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 Consentino 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