The Robert M. Berne Cardiovascular Research Center Presents

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**Molecular Mechanisms of Exercise-mediated Protection against Diastolic Dysfunction in Diabetes**

Millions of cardiac patients suffer from heart failure with preserved ejection fraction (HFpEF), with diastolic dysfunction and exercise intolerance being among the first signs. One of the most potent interventions for this condition is physical exercise, but its mechanism(s) remains elusive, hindering therapeutics development. We use a combination of high-fat diet (HFD) feeding and streptozotocin (STZ) injections in mice to model the conditions of a diabetes-induced early diastolic dysfunction, where the diabetic mice display an exacerbated reduction of diastolic diameter following β-adrenergic stimulation. Interestingly, 6 weeks of wheel running exercise in the diabetic mice restored the diastolic dysfunction and mitochondrial abnormalities without curing diabetes. We are currently employing various loss- and gain-of-function mouse models to investigate whether exercise-induced mitophagy through mitoAMPK-Ulk1 signaling is required in this process.

**Thursday December 9th, 2021**

11:00 AM-12:00 PM

Via Zoom