INTERNATIONAL SCHOOL OF BIOPHYSICS «ANTONIO BORSELLINO»

ERICE 2026

15-21 OCTOBER 2026 / ERICE, SICILY

51st Course · Scientific programme

Chromatin landscapes: Linking physical reality with biological destiny

Directors of the Course: R. Bizzarri · A. Diaspro · E. Hinde

15 OCT THURSDAY

18:15 Opening Remarks

18:30 Bruce Alberts · Lectio Magistralis — Learning from failure: Life as an education.

19:30 Dinner · Marsala Room

16 OCTOBER FRIDAY

09:00-10:00
Andrew Belmont
The relationships between nuclear organization and genome function

10:00-11:00
Andrew Belmont
Re-imagining the relationship between nuclear organization and gene expression via nuclear speckle, perispeckle, and gene dynamics.

11:00-11:30 Coffee Break - Poster

11:30-13:00
Spartaco Santi
The Journey of DNA Beyond the Genome: from Chromatin Architecture to Cellular Fate and from Extracellular DNA to Intercellular Communication.

13:00-15:00 Lunch

15:00-16:00
Walter Rocchia
Continuum Electrostatics for Chromatin: From Poisson-Boltzmann Theory to Multiscale Models

16:00-17:00
Walter Rocchia
Electrostatics of the Nucleosome: From Histone-DNA Forces to Chromatin Compaction

17:00-17:30 Coffee Break - Poster

17:30-19:00
Valeria Vetri
Biomolecular condensates: mechanisms of formation and maturation.

19:00-19:30 Discussion

19:30 Dinner · Marsala Room

17 OCTOBER SATURDAY

09:00-10:00
Ranieri Bizzarri
A short microscopy course for the adventurous naturalist.

10:00-11:00
Christoph Cremer
Imaging of the Chromatin Landscape: Why do we need Super-Resolution Microscopy?

11:00-11:30 Coffee Break - Poster

11:30-13:00
Paolo Bianchini
Resolving chromatin: nanoscopy tools to see its three-dimensional organisation

13:00-15:00 Lunch

15:00-16:00
Nicole Francis
Mechanisms to maintain chromatin information through the cell cycle.

16:00-17:00
Nicole Francis
Protein polymerization and phase separation in Polycomb function.

17:00-17:30 Coffee Break - Poster

17:30-19:00
Ranieri Bizzarri
Condensates for better or for worse: an evolutionary dynamic paradigm rooted in biophysics.

19:30 Dinner · Marsala Room

18 OCTOBER SUNDAY

09:00-10:00
Christoph Cremer
Quantitative Analysis of the Chromatin Landscape by Super-Resolution Microscopy

10:00-11:00
Elizabeth Hinde
Seeing the Chromatin Landscape: Quantifying Chromatin Architecture with FLIM and FRET

11:00-11:30 Coffee Break - Poster

11:30-13:00
Francesca Cella Zanacchi
Quantitative single-molecule localization microscopy and radiobiology applications.

13:00-15:00 Lunch

Afternoon Excursion & All Together Dinner

19 OCTOBER MONDAY

09:00-10:00
Irene Farabella
Reconstructing the 3D Genome: From Ensemble Views to Single-Cell Chromatin Tracing and Modelling.

10:00-11:00
Stefano Manzo
Theoretical lecture: Chromatin Dynamics at the Nuclear Periphery.

11:00-11:30 Coffee Break - Poster

11:30-13:00
Mario Nicodemi
Phase transitions in the nucleus of cells shape chromatin 3D architecture and functions.

13:00-15:00 Lunch

15:00-16:00
Elizabeth Hinde
Navigating the Chromatin Landscape: Fluorescence Fluctuation Spectroscopy of DNA Target Search

16:00-17:00
Ines Delfino
Vibrational Micro-Spectroscopy of Chromatin under Stress: From Molecular Changes to Nuclear Reorganization. Method.

17:00-17:30 Coffee Break - Poster

17:30-19:00
Ines Delfino
Vibrational Micro-Spectroscopy of Chromatin under Stress: From Molecular Changes to Nuclear Reorganization. Application.

19:00-19:30 Flash Talks & Discussion

19:30 Dinner · Marsala Room

20 OCTOBER TUESDAY

09:00-10:00
Stefano Manzo
Practical course: Genomic Approaches to Study Genome Structure.

10:00-11:00
Davide Mazza
Dynamics of diffusible factors in the eukaryotic nucleus: transcription factor search mechanism.

11:00-11:30 Coffee Break - Poster

11:30-13:00
Aldo Pagano
The extreme plasticity of neoplastic cells in solid tumors and changes in chromatin structure in response to plasticity/transdifferentiation events in neuroblastoma.

13:00-15:00 Lunch

15:00-16:00
Luca Lanzanò
Investigation of chromatin organization in live cells by advanced imaging techniques and labeling with fluorescent dyes.

16:00-17:00
Jurek Dobrucki
Interaction of photons of various energies with DNA, and consequences for live cells

17:00-17:30 Coffee Break - Poster

17:30-19:00
Jurek Dobrucki
What fluorescence imaging and next generation sequencing reveal about DNA damage and repair.

19:00-19:30 Flash Talks & Closing Remarks

19:30 Dinner · Marsala Room

21 OCTOBER · WEDNESDAY — Departure of participants and lecturers