

Les Journées du Département  
Génomes et Génétique  
et de l'UMR 3525 du CNRS



15-16 Septembre 2015

Château de Button, Gif-sur-Yvette

Campus CNRS de Gif



Humanizing Genomics

macrogen



eurofins

Genomics



## TUESDAY, SEPTEMBER 15

09:20–09:30 am DIDIER MAZEL  
WELCOME AND OPENING SPEECH

### PATHOGEN EVOLUTION AND HOST-PATHOGEN INTERACTIONS

Chairs : SERGE GANGLOFF AND LAURA DICKSON

|                 |                                                                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:30–10:00 am  | CARMEN BUCHRIESER<br>Biology of Intracellular Bacteria unit, CNRS UMR3525<br>SONIA MONDINO<br><b>RabL, a putative Rab GTPase from <i>Legionella longbeachae</i></b>                                              |
| 10:00 –10:30 am | LUDOVIC TAILLEUX (INSTEAD OF BRIGITTE GICQUEL)<br>Mycobacterial Genetics unit<br>LAETITIA PETIT<br><b>The purinergic pathway is an important regulator for the immune response during tuberculosis infection</b> |
| 10:30 –11:00 am | COFFEE BREAK                                                                                                                                                                                                     |
| 11:00 –11:30 am | ROLAND BROSCHE<br>Integrated Mycobacterial Pathogenomics unit<br>MATTHIAS GRÖSCHEL<br><b>In search of a better TB vaccine: A recombinant BCG encoding the ESX-1 region of <i>Mycobacterium marinum</i></b>       |
| 11:30 –11:50 pm | CHRISTOPHE D'ENFERT<br>Fungal Biology and Pathogenicity unit (associate unit)<br>MELANIE LEGRAND<br><b><i>Candida albicans</i> genome plasticity</b>                                                             |
| 11:50 –12:10 pm | PHILIPPE GLASER<br>Biology of Gram positive Pathogens unit (associate unit)<br><b>Tracking outbreaks and bacterial evolution by whole genome sequencing</b>                                                      |
| 12:10 –1:30 pm  | LUNCH                                                                                                                                                                                                            |

### GENOME ORGANIZATION AND DYNAMICS

Chairs : DESHMUKH GOPAUL AND SOPHIE BACHELLIER-BASSI

|                |                                                                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01:30–02:00 pm | DIDIER MAZEL<br>Bacterial Genome Plasticity unit, CNRS UMR3525<br>ALEKSANDRA NIVINA<br><b>Engineering a synthetic integron system for protein domain shuffling</b>               |
| 02:00–02:20 pm | ROMAIN KOSZUL<br>Spatial Regulation of Genomes G5 CNRS UMR3525<br>MARTIAL MARBOUTY<br><b>Insights on the regulatory principles of bacterial genomes organization</b>             |
| 02:20–02:50 pm | ALAIN JACQUIER<br>Genetics of Macromolecular Interactions unit, CNRS UMR3525<br>ALICIA CHERY-FALEME<br><b>Gene regulation in <i>Saccharomyces cerevisiae</i> quiescent cells</b> |
| 02:50–03:00 pm | MARC BRUYNINX<br>MWG EUROFINS (SPONSOR)<br>Gene Synthesis and Codon Optimization                                                                                                 |
| 03:00–03:30 pm | COFFEE BREAK                                                                                                                                                                     |
| 03:30–04:00 pm | BENOIT ARCANGIOLI<br>Dynamics of the Genome unit, CNRS UMR3525                                                                                                                   |

|                                                |                                                                                                                                                                                      |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | CELIA RAIMONDI<br><b>Involvement of Cenp-b in the mating-type switching in fission yeast</b>                                                                                         |
|                                                | BALVEER SINGH<br><b>The lysine-specific demethylase, Lsd1, limits segmental duplications between repeated elements</b>                                                               |
| 04:00–04:20 pm                                 | MIRIA RICCHETTI<br>Stem Cells and Development unit (associate group)                                                                                                                 |
|                                                | HASER SUTCU<br><b>Implication of DNA damage and repair in viability and differentiation of muscle stem cells</b>                                                                     |
| 04:20–04:40 pm                                 | GUY-FRANCK RICHARD<br>Molecular Genetics of Yeasts unit, CNRS UMR3525<br>(Eukaryotic Genome Plasticity group)<br><b>Genome-wide replication landscape of <i>Candida glabrata</i></b> |
| Chairs : ALAIN JACQUIER AND GUY-FRANCK RICHARD |                                                                                                                                                                                      |
| 04:40–05:00pm                                  | CLAUDE GAILLARDIN<br><b>Homage to BERNARD DUJON</b>                                                                                                                                  |
| 05:00–05:30 pm                                 | BERNARD DUJON                                                                                                                                                                        |
| 05:30–07:30 pm                                 | POSTER SESSION & COCKTAIL                                                                                                                                                            |
| 07:30–10:00 pm                                 | BUFFET                                                                                                                                                                               |

## WEDNESDAY, SEPTEMBER 16

### EVOLUTIONARY GENETICS

Chairs : MAXIME ROTIVAL AND SYLVAIN BRISSE

|                |                                                                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:30–10:00 am | EDUARDO ROCHA<br>Microbial evolutionary genomics unit, CNRS UMR3525                                                                                                                    |
|                | MARC GARCIA-GARCERA<br><b>Finding new bacteria in the metagenomics haystack</b>                                                                                                        |
| 10:00–10:30 am | LLUIS QUINTANA-MURCI<br>Human Evolutionary Genetics unit, CNRS URA3012                                                                                                                 |
|                | HELENE QUACH<br><b>Linking immune responsive regulatory variation and population adaptation to pathogen pressure</b>                                                                   |
| 10:30–10:40 am | MARC-MANUEL HAHN<br>Macrogen (SPONSOR)<br><b>NGS for New Genomics Solutions</b>                                                                                                        |
| 10:40–11:10 pm | ANAVAJ SAKUNTABHAI<br>Functional Genetics of Infectious Diseases unit, CNRS URA3012                                                                                                    |
|                | ETIENNE SIMON-LORIERE<br><b>Distinct lineages of Ebola virus in Guinea during the 2014 West African epidemic</b>                                                                       |
| 11:10–11:40 am | COFFEE BREAK                                                                                                                                                                           |
| 11:40–12:10 pm | DIDIER MENARD (INVITED SPEAKER)<br>Malaria Translational Research unit, Institut Pasteur du Cambodge<br><b>Antimalarial drugs resistance: from phenotype to genotype</b>               |
| 12:10–12:30 pm | LOUIS LAMBRECHTS<br>Insect-Virus Interactions G5, CNRS URA3012                                                                                                                         |
|                | SEBASTIAN LEQUIME<br><b>Intrahost dynamics of dengue virus genetic diversity during mosquito transmission</b>                                                                          |
| 12:30–12:50 pm | LUDOVIC DERIANO<br>Lymphocyte Development and Oncogenesis G5 (associate G5)<br><b>Functional interplay between RAG2 and XLF reveals a novel role for the RAG complex in DNA repair</b> |
| 12:50–02:10 pm | LUNCH                                                                                                                                                                                  |

## TECHNICS AND BIOTECHNOLOGY

Chairs : CHRISTIANE BOUCHIER AND LUDOVIC TAILLEUX

|                |                                                                             |
|----------------|-----------------------------------------------------------------------------|
| 02:10–02:30 pm | SEAN KENNEDY<br>The Biomics Pole – A Service for Interdisciplinary Research |
|----------------|-----------------------------------------------------------------------------|

## TECHNICAL SESSION

|                |                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02:30–02:40 pm | JEKATERINA ALEKSEJEVA<br>Lexogen (SPONSOR)<br><b>RNA-Seq tools for deep transcriptome studies</b>                                                                                                                                                                               |
| 02:40–02:50 pm | MARIE NGUYEN-DE BERNON<br><b>Novel approach using imaging cytometry to monitor red blood cell surface area loss</b><br>Functional Genetics of Infectious unit, CNRS URA3012<br>(ANAVAJ SAKUNTABHAI)                                                                             |
| 02:50–03:00 pm | CHRISTOPHE THOMAS<br><b>Studying molecular interactions by Surface Plasmon Resonance and Microscale Thermophoresis</b><br>Bacterial Genome Plasticity unit, CNRS UMR3525<br>(DIDIER MAZEL)                                                                                      |
| 03:00–03:10 pm | CATHERINE SCHURRA<br><b>Molecular combing reveals the tandem duplication of a region containing the <i>phf1</i> gene capable of suppressing the growth defect of lysine demethylase 1 deficient strains</b><br>Dynamics of the Genome unit, CNRS UMR3525<br>(BENOIT ARCANGIOLI) |
| 03:10–03:20 pm | CAMILLE BLIN<br><b>Phenotype MicroArrays for Microbial Cells</b><br>Microbial evolutionary genomics unit, CNRS UMR3525<br>(EDUARDO ROCHA)                                                                                                                                       |
| 03:20–03:30 pm | PEDRO ESCOLL<br><b>High-content analysis during bacterial infection using confocal microscopy</b><br>Biology of Intracellular Bacteria unit, CNRS UMR3525<br>(CARMEN BUCHRIESER)                                                                                                |

|                |                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------|
| 03:30–03:50 pm | DAVID BIKARD<br>Synthetic Biology G5 (associate G5)<br><b>High-throughput CRISPR screens in bacteria</b> |
| 03:50–04:00 pm | CLEMENTINE SCHILTE<br><b>Center for Translational Science</b>                                            |
| 04:00–04:30 pm | COFFEE BREAK                                                                                             |

## BIOINFORMATICS

Chairs : HÉLOÏSE MULLER AND CHRISTOPHE MALABAT

|                |                                                                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 04:30–04:50 pm | BENNO SCHWIKOWSKI<br>Systems Biology laboratory<br><b>Integrative genome-scale transcriptomic data analysis using regional p-values</b>                          |
| 04:50–05:10 pm | SIMONETTA GRIBALDO<br>Molecular Biology of Gene in Extremophiles (PATRICK FORTERRE)<br><b>The 2 Domains Tree of Life is linked to a new root for the Archaea</b> |
| 05:10–06:00 pm | DIDIER MAZEL<br><b>Perspectives and closing remarks</b>                                                                                                          |