentored Ezequiel Cruz Rosa with Dr. Ayala)
- Ayala Lab (Fall 2020-Spring 2022) Laboratory mentor to undergraduate student (co-mentored Chung Sunny Lee with Dr. Ayala)
- Brown University Microbiology and Molecular Immunology (MMI) Seminar Series-Diversity Committee (Fall 2020-Present)
- ABRCMS (Fall 2020) Brown University Graduate Student Panelist
- Summer Leadership Alliance Program (Summer 2022) Mentor to summer undergraduate intern (co-mentored Priscilla Mickey Appiah with Dr. Ayala)

Teaching and Professional Development

- **Biology 200: The Foundation of Living Systems, instructed by Drs. Kenneth Miller and John Stein-Graduate Teaching Assistant (Spring 2020)**
- **Completion of American Association of Immunologists' Introductory Immunology Course (Summer 2019)**
- **Brown University Sheridan Center for Teaching and Learning (Spring 2020) Certificate I-Reflective Teaching**
- **Brown Respiratory Research Training Program-Nano Course in Respiratory Function and Disease (Fall 2020)**
- **Brown Innovation Fellowship recipient (Fall 2023)**

Last updated: 9/22/23