

ZURI AYANA SULLIVAN, Ph.D.  
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Harvard University  
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## EDUCATION

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- 2014-2020      **Yale University**, New Haven, CT  
Ph.D., Immunobiology  
Dissertation title: Food Quality Control: Nutrition and Immunity in Intestinal Homeostasis  
Thesis advisor: Ruslan Medzhitov, Ph.D.
- 2012            **Harvard University**, Cambridge, MA  
A.B. *cum laude*, Molecular and Cellular Biology

## RESEARCH EXPERIENCE

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- 2021-present    **Howard Hughes Medical Institute Hanna H. Gray Fellow  
Postdoctoral Fellow**  
*Dr. Catherine Dulac Lab*, Department of Molecular and Cellular Biology  
Harvard University, Cambridge, MA  
Postdoctoral research investigating influence of inflammation on social behavior
- 2015-2020      **Graduate student**  
*Dr. Ruslan Medzhitov Lab*, Department of Immunobiology  
Yale University, New Haven, CT  
Conducted graduate dissertation research studying the role of  $\gamma\delta$  T-cells in regulating intestinal epithelial response to diet.
- 2012-2014      **Fulbright scholar**  
*Dr. William Bishai & Dr. Thumbi Ndung'u Labs*  
KwaZulu-Natal Research Institute for Tuberculosis and HIV, Durban, South Africa  
Carried out studies in human subjects to investigate the biology of mucosal associated invariant T-cells in the pathogenesis of tuberculosis, and to study the effect of latent tuberculosis infection on HIV pathogenesis.
- 2010            **Summer student**  
*Dr. Maria Mota Lab*, Institute of Molecular Medicine  
University of Lisbon, Lisbon, Portugal  
Assisted in studies to assess the role of endocytosis machinery in *Plasmodium falciparum* infection of hepatocytes.
- 2009-2012      **Undergraduate thesis student**  
*Dr. Eric Rubin Lab*, Department of Immunology and Infectious Disease  
Harvard T.H. Chan School of Public Health  
Conducted senior honors thesis research to characterize the function of the LprG/Rv1410c operon in *Mycobacterium bovis* infectivity of macrophages.

- 2009            **Summer student**  
*Dr. Sylvie LeGall Lab*  
Ragon Institute of MGH, MIT, and Harvard, Cambridge, MA  
Assisted in studies to assess the role of differential proteasome expression in elite control of HIV.
- 2008            **High school intern**  
*Dr. Susan Wray Lab*  
National Institute of Neurological Disorders and Stroke, Bethesda, MD  
Assisted in studies to characterize the role of estrogen receptor signaling in the development of gonadotropin-releasing hormone neurons.

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**TEACHING EXPERIENCE**

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- 2021            **Teaching assistant**, Department of Molecular and Cellular Biology  
Harvard University, Cambridge, MA  
MCB125: Molecular Basis of Behavior, led weekly discussion sections for 12 undergraduate students. Graded written assignments
- 2019-2020      **McDougal Graduate Writing Fellow**  
Yale University, New Haven, CT  
Held 1:1 writing consultations with graduate and professional students and postdocs. Organized and led workshops on written oral, and visual communication for graduate students and postdocs in the natural and physical sciences
- 2016            **Teaching assistant**, Department of Molecular Cellular and Developmental Biology  
Yale University, New Haven, CT  
MCDB105: An Issues Approach to Biology, science course for non-majors; designed and led weekly discussion sessions for 20 students, graded papers, wrote and graded exams
- 2015            **Teaching assistant**, Department of Immunobiology  
Yale University, New Haven, CT  
IBIO530: Biology of the Immune System, led weekly discussion sections for 20 graduate students, graded written assignments and exams
- 2012-2013      **Teaching assistant**, Howard Hughes Medical Institute Umkhumbane Schools Project  
Mayville School, Durban, South Africa  
Supervised weekly afterschool laboratory course for high school students from townships in South Africa

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**FELLOWSHIPS & GRANTS**

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- 2021            *Hanna H. Gray Fellowship*  
Howard Hughes Medical Institute
- 2019            *National Institute of Allergy and Infectious Disease (NIAID) Scholarship*  
Keystone Symposium, Tissue Immunity
- 2015            *Graduate Research Fellowship*  
National Science Foundation

- 2014            *Young Investigator Scholarship*  
International Antiviral Society, Conference on Retroviruses and Opportunistic Infections
- 2014            *Gruber Science Fellowship*  
Yale University, New Haven, CT
- 2012            *Fulbright Scholarship*  
Institute of International Education & US Department of State
- 2010            *International Research Opportunities Scholarship*  
Howard Hughes Medical Institute
- 2010            *Weissman International Internship Grant*  
Harvard College, Cambridge, MA
- 2009            *Increasing Diversity and Educational Access to Science*  
Howard Hughes Medical Institute & Harvard College, Cambridge, MA
- 2009            *Summer Undergraduate Research Fellowship*  
Harvard Global Health Institute, Cambridge, MA
- 2009            *Herchel Smith Summer Undergraduate Research Fellowship*  
Harvard College, Cambridge, MA
- 2009            *Program for Research in Science and Engineering Fellowship*  
Harvard College, Cambridge, MA

## **OUTREACH & SERVICE**

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### *Chair, Mental Health Committee; Member, Career Development Committee*

Harvard Black Postdocs Association

Coordinate mental health and career development activities for association of ~40 Black postdoctoral fellows at Harvard University

### *Co-Founder*

Yale Immunobiology Working Group on Diversity and Inclusion

Worked with department chair to establish a working group to address issues of diversity, equity, and inclusion in the Department of Immunobiology at Yale.

### *Planning committee*

Yale Department of Immunobiology Student Symposium

Collaborated with a committee of six graduate students over two years to organize a symposium hosted by the Department of Immunobiology featuring invited speakers who are leaders in the field.

### *Co-President*

Yale Science Diplomats

Organization of over 300 graduate students and post-docs aimed at promoting scientific literacy among the public, advocating for science policy, and increasing scientific outreach in the New Haven community. Managed all subcommittees of the organization, supervised funding and recruitment, and maintained relationships with university leadership. Planned and participated in several outreach events for middle school students and adults

in the New Haven community aimed at increasing scientific literacy and exposure to science in low-income communities.

Assisted in peer review of manuscripts for Cell, Nature, Science, Science Immunology, Cell Metabolism, and PeerJ

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### PROFESSIONAL SOCIETIES

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American Association for the Advancement of Science

American Society of Microbiology

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### INVITED TALKS

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**Sullivan ZA** & Walker BD “COVID-19: Evolution of a Pandemic.” Ragon Institute of MGH, MIT and Harvard & Cambridge Rindge and Latin High School. Virtual. November 10, 2020.

**Sullivan ZA** “Intestinal response to nutrient sensing.” Ragon Institute of MGH, MIT, and Harvard. Virtual. October 15, 2020.

**Sullivan ZA** “ $\gamma\delta$  T-cells regulate intestinal response to nutrient sensing.” Food Allergy Science Initiative Symposium: Food Biology in Health and Disease. (Symposium cancelled due to COVID-19).

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### CONFERENCE PRESENTATIONS

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**Sullivan ZA**, Khoury-Hanold W, Lim J, Biton M, Smillie C, Reis B, Pope SD, Israni-Winger K, Philip N, Rashed S, Palm N, Wang A, Mucida D, Regev A, Medzhitov R. “ $\gamma\delta$  T-cells regulate intestinal response to nutrient sensing.” Keystone Symposium, Tissue Immunity. Selected talk. Boulder, CO. January 26-29, 2020.

**Sullivan ZA**, Wong EB, Ndung’u T, Kasprovicz V, Bishai WR. “Latent and active TB infection increase harmful immune activation in individuals co-infected with HIV.” Conference on Retroviruses and Opportunistic Infections (CROI). Poster presentation. Boston, MA. March 3-6, 2014

**Sullivan Z**, Martinot A, and Rubin, E. “Deletion of the *M. bovis lprG/Rv1410c* operon results in severely attenuated fitness in macrophage infection.” Keystone Symposium, Tuberculosis: Understanding the Enemy. Poster presentation. Whistler, British Columbia, Canada. March 13-18, 2013.

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### SCIENCE COMMUNICATION

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**Sullivan Z.** (2020). “Twin Pandemics.” *Grow by Gingko*. <https://www.growbyginkgo.com/2020/06/23/pandemic-diaries/>

**Sullivan Z.** (2015). “Self vs. non-self: How the immune system ignores the microbes that are part of us.” *Method Quarterly Issue 4: Identity*. <http://www.methodquarterly.com/2015/11/self-vs-non-self/>

**Sullivan Z.** (2015). “Seeing the future of African Science: The ingredients – tangible and far less so – needed to build a world-class research institution in South Africa from scratch.” *Method Quarterly Issue 2: Visions*. <http://www.methodquarterly.com/2015/02/seeing-the-future-of-african-science/>

**Sullivan Z** and Bishai W. "TB vaccine progress in SA inspires an army of researchers." *The Mercury* [Durban, South Africa] 13 Feb 2013. Print.

## PUBLICATIONS

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**Sullivan ZA**, Khoury-Hanold W, Lim J, Smillie C, Biton M, Reis B, Zwick RK, Pope SD, Israni-Winger K, Parsa R, Philip N, Rashed S, Palm N, Wang A, Mucida D, Regev A, Medzhitov R. " $\gamma\delta$  T-cells regulate intestinal response to nutrient sensing." (2021) *Science*. (in press)

Florsheim EB\*, **Sullivan ZA\***, Khoury-Hanold W\*, Medzhitov R. "Food allergy as a biological food quality control system." (2021) *Cell*. doi:10.1016/j.cell.2020.12.007.

\*co-first author

Wong EB, Gold MC, Meermeier EW, Zulu BZ, Khuzwayo S, **Sullivan ZA**, Mahyari E, Rogers Z, Klooverpris H, Sharma P, Worley AH, Laloo U, Baijnath P, Ambaram A, Naidoo L, Suleman M, Madansein R, McLaren JE, Ladell K, Miners KL, Price DA, Behar SM, Nielsen M, Kasprovicz VO, Leslie A, Bishai WR, Ndung'u T, Lewinsohn DA. (2019) "TRAV1-2+ CD8+ T-cells including oligoclonal expansions of MAIT cells are enriched in the airways in human tuberculosis." *Communications Biology*. 2. /doi.org/10.1038/s42003-019-0442-2

Martinot A, Farrow M, Bai L, Layre E, Chen T-Y, Tsai JH-C, Iqbal J, Annand JW, **Sullivan ZA**, Hussain MM, Sacchetini J, Moody DB, Seeliger JC, Rubin EJ. (2016) "Mycobacterial Metabolic Syndrome: LprG and Rv1410 regulate triacylglyceride levels, growth rate, and virulence in *Mycobacterium tuberculosis*." *PLoS Pathogens*. 12(1): e1005351. doi:10.1371/journal.ppat.1005351. PMID: 26751071

**Sullivan ZA\***, Wong EB,\* Ndung'u T, Kasprovicz VO, Bishai WR. (2015). "Latent and Active Tuberculosis Increase Immune Activation in Individuals Co-Infected with HIV." *EBioMedicine*. 2(4): 334-340. doi:10.1016/j.ebiom.2015.03.005. PMID: 26114158

\*co-first author

Wong EB, Akilimali NA, Govender P, **Sullivan ZA**, Cosgrove C, Pillay M, Lewinsohn DM, Bishai WR, Walker BD, Ndung'u T, Klenerman P, Kasprovicz VO. (2013) "Low levels of peripheral CD161++CD8+ Mucosal Associated Invariant T (MAIT) cells are found in HIV and HIV/TB co-infection." *PLoS ONE* 8(12): e83474. PMID: 24391773.