EPIGENOME AND EPITRANSCRIPTOME: A GATEWAY TO UNDERSTANDING DISEASE

Chair: Maria R. Matarazzo (Italy)

18.45 Richard I. Gregory (USA)
Role of the m6A 'Epitranscriptome' in gene regulation and cancer

19.15 Rosaura Esteve-Puig (Spain)
Short talk: *Linking epigenetic DNA/RNA repair mechanisms to cancer*

19.30 Adrian Bird (UK)
DNA sequence determinants of the Epigenome

20.30 ***Dinner:*** **Meet the experts II** (Speakers of day 3 and 4)

WEDNESDAY OCTOBER 17th

EPIGENOME AND EPITRANSCRIPTOME: A GATEWAY TO UNDERSTANDING DISEASE (II)

Chair: Luciano Di Croce (Spain)

9.00 Poster Prize Award - Sponsored by The EMBO Journal

9.30 Irene Bozzoni (Italy)
Decoding non coding RNA function

10.00 Mary O'Connel (Czech Republic)
The many biological roles of ADARs, the RNA editing enzymes

10.30 Varsha Poondi-Krishnan (Italy)
Short talk: *CRISPR-correction of DNMT3B mutations in patient-derived iPSCs as a model to study ICF1 syndrome*

10.45 Zahra Anvar (Iran)
Short talk: *The contribution of KHDC3L mutations in maternal methylation landscape to develop recurrent hydatidiform mole*

11.00 Closing Lecture: Wolf Reik (UK)
Single cell epigenome landscape of development and ageing

11.45 Round Table:
Past insights and future potential of DNA and RNA Epigenetics

13.00 Lunch and Departure

Scientific Organizers

Annalisa Fico
Institute of Genetics and Biophysics
"A. Buzzati-Traverso", CNR, Naples, Italy

Richard I. Gregory
Harvard Stem Cell Institute, USA

Maria R. Matarazzo
Institute of Genetics and Biophysics
"A. Buzzati-Traverso", CNR, Naples, Italy

Wolf Reik
The Babraham Institute, Cambridge, UK

IGB Meeting Coordinators

Maria R. Matarazzo & Maria Giuseppina Miano

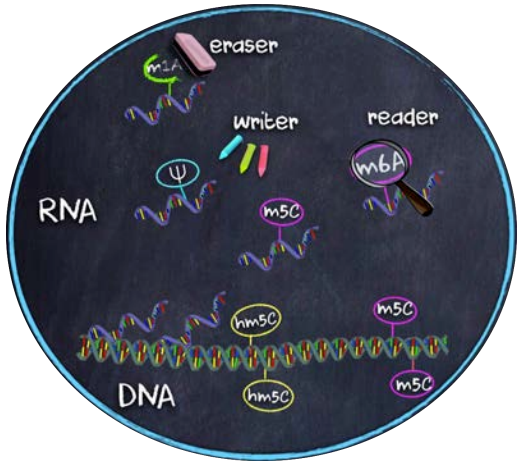
IGB Meeting Secretariat

Anna M. Aliperti & Federica Staempfli

EMBO excellence in life sciences

EMBO Workshop

From Epigenome towards Epitranscriptome in Cell Fate Choice



Auditorium, Palazzo dei Congressi Capri, Italy
October 14-17, 2018

IGB Consiglio Nazionale delle Ricerche Institute of Genetics and Biophysics Adriano Buzzati-Traverso

SUNDAY OCTOBER 14th

14.30 *Registration and poster set up*

16.30 Welcome address
Antonio Simeone and Tullio Pozzan

16.45 Chuan He (USA)
Plenary Lecture "Graziella Persico":
RNA methylation in gene expression regulation

17.30 ***Coffee break***

DYNAMIC DNA AND RNA MODIFICATIONS: WRITERS, READERS AND ERASERS
Chair: Chuan He (USA)

18.00 Dirk Schubeler (Switzerland)
Dependence for specific chromatin remodelers defines subsets of mammalian transcription factors

18.30 Jose Luis Sardina (Spain)
Short talk*: Transcription factors drive Tet2-mediated enhancer demethylation to reprogram cell fate*

18.45 Tony Kouzarides (UK)
Modifications of RNA: their function and role in cancer

20.30 ***Dinner***

MONDAY OCTOBER 15th

DYNAMIC DNA AND RNA MODIFICATIONS: WRITERS, READERS AND ERASERS (II)
Chair: Tony Kouzarides (UK)

9.00 Samie Jaffrey (USA)
Control of mRNA fate by reversible epitranscriptomic nucleotide modifications at internal sites and in mRNA *caps*

9.30 Mateusz Mendel (Switzerland)
Short talk: *Methylation of structured RNA by the m6A writer METTL16 is essential for mouse embryonic development*

9.45 ***Group photo***

10.00 ***Coffee break and Poster Session I (Odd numbers)***

12.00 Yunsun Nam (USA)
Structure and function of RNA methyltransferases

12.30 Victoria Cowling (UK)
mRNA cap regulation directs cell function and fate

13.00 Raghav Ramabadran (USA)
Short talk: *Rapid loss of DNMT3A impacts chromatin dynamics during human stem cell differentiation*

13.30 ***Lunch***

15.30 Annika Branting (The Netherlands)
Regional Marketing Manager -10X Genomics
Interrogating chromatin accessibility and regulatory landscape at single cell resolution

DECODING DNA AND RNA MODIFICATIONS: INSIGHTS FROM EPIGENOME EDITING AND OTHER APPROACHES
Chair: Wolf Reik (UK)

16.00 Rudolf Jaenisch (USA)
Epigenetic regulation in development, aging and disease

16.30 Fabrizio Olmeda (Germany)
Short talk: *De-novo DNA methylation: a collective phenomenon*

16.45 Shankar Balasubramanian (UK)
G-Quadruplex secondary structures and DNA dynamics

17.15 ***Coffee break***

17.45 Gideon Rechavi (Israel)
Control of gene expression by RNA modifications

18.15 Pawel Sledz (Switzerland)
Short talk: *Development of selective chemical probes controlling m6A modification in vivo*

18.30 Damien Hermand (Belgium)
Short talk*: Epitranscriptomic of dihydrouridine beyond tRNAs*

18.45 Michiel Vermeulen (The Netherlands)
Reading the epitranscriptome

19.15 Paulo A. Gameiro (UK)
Short talk*: Regulatory modules of RNA methylation in T-cell and mouse ES differentiation*

19.30 Henk Stunnemberg (The Netherlands)
Epigenetic modulation of a preserved 3D chromatin landscape in two distinct states of pluripotency

20.30 ***Dinner:*** **Meet the experts I** (Speakers of day 1 and 2)

TUESDAY OCTOBER 16th

DNA AND RNA EPIGENETICS IN STEM CELL AND DEVELOPMENT
Chair: Annalisa Fico (Italy)

9.00 Andrew Xiao (USA)
The functions of DNA N6-MA in mammalian development and human diseases

9.30 Johanna Grinat (Germany)
Short talk: *The histone methyltransferase MLL1 in epigenetic regulation of colorectal cancer stem cells*

9.45 Hongjun Song (USA)
Epitranscriptomic regulation in the mammalian nervous system

10.15 ***Coffee break and Poster Session II (even numbers)***

12.15 Lior Lasman (Israel)
Short talk: *Genetic dissection of m6A RNA methylation role in early mammalian development*

12.30 Michaela Frye (UK)
Regulatory potential of cytosine-5 RNA methylation in translation

13.30 ***Lunch***

DNA AND RNA EPIGENETICS IN STEM CELL AND DEVELOPMENT (II)
Chair: Richard I. Gregory (USA)

16.00 Petra Hajkova (UK)
Epigenetic reprogramming in the mouse germ line

16.30 Raquel Pérez-Palacios (France)
Maternal epigenetic contribution to zygotic genome activation

17.00 Emilia Pascale (Italy)
Short talk: *The Transcribed-Ultraconserved lncRNA T-UCstem1: a key molecule in stemness*

17.15 ***Coffee break***

17.45 Luciano Di Croce (Spain)
Chromatin regulators in cell differentiation and cancer

18.15 Alex Meissner (Germany)
Differential regulation of Oct4 targets facilitates reacquisition of pluripotency