

JOB OFFER: computational modelling PhD students

Position in the project:	Two PhD students , data-driven computational modelling using 3D genomics techniques (chromatin conformation capture) as input
Scientific discipline:	Biophysics, bioinformatics, the role of 3D chromatin structure in storing, processing and evolving biological information; Spatiotemporal 4D genome organization and transcription regulation in human population
Job type (employment contract/stipend):	PhD stipend
Number of job offers:	2
Remuneration/stipend amount/month	4,500 PLN
Position starts on:	1st October 2017
Maximum period of contract/stipend agreement:	1 year, possible extension up to 3 years
Institution:	<i>Laboratory of Functional and Structural Genomics</i> , Centre of New Technologies, University of Warsaw
Project leader:	Dariusz Plewczynski, PhD
Project title:	<i>Three-dimensional Human Genome structure at the population scale: computational algorithm and experimental validation for lymphoblastoid cell lines of selected families from 1000 Genomes Project</i>
	<i>Project is carried out within the TEAM programme of the Foundation for Polish Science</i>
Project description:	3DGenome TEAM project recently funded by Foundation for Polish Science (FNP) aims at exploring at the whole Human population scale the relation between the three-dimensional structure variability of cell nucleus, and the emergence and the nature of the genomic sequence alterations. The research team will use public and proprietary experimental results of large-scale next-generation sequencing studies, and recently developed theoretical algorithms. The project will establish novel multi-scale computational method that is able to predict the 3D structure of genome for an individual using only its 1D genomic sequence by applying biopolymer theory, statistical learning and the biophysical properties of chromatin. The results will be validated in Centre of New Technologies University of Warsaw by chromatin conformation capture (ChIA-PET, Hi-C, HiChIP) experiments for selected families from 1000 Genomes Project, with the additional aim to better understand both normal and pathological structural changes occurring during evolution of Human genome.
Key responsibilities include:	<ol style="list-style-type: none"> 1. Three-dimensional computational modeling using ChIA-PET, Hi-C and HiChIP experimental data 2. Statistical analysis of epigenomic data, ATAC-seq, ChIP-seq, RNAseq experimental data 3. Analyzing the simulations results, formulating biophysical hypothesis 4. Publications preparation
Profile of candidates/requirements:	<ol style="list-style-type: none"> 1. MSc in computer science, biophysics, biochemistry, bioinformatics or related discipline 2. Documented experience with genomics data 3. Preferred experience in population genomics, DNA sequencing data, epigenomics, RNAseq, ATAC-seq data analysis 4. Priority will be given to candidates with expertise relevant to the

	<p>TEAM project and in agreement with the general profile of the laboratory. Preliminary work done by applicant in the context of 3DGenomics will be treated as the strong asset.</p> <ol style="list-style-type: none"> Essential requirements cover the ability to work in collaboration with others, within a large research team, performing several parallel scientific tasks, independent thinking and finally the ability to deliver publishable results. Needed the highly motivated individuals willing to work in an interdisciplinary environment under stress and with strict deadlines.
Required documents:	<ol style="list-style-type: none"> CV Motivation letter (<i>why I would like to join 3DGenomics field?</i>) Letter of support MSc certificate (unless defense in Sept 2017) PhD studies enrollment certificate (either present or to be delivered before starting the position, i.e. before 1 October) Short written document about recent advances in 3D genomics
We offer:	<ul style="list-style-type: none"> PhD fellowship 4500 PLN/month Appointment starting 1st October 2017, funding guaranteed for 1 year, possible extension up to 3 years and further beyond TEAM project. TEAM project provides unique opportunities for interdisciplinary work between biology, physics, and computer sciences, as well as well established and long-lasting international collaborations with recognized academic institutes and universities in US. Close collaboration with industry will be present as well. We provide also the access to modern 1D and 3D genomics equipment and support from other experienced researchers. International partner (Prof. Yijun Ruan) will be co-supervising your work at the laboratory.
Please submit the following documents to:	<p>dr hab. Dariusz Plewczynski, PhD, prof. UW;</p> <p>e-mail: dariuszplewczynski@gmail.com, tel.: 225543654;</p> <p><i>Laboratory of Functional and Structural Genomics, Centre of New Technologies</i>, University of Warsaw; www: http://nucleus3d.cent.uw.edu.pl</p>
Application deadline:	20 August 2017
For more details about the position please visit (website/webpage address):	http://nucleus3d.cent.uw.edu.pl and http://cent.uw.edu.pl
Euraxess job/stipend offer (in case of PhD and postdoc positions):	

The project " Three-dimensional Human Genome structure at the population scale: computational algorithm and experimental validation for lymphoblastoid cell lines of selected families from 1000 Genomes Project" is carried out within the TEAM Programme, being a Grant Project of the Foundation for Polish Science funded by the European Regional Development Fund within the framework of Smart Growth Operational Programme 2014-2020 (SG OP), Axis IV: Increasing the research potential, Measure 4.4: Increasing the human potential in R&D sector.

Please include in your offer:

"I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act as of 29 August 1997, consolidated text: Journal of Laws

2016, item 922 as amended.”

