JOB OFFER: computational modelling MSc student

Position in the project:	**One MSc student**, 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):	MSc stipend
Number of job offers:	1
Remuneration/stipend amount/month	2,500 PLN
Position starts on:	1st October 2018
Maximum period of contract/stipend agreement:	1 year, possible extension up to 2 years
Institution:	*Laboratory of Functional and Structural Genomics*, Centre of New Technologies, University of Warsaw
Project leader:	Dariusz Plewczynski, PhD
Project title:	*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* ***Project is carried out within the TEAM programme of the Foundation for Polish Science***
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:	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 biophysical simulations results
Profile of candidates/requirements:	1. BSc in computer science, biophysics, biochemistry, bioinformatics or related discipline 2. Prefered experience in population genomics, DNA sequencing data, epigenomics, RNAseq, ATAC-seq data analysis 3. Priority will be given to candidates with expertise relevant to the 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.
Required documents:	1. CV 2. Motivation letter (*why I would like to join 3DGenomics field?)* 3. BSc certificate 4. Short written document about recent advances in 3D genomics
We offer:	• MSc fellowship 2,500 PLN/month • Appointment starting 1st October 2018, funding guaranteed for 1 year, possible extension up to 2 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:	dr hab. Dariusz Plewczynski, PhD, prof. UW; e-mail: dariuszplewczynski@gmail.com, tel.: 225543654; *Laboratory of Functional and Structural Genomics,* **Centre of New Technologies**, University of Warsaw; www: http://nucleus3d.cent.uw.edu.pl
Application deadline:	1 September 2018
For more details about the position please visit (website/webpage address):	http://nucleus3d.cent.uw.edu.pl and http://cent.uw.edu.pl

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. To allow us to process your data, please include the following statement in your application:

“I hereby consent to have my personal data processed by the University of Warsaw with its registered office at ul. Krakowskie Przedmieście 26/28, 00-927 Warszawa for the purpose of carrying out a recruitment process and selecting an employee and concluding a contract for employment at the University of Warsaw. I have been informed of my rights and duties. I understand that provision of my personal data is voluntary.”

In accordance with Article 13 of REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data – general regulation on data protection (Official Journal of the EU L 119/1 of 4 May 2016) the University of Warsaw informs that:

1. The Controller of your personal data is the University of Warsaw with its registered office at Krakowskie Przedmieście 26/28, 00-927 Warszawa;

2. The Controller has designated the Data Protection Officer who supervises the processing of personal data, and who can be contacted via the following e-mail address: iod@adm.uw.edu.pl;

3. Your personal data will be processed for the purpose of carrying out a recruitment process and selecting an employee and concluding a contract for employment at the University of Warsaw;

4. The provided data will be processed pursuant to Article 221 § 1 of the Act of 26 June 1974 Labour Code (uniformed text: Dz.U. of 2018, item 917) and your consent for processing of personal data;

5. Provision of data in the scope stipulated in the Labour Code is mandatory, and the remaining data are processed according to your consent for processing of personal data;

6. The data will not be shared with any external entities;

7. The data will be stored until you withdraw your consent for processing of personal data;

8. You have the right to access your personal data, to rectify, erase them, restrict their processing, object to processing, and to withdraw the consent at any time;

9. You have the right to lodge a complaint to the President of the Office for the Protection of Personal Data."

Researcher profile:	First Stage (R1) Researcher
Type of Contract:	Temporary
Form of Employment:	Scholarship
Job Status:	Full time
Research Field:	Computational biology (bioinformatics)
Keywords:	1000 Genomes project, structural variants, genome structure, higher order chromatin organisation, ChIA-PET, Hi-C, genome architecture, bioinformatics, copy number variants, ENCODE, autoimmune diseases