



## EPSRC PhD on Machine Learning and Sleep

A 3-year EPSRC funded PhD studentship is available, starting from October 2018, to work in the laboratory of Giorgio Gilestro, in the Department of Life Sciences at Imperial College London. The project is co-supervised by Dr. Paolo Costa, Microsoft Research, Cambridge, UK. The candidate will be an enthusiastic student, passionate about science and interested in solving some of the most puzzling problems of neuroscience.

### About the lab

The main research focus of the laboratory is to uncover the yet mysterious function of sleep, but we also have projects on behavioural neurobiology and bioinformatics. Most projects belong to wider collaborative enterprises between our laboratory and partner laboratories in the Computer Science and Bioengineering Departments of Imperial College London, one of the best Universities in the world, located right in the heart of London. Previous work of the lab in the field of bioinformatics and computational biology include:

[doi://10.1093/bioinformatics/btp237](https://doi.org/10.1093/bioinformatics/btp237) and <https://www.pysolo.net>

[doi://10.1371/journal.pbio.2003026](https://doi.org/10.1371/journal.pbio.2003026) and <https://lab.gilest.ro/ethoscope>

[doi://10.1101/305664](https://doi.org/10.1101/305664) and <https://lab.gilest.ro/rethomics>

The Department of Life Sciences is a leading department of Biological Sciences among UK Universities and has consistently been awarded the highest research rating. In the 2014 REF assessment, the Department was ranked first in the Research Intensity table compiled by The Times Higher Education.

### About the project & the candidate

Sleep is a universal conserved behaviour common to all animals with a nervous system, from jellyfish to humans. In all animals, sleep improves overall brain performance, whilst sleep deprivation affects learning, memory, and general neuronal function. Neural networks are inspired by biological brains but a model of “sleeping neural network” has never been attempted. The goal of the project is to investigate whether a *sleeping neural network* would improve its performance.

The candidates should have a strong background in quantitative sciences and an interest in neuroscience. Preliminary experience with programming and/or machine learning is required. Candidates must have, by October 2018, a BSc at 2:1 level or better and, in addition, a Masters degree at Merit level or better. Exceptional candidates without a Masters degree might be considered. Only UK or EU nationals who have been resident in the UK for the last 3 years are eligible. The studentship covers tuition fees and provides a tax-free stipend of about £16,700 per year.

To apply, please send a copy of your CV, a short paragraph describing your interests and your achievements to [giorgio@gilest.ro](mailto:giorgio@gilest.ro)

The deadline for applications is 30<sup>th</sup> June 2018. Informal enquiries are very welcome.