

Lecture "Advanced Biochemistry and Molecular Medicine"					0
Dates			<b>General Structure</b>		0
			Lecture time: 9:00 - 10:30 Tuesday and Friday		0
			Part 1: Introduction into the field, <u>if possible</u> include <b>medical</b> aspects (30-40 min) followed by Q&A Part 2: Examples of own research related to the topic. (45 min)		0
03.11.2020	Ulrich Baumann	☑	<b>Macromolecular structure and its determination</b> ray crystallography and comparison to other methods <b>MED:</b> Inhibitor development towards drugs: proteolytic enzymes and HSP47	MNF	
06.11.2020	Elmar Behrmann	☑	<b>Protein folding and dynamics</b> Proteins as dynamic entities - structural biology using cryo-EM <b>MED:</b>	MNF	
10.11.2020	Ines Neundorff	☑	<b>Peptide Biochemistry</b> Chemical Synthesis, modification and cellular targeting of peptides <b>MED:</b> Drug targeting via cell-penetrating peptides	MNF	
13.11.2020	Stefan Höning	☑	<b>Vesicle transport</b> complexes <b>MED:</b> Trafficking-related diseases	MED	
17.11.2020 8:00 AM	Gerhard Sengle	☑	<b>Extracellular matrix</b> regulation, extracellular matrix <b>MED:</b> Connective tissue disorders characterized by dysregulated tissue growth and differentiation	MED	
20.11.2020	Hans-G. Schmalz	☑	<b>Chemical Biology of protein interactions</b> by small molecules, peptide-mimetics, structure-based drug design agents	MNF	
24.11.2020	Pitter Huesgen	☑	<b>Proteases</b> Regulation of the proteome by proteases, methods to identify protease targets <b>MED:</b> Function of proteases and proteolytic cleavages in health and disease	MED	
27.11.2020	Markus Krüger	☑	<b>Posttranslational regulation of the proteome</b> Principles of posttranslation regulation, methods to study the proteome, phosphoproteomics <b>MED:</b> Pathogens deploying posttranslational tricks	MNF	
01.12.2020	Karsten Niefind	☑	<b>Protein kinases</b> Structure and function of protein kinases, phosphatases <b>MED:</b> Structure-based drug design towards novel kinase inhibitors	MNF	
04.12.2020	Mafalda Escobar	☑	<b>Ubiquitin and related modifiers</b> Yeast as model system, ubiquitin in proteostasis and regulation of protein functions <b>MED:</b> Neurodegeneration and Cancer	MNF	
08.12.2020	Martin Graef	☑	<b>Autophagy</b> Phagocytosis vs. other degradatory pathways; <b>MED:</b> Autophagy in aging and disease	MPI	
11.12.2020	Bent Brachvogel	☑	<b>RNA regulation</b> biology <b>MED:</b> Disorders of the musculoskeletal extracellular matrix	MED	
15.12.2020	Stephanie Kath-Schorr	☑	<b>RNA structure and function</b> of functional RNA molecules. <b>MED:</b>	MNF	
18.12.2020	Günter Schwarz	☑	<b>Amino acid metabolism</b> cysteines <b>MED:</b> Inborn errors in metabolism, drug development in rare diseases	MNF	
Christmas and New Year Break					
08.01.2021	Jan Riemer	☑	<b>Redox biochemistry</b> protein function, Tools to study cellular redox balance <b>MED:</b> ROS in health and disease	MNF	
12.01.2021	Malte Gather	☑	<b>Nanobiophotonics</b> Optical tools to monitor and control complex biological functions <b>MED:</b> Diagnosis and treatment of neurodegenerative disorders	MNF	
15.01.2021	Brunhilde Wirth	☑	<b>Neurodegeneration and motor control</b> Neuromuscular disorders, alternative splicing, disease modifiers, ethical aspects in human genetics <b>MED:</b> Spinal muscular atrophy: Diagnosis, molecular basis, therapy	MED	
19.01.2021	Thomas Benzing		<b>Kidney function and disorder</b> Kidney filtration barrier, mechanosensation, cilia biochemistry and cell biology <b>MED:</b> Renal disease and hypertension	MED	
22.01.2021	Jijie Chai	☑	<b>Plant and animal innate immunity</b> Structural and function of membrane-bound and soluble receptors of the innate immune system <b>MED:</b> Novel approaches to interfere with the innate immune system	MNF	
26.01.2021	Manolis Pasparakis	☑	<b>Cell death and Inflammation</b> Mechanisms regulating different cell death pathways and their role in inflammation <b>MED:</b> Cell death in the pathogenesis of inflammatory diseases	MNF	
29.01.2021	Henning Walczak	☑	<b>Cell death and inflammation in cancer</b> Biochemistry, function and therapeutic targeting of cell death and inflammation in cancer <b>MED:</b> Cell death-based strategies in cancer therapy		
02.02.2021	Ulrich Brandt		<b>Mitochondria structure &amp; function</b> Overview of mitochondrial function and structure, complex I and respiratory chain complexes <b>MED:</b> Mitochondrial Disorders 1	MNF	
05.02.2021	Thomas Langer	☑	<b>Mitochondrial Proteostasis</b> Fission and fusion, Mitochondrial proteases, metabolic functions of mitochondria <b>MED:</b> Mitochondrial Disorders 2	MPI	
09.02.2021	Marius Lemberg	☑	<b>Protein homeostasis</b> protein degradation, intramembrane proteolysis <b>MED:</b> Protein folding diseases, Cystic fibrosis	MED	