

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Dec 7, 2020 (Mon) – Day 1

Online discussion via Zoom:

<https://hkust.zoom.us/j/93637669820>

Time: 22:30 – 24:30 (HKT, GMT +8)

Event
<p>Opening Remarks Chairs: Xuhui HUANG & Toyotaka ISHIBASHI (The Hong Kong University of Science and Technology)</p>
<p>Nancy IP The Hong Kong University of Science and Technology (Vice-President for Research and Development, and The Morningside Professor of Life Science)</p> <p>Andrew G. COHEN The Hong Kong University of Science and Technology (Director of HKUST Jockey Club Institute for Advanced Study, Acting Dean of Science, and Lam Woo Foundation Professor)</p>
<p>Session 1: Structure and Dynamics of Transcriptional Machinery Chairs: Robert LANDICK (University of Wisconsin-Madison) & Terence STRICK (École Normale Supérieure, Paris)</p>
<p>Structural Biology of RNA Polymerase I and III Transcription Christoph MÜLLER European Molecular Biology Laboratory</p>
<p>Structural Basis of Ribosomal RNA Transcription Regulation Katsuhiko MURAKAMI The Pennsylvania State University</p>
<p>Transcription Factors and Antibiotics that Affect Promoter Melting Steps in Mycobacterium Tuberculosis Elizabeth CAMPBELL The Rockefeller University</p>
<p>Role of Bacterial RNA Polymerase Gate Opening Dynamics in DNA Loading and Antibiotics Inhibition Xuhui HUANG The Hong Kong University of Science and Technology</p>
<p>A Structure of Plant Pol IV, a Pol II-derived Multiple-subunit RNA Polymerase in Plant Yu ZHANG Chinese Academy of Sciences</p>

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Dec 8, 2020 (Tue) – Day 2

Online discussion via Zoom:

<https://hkust.zoom.us/j/93637669820>

Time: 22:30 – 24:30 (HKT, GMT +8)

Event
Session 2: Interfaces between Transcription and DNA Repair Chairs: Jesper SVEJSTRUP (University of Copenhagen) & Dong WANG (University of California, San Diego)
Transcription-coupled Lesion Recognition Dong WANG University of California, San Diego
Transcription-coupled Repair: From DNA Repair to Evolution and Back Again Terence STRICK École Normale Supérieure, Paris
Transcription-coupled DNA Damage Recognition and Repair Carlos FERNÁNDEZ-TORNERO Centro de Investigaciones Biológicas, Spain
Structural Study on Transcription Complex Disruption by the Mfd Translocase Jin Young KANG Korea Advanced Institute of Science and Technology (KAIST)
Session 3: Transcription-coupled Processes Chairs: Irina ARTSIMOVITCH (The Ohio State University) & Jean-Marc EGLY (French Academy of Sciences)
Recent Insights into Chromatin Transcription by RNA Polymerase II Patrick CRAMER Max Planck Institute for Biophysical Chemistry
Structural Basis of Nucleosome Transcription by RNA Polymerase II Shun-ichi SEKINE RIKEN
Transcription during Heatshock Jesper SVEJSTRUP University of Copenhagen

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Dec 9, 2020 (Wed) – Day 3

Online discussion via Zoom:

<https://hkust.zoom.us/j/93637669820>

Time: 22:30 – 24:30 (HKT, GMT +8)

Event
Session 4: Mechanism and Regulation of Transcription Chairs: Xuhui HUANG (The Hong Kong University of Science and Technology) & Katsuhiko MURAKAMI (The Pennsylvania State University)
How SI3 Helps RNAP Read Pause Signals Robert LANDICK University of Wisconsin-Madison
Structural Basis of Transcription-translation Coupling and Collision in Bacteria Albert WEIXLBAUMER Institute of Genetics and Molecular and Cellular Biology (IGBMC)
Deep Cleaning of RNA Polymerase Prior to Storage Irina ARTSIMOVITCH The Ohio State University
The Mechanism of The Nucleo-sugar Selection by Multi-subunit RNA Polymerases Georgi BELOGUROV University of Turku
pH-responsive Riboswitch in E. Coli: Kinetic Control and Folding Outcomes Tatiana MISHANINA University of California, San Diego
Dissecting Nucleotide Selectivity of a Viral RNA Polymerase: A Kinetics Framework and Atomic Simulations Jin YU University of California, Irvine

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Dec 10, 2020 (Thu) – Day 4

Online discussion via Zoom:

<https://hkust.zoom.us/j/93637669820>

Time: 22:30 – 24:30 (HKT, GMT +8)

Event
<p>Session 5: Genome-wide Transcription and Epigenetic Regulation Chairs: John LIS (Cornell University; HKUST IAS Senior Visiting Fellow) & Bing REN (University of California, San Diego)</p>
<p>Pioneer Factor GAF Cooperates with PBAP (SWI/SNF) and NURF (ISWI) Remodelers to Regulate Transcription John LIS Cornell University (HKUST IAS Senior Visiting Fellow)</p>
<p>Genome-wide Mapping of Protein-DNA Interaction Dynamics Steven HENIKOFF Fred Hutchinson Cancer Research Center</p>
<p>CTCF Mediates Dosage and Sequence-context-dependent Transcriptional Insulation through Formation of Local Chromatin Domains Bing REN University of California, San Diego</p>
<p>Yeast BET Family Bromodomain Factors Bdf1/2 Link Genome-wide Transcription and Histone Acetylation Steven H. HAHN Fred Hutchinson Cancer Research Center</p>
<p>Session 6: Single-molecular Transcription Dynamics Chairs: Toyotaka ISHIBASHI (The Hong Kong University of Science and Technology) & Michelle D. WANG (Cornell University)</p>
<p>Single-molecule Dynamics of Activated RNA Polymerase II Transcription Jeff GELLES Brandeis University</p>
<p>Untangling DNA: Fundamental Processes under Torsion Michelle D. WANG Cornell University</p>
<p>Testis-specific Histone Variant H2BFW and Its Effect of Transcription Regulation in Spermatogenesis Toyotaka ISHIBASHI The Hong Kong University of Science and Technology</p>

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Dec 11, 2020 (Fri) – Day 5

Online discussion via Zoom:

<https://hkust.zoom.us/j/93637669820>

Time: 22:30 – 24:30 (HKT, GMT +8)

Event
Session 7: COVID-19 Chairs: Elizabeth CAMPBELL (The Rockefeller University) & Patrick CRAMER (Max Planck Institute for Biophysical Chemistry)
Structural Basis for Inhibition of Coronavirus Replication by Remdesivir Goran KOKIC Max Planck Institute for Biophysical Chemistry
Insights into SARS-CoV-2 Polymerase Catalysis and Remdesivir Intervention Peng GONG Chinese Academy of Sciences
Helicase Coupling to The RdRp in COVID Seth A. DARST The Rockefeller University
Orthogonal Use of PRO-seq in eRNA Variation and Non-canonical Transcription Hojoong KWAK Cornell University
Session 8: Happy Hour Session (By invitation only)

Online Workshop

Mechanisms of Gene Transcription and Its Regulation

December 7-11, 2020

Organizing Committee

Xuhui HUANG

HKUST

Toyotaka ISHIBASHI

HKUST

Robert LANDICK

University of Wisconsin-Madison

John LIS

Cornell University (IAS Senior Visiting Fellow)

Dong WANG

University of California, San Diego

Prior registration is required for attending the workshop.
Please complete the registration form at:



<http://iasprogram.ust.hk/202012mtir>

Enquiries:

2358 5912 ias@ust.hk

Please visit the program's website
for more information

<http://iasprogram.ust.hk/202012mtir/index.php>



[View Program Schedule](#)