



## **CMU | Portugal Faculty Exchange Program Report** Spring 2014

This report summarizes the activities developed during my stay on the Carnegie Mellon University (CMU), which took place in the Spring Semester of 2014. This stay was divided on two periods, a first from the 14<sup>th</sup> of February to the 19<sup>th</sup> of April, and a second from the 25<sup>th</sup> of July to the 14<sup>th</sup> of September. I was hosted by Prof. Ziv Bar-Joseph, Associate Professor in the Lane Center for Computational Biology and the Machine Learning Department and Principal Investigator of the Systems Biology Group.

Regarding the teaching activity I was involved in the course of Computational Genomics (02-710), part of the Ph.D. program in Computational Biology, lectured by Prof. Ziv Bar-Joseph. I have also consistently attended the weekly department meetings and several invited talks promoted by the Computational Biology Department. In this context I was invited to give a talk. I have also participated and contributed to the selection process of a Post-Doctoral position and had the opportunity to be introduced to and discuss ideas with several faculty and graduation researchers.

Regarding the research activities the plan was to closely collaborate with the Systems Biology Group in order to start future collaborative work. This Group is focused on the study and development of computational methods for understanding the dynamics, interactions and conservation of complex biological systems. The started project consisted in the development of a novel computational model to explain the best molecular targets based on the use time series gene expression data. This model was applied to explain the HIV infection mechanisms and the predicted protein targets are now under laboratorial validation.

Since my return we have kept regular skype meetings. I expect that my collaboration with CMU's faculty to continue and to be expanded to other projects. Finally, I would like to acknowledge the Portuguese Foundation for Science and Technology, CMU and the CMU-Portugal program for supporting my visit.

September 22<sup>nd</sup>

Joel P. Arrais