CROSS DISCIPLINARY GENOMICS

Up-and-coming Advances in Genome Sciences

4th Symposium
Paris November 13-14, 2014

Campus Jussieu – Amphithéâtre Durand – Bât. Esclangon – 4 place Jussieu – 75005 Paris

Thursday 13th November 2014 – 14h00- 17h10

A WORD OF INTRODUCTION

14h00-14h05 GILLES FISCHER – *Université Pierre et Marie Curie, Paris*

SESSION 1: COMPUTATIONAL GENOMICS

Chair: Gilles FISCHER – Marco COSENTINO LAGOMARSINO

14h05-14h45 **EUGENE V. KOONIN** – *NCBI, Bethesda, USA*

Reassessment and generalization of the key concepts of molecular evolution in the post genomic era

14h45- 15h25 **FRANCESCA CICCARELLI** – *King's College London, UK*

From cancer genomics to targeted therapy

15h25 **– 15h50** *Coffee break*

15h50-16h30 **ROB FINN** – *EMBL-EBI, Cambridge, UK*

Big Data: Computational approaches to real-time analysis of protein sequences

16h30 – 17h10 **CHRISTINE ORENGO** – *University College London, UK*

A Structural Perspective on the Evolution of Protein Functions

Friday 14th November 2014 – 9h30 – 17h10

SESSION 2: NUCLEAR ARCHITECTURE OF CHROMOSOMES

Chair: Frédéric DEVAUX

9h30 – 10h10 **LUCA GIORGETTI** – *Institut Curie, Paris, France*

Structural and transcriptional fluctuations at the X inactivation center

10h10 – 10h50 **ROMAIN KOSZUL** – *Institut Pasteur, Paris, France*

Addressing genomic and metagenomic limitations with chromosomes third dimension

10h50 – 11h20 *Coffee break*

SESSION 3: SYNTHETIC BIOLOGY – GENOME ENGINEERING

Chair: Angela FALCIATORE – Martin WEIGT

11h20 – 12h00 **YAAKOV BENENSON** – *ETH, Zurich, Switzerland*

Molecular computing meets synthetic biology

12h00 – 13h30 LUNCH

13h30 – 14h10 **DAVID BIKARD** – *Institut Pasteur, Paris, France*

Studying and fighting bacteria with the help of CRISPR

14h10 – 14h50 **FARREN ISAACS** – *Yale University, New Haven, USA*

Programming Genomes to Expand Life's Functional Repertoire

***14h50*-15h10** *Coffee break*

SESSION 4: SINGLE CELL GENOMICS

Chair: Alessandra CARBONE

15h10 – 15h50 **VALENTINA PROSERPIO** – *EBI, Cambridge, UK*

Multi-state modelling of T cell differentiation reveals three discrete cell states with increasing rates of cell division

15h50 – 16h30 **GAËL YVERT** – *ENS, Lyon, France*

Particle Genetics: mapping single-cell Probabilistic Trait Loci of the genome

16h30 – 17h10 **JOHN MARIONI** – *EMBL-EBI, Cambridge, UK*

Computational challenges in single-cell transcriptomics

A WORD OF CONCLUSION

17h10-17h15 ALESSANDRA CARBONE – *Université Pierre et Marie Curie*