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## Research Title:

Innate Host Defense  
during Post-Influenza  
Invasive Pulmonary  
Aspergillosis

*Aspergillus fumigatus* (*A. fumigatus*) is a fungus that is ubiquitous in the environment and conidia are commonly inhaled into the respiratory tract. *A. fumigatus* can cause a spectrum of clinical syndromes ranging from chronic colonization to invasive disease. Invasive pulmonary aspergillosis (IPA) is a severe, life-threatening disease that occurs when aspergillus conidia are inhaled into the respiratory tract and invade airways or lung tissue. A risk factor for IPA in critically ill patients is influenza infection. Our lab studies how influenza infection increases susceptibility to secondary IPA. We use immunologic assays to investigate how influenza impairs host defense allowing for the development of secondary IPA. Specifically, this project focuses on neutrophil and macrophage biology. The lab utilizes a murine model of post-influenza IPA and commonly used techniques include using knockout mice, plating fungal cultures, lung histology, flow cytometry, RT-PCR, ELISA, Western Blot, Lincoplex, and cell culture.