

Juhi Bagaitkar, PhD



EDUCATION

B.Sc., Microbiology, **M.Sc.,** (Honors) Environmental Sciences, University of Pune, India.

M.S., & Ph.D., Microbiology and Immunology, University of Louisville, USA.

Postdoc, Immunology and Hematology, Washington University in St. Louis, USA.

PROFESSIONAL EXPERIENCE

2016-2022: Assistant Professor, Department of Oral Immunology and Infectious Diseases, University of Louisville

2022- present: Associate Professor (tenured) of Pediatrics at The Ohio State University College of Medicine and Principal Scientist II at the Nationwide Children's Hospital, Center for Microbial Pathogenesis.

PROFESSIONAL SERVICE / LEADERSHIP

Scientific Societies & Committees: Founding member and Chair, Members in Transition and Training Group (MTTG) Committee (2015-2017), Society for Leukocyte Biology (SLB); Liaison for SLB, National Research and Mentorship Network (2018-2020) and former Associate Councilor (2019-2022), SLB. Chair, Gordon Research Seminars on Phagocytes (2013). Conference Organizing Committee, Pg 2022; Nominations Committee, SLB (2023).

Leadership roles: Director, Cell Biology and Tissue Culture Core, University of Louisville (UoL), School of Dentistry (2017-2022); Ad hoc Committee for postdoctoral education, UoL (2019-2022); Steering Committee, Infectious Diseases Consortium, Nationwide Children's Hospital (NCH).

Grant Review: Ad hoc Reviewer, Board of Scientific Counselors (BSC), NIH (National Institute for Dental and Craniofacial Research, (NIDCR)); Chair and/or Reviewer (ad hoc) for NIDCR study sections on Musculoskeletal, Dental, and Oral Sciences (2024-2023) & Oral Dental and Craniofacial Sciences Study Section (2022, 2023); Pre- and Post-doctoral Fellowships, Infectious Diseases and Immunology (2022); International expert, Marsden grants, New Zealand; Several intramural review panels.

Editorial Board: Journal of Leukocyte Biology

RESEARCH INTERESTS

My research focuses on the complex interactions between innate immune cells, epithelial cells, and microbial colonizers at the oral mucosal barrier. Reciprocal and heterogeneous interactions between these three entities modulate tolerogenic or inductive immune responses at this understudied mucosal surface and enhance susceptibility to other systemic diseases. Over the last few years, the research in my laboratory has focused on the following primary areas.

1. **Oral mucosal antiviral immunity:** We showed that patients with periodontal inflammation have a diminished ability to produce interferon lambda, a critical cytokine in oral antiviral immune defense. I am interested in understanding how dysbiotic shifts in the oral microbiome enhance host susceptibility to viruses that infect oral and oro-respiratory mucosal surfaces.
2. **Leukocyte subversion by bacterial pathogens:** Delineating specific pathways employed by periodontal bacterial pathogens in manipulating neutrophil and macrophage effector functions and microbicidal capacity.
3. **Primary immunodeficiency:** Aside from the oral mucosal host-pathogen interactions, I am also interested in pediatric primary immunodeficiencies that compromise neutrophil function. Specifically, my lab focuses on chronic granulomatous diseases (CGD), a life-threatening

immunodeficiency caused by inactivating mutations in the superoxide-generating leukocyte NADPH oxidase 2 (NOX2) complex that is associated with life-threatening infections and aberrant inflammation.

STATEMENT OF INTEREST

SLB has been an integral part of my career progression and has provided a nurturing and inclusive environment. I have received critical mentorship and feedback from my colleagues within the community. These early and continued interactions played a significant role in my development and transition from a graduate student to an independent scientist, a tenured faculty member, and, importantly, a mentor to my trainees. As an Associate Professor, I have worked closely with SLB and spearheaded the establishment of the Members in Training and Transition Committee (MMTC). If given the opportunity to continue as a member of the SLB Council, I will continue to strive to align with the goals that are crucial to the society's mission.

- Work with the Council towards outreach and other initiatives that promote and showcase cutting-edge research in leukocyte biology and its relevance to human health.
- Work with the SLB council towards creating interactive platforms that engage investigators from different career stages with diverse expertise to foster cross-disciplinary science.
- Support the ongoing initiatives and help build new opportunities that promote career development opportunities for junior members of the society.