

A Day of Physiology and Medicine for Undergraduate Students
20.02.2025

NEUROSCIENCES	METABOLIC RESEARCH	CARDIOVASCULAR RESEARCH
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PROGRAM				
Introduction	Welcome to IPHYS	Jiří Paleček, Deputy Director for Science		9h30 - 9h50
		Olga Zimmermannová		
Laboratory	Topic2	Speaker/s	For students	Time
Pain Research	Mechanisms and treatment of pain: Modulation of nociceptive signaling at spinal cord level	Jiří Paleček / Diana Špicarová	Bc, MSc, PhD	9h50 - 10h00
Neurochemistry	Mechanisms of selective modulation of individual subtypes of muscarinic receptors.	Jan Jakubík	Bc, MSc, PhD	10h00 - 10h10
Cholinergic Signaling	Acetylcholine receptors inside out as a fine tool to control neural circuits	Helena Janíčková	Bc, MSc, PhD	10h10 - 10h20
Biomaterials and Tissue Engineering	Bone tissue engineering: Enhancement of vascularized bone tissue formation using functionalized diamond scaffolds and electric stimulation	Elena Filová	PhD	10h20 - 10h35
Biomaterials and Tissue Engineering	Skin tissue engineering: Biomimetic nanofibers supporting chronic wound healing		MSc	
Cellular Neurophysiology	Rare neurodevelopmental disorders associated with variants in NMDA receptor genes	Tereza Smejkalová / Aleš Balík	Bc, MSc, PhD	10h35 - 10h45
Coffee break				10h45 - 11h00
Adipose Tissue Biology	Non-shivering thermogenesis in protection against cold and obesity	Petr Zouhar	Bc, MSc, PhD	11h00 - 11h10
Molecular Physiology of Bone	Deciphering the role of bone marrow adipocytes in mouse models of obesity: impact of sex dimorphism	Michaela Tencerová / Martina Dzubanová	MSc, PhD	11h10 - 11h20
Metabolism of Bioactive Lipids	Integrated approaches for metabolomics, lipidomics, and fluxomics	Ondřej Kuda	Bc, MSc, PhD	11h20 - 11h25
Membrane Transport	Cations - key elements for life of eukaryotic cells	Olga Zimmermannová	Bc, MSc	11h25 - 11h35
Molecular Neurobiology	Microtubule regulation in brain development and disease	Martin Balašík		11h35 - 11h45
Experimental Hypertension	New therapeutic approaches for the treatment of cardiovascular diseases: the heart-kidney relationship.	Ivana Vaněčková		11h45 - 11h55
Experiences of PhD students at IPHYS		Barbora Opletalová, Daniel Vasconcelos, Amanda Barboza		11h55 - 12h05
Organizational remarks, questions		Olga Zimmermannová		12h05 - 12h10
Refreshment				12h10 - 13h00
Visits of laboratories				13h00 - 15h15