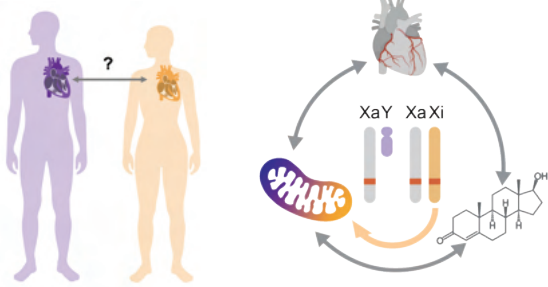


Laboratory of cardiometabolism is seeking motivated PhD students

Our lab studies the role of biological sex (sex chromosomes + sex hormones) in heart biology and disease



Heart disease is the leading cause of death worldwide, with significant differences in symptoms, prevalence, and outcomes between males and females. Understanding the molecular mechanisms underlying these sex differences is essential for addressing the unique needs of male and female patients. Our lab is interested in metabolic sex differences, mitochondria, and their role in human health and disease. Using state-of-the-art metabolomics, proteomics, and fluorescence microscopy in genetically engineered mouse models, we investigate how biological sex - a unique combination of sex chromosomes and sex hormones - shapes mitochondrial biology and organ function.

PhD project 1

for more information

The impact of biological sex on mitochondrial metabolism in cardiomyocytes



PhD project 2

for more information

The effect of sex chromosomes on cardiometabolic adaptations during obesity



Prospective PhD candidate (you)

You hold a Master's degree in biological, medical, chemical, or biochemical sciences, or you are on track to complete your studies this academic year. You are motivated, detail-oriented individual willing to learn new skills, and have experience in cell biology, molecular biology, or metabolomics. You are comfortable working with both mouse and human samples. You are fluent in English and have excellent communication skills and enjoy creating and working in an inclusive, supportive and collaborative team driven by a shared goal.

PhD Mentor



Lukas Chmatal, Ph.D., is a newly appointed junior group leader at the **Institute of Physiology, Czech Academy of Sciences** in Prague, where he is establishing his laboratory focused on cardiometabolism and its regulation in health and disease. Dr. Chmatal studied at the Faculty of Natural Sciences at Charles University, majoring in Molecular Immunology under the supervision of Dr. Václav Hořejší. He later trained at world-renowned institutions, including the University of Pennsylvania (Ph.D.) and the Massachusetts Institute of Technology (postdoctoral fellowship) in the United States, where he lived for the past 15 years. An avid marathoner and ultramarathoner, he founded and led the Whitehead Institute Running Club, fostering wellness, science communication, and community engagement.

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