

Postgraduate course in Biomedicine Advances in Neurosciences B90005

English version 2. 5. – 13. 5. 2022

Course mode: electronic/distance

Guarant of the course: prof. MUDr. Karel Šonka, DrSc. (ksonka@lf1.cuni.cz)

Secretary of the course: Mgr. Irena Růžičková (iruzi@lf1.cuni.cz)

Please, sign up using this link: <https://forms.gle/P9zSkeWrD862PaLS6>

morning 8:30 - 12:00 (unless stated otherwise)
afternoon 13:00 - 16:00 (unless stated otherwise)

Monday 2.5.

MORNING			
	Modern neuroanatomy and its methods	prof. MUDr. R. Druga, DrSc.	Off-line
	Sensory functions	doc. MUDr. P. Zach, Ph.D.	Off-line
AFTERNOON			
	Synaptic transmitters and receptors	RNDr. R. Tureček, CSc., Ing. M. Králíková, Ph.D.	Off-line

Tuesday 3.5.

MORNING			
	The role of glia in the CNS: physiology and pathophysiology	doc. MUDr. L. Vargová, CSc. / Ing. M. Anděrová, CSc.	Off-line
	Brain extracellular space and extracellular matrix	doc. MUDr. L. Vargová, CSc.	Off-line
AFTERNOON			
	Purinergic P2 receptors and their role in neuroendocrine cells	RNDr. H. Zemková, CSc.	Off-line
15.00 – 15.45	Opioid peptides, their receptors + cannabinoid receptors	Mgr. J. Jakubík, Ph.D.	On-line

Wednesday 4.5.

MORNING			
	Voltage-dependent ion-channels and action potential	RNDr. J. Krůšek, CSc.	Off-line
	Ionotropic glutamate receptors and excitatory synaptic transmission	prof. MUDr. L. Vyklický, DrSc.	Off-line
	Genetics of ionotropic glutamate receptors in neurodevelopmental and neuropsychiatric diseases	RNDr. A. Balík, Ph.D.	Off-line
	Synaptic plasticity: Mechanisms of LTP and LTD induction in the hippocampus	Mgr. M. Kořínek, Ph.D.	Off-line
	Excitotoxicity and neurodegeneration	Bc. T. Smejkalová, Ph.D.	Off-line
AFTERNOON			
13.00 – 14.30	Biological clock and circadian regulation of sleep	doc. PharmDr. A. Sumová, DSc.	On-line

14.45 – 16.15	Sleep, wake and clinical disturbances	prof. MUDr. K. Šonka, DrSc.	On-line
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Thursday 5.5.

MORNING			
	Neurobiology of learning and memory a advanced methods in the studies of the brain and behavior	prof. RNDr. A. Stuchlík, Ph.D., prof. MUDr. J. Laczó, Ph.D.	Off-line
AFTERNOON			
13.00 – 14.15	Balance systems and vestibular disorders	doc. MUDr. Jeřábek, CSc.	On-line
	Neurophysiology of hearing	prof. MUDr. J. Syka, DrSc., MUDr. O. Profant, Ph.D.	Off-line

Friday 6.5.

MORNING			
	MRI in clinical practice and white matter imaging	prof. MUDr. M. Vaněčková, Ph.D.	Off-line
	The role of MR in the imaging of neurodegeneration and brain iron quantification	MUDr. P. Dušek, Ph.D.	Off-line

Monday 9.5.

MORNING			
8.30 – 9.30	Neural mechanisms of electroencephalography and evoked potentials.	prof. MUDr. P. Jiruška, Ph.D. / Ing. Jan Kudláček, Ph.D.	On-line
9.45 – 10.45	EEG and evoked potentials in brain research and in clinical practice	Mgr. J. Hammer, Ph.D. prof. MUDr. P. Marusič, Ph.D.	On-line
11.00 – 12.00	Introduction to epilepsies	prof. MUDr. P. Marusič, Ph.D.	On-line
AFTERNOON			
	Patophysiology of epilepsy	doc. MUDr. J. Otáhal, Ph.D.	Off-line
	Patophysiology of brain vascular disorders and brain trauma	doc. MUDr. L. Vargová, Ph.D.	Off-line
15.00 – 15.45	Cerebrovascular diseases and brain trauma - clinical neuroimaging	doc. MUDr. A. Tomek, Ph.D.	On-line

Tuesday 10.5.

MORNING			
	Pathophysiological mechanisms of movement control and their disorders	prof. MUDr. R. Jech, Ph.D.	Off-line
9.45 – 10.45	Physiology of speech production and speech dysfunction in movement disorders	doc. Ing. J. Ruzs, Ph.D.	On-line
11.00 – 12.00	The basics of neurodegeneration	prof. MUDr. J. Roth, CSc.	On-line
AFTERNOON			

13.00 – 13.30	Autoimmune diseases of the CNS	prof. MUDr. E. Kubala Havrdová, CSc.	On-line
	Introduction to genetic studies in neurological disorders	doc. MUDr. D. Kemlink, Ph.D.	Off-line

Wednesday 11.5.

	Emotion - from physiology to psychopathology	prof. MUDr. J. Horáček, Ph.D.	YouTube
	New therapeutic options in treatment of mental disorders	prof. MUDr. P. Mohr, Ph.D.	YouTube
	Depressive disorder - clinical and diagnostic criteria and treatment approaches	doc. MUDr. M. Bareš, Ph.D.	YouTube
	Insomnia and parasomnia	MUDr. J. Bušková, Ph.D.	YouTube
	Neurobiology of Schizophrenia	prof. MUDr. C. Höschl, DrSc.	https://youtu.be/aRITMq8nrmQ
	Biomarkers in psychiatry	MUDr. M. Kopeček, Ph.D.	YouTube
	Functional imaging in cognitive psychology and psychiatry	Mgr. et Mgr. I. Fajnerová, Ph.D.	YouTube
	Addiction	MUDr. T. Páleníček, Ph.D.	YouTube

Thursday 12.5.

MORNING			
	Pain mechanisms	prof. MUDr. R. Rokyta, DrSc.	Off-line
	Molecular mechanisms of pain	MUDr. J. Paleček, CSc.	Off-line
	Treatment of the pain	doc. MUDr. J. Fricová, Ph.D.	Off-line
AFTERNOON			
	Clinical and electrophysiological aspects of neuromuscular disorders	MUDr. Radim Mazanec, Ph.D., MUDr. Jana Haberlová, Ph.D.	Off-line
15.00 – 15.45	Stem cells, biomaterials, and nanotechnology in CNS	doc. RNDr. P. Jendelová, Ph.D.	On-line

Friday 13.5.

MORNING			
8.30 – 9.10	Status v advancement of neurosurgery (robotics, neurotransplantation, neuroprosthetics)	prof. MUDr. V. Beneš, DrSc.	On-line
	Pediatric neurosurgery: overview and specifics	doc. MUDr. V. Beneš, Ph.D.	Off-line
10.15 – 11.00	Brain tumours: from lab to clinical practise	prof. MUDr. D. Netuka, Ph.D.	On-line
11.15 – 11.55	Cerebrospinal fluid - anatomy, physiology and its importance in CSF circulation pathology.	doc. MUDr. RNDr. O. Bradáč, Ph.D.	On-line
12.05 – 12.45	Neurosurgery of the peripheral nervous system	prof. MUDr. Pavel Haninec, DrSc.	On-line