

## Workshop Cancer & Evolution

Friday, September 16<sup>th</sup>, 2016

University of Bordeaux

Venue: Pey-Berland, Salon d'honneur

### Short description of the topic

Evolution is a broad concept that involves a diversity of processes and applies to various levels of biological organization. The aim of this interdisciplinary workshop is to discuss how these processes apply to cancers. We will discuss the explanatory power of natural selection at the level of individual cancer cells and populations of cancer cells, the role of the immune system, and of the tumour microenvironment in clonal evolution. In particular, following the work of Peter Godfrey-Smith (*Darwinian Populations and Natural Selection*, 2009), we will question the kind of Darwinian populations that cancer cells and tumours are. Both the genetic and the epigenetic components of clonal evolution will be considered.

### Schedule

2:00-2:30: **Pierre-Luc Germain** (philosopher of biology, Istituto Europeo di Oncologia, Milano: <https://ifom-ieo-campus.academia.edu/PierreLucGermain>), “**Cellular and tumor-level selection in cancer**”

2:30-3:00: **Lucie Laplane** (philosopher of biology, Institut Gustave Roussy & IHPST: <https://gustaveroussy.academia.edu/LucieLaplane>), “**Marginal vs. paradigmatic Darwinian evolution in cancer (why does it matter?)**”

3:00-3:30: **Ignacio G. Bravo** (biologist, Health, Ecology and Evolution, MIVEGEC, UMR CNRS 5290, IRD 224, UM, Montpellier, France: <http://www.mivegac.ird.fr/fr/>), “**From asymptomatic infections to cancer: the importance of understanding the evolution of oncogenic viruses**”

3:30-4:00: *Break*

4:00-4:30: **Dorothee Duluc** (immunologist, ImmunoConcEpT, CNRS & University of Bordeaux: [https://www.researchgate.net/profile/Dorothee\\_Duluc](https://www.researchgate.net/profile/Dorothee_Duluc)) & **Thomas Pradeu** (philosopher of biology, ImmunoConcEpT, CNRS & University of Bordeaux: <http://thomaspradeu.com>), “**Immunoediting and cancer evolution**”.

4:30-5:00: **Andreas Bikfalvi** (biologist, Head of Angiogenesis and Cancer Microenvironment Laboratory, U1029, INSERM & University of Bordeaux: <http://www.u1029.u-bordeaux1.fr/en/index.php>), “**The tumor microenvironment in the Darwinian context: the chicken and/or the egg?**”

5:00-5:30: **Peter Godfrey-Smith** (philosopher of biology, CUNY & HPS University of Sydney: <http://petergodfreysmith.com/>): **Comments**

5:30-6:30: **General discussion and perspectives**

8:00: Dinner