

Program - IUBMB Focused Meeting on Integrative Omics of Nuclear Functions	
DAY 1, OCTOBER 15	SUNDAY - ARRIVAL AND REGISTRATION
15:00	REGISTRATION OPEN
19:00 – 20:00	<i>SOCIAL EVENT: WELCOME DRINK</i>
20:00	<i>DINNER, MAIN RESTAURANT</i>
DAY 2, OCTOBER 16	MONDAY
8:30 – 8:45	OPENING REMARKS: Organizing Committee WELCOME ADDRESS: Professor Alexandra Newton, President of IUBMB
8:45 – 9:30	COMPANY OF BIOLOGISTS KEYNOTE LECTURE Melike Lakadamyali: Super-resolution imaging of chromatin organization in health and disease
9:30 – 10:30	SESSION 1: CHROMATIN MODIFICATIONS Chair: John Strouboulis 9.30-10.00: Simone Sidoli Unexplored Chromatin Modifications and Proteome Heterogeneity in Aging Research: Insights from Next-Generation Mass Spectrometry 10.00-10.30: Alejandra Loyola Insights in the maturation of newly synthesized histones
10.30 – 11:00	<i>COFFEE BREAK</i>
11:00 – 13:00	SESSION 1 (continued): CHROMATIN MODIFICATIONS Chair: Tineke Lenstra 11.00-11.30: EMBO YIP Lecture - Tuncay Baubec Probing chromatin-protein interactions during dynamic regulatory processes 11.30-12.00: Till Bartke Decoding chromatin states by proteomic profiling of modification-dependent nucleosome readers 12.00-12.30: Andreas Ladurner Chromatin regulation by ADP-ribosylation 12.30-12.45: Short talk – Roberta Noberini A histone PTM-centered, multi-OMICs approach to dissect aberrant epigenetic mechanisms in triple negative breast cancer 12.45-13.00: Short talk – Andrey Tvardovskiy Chromatin proteomic profiling identifies NuRD as a H3K9me2-selective chromatin reader and a putative repressor of perinuclear heterochromatin
13:00 – 14:30	<i>LUNCH BREAK</i>
14:30 – 17:00	SESSION 2: NUCLEAR ARCHITECTURE Chair: Michiel Vermeulen 14.30-15.15: EMBO KEYNOTE LECTURE - Ana Pombo Multiome-GAM: connecting cell states with 3D genome structure

	<p>15.15-15.45: Nils Krietenstein Investigating the dynamics of three-dimensional genome organization at the nucleosome level</p> <p>15.45-16.15: Wendy Bickmore Enhancer-promoter communication - is close enough, enough?</p> <p>16.15-16.30: Short talk – Lise Dauban Decoding the determinants of genome – nuclear lamina interactions by a random scrambling approach</p> <p>16.30-16.45: Short talk – Maria Stefanova Multiscale structural role of TOP2 in chromatin organization</p> <p>16.45-17.15: Poster flash talks (for poster session 1) Ilaria Bacchiocchi, Marco Borsò, Beyza Bozdogan, Eirini Sofia Fasouli, Viola Gilardino, Lukas Huschet</p>
17:30 onward	POSTER SESSION 1
19:30 onward	<i>DINNER, MAIN RESTAURANT</i>
DAY 3, OCTOBER 17	TUESDAY
8:30 – 10:30	<p>SESSION 3: STRUCTURAL PROTEOMICS Chair: Nils Krietenstein</p> <p>8.30-9.00: Hitoshi Kurumizaka Structural biology of chromatin</p> <p>9.00-9.30: Pedro Beltrao Multi-omics data integration of post-translational modification landscapes</p> <p>9.30-10.00: Georg Kustatscher Proteome dynamics associated with chromosome condensation and genetic perturbation</p> <p>10.00-10.15: Short talk – Yoshimasa Takizawa Structures of various chromatin units extracted from HeLa cells revealed by cryo-EM</p> <p>10.15-10.30: Short talk – Clarice Hong Imputing cell-type specific 3D genome structure at ultra-high resolution</p>
10:30 – 11:00	<i>COFFEE BREAK</i>
11:00 – 12:50	<p>SESSION 4: MULTI-OMICS DATA INTEGRATION Chair: Constance Alabert</p> <p>11.00-11.30: Alexey Nesvizhskii FragPipe: a comprehensive computational platform for proteomics, proteogenomics, and chemoproteomics</p> <p>11.30-12.00: Jussi Taipale Towards predicting gene expression from DNA sequence</p> <p>12.00-12.30: Maria Colomé-Tatché Single cell computational epigenomics</p> <p>12.30-12.50: Sponsor presentation – Ludovic Boytard, Diagenode Tagmentase - Function, applications and solutions</p>

12:50 – 13:30	WOMEN IN SCIENCE LECTURE: Melike Lakadamyali
13:30 – 15:00	<i>LUNCH BREAK</i>
15:00 – 16.30	PROBLEM SOLVING WORKSHOP 1:1 speaker/participant pairs
17:00	<i>SOCIAL EVENT: EXCURSION TO CHANIA OLD TOWN AND DINNER IN CHANIA OLD HARBOUR</i>
DAY 4, OCTOBER 18	WEDNESDAY
9.00 – 10:30	<p>SESSION 5: QUANTITATIVE APPROACHES TO TRANSCRIPTION Chair: Tuncay Baubec</p> <p>9.00-9.30: EMBO YIP Lecture - Tineke Lenstra Understanding transcription: one molecule at a time</p> <p>9.30-10.00: Naama Barkai How transcription factors find their binding sites in large genomes – the role of intrinsically disordered regions</p> <p>10.00-10.15: Short talk – Irene Zanin Genome-wide mapping of i-motifs reveals their association with transcription regulation in live human cells</p> <p>10.15-10.30: Short talk – Antoni Gralak Completing the codebook: determining the DNA binding properties of 332 poorly characterized human transcription factors</p>
10:30 – 11:00	<i>COFFEE BREAK</i>
11:00 – 12:30	<p>SESSION 6: CHROMATIN IN HEALTH AND DISEASE Chair: Till Bartke</p> <p>11.00-11.30: Musa Mhlanga A chromatin-regulated biphasic circuit coordinates IL1B-mediated inflammation</p> <p>11.30-12.00: Gernot Längst Changes in adenoviral chromatin organization precede early gene activation upon infection</p> <p>12.00-12.15: Short talk – Maria Ramal Garcia A critical role for STAG2 in maintaining urothelial cell quiescence</p> <p>12.15-12.30: Short talk – Nawrah Khader Transcriptomic and chromatin profiles reveal global alteration patterns in the uterine smooth muscle cell genome from late gestation to labour onset</p>
12:30 – 13:15	EMBO SCIENCE POLICY LECTURE: Wendy Bickmore Title: “Science Funding: People and Places”
13:15 – 15:00	<i>LUNCH BREAK</i>
15:00 – 17:30	<p>SESSION 7: CHROMATIN & METABOLISM Chair: Naama Barkai</p> <p>15.00-15.30: Marcus Buschbeck Macrodomain-containing histone variants link chromatin structure and metabolism</p> <p>15.30-16.00: Axel Imhof</p>

	<p>The role of RNA in the maintenance of chromatin domains as revealed by antibody mediated proximity labelling</p> <p>16.00-16.30: Nathaniel Snyder Compartmentalization of coenzyme metabolism within cells</p> <p>16.30-16.45: Short talk – Eleftheria Chatzantonaki The functional role of Polycomb-mediated chromatin architecture during neuronal development</p> <p>16.45-17.00: Short talk – Cosmin Tudose The role of PRC2 in gene regulation and chromatin architecture in acute myeloid leukaemia</p> <p>17.00-17.30: Poster flash talks (for poster session 2) Zuzanna Kozik, Mercedes Pardo, Fernanda Rezende Pabst, Beatrice Tosoni, Anuroop V Venkatasubramani, Aniek Verstappen</p>
17:30 onward	POSTER SESSION 2
19.30 onward	<i>DINNER, MAIN RESTAURANT</i>
DAY 5, OCTOBER 19	THURSDAY
8:30 – 10:30	<p>SESSION 8: SINGLE CELL GENOMICS & PROTEOMICS Chair: Gaelle Legube</p> <p>8.30-9.00: Jop Kind Remodeling of genome-lamina contacts is an early event during random X-chromosome inactivation</p> <p>9.00-9.30: Jason Derks Single nuclei proteomics reveals heterogeneous protein transport in LPS-stimulated macrophages</p> <p>9.30-9.45: Short talk – Joyce Thompson Transcription factor co-binding underlies the divergence of cell-fates from common progenitors</p> <p>9.45-10.00: Short talk – Wangjie Liu TF-seq: untangling multifaceted programming effects of transcription factors at single-cell level</p> <p>10.00-10.15: Short talk – Guido van Mierlo The epigenomic foundation of interindividual variation in adipogenic differentiation potency</p> <p>10.15-10.30: Short talk - Ourania Galanopoulou “Endonucleosis”: an unusual autophagy process in senescent cells</p>
10:30 – 11:00	<i>COFFEE BREAK</i>
11:00 – 13:30	<p>SESSION 9: DNA REPLICATION & REPAIR Chair: Kathryn Lilley</p> <p>11.00-11.45: UK Genetics Society Lecture - Evi Soutoglou A proteomic approach to decipher DNA repair pathway choice at the nuclear periphery</p> <p>11.45-12.15: Gaëlle Legube Chromosome and chromatin dynamics at DNA double strand breaks</p> <p>12.15-12.45: Constance Alabert Mechanisms of DNA replication in the context of chromatin</p> <p>12.45-13.00: Short talk – Mamantia Constantinou</p>

	<p>Histone acetyltransferase Nat4 is a new player in the DNA damage response in <i>S. cerevisiae</i></p> <p>13.00-13.15: Short talk – Stuart Fulton Single molecule investigation of RNA quality control mechanisms at nucleotide resolution</p> <p>13.15-13.30: Short talk – Tina Karagyzova HIRA-mediated H3.3 deposition impact on 3D genome organization and early replication</p>
13:30 – 15:00	<i>LUNCH BREAK</i>
15:00 – 17:00	<p>SESSION 10: SPATIAL & INTERACTION PROTEOMICS Chair: Axel Imhof</p> <p>15.00-15.30: Michiel Vermeulen Deciphering gene expression regulation in health and disease using integrative omics approaches</p> <p>15.30-16.00: Kathryn Lilley The orchestration of subcellular processes through RNA and protein interactions</p> <p>16.00-16.30: Jean-Philippe Lambert Mapping chromatin structure and function with interaction proteomics</p> <p>16.30-16.45: Short talk – Sylvain Audibert The proteome of the nuclear periphery in the absence and presence of DNA damage</p> <p>16.45-17.00: Short talk – Aniek Martens Exploring the m⁶A landscape in blood cell differentiation through interaction proteomics</p>
17:00 – 17:30	<i>BREAK</i>
17:30 – 18:15	<p>OPEN DISCUSSION: Current and future challenges in nuclear biology Moderator: Axel Imhof</p>
18:15 – 18:30	<p>BEST PRESENTATION & POSTER PRIZE AWARDS CLOSING REMARKS: Organizing Committee</p>
19:00	<i>DINNER, MAIN RESTAURANT</i>
DAY 6, OCTOBER 20	FRIDAY
	<i>BREAKFAST AND DEPARTURE</i>