

Benjamin David Solomon

Education

Washington University, St. Louis, MO

- Ph.D., Immunology Expected May, 2018
- M.D. Expected May, 2018

Cornell University, Ithaca, NY

- B.A., Biological Science, *Magna Cum Laude* May, 2009
- B.A., Philosophy May, 2009

Grants, Honors, and Scholarship

- Angela Zheng and Shawn Hu Graduate Fellowship in Immunology 2014
- NIH F30 Ruth L. Kirschstein NRSA Pre-doctoral Fellowship 2014
- Medical Scientist Training Program Fellow, Washington University 2009-present
- *Magna Cum Laude*, Cornell Biology Department Honors Thesis Program 2009
- Biomedical Research Apprenticeship Program Scholar, Washington University 2008
- 1st Place Research Project, Cornell University BioExpo Research Symposium 2008
- Cornell/HHMI Research Scholar 2007
- HHMI/NIH/MCPS Student Internship Scholar 2004

Publications

- J. N. Chai, Y. Peng, S. Rengarajan, **B. D. Solomon**, T. L. Ai, Z. Shen, J. S. A. Perry, K. A. Knoop, T. Tanoue, S. Narushima, K. Honda, C. O. Elson, R. D. Newberry, T. S. Stappenbeck, A. L. Kau, D. A. Peterson J. G. Fox, C.-S. Hsieh, “*Helicobacter* species are potent drivers of colonic T cell responses in homeostasis and inflammation.” *Sci. Immunol.*, vol. 2, no. 13, eaal5068, July 2017.
- B. D. Solomon** and C.-S. Hsieh, “Antigen-specific development of mucosal Foxp3+RORγt+ T cells from regulatory T cell precursors.” *J. Immunol.*, vol. 197, no 9, pp. 3512-3519, Nov 2016.
- T. L. Ai, **B. D. Solomon**, and C.-S. Hsieh, “T-cell selection and intestinal homeostasis.” *Immunol. Rev.*, vol. 259, no. 1, pp. 60–74, May 2014.
- W.-L. Lo, **B. D. Solomon**, D. L. Donermeyer, C.-S. Hsieh, and P. M. Allen, “T cell immunodominance is dictated by the positively selecting self-peptide.” *Elife*, vol. 3, p. e01457, Jan. 2014.
- P. P. Ni, **B. Solomon**, C.-S. Hsieh, P. M. Allen, and G. P. Morris, “The Ability To Rearrange Dual TCRs Enhances Positive Selection, Leading to Increased Allo- and Autoreactive T Cell Repertoires.” *J. Immunol.*, vol. 193, no. 4, pp. 1778–86, 2014.
- B. D. Solomon**, C. Mueller, W.-J. Chae, L. M. Alabanza, and M. S. Bynoe, “Neuropilin-1 attenuates autoreactivity in experimental autoimmune encephalomyelitis.” *Proc. Natl. Acad. Sci. U. S. A.*, vol. 108, no. 5, pp. 2040–5, Feb. 2011.
- B. U. Schraml, K. Hildner, W. Ise, W.-L. Lee, W. a-E. Smith, **B. Solomon**, G. Sahota, J. Sim, R. Mukasa, S. Cemerski, R. D. Hatton, G. D. Stormo, C. T. Weaver, J. H. Russell, T. L. Murphy, and K. M. Murphy, “The AP-1 transcription factor Batf controls T(H)17 differentiation.” *Nature*, vol. 460, no. 7253, pp. 405–9, Jul. 2009.
- W. T. Watford, B. D. Hissong, L. R. Durant, H. Yamane, L. M. Muul, Y. Kanno, C. M. Tato, H. L. Ramos, A. E. Berger, L. Mielke, M. Pesu, **B. Solomon**, D. M. Frucht, W. E. Paul, A. Sher, D. Jankovic, P. N.

Tsichlis, and J. J. O'Shea, "Tpl2 kinase regulates T cell interferon-gamma production and host resistance to *Toxoplasma gondii*," *J. Exp. Med.*, vol. 205, no. 12, pp. 2803-12, Nov. 2008.

Research experience

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| Washington University – <i>Doctoral Research</i> - Mentor: Dr. Chyi-Song Hsieh | 2011-2016 |
| <ul style="list-style-type: none">- Dissertation: "<u>Characterizing the Role of the T Cell Receptor Repertoire in T Cell Development and Function</u>"- Demonstrated distinct developmental pathways of mucosal T cell subsets at the clonal level through high-dimensional analysis of the T cell receptor repertoire | |
| Washington University – Mentor: Dr. Kenneth Murphy | 2008 |
| <ul style="list-style-type: none">- Identified the consensus sequence and promoter binding regions of the transcription factor BATF | |
| Cornell University – Mentor: Dr. Margaret Bynoe | 2006-2009 |
| <ul style="list-style-type: none">- Demonstrated the role of Neuropilin-1 as a toleragenic mechanism in the prevention of experimental autoimmune encephalomyelitis | |
| National Institutes of Health – Mentor: Dr. John O'Shea | 2005-2006 |
| <ul style="list-style-type: none">- Identification and molecular characterization of novel genes products involved in CD4+ T cell differentiation | |

Computational skills

- Statistical and programming languages: R (proficient), Python (familiar)
- Flow cytometry software: FlowJo (proficient), FACSDiva (proficient)
- Adobe applications: Photoshop (proficient), Illustrator (proficient)
- Web development: HTML (familiar), CSS (familiar), Bootstrap (familiar), Jekyll (familiar)
- Operating systems: Windows (proficient), Linux (familiar), Macintosh (familiar)
- Other: Markdown (proficient), Git (familiar), Latex (familiar), Microsoft applications (proficient)

Laboratory skills

- Cellular biology: Cell culture, surface/intracellular antibody staining, flow cytometry, retroviral transduction of cell lines, lymphocytes, and hematopoietic stem cells
- Molecular biology: DNA/RNA extraction, PCR, plasmid cloning, SDS-PAGE/western blotting, EMSA, ELISA, RNA reverse transcription
- Mouse experiments: animal husbandry, cellular adoptive transfer, bone marrow chimeras
- Computational biology: Illumina MiSeq experimental design and analysis, microarray analysis, RNA-sequencing analysis

Teaching experience

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| - Neurol 554: Neural Science – Teaching Assistant, <i>Washington University</i> | 2011 |
| - VETMI 315: Basic Immunology - Teaching Assistant, <i>Cornell University</i> | 2008 |
| - BIOBM 330: Principles of Biochemistry - Teaching Assistant, <i>Cornell University</i> | 2007-2009 |

Leadership positions

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| - Medical Scientist Training Program Student Committee, <i>Washington University</i> | 2011-present |
| - Undergraduate Biology Student Advisor, <i>Cornell University</i> | 2007-2009 |
| - Global Health Minor Advisory Committee, <i>Cornell University</i> | 2006-2008 |
| - Cornell Health International Chief Operating Officer, <i>Cornell University</i> | 2006-2007 |

Benjamin Solomon
Curriculum Vitae