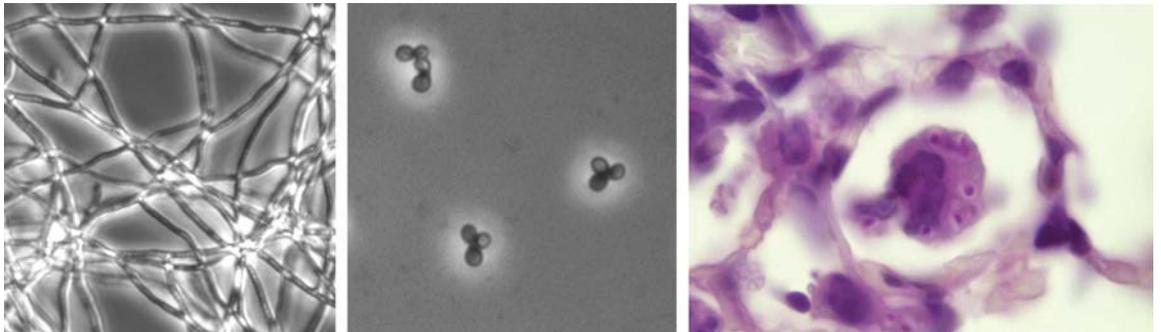




Regulation of cell shape and virulence by temperature in the fungal pathogen *Histoplasma capsulatum*



The long-term goal of our research is to determine how environmental signals such as temperature regulate morphology and virulence in the fungal pathogen *Histoplasma capsulatum*. *H. capsulatum* grows in a multicellular filamentous form in the soil; once inhaled into a mammalian host, these cells switch their growth program to a unicellular parasitic yeast form that subverts the innate immune system to cause disease. Temperature is a key signal that regulates this morphogenetic switch, and we are intrigued by how this pathogenic microbe senses and responds to temperature. We identified the first transcriptional regulators required for growth in the yeast form in response to host temperature. These factors are orthologous to key developmental regulators in other fungi, and represent critical elements of the temperature-dependent regulatory circuit in *H. capsulatum*. Additionally, we have identified a number of additional signaling proteins that are critical for the appropriate morphologic and/or transcriptional response to temperature. Ultimately we hope to elucidate an integrated pathway of thermosensory and thermoresponsive proteins required for *H. capsulatum* to thrive either in the soil or in the mammalian host.

Dr. Anita Sil

Professor, Microbiology and Immunology
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Host: Dr. Leah Cowen

Date: Wednesday, Sept. 26, 2018

Time: 9:00 AM

Place: CCBR Black Room