

Foundations of Biomedical Research 2020

Week 3: Transcription, Epigenetics and RNA - Mark Bedford, Xiadong Cheng and Ambro van Hoof

Time	Monday Sept 13	Tuesday Sept 14	Wednesday Sept 15	Thursday Sept 16	Friday Sept 17
8:30 - 9:15	Lecture 1: Basal transcription (XC)	Lecture 3: The histone code: epigenetic readers, writers, and erasers (MB)	Biostats/ Bioinformatics Lecture	Lecture 6: Splicing and Alternative splicing (BM)	Lecture 8: Nuclear lncRNAs and chromatin regulation (WL)
9:15 - 10:00	Breakout: 2 small groups (25-30 students) 1. Epigenetic changes by WGBS (ME) 2. Epigenetic changes by ChIP-seq (AJ)	Breakout: Epigenetics and Social Insects (MB)	Biostats/ Bioinformatics Exercise	Breakout : Instructions and set up	Breakout: Groups discuss assigned paper
10:00	Break	Break	Break	Break	Break
10:15 - 11:00	Lecture 2: What is chromatin & how does it regulate transcription? (BB)	Lecture 4: DNA methylation and epigenetic inheritance (TC)	Lecture 5: Big Questions: How are steps in gene expression executed and regulated. (AvH)	Breakout : Instructions and set up	Lecture 9: mRNA degradation (AvH)

XC- Xiaodong Cheng
 BB – Blaine Bartholomew
 MB – Mark Bedford
 TC – Taiping Chen
 ME – Marcos Estecio
 AJ – Abhinav Jain

AH – Ambro van Hoof
 BM – Bill Mattox
 WL – Wenbo Li

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Week 3 Learning Objectives:

1. Understand Basal transcription
2. Understand how structure chromatin structure regulates transcription.
3. Know what the “histone code” hypothesis is.
4. Understand how DNA methylation regulates transcription.