

# SEMINAR

## Pr Gregory Cook

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Hosted by:  
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### “Mycobacterial Energetics in Response to Slow Growth Rate and Hypoxia”

The mechanisms used by living cells to generate energy has fascinated physiologists for the past 50 years. *Escherichia coli* and mitochondria have been important models for the elucidation of chemiosmotic principles in growing cells. In obligately aerobic bacteria, oxygen supply can quickly be exhausted and cells are faced with the challenge of maintaining a membrane potential and generating ATP at low oxygen. These bacteria are also faced with the challenge of adjusting their metabolic rate to be commensurate with the anabolic rate to avoid bottlenecks in metabolism and overproduction of reducing equivalents. We are using the genus *Mycobacterium* to study these bioenergetic and metabolic questions to understand how these bacteria adapt to hypoxia. I will present our latest findings in this direction and discuss the concept of targeting energy generation for drug development against intracellular pathogens.

**Monday, October 1<sup>st</sup>**  
**@ 11 am**