

Special Issue on  
**Host Defense and Antimicrobial Resistant Infections**

## CALL FOR PAPERS

A fundamental evolutionary principle of microbes is that these organisms mutate to escape selective pressure, making antimicrobial resistance inevitable. However, over the past several years, antibiotic resistance has increased at an alarming rate. Among nosocomial infections, those caused by multidrug resistant pathogens, such as *Enterobacteriaceae*, *Acinetobacter baumannii*, and *Pseudomonas aeruginosa*, are among the most difficult to treat because effective therapeutic options are either very limited or nonexistent. The percentage of nosocomial bloodstream infections caused by antibiotic-resistant gram-positive bacteria is also increasing including methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE). Antimicrobial resistance also threatens the effective prevention and treatment of an ever-increasing range of infections caused by parasites, viruses, and fungi. Thus, in addition to antimicrobial stewardship and hospital hygiene measures, there is a critical need for the development of novel therapeutic approaches to prevent and/or treat antibiotic resistant infections. Recent work on host-pathogen interactions and host immunity also suggests that adjunctive therapy with immunomodulators could lead to improved outcomes for drug-sensitive and multidrug-resistant bacteria by modifying the host immune responses.

We invite scientists to contribute original research and review articles that will help the field to understand the host-pathogen interactions in antimicrobial resistant infections. We also encourage submission of manuscripts on developing novel therapeutic approaches targeting both the host factors and the pathogens themselves.

Potential topics include but are not limited to the following:

- ▶ Characterizing resistance mechanisms for the design of combination therapeutics
- ▶ Clinical research aimed at identifying ways to optimize the use of currently approved drugs, including novel predictive biomarkers of disease progression
- ▶ Rapid and accurate diagnostics to swiftly determine appropriate treatments for infected individuals and facilitate antibacterial stewardship by reducing the use of broad-spectrum drugs
- ▶ Novel *in vivo* and *in vitro* models or approaches to dissect host defense and antimicrobial resistant infections, including “omics” approaches
- ▶ Novel approaches or strategies to combat drug resistant pathogens such as targeting virulence and host-directed therapeutics, including immunomodulators and biologics
- ▶ Development of vaccines or other immunoprophylactics for hospital-acquired infections

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/microbiology/hdari/>.

**Lead Guest Editor**

Kong Chen, University of Pittsburgh,  
Pittsburgh, USA  
[kong.chen2@chp.edu](mailto:kong.chen2@chp.edu)

**Guest Editors**

Heather Conti, University of Toledo,  
Toledo, USA  
[heather.conti@utoledo.edu](mailto:heather.conti@utoledo.edu)

Nicola I. Lorè, Ospedale San Raffaele,  
Milano, Italy  
[lore.nicolaivan@hsr.it](mailto:lore.nicolaivan@hsr.it)

Chang Shu, The First Hospital of Jilin  
University, Changchun, China  
[shu\\_chang@jlu.edu.cn](mailto:shu_chang@jlu.edu.cn)

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