

Advanced Lectures on “Gene Regulation, Epigenetics and Genome Stability”

Exam: Monday, 19 September, 09:00-10:00

Introductory lectures: mandatory

Regular talks: 3 tracks of your choice mandatory

The event will take place online

Introductory Lectures				DNA Repair & Genome Stability		Bioinformatics & Computational Biology		RNA Biology		
Monday, 5 September	Tuesday, 6 September	Wednesday, 7 September		Thursday, 8 September	Friday, 9 September	Monday, 12 September	Tuesday, 13 September	Wednesday, 14 September	Thursday, 15 September	
			09:00 – 09:45	The actin cytoskeleton in genome stability Hans-Peter Wollscheid	Genome rearrangements in health and disease Vassilis Roukos	How to find your gene of interest in the genomic era? Shuqing Xu	Multi-scale simulations of biomolecules Lukas Stelzl	No lecture scheduled	RNA-mediated regulation in neurodevelopment Jennifer Winter	
			9:50 – 10:35	Mechanisms counteracting transcription-associated genomic instability Petra Beli	No lecture scheduled	Design and Analysis of NGS Experiments Anke Busch/ Nastasja Kreim	Postgenomics in non-traditional “model” systems Peter Baumann	RNA at telomeres: regulation and function Brian Luke	Small RNAs as a genomic immune system René Ketting	
			10:35 – 10:55	<i>Coffee Break</i>						
11:00 – 12:00		Introduction to IMB’s Core Facilities Andreas Vonderheit	10:55 – 11:40	Circadian regulation Eva Wolf	Dynamics of the DNA damage response in single cells Alexander Löwer	Metagenomics approaches in food authentication Thomas Hankeln	Machine Learning - principles and applications in biology Michal Levin	Title TBA Sven Danckwardt	RNA modifications and gene dosage compensation Julian Koenig	
12:00 – 13:00	<i>Lunch Break</i>			11:40 – 13:00	<i>Lunch Break</i>					

Please go to the next page for the afternoon slots.

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13:00 – 14:30	Introduction to Bioinformatics & Computational Biology Katja Luck (live also for Online ISS)	Introduction to Epigenetics & Nuclear Dynamics Claudia Keller-Valsecchi (live also for Online ISS)	Introduction to Gene Regulation & Evolution Romain Libbrecht	13:00 – 13:45	The good, the bad and the ugly: Evolutionary and pathological aspects of gene dosage alterations Claudia Keller-Valsecchi (live also for Online ISS)	Evolution of sex determination and sex-biased genes Ann Kathrin Huylmans	Redox regulation of epigenetic pathways - implications for cardiovascular disease and environmental risk Andreas Daiber	Regulation of gene expression in the brain Simon Rumpel	Silent cells stay young – linking heterochromatin to aging Jan Padeken (live also for Online ISS)	The molecular basis of premature aging diseases Nard Kubben (live also for Online ISS)
				13:50 – 14:35	Evolutionary genomics of behaviour and life history strategies in Temnothorax ants Susanne Foitzik	Epigenetic Mechanisms in Primate Evolution Hans Zischler	DNA methylation and demethylation Lars Schomacher	Specificity in selective protein degradation Anton Khmelinskii	Can old cancer drugs be made smarter? Piyush More	Title TBA Ilgiz Mufazalov
14:30 – 14:50	<i>Coffee Break</i>			14:35 – 14:55	<i>Coffee Break</i>					
14:50 – 16:20	Introduction to Ageing & Disease Peter Baumann (live also for Online ISS)	Introduction to RNA Biology René Ketting (live also for Online ISS)	Introduction to DNA Repair & Genome Stability Helle Ulrich	14:55 – 15:40	Nonsense-mediated mRNA decay - an evolutionary perspective of its origin and diversification Andreas Wachter	Genomic signatures of recent adaptation in wild bees Joseph Colgan	Epigenetics and transcriptional dynamics in the control of complex behaviors of mice Beat Lutz	Rare Developmental Diseases: the Epigenetic Route and the Metabolic Phenotypes Maria Felicia Basilicata	Platelets as immune cells – insights through advanced microscopy Carsten Deppermann	Engineering in vivo neurogenesis through glia-to-neuron lineage reprogramming Benedikt Berninger

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