

### Our Mission:

To conduct high quality biomedical and clinical research aimed at generating knowledge and information necessary for understanding molecular mechanisms of disease and development of medical cures and treatments of tomorrow. The Institute is also committed to providing education and training to basic scientists, clinical researchers and students who will perpetuate and extend the fight against disease worldwide.



### Our Vision:

To build scientific teams that can combine molecular biology, chemistry, computation, technology and engineering to create novel approaches to understanding and deciphering causes of disease. Using this knowledge, we will advance research to clinical applications, therapeutics and cures.

*“Together, we will drive the research forward, improve human health and find cures to life’s most devastating diseases.”*

**Maria Kontaridis, Ph.D.**  
Executive Director  
Gordon K. Moe Professor and Chair of  
Biomedical Research and Translational Medicine  
Director of Research



For more information on research at MMRI and how to support our science, contact our:

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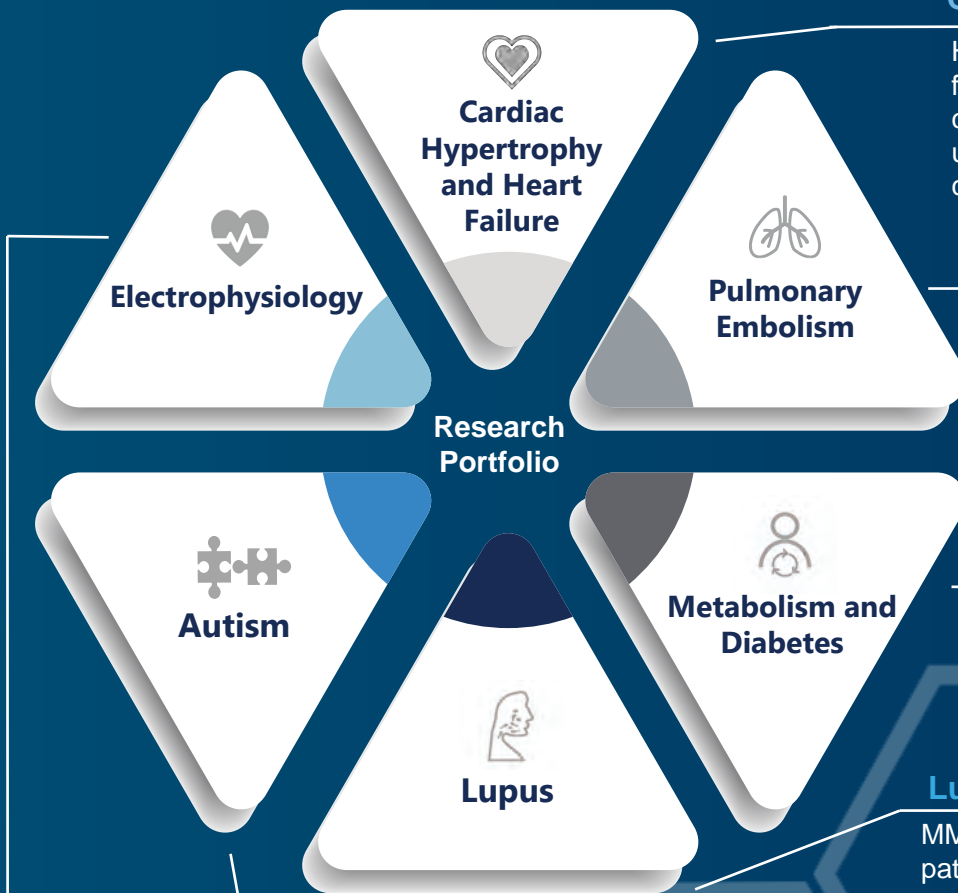
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UNLOCKING  
THE  
POSSIBILITIES





### Cardiac Hypertrophy and Heart Failure

Heart disease is the number one cause of death worldwide. MMRI is focusing on understanding the molecular genetic and epigenetic changes controlling cardiac hypertrophy and heart failure. The goal is to understand mechanisms leading to heart failure and find treatments or cures.

### Pulmonary Embolism

MMRI has leveraged state-of-the-art imaging instrumentation to understand the biological mechanisms causal to pulmonary embolism. With resolution and identification markers, we are developing new treatments and imaging strategies for better and more accurate detection, therapy and prognosis.

### Metabolism and Diabetes

Diabetes affects around 35 million Americans. Our research aims to identify mechanisms that cause diabetes and ways to control the disease prevalence through treatment, diet and environmental factors.

### Lupus

MMRI is focused on identifying novel mechanisms causal to lupus pathobiology. We believe that an increased protein activity in one particular enzyme called SHP2 may cause lupus progression and associated organ damage. We hope to create a drug that targets disease onset and progression.

### Autism

Research at the MMRI is focused on identifying new genes in families with autism. MMRI plans to identify potential therapeutics that may target the signaling molecules aberrantly regulated by genetic mutations in an effort to reverse or slow the severity of this and other cognitive disorders.

### Electrophysiology

Most sudden cardiac deaths (SCD(s)) are caused by abnormal heart rhythms called arrhythmias. MMRI is working on understanding excitation-contraction coupling (EC coupling) and the molecular and cellular processes responsible for transducing the electrical impulse in the heart to prevent SCD in patients.

*Treating disease and finding cures...*