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CIG (Centre Intégréatif
de Génomique)

SEMINAR

Dr. Georg Papoutsoglou
BioNano Genomics, San Diego, USA

"Illuminating the "Dark Matter": *De Novo* Genome Assembly and Mapping of the Structural Variation of the Genome"

Friday, 30th June 2017

11:00

Biophore Building, Room 2917.2

Hosts: Dr. Keith Harshman (GTF) and Dr. Daniel Jeffries (DEE)

Presentation Abstract

The majority of complex genomes is made up of repetitive and regulatory elements, yet our current analysis of the genome focuses largely on single nucleotide changes and exome sequencing. The "Dark Matter" that controls most of our genome is largely ignored, because short read sequencing is unable to map these highly repetitive sequences. BioNano optical maps use nanochannel technology that can linearize and image megabase size single DNA molecules. This extremely long read data can elucidate genome-wide complex structural variation, like balanced/unbalanced translocations, inversions, and large indels. Our de novo maps can identify Copy Number Variations, resolve complex repetitive regions, and scaffold NGS contigs to create better than reference assemblies.

All the interested people are cordially invited.