Key questions defining research program:

- What signaling role does the mitochondrion play in platelets?
- Can platelet bioenergetics be utilized as a biomarker of disease?
- How does hemolysis alter mitochondrial signaling in circulating cells leading to thrombosis?
- What are the primary mechanisms by which nitrite regulates mitochondrial function?
- Is regulation of mitochondrial function required for nitrite-mediated cardioprotection?

Key words describing research program:

- Mitochondria
- Reactive Oxygen/Nitrogen Species
- Platelets
- Hemolysis
- Hypoxia

Titles for shovel-ready research projects:

- Hemolysis propagates thrombosis through platelet mitochondrial signaling
- Platelet bioenergetics are altered in obesity
- Platelet bioenergetics as a biomarker of scleroderma pathogenesis
- Nitrite regulates platelet and skeletal muscle mitochondrial function
- Altered bioenergetics in circulating cells of patients with HIV

Data sources for shovel-ready research projects:

- Biochemical and physiological assays in cell culture and human platelets
- Platelets already isolated from obese and healthy weight human subjects
- Platelets already obtained and to be obtained from an ongoing scleroderma cohort
- Platelets and skeletal muscle from subjects in an ongoing clinical trial
- Circulating cells obtained from HIV patients (in collaboration with Dr. Alison Morris)