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Host-pathogen interactions in zebrafish

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Over the recent years, the zebrafish (*Danio rerio*) has rapidly gained popularity as a model for inflammatory and infectious diseases. The zebrafish offers unique advantages in studying pathogen-host interactions, including easy genetic manipulations and real-time non-invasive observation of the infection progress. My recent work used the zebrafish as a model to understand how host immune cells, especially neutrophils, respond to *Pseudomonas* infection. I have shown that a localized *Pseudomoas* infection is an opportunistic infection which is only pathogenic in fish with impaired neutrophil functions. I found that neutrophils respond to infection and tissue injury through distinct signaling mechanisms. Finally, I have characterized the kinetics of a systemic neutrophil activation induced with a local infection and demonstrated the role of cxcr2 signaling in this systemic response. My future studies will characterize the detailed mechanisms how leukocytes respond to infections as well as the interplay of the infectious agents and the host that would influence host outcome.

Biography

Qing Deng has completed her Ph.D. in year 2009 from Medical College of Wisconsin and is now a postdoctoral researcher in Anna Huttenlocher's lab in the department of Medical Microbiology and Immunology at UW-Madison. She has published 16 papers in reputed journals and served as a reviewer of a number of reputed immunology journals including Innate Immunity and Inflammation.

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