

Special Issue on
**Nutritional Immunology during Bacterial Colonization
and Infection**

CALL FOR PAPERS

A fundamental concept in bacterial pathogenesis is that pathogens must acquire nutrients from the host in order to successfully colonize and cause disease. As a result, the host has developed mechanisms to restrict bacterial access to nutrients in order to limit proliferation during acute infection, impacting bacterial growth and pathogen virulence. At the same time, perturbations in host nutrition have been documented to affect infectious disease mortality and morbidity, with multiple components of the immune system responding differentially depending on the nutritional state of the host. In addition to the host immune response, pathogens must also overcome “colonization resistance” afforded by the host’s resident bacterial populations. However, it has been demonstrated that disruption of either the host’s nutritional status or endogenous microbial communities can enhance susceptibility to infectious diseases. Despite substantial evidence linking host malnutrition with increased prevalence of disease, it is not known which micronutrients are involved in compromising immune-mediated defenses. Furthermore, it remains unclear if alterations in microbial community structures act in concert with nutrient deficiencies to increase susceptibility to colonization and invasion of pathogens. With the emergence of multidrug resistant bacteria, it is becoming increasingly clear that a better understanding of the interactions between host and microbial nutrition, immune function, and the microbiota will facilitate the development of new therapies to reduce overall morbidity and mortality.

The aims and scope of this special issue are to highlight original research investigating the role of nutrient availability in bacterial colonization and infection. We invite mechanistic studies focusing on host nutrition, nutritional immunity, immune responses, the microbiota, and bacterial-host interactions, as well as bacterial-bacterial interactions. Review articles synthesizing the research up to date on this topic are also welcome.

Potential topics include but are not limited to the following:

- ▶ The impact of host nutrition on bacterial colonization and infection susceptibility
- ▶ Mechanisms utilized by the host to limit bacterial growth through nutrient availability
- ▶ Exploitation of host resources by bacterial pathogens
- ▶ How host nutrition influences the microbiota and consequences for colonization resistance and inflammatory responses to infection
- ▶ Bacterial-bacterial competition for nutrients in the host environment
- ▶ The impact of nutrition on host metabolism and inflammatory responses to infection

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jir/nidbc/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Pamela Shen, New York University
School of Medicine, New York City,
USA
peiheng.shen@nyumc.org

Guest Editors

Kristen Lokken, New York University
School of Medicine, New York City,
USA
kristen.lokken@nyumc.org

Christopher Lopez, Vanderbilt
University Medical Center, Nashville,
USA
christopher.a.lopez@vanderbilt.edu

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