

Sonia J. Laurie, PhD
Postdoctoral Research Fellow

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EDUCATION

- PhD, Immunology and Molecular Pathogenesis** 2012-2018
Department of Surgery, Emory University, Atlanta, GA
Division of Biology & Biomedical Sciences, Laney Graduate School
- NIH Post-baccalaureate Research Experience Program (PREP) Scholar** 2009-2012
Tufts University Graduate School of Biomedical Sciences, Boston, MA
Graduate Program in Immunology
- BS, Evolution, Ecology, and Behavior Biology** 2005-2010
Beloit College, Beloit, WI

RESEARCH EXPERIENCE

- Duke - UNC Immunotherapy Training Grant** 09/2021 - Present
University of North Carolina at Chapel Hill, North Carolina
Laboratory of Jonathan S. Serody, MD, Department of Microbiology & Immunology, Lineberger Comprehensive Cancer Research Center, *Assessing epigenetic plasticity of Type II innate lymphoid cells in the gastrointestinal tract after hematopoietic stem cell transplantation*
- SPIRE Postdoctoral Scholar** 09/2018 – 08/2021
Seeding Postdoctoral Innovators in Research and Education (SPIRE) Program
University of North Carolina at Chapel Hill, North Carolina, Laboratory of Jonathan S. Serody, MD, Department of Microbiology & Immunology, Lineberger Comprehensive Cancer Research Center, *Assessing epigenetic plasticity of Type II innate lymphoid cells in the gastrointestinal tract after hematopoietic stem cell transplantation*
- Graduate Dissertation Research** 2013 - 2018
Emory University, Laney Graduate School, Atlanta, GA, laboratory of Mandy Ford, PhD, Department of Surgery, *Coinhibitory receptor control of T cell responses in transplantation*, NRSA Ruth L. Kirschstein National Research Service Award
- NIH Post-baccalaureate Research Experience Program (PREP) Scholar** 2009-2012
Tufts University School of Medicine, Boston, MA, 2009-2012, laboratory of Henry Wortis, MD, Department of Pathology, *CD4⁺ MHC class II-restricted T cells in resistance to Babesia microti infection*

TEACHING EXPERIENCE

Visiting Professor , Johnson C. Smith University, Charlotte, NC Department of Natural Sciences and Mathematics Spring 2020: Biol 143C - Introduction to Biology I - Lecture & lab, 24 students Fall 2020: Biol 499 – Special Topics in Biology: Immunology - Lecture, 10 students Teaching Mentor: Dr. Timothy Champion, PhD - Johnson C. Smith University, Charlotte, NC <i>Investigating the impact of metacognitive assignment wrappers on self-regulated learning skills in an undergraduate biology classroom</i>	2020
Foundation of Online Teaching Training Course, Emory University	2018
Teaching Assistant , Dr. Rustom Antia, Department of Biology, Emory University Fall 2014: Biology 455 – Immunology and Disease – Lecture, 30 students	2014
TA Training & Teaching Opportunity Program, Emory University, Atlanta, GA	2013
Teaching Assistant to Dr. Brett Woods, Department of Biology, Beloit College Fall 2007: Biology 110 - Introduction to Biology – Lecture & lab, 20 students	2007

NIH FUNDING & RECOGNITION

Duke-UNC Immunotherapy Training Grant (PI: Serody/Chao) University of North Carolina at Chapel Hill, Chapel Hill, NC NCI : T32CA211056-01A1	Sept. 2021 - Present
NIGMS IRACDA SPIRE Scholarship (PI: Dr. Donald Lysle) University of North Carolina at Chapel Hill, Chapel Hill, NC NIGMS : K12GM000678-20	2018 – Aug. 2021
Invited guest, NIAID, Rockville, MD Bridging the Career Gap: Promoting Diversity in Biomedical Research	2015
NRSA Ruth L. Kirschstein National Research Service Award (F31 PI: Sonia Laurie) Emory University School of Medicine, Atlanta, GA NIAID : F31AI114250-01	2014-2018
Emory University NIH T32 Institutional Training Grant (PI: Dr. Brian D. Evavold) Emory University School of Medicine, Atlanta, GA NIAID : T32AI007610-15	2013-2014
Post-baccalaureate Research Experience Program Scholar (PREP) Tufts University School of Graduate Biomedical Science, Boston, MA NIGMS : GM066567-16	2009-2012

AWARDS AND HONORS

Elected Student Representative to the Immunology and Molecular Pathogenesis Executive Faculty Committee, Emory University, Atlanta, GA	2016-2018
Recipient of American Transplant Congress Young Investigator Award, Chicago, IL	2017
Winner, 3 rd place poster award, Division Student Advisory Council Annual Research Symposium, Emory University, Atlanta, GA	2017
Recipient of American Transplant Congress Young Investigator Award, Chicago, IL	2017
Invited guest, New England Science Symposium, Harvard Medical School, Boston, MA	2012
Recipient of Beloit Souter Award: Outstanding Scholarship & Research Potential	2009
Ronald E. McNair Scholar	2008-2009
Schweppe Foundation Career Development Award Recipient	2008
WiscAMP Research Scholar	2006-2009
Beloit College Eaton Scholarship Recipient	2005-2009

PROFESSIONAL & ACADEMIC SOCIETIES

Board of Trustees, Judea Reform Congregation, Durham NC	General Trustee, 20121-Present
Faculty Network for Student Voting Rights	Member, 2020 –present
Association of College and Biology Educators	Member, 2020 –present
Inclusive Environments & Metrics in Biology Education and Research Network	Member, 2020 –present
UNC Chapel Hill Institutional Review Board F	Voting Member, 2020 –2021
UNC Microbiology & Immunology Peer Mentorship Network Programming Committee	Co-leader, 2020
Scientists Promoting Anti-racist Conversations & Equity, UNC Office of Graduate Education	Curriculum design team, 2020 – Present
Center for the Integration of Research, Teaching, and Learning	Member, 2020 –present
Professional Development Subcommittee, Society for Advancement of Biology Education Research	Elected Co-Chair, 2020 –present
Society for Advancement of Biology Education Research	Member, 2020 –present

PROFESSIONAL & ACADEMIC SOCIETIES (con't)

Council on Undergraduate Research	Member, 2020 – 2021
Future Science Educators Network at UNC-CH	Member, 2019 – Present
Women in Science Deserve Opportunities & Mentorship & Mentorship (WISDOM) at UNC Chapel Hill	Early career mentee, 2019 – Present
Society for Advancing Chicanos and Native Americans in Science (SACNAS) at UNC Chapel Hill	Member, 2018 – Present
American Society of Hematology	Trainee member, 2018-2019
Society for Advancing Chicanos and Native Americans in Science (SACNAS) at Emory	Secretary, 2017-2018
Association of Women in Science, Emory Graduate Chapter	Member, 2015-2018
SACNAS at Emory	Founding Member, 2017
The American Association of Immunologists	Trainee Member, 2017-2018
Association of Women in Science, National Chapter	Member, 2017-2018
Atlanta Society of Mentors, Emory University	Student Representative, 2017-2018
Atlanta Society of Mentors, Emory University	Series Manager, 2016-2018
Immunology Graduates' Group, Emory University	Secretary, 2016-2017
Immunology Graduates' Group, Emory University	Founding Member, 2016
The American Society of Transplantation Trainee and Young Faculty Committee of Practice Member	Member, 2014-2018
Emory Science Advocacy Network, Emory University	Member, 2014-2018
The American Society of Transplantation (AST)	Trainee Member, 2014-2018

PROFESSIONAL DEVELOPMENT

Society for the Advancement of Biology Education Research Annual Meeting	2021
Association of College and University Educators Annual Meeting	2020
Inclusive Environments and Metrics in Biology Education & Research Annual Meeting	2020
American Society for Cell Biology “Teaching Tomorrow’s Scientists” Virtual Meeting	2020
Durham Congregations, Associations, and Neighborhoods (CAN) University: Intro to Broad-Based Organizing	2020
CIRTL Course: “Planning your TAR Project”, UNC Chapel Hill	2020
Cytobank Platform Training Seminar Series, Becton Dickinson	2020
College Teaching Seminar with Dr. Ed Neal SPIRE Program, UNC Chapel Hill	2019
Introduction to the UNIX Shell & Bioinformatics Introduction to R: Linear Regression and ANOVA UNC CH School of Health Sci Library Training	2019
Safe Zone Training – UNC CH LGBTQ Center, Student Academic Services	2019
Harassment & Discrimination Prevention UNC Equal Opportunity and Compliance Office	2019
SPIRE Traveling Symposium - NC A & T University, Greensboro, NC	2019
Annual NIEHS Biomedical Career Symposium, Raleigh, NC	2019
NC Project Kaleidoscope Regional Networking Spring Meeting “Increasing Student Motivation: Strategies that Work” NC A & T University, Greensboro, NC	2019
Selected participant, Science Alliance Leadership Training Program NY Academy of Sciences	2017
Invited guest, Future of Graduate and Postdoctoral Training Conference University of Colorado Anschutz Medical Campus, Denver, CO	2017
Invited guest, NIAID Bridging the Gap Development Workshop, Washington, DC	2015

MENTORSHIP EXPERIENCE

Name: Danesha Meeks
Institution: Johnson C. Smith University (current student)
Project: Senior Investigative Paper
Duration: 2020 Academic year

Name: Ashley Grove
Institution: Johnson C. Smith University (current student)
Project: Senior Investigative Paper
Duration: 2020 Academic year

Name: Tongie Atunes
Institution: Johnson C. Smith University (current student)
Project: Senior Investigative Paper
Duration: 2020 Academic year

Name: Phoebe Stark
Home institution: University of Tennessee – Knoxville, TN
Location: Emory University School of Medicine
Project Title: 2B4 Signaling and Regulation of Proliferation, Metabolism, and Death in Alloreactive CD8⁺ T Cells Following Transplantation
Notes: Phoebe shared her findings as an invited guest at the 2016 American Society of Nephrology Kidney Week meeting in Chicago, IL.
Duration: Summer 2016 (Undergraduate Program in Emory Renal Research Program)
Current position: Phoebe is now in medical school at the University of California – San Diego.

Name: Miriam C. Cortes, MD, PhD
Home institution: King's College Hospital – London
Location: Emory University School of Medicine
Project Title: Increased Pretransplant Frequency of CD28⁺ CD4⁺ TEM Predicts Belatacept-Resistant Rejection in Human Renal Transplant Recipients
Duration: 2015 - 2016
Current position: Dr. Cortes is an attending in Adult and Pediatric Liver Transplantation at the NHS Foundation Trust in London.

Name: Amey Kantikar, MS
Institution: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: Spring 2012
Current Position: Pharmaceutical Science Associate II, GlaxoSmithKline

Name: Sahil Kulhar, BPharm
Institution: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: Spring 2012
Current Position: MBA at Boston University's Questrom School of Business

Name: Komal Sandhu, MS
Home Institution: Northeastern University
Location: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: 2011 - 2012
Current position: Research Associate II at Daktari Diagnostics

Student Name: Thomas Corriellus, BS
Location: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: 2010 - 2011
Current position: Pharmacy technician at CVS in Boston, MA

Student Name: Amanda Mener (MD, PhD)
Location: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: Summer 2010
Current position: Orthopedic Surgery Residency, Albany Medical Center

Student Name: Prachi Godiwala (MD)
Location: Tufts University Graduate School of Biomedical Sciences
Project Title: Cellular Basis for Age-Associated Decline to Babesiosis
Duration: 2009 - 2010
Current position: OB/GYN Residency, George Washington University

Student Name: Aaron Joiner (PhD)
Location: Beloit College
Project Title: The transcription factor CREB in immune cell signaling and gene expression
Duration: Spring 2009
Current position: Graduate Student, Fromme Laboratory at Cornell University, Recipient of National Science Foundation Graduate Research Fellowship

Peer-reviewed Publications

1. Anders, C. K., Woodcock, M. Van Swearingen, A. E. D., Moore, D. T., Sambade, M. J., Cuaboy, L. A., Garrett, A. L. McKinnon, K., Laurie, S. J., Robeson, A. C., Kolupaev, O. V., Iannone, M., Cowens, K., Bortone, D., Calhoun, B. C., Wilkinson, A. D., Carey, L. A., Jolly, T. Muss, H., Reeder-Hayes, K., Kaltman, R., Jankowitz, R., Gudena, V., Olajide, O., Perou, C. M., Dees, E. C., Vincent, B. G., and Serody, J. S. Evaluating the Efficacy of a Priming Dose of Cyclophosphamide Prior to Pembrolizumab to Treat Metastatic Triple Negative Breast Cancer. 2021. *J Immunother Cancer*, Under Revision.
2. Bruce, D. W., Kolupaev, O. V., Laurie, S. J., Bommiasamy, H., Stefanski, H., Blazar, B. R., Coghill, J., and Serody, J. S. Third Party Type 2 Innate Lymphoid Cells Prevent and Treat GI Tract GvHD. 2021. *Blood Advances*, In Press.
3. Xu, N., Palmer, D., Shou, P., Laurie, S. J., Bommiasamy, H., Robeson, A., Wills, C., Dotti, G., Vincent, B., Restifo, N., and Serody, J. S. Single Cell Sequencing Reveals a Critical Role for STING Agonist in enhancing CAR-T against breast cancer. 2021. *J Exp Med*, 218(2) 20200844.
4. Xie, J., Chen, C. W., Laurie, S. J., Zhang, W., Otani, S., Martin, G. S., Coopersmith, C. M., and Ford, M. L. Increased Attrition of Memory T Cells During Sepsis Requires 2B4. 2019. *JCI Insight*, 4(9):e126030.
5. Bozeman, A. M.[#], Laurie, S. J.[#], Haridas, D., Wagener, M. E., Ford, M. L. Transplantation Preferentially Induces a KLRG-1^{lo} CD127^{hi} Differentiation Program in Antigen-Specific CD8⁺ T Cells. 2018. *Transplant Immunology*, 50: 34-42. [#]These authors contributed equally to this work.
6. Laurie, S. J., Liu D., Wagener M. E., Stark P. C., Terhorst, C., Ford, M. L. 2B4 Mediates Inhibition of CD8⁺ T Cell Responses via Attenuation of Glycolysis and Cell Division. 2018. *Journal of Immunology*, 201(5): 1536-1548.
7. Laurie, S. J., Ford, M. L. Epigenetic Remodeling in Exhausted T Cells: Implications for Transplantation Tolerance. 2017. *Transplantation*, 101(5): 894-895.
8. Cortes, M.C., Laurie, S. J., Mathews, D. V., Winterberg, P., Larsen, C. P., Adams, A. B., Ford, M. L. Belatacept-Resistant Rejection is Associated with Increased Pre-Transplant Frequencies of CD28⁺ CD4⁺ T_{EM} in Human Renal Transplant Recipients. 2017. *American Journal of Transplantation*, 17(9): 2350-2362.
9. Woods, L. C. S., Woods, B., Leitschuh, C., Laurie, S. J., Jacob, H. J. Rat Chromosome 8 Confers Protection against Dyslipidemia Caused by a High-Fat/Low-Carbohydrate Diet. 2012. *Journal of Nutrigenetics and Nutrigenomics*, 5:81-93.

BIBLIOGRAPHY

Selected Presentation Abstracts

1. Laurie, S. J., Bruce, D. W., Bommasamy, H., Noel, M. P., Foster, J. P., Davis, I. J., Pattenden, S. G., Serody, J. S. Epigenetic Plasticity of Type II Innate Lymphoid Cells in the Lower GI Tract. *Blood* 2019; 134.
2. Hutto, T.*, Laurie, S. J.*, Morgan, E. T., McCarty, N. A., Wilkinson, K. D. Maximizing Mentorship for Research Based PhD Students and Faculty through the Atlanta Society of Mentors (ASOM). GA Clinical & Translational Science Alliance Conference. 2018. Poster. *These authors contributed equally.
3. Laurie, S. J., Liu, D., Wagener, M. E., Robertson, J. M., Ford, M. L. The balance of CD28 and CTLA-4 signals controls TIGIT expression on antigen-specific CD4⁺ effector T cells. Keystone Symposia on Molecular and Cellular Biology: T Cell Dysfunction, Cancer, Infection. Breckenridge, CO. 2018. Poster.
4. Morgan, E. T., James, A. M., Hutto, T., Laurie, S. J., McCarty N., Comeau, D. Corbett, A. H., Tansey, M. G., Shorter, S., Marsteller, P., Wilkinson, K. D., The Atlanta Society of Mentors: A multi-institutional approach to improving mentoring and mentoring awareness. Training, Workforce Development, and Diversity Program Directors' Meeting. Baltimore. 2017. Poster.
5. Laurie, S. J., Liu, D., Wagener, M., Ford, M. L. 2B4 Signaling Regulates Metabolism in Alloreactive CD8⁺ T Cells Following Transplantation. Keystone: Immunometabolism, Banff, Canada. 2016. Poster.
6. Cortes, M. C., Laurie, S. J., Sayed, B. A., Ford, M. L. Rapid Emergence of CD28^{null} Cells Following Ex Vivo Restimulation Is Associated with Belatacept Resistant Rejection. *Am Jour Trans 16: Supp 3*. 2016.
7. Margoles, L., Laurie, S. J., Coopersmith, C. Ford, M. L. Sepsis Prolongs Allograft Survival Compared with Non-Septic Infection in a Murine Model of Skin Transplantation and *Pseudomonas aeruginosa* Pneumonia. *Am Jour Trans 16: Supp 3*. 2016.
8. Chen, C. Laurie, S. J., Lyons, J., Coopersmith, C. Ford, M. L. 2B4 Expression on Human CD4⁺ Memory T Cells is Associated with Functional Impairment. *Am Jour Trans 15: Supp 3*. 2015.
9. Laurie, S. J., Liu, D., Ford, M. L. Overexpression of 2B4 Inhibits the Expansion and Function of Donor Reactive CD8⁺ T Cells in Selective Lymphoid Compartments. *Am Jour Trans 15: Supp 3*. 2015.
10. Vannier, E., Silver, Z. Wilson, C., Su, J., Chiam, J., Laurie, S. J., Telford, S., Gelfand, J., Krause, P., Wortis, H. H. Cellular basis for clearance of the protozoan parasite *Babesia microti* in immunocompromised hosts. *J Immunol*. 188:43.13. 2012.
11. Laurie, S. J., Vannier, E., Wortis, H. H. Phagocytosis, Interferon- γ , IL-21, and CD4⁺ MHC class II-restricted T cells in resistance to *Babesia microti* infection. *J Immunol*. 188:43.14. 2012.