

Division of Biology and KAWSE Present:

STRESSing Out Over Infection - How Cellular Stress Shapes Innate Immunity

Monday, October 25, 2021 • 3:30 PM • Ackert 221



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Innate immune cells are wired to sense danger and stress, using existing organelle stress circuits to amplify pro-inflammatory signaling. We explore mechanisms of innate immune responses to bacterial infection, focusing on stress sensing and signaling in the ER, mitochondria and cytosol. Our previous studies have identified the ER stress sensor IRE1 as a critical regulator of macrophage and neutrophil innate immune signaling. Moreover, IRE1 acts to control pro-inflammatory through multiple pathways, including programming mitochondrial stress. Infection or Toll-like receptor engagement signals profound changes in mitochondrial metabolism, signaling and architecture. Our current studies are elucidating the contribution of key mitochondrial components, such as the phospholipid cardiolipin, to switching mitochondrial function from homeostasis to supporting pro-inflammatory signaling. Collectively, our data support a model where regulators of ER and mitochondrial stress shape and scaffold the innate immune response to infection.

If you would like to visit with Dr. Mary O'Riordan, please contact Steph Shames at sshames@ksu.edu.

Join Zoom meeting
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Meeting ID: 939 4594 2171
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Coffee & snacks served preceding the seminar in Ackert Hall, Room 225