INTERNATIONAL PhD PROGRAMME MAINZ

# Advanced Lectures on "Gene Regulation, Epigenetics and Genome Stability"

## Online Lectures

IMB INTERNATIONAL SUMMER SCHOOL

**Exam: Friday, 25 June, 14:00-15:00**

**Introductory lectures: mandatory**

**Regular talks: 3 tracks mandatory**

| | Introductory Lectures | | | | Epigenetics & Nuclear Dynamics | | Bioinformatics & Computational Biology | | DNA Repair & Genome Stability | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monday, 14 June | Tuesday, 15 June | Wednesday, 16 June | | Thursday, 17 June | Friday, 18 June | Monday, 21 June | Tuesday, 22 June | Wednesday, 23 June | Thursday, 24 June |
| | | | | 09:00 – 09:45 | **Targeting Chromatin Complexes in Leukemia** Michael Kühn | **Epigenetics and transcriptional dynamics in the control of complex behaviors of mice** Beat Lutz | **On computational Genomics** Tamer Butto | **Human protein interactomics** Katja Luck | **Mechanisms counteracting transcription-associated genomic instability** Petra Beli | **Genome rearrangements in health and disease** Vassilis Roukos |
| | | | | 9:50 – 10:35 | **DNA methylation and demethylation** Lars Schomacher | **Genome regulation by the BAF chromatin remodelers** Sandra Schick | **Genomic views of the RNA world** Julian König | **Metagenomics approaches in food authentication** Thomas Hankeln | **Telomere Biology** Falk Butter | **DNA damage processing in time and space** Helle Ulrich |
| | | | | 10:35 – 10:55 | *Coffee Break* | | | | | |
| 11:00 – 12:00 | | | **Introductory lectures into IMB Core Facilities** | 10:55 – 11:40 | **Specificity in selective protein degradation** Anton Khmelinskii | **Regulation of gene expression in the brain** Simon Rumpel | **Postgenomics in non-traditional "model" systems** Peter Baumann | **Multi-scale simulations of biomolecules** Lukas Stelzl | **Cell fate control upon DNA damage** Thomas Hofmann | **Circadian regulation** Eva Wolf |
| 12:00 – 13:00 | *Lunch Break* | | | 11:40 – 13:00 | *Lunch Break* | | | | | |

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| 13:00 – 14:30 | **Introductory Lecture on DNA Repair & Genome Stability** Helle Ulrich | **Introductory Lecture on Bioinformatics & Comp. Biology** Susanne Gerber | **Introductory Lecture on Ageing & Disease** Peter Baumann | 13:00 – 13:45 | **Can old cancer drugs be made smarter?** Leszek Wojnowski | **Engineering in vivo neurogenesis through glia-to-neuron lineage reprogramming** Benedikt Berninger | **RNA modifications in native and therapeutic RNA** Mark Helm | **Translation quality control in eukaryotic cells** Marie-Luise Winz | **Molecular regulation of division of labor in insect societies** Romain Libbrecht | **Mechanisms and evolution of visual processing** Marion Silies |
| | | | | 13:50 – 14:35 | **Molecular mechanisms of RNA binding protein dysfunction in neurodegenerative diseases** Dorothee Dormann | **The molecular basis of premature aging diseases** Nard Kubben | **RNA-mediated regulation in neurodevelopment** Jennifer Winter | **RNA at telomeres: regulation and function** Brian Luke | **Cilia Proteins in the Nucleus: Who, What, When, Where, Why** Helen May-Simera | **Evolutionary genomics of behaviour and life history strategies in Temnothorax ants** Susanne Foitzik |
| 14:30 – 14:50 | *Coffee Break* | | | 14:35 – 14:55 | *Coffee Break* | | | | | |
| 14:50 – 16:20 | **Introductory Lecture on RNA Biology** René Ketting | **Introductory Lecture on Epigenetics & Nuclear Dynamics** Edward Lemke | **Introductory Lecture on Gene Regulation & Evolution** Romain Libbrecht | 14:55 – 15:40 | **How cytokines affect autoimmunity in the central nervous system** Tommy Regen | **Metabolic checkpoints of T cell development and function** Tim Sparwasser | **Small RNAs as a genomic immune system** René Ketting | **Dynamics of the transcriptome 3'end in development and disease** Sven Danckwardt | **Nonsense-mediated mRNA decay - an evolutionary perspective of its origin and diversification** Andreas Wachter | **The good, the bad and the ugly: Evolutionary and pathological aspects of gene dosage alterations** Claudia Keller-Valsecchi |

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