



Name: Minh-Hong Nguyen, MD

Title: Professor of Medicine

Division: Infectious Diseases

Primary Email: mhn5@pitt.edu

Secondary Email: nguyenh@dom.pitt.edu

Assistant: Tanya Gonzales

Primary Email: tal67@pitt.edu

Phone number: 412-648-8510

Key questions defining research program:

- 1) What is the burden of extra-blood stream invasive candidiasis?
- 2) What are the non-cultural diagnostic modalities that enhance the diagnosis of invasive fungal infection?
- 3) What are the therapeutic options of carbapenem-resistant Enterobacteriaceae? What are the pitfalls of the up-and-coming antibacterial agents?

Key words describing research program:

- 1) Non-culture diagnosis for invasive fungal infections
- 2) Novel antibiotics for carbapenem-resistant Enterobacteriaceae

Titles for shovel-ready research projects:

- 1) Invasive fungal infections, including studies on epidemiology, emerging mold infections among the non-traditional non-immunocompromised hosts, diagnostics, antifungal resistance, and molecular mechanisms and animal models of pathogenesis
- 2) Non-cultural diagnostics for mold infection
- 3) In vitro antifungal susceptibility testing of isavuconazole against yeast and molds
- 4) Extensively-drug resistant Gram negative infections, including studies on epidemiology, devising and implementing optimal treatment strategies, molecular mechanisms and evolution of resistance, animal models of infection, and association between resistance and virulence
- 5) Evaluation of novel antibiotics (in Phase 2-3 clinical trials) against carbapenem-resistant Gram negative. Drugs in the pipeline include imipenem-relebactam, meropenem-vaborbactam, etc.
- 6) Induction of resistance to novel antibiotics in vitro against CRE, and evaluation of mechanisms of resistance
- 7) Infections in transplant recipients, including studies on host microbiomes during colonization and disease states
- 8) Antimicrobial stewardship, including studies on patient outcomes and economic impact of intervention strategies
- 10) Endobronchial aspergillosis in organ transplant patients (epidemiology and risk factors)
- 11) Fungal molds infection after respiratory viral infections among organ transplant recipients
- 12) Epidemiology, clinical characteristics and outcome of CRE infections among solid organ transplant recipients
- 13) Consequences of lung transplantation with EBV-mismatch in serology-negative recipients
- 14) Invasive aspergillus infection after viral infections due to Influenza

Data sources for shovel-ready research projects:

- 1) Transplant Infectious Diseases clinical database of infectious complications after lung transplantation.
- 2) Whole-genome database of over 100 carbapenem-resistant Enterobacteriaceae
- 3) Clinical database linked to molecular database of mechanisms of antimicrobial resistance for over 600 carbapenem-resistant Enterobacteriaceae
- 4) Candida repository linked to clinical database