

## JOB OFFER

Position in the project:	PhD student
Scientific discipline:	Cancer Data Science
Job type (employment contract/stipend):	PhD stipend / (in specific cases instead of a PhD stipend an employment contract might be offered)
Number of job offers:	1
Remuneration/stipend amount/month (“X0 000 PLN of full remuneration cost, i.e. expected net salary at X 000 PLN”):	Stipend 3500-4500 PLN/ month (in case of employment contract, a net salary in the same amount)
Position starts on:	Winter Semester (academic year 2019/2020)
Maximum period of contract/stipend agreement:	30/09/2022
Institution:	International Centre for Cancer Vaccine Science, University of Gdańsk, Poland
Project leaders:	Dr. Ted Hupp, Dr. Robin Fahraeus
Project title:	<i>International Centre for Cancer Vaccine Science</i>  <i>Project is carried out within the International Research Agenda Programme of the Foundation for Polish Science</i>
Project description:	<p>Despite the success of immune checkpoint inhibitors in the clinic, most cancer patients do not respond, and even among responders therapeutic resistance is a problem. Among the various mechanisms of therapeutic resistance, immune-editing to impair the antigen presentation pathway is common. This is a general theme developing in cancer immunology, and The International Center For Cancer Vaccine Science (a joint entity between the University of Edinburgh and the University of Gdansk) is now recruiting computational students working on different aspects of this problem.</p> <p>Project: Comprehensive characterisation of antigen presentation in cancer.</p> <p>Introduction. The classic concept of self and non-self antigen discrimination by the immune system is focused on the recognition of neoantigen peptides presented by MHC molecules. Yet, there are other modes of antigen presentation. MHC-class-I-like CD1 antigen-presentation molecules (CD1a, CD1b, CD1c, CD1d and CD1e) allow the immune system to recognize lipid-containing antigens. These CD1</p>

molecules bind and present amphipathic lipid antigens for recognition by T-cell receptors. The MR1 protein binds to molecules derived from bacterial riboflavin biosynthesis. Yet, even with a seemingly unrelated function, the TCGA Pan-cancer studies indicate MR1 as amplified in ~8% of Cholangiocarcinomas, Breast Invasive Carcinomas and Liver cancers (cbioportal; [5]). Further, two preliminary studies have implicated the endogenous presentations of MR1 ligand in tumour cells.

**Project outline.** We are searching for a computational student to address questions in systems immunology and cancer. In Stage 1, the student will learn the computational analysis of MHC class I/classII antigen presentation, but also develop computational pipelines in lipidomics and metabolomics for the mass-spectrometry based study of CD1 and MR1 presented antigens. In Stage 2, the student will develop a database cataloguing the existing literature and datasets around lipid and metabolite antigen presentation. In stage 3, we will work with Dr. Irena Dapic and a team of biophysicists on new mass-spectrometry technologies and support applications towards the characterization of MHC Class I/II, CD1 and MR1 presented antigens.

**Resources:** Students will have an international supervisory team of professors and industry experts. This position offers the opportunity to be jointly supervised between Dr. Ted Hupp (University of Edinburgh), Dr. Robin Fahraeus (Universite Paris) and Dr. Javier Alfaro (University of Gdansk). Students will work closely and validate their results alongside collaborators at the three Universities, which are equipped with state of the art facilities in mass spectrometry, virology, protein biochemistry and vaccine technology. Students will also have the opportunity to develop skills in machine learning and high performance computing. The project has access to Cyfronet Prometheus (~55, 000 cores) and CI TASK Tryton (~38, 000 cores) clusters, which are consistently represented among the top 500 supercomputers in the world. As the work is international in nature, students will have the opportunity to travel between Edinburgh and Gdansk at various points during their PhD.

Please note, you are encouraged to contact Dr. Ted Hupp ([Ted.Hupp@ed.ac.uk](mailto:Ted.Hupp@ed.ac.uk)) and Dr. Javier Alfaro ([Javier.Alfaro@ug.edu.pl](mailto:Javier.Alfaro@ug.edu.pl)) before submitting an application.

Key responsibilities include:	Developing an independent PhD thesis, working in a team, inter-disciplinary training requirements, and advanced PhD transferable skills coursework to fulfill the requirements of a PhD degree.
Profile of candidates/requirements:	<p>Desired skills:</p> <ul style="list-style-type: none"> <li>• Previous experience in Genomics, Transcriptomics or Proteomics</li> <li>• Previous project in bioinformatics</li> <li>• Experience in R</li> <li>• Experience in a scripting language (Perl or Python)</li> </ul>
Required documents:	<ul style="list-style-type: none"> <li>• CV</li> <li>• Motivation letter</li> <li>• copy of Master's degree or equivalent in biology, medicine, biotechnology or related sciences allowing to embark on PhD studies</li> <li>• reference letter(s) from an academic supervisor</li> <li>• documents confirming the scientific achievements or qualifications of the candidate, in particular copies of publications, language certificates, certificates confirming the award of an academic award, internship or membership in scientific clubs/associations, oral presentations and posters on conferences, scientific fellowships, international trainings etc.</li> <li>• PhD students candidates after a successful interview at ICCVS are required to proceed enrollment at the Intercollegiate UG-MUG Doctoral School confirmation of enrollment into the Intercollegiate UG-MUG Doctoral School is a prerequisite for receiving a stipend for this position.</li> </ul>
We offer:	<ul style="list-style-type: none"> <li>• The ICCVS is housed in state-of-the-art facilities at the UG with facilities for mass spectrometry, virology, protein biochemistry, vaccine technology and bioinformatics.</li> <li>• Students will have the opportunity to develop skills in machine learning and high performance computing. The center has access to Cyfronet Prometheus (~55, 000 cores) and CI TASK Tryton (~38, 000 cores) clusters, which are consistently represented among the top 500 super computers in the world.</li> <li>• ICCVS researchers will have joint supervision with scientists at the University of Edinburgh, within strategic platforms for stem cell science,</li> </ul>

	<p>phenotypic drug screening, synthetic biology, computational science, structural biology, veterinary medicine, and optical imaging (<a href="http://www.optima-cdt.ac.uk">www.optima-cdt.ac.uk</a>)</p> <ul style="list-style-type: none"> <li>The ICCVS provides an exceptional opportunity for motivated PhD students to work in an international multidisciplinary training environment to tackle major challenges at the interface between basic cancer discovery science and translational medicine.</li> </ul>
Please submit the following documents to:	<a href="mailto:iccv@ug.edu.pl">iccv@ug.edu.pl</a>
Application deadline:	25.12.2019
For more details about the position please visit (website/webpage address):	<p><a href="http://www.iccv.ug.edu.pl">www.iccv.ug.edu.pl</a></p> <p>Contact: <a href="mailto:iccv@ug.edu.pl">iccv@ug.edu.pl</a></p>
Euraxess job/stipend offer (in case of PhD and postdoc positions):	link

### **Consenting clause**

„I consent to the processing of my personal data by the University of Gdańsk contained in the application documents for the needs necessary to carry out the recruitment procedure, including the competition for the position PhD student. in University of Gdańsk, International Centre for Cancer Vaccine Science, in accordance with the General Data Protection Regulation of 27 April 2016.

In addition, I declare that I have been informed of the possibility of withdrawing consent at any time and that its withdrawal does not affect the legality of the processing which was carried out on the basis of consent before its withdrawal.”

### **Information clause**

In accordance with the General Data Protection Regulation of 27 April 2016 hereinafter referred to as GDPR, we inform that:

1. The Administrator of your personal data is the University of Gdansk with headquarters in (80-309) Gdańsk, ul. Jan Bażyński 8.
2. The administrator of personal data has appointed the Data Protection Officer, which can be contacted on the phone number (58) 523 24 59 or e-mail address: [poin@ug.edu.pl](mailto:poin@ug.edu.pl).
3. Your personal data will be processed in order to carry out the recruitment process for the position PhD student. in University of Gdańsk, International Centre for Cancer Vaccine Science,
4. The legal basis for the processing of your personal data for the purposes of recruitment is art. 6 par. 1 lit. c GDPR – processing is necessary to fulfill the legal obligation incumbent on the administrator resulting in particular from art.118 a of the Law on Higher Education and art. 221 of the Act - Labor Code. A premise that legalizes the processing of personal data voluntarily provided by the candidate, going beyond the scope of data indicated in art. 221 of the Act - Labor Code will be art. 6 par. 1 lit. a GDPR - consent of the data subject.
5. Providing your personal data by yourself, after making a decision about joining the recruitment process is obligatory in the scope specified in art. 22<sup>1</sup> of the Labor Code and the Law on Higher Education and conditions the possibility of applying for employment and possible further employment. In the case of providing personal data going beyond the above law - providing

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your personal data by yourself is voluntary but it determines the possibility of participation in the recruitment process

6. Your personal data will be processed on behalf of the data controller by authorized employees only for the purposes referred to in par. 3.
7. Your personal data will be kept for the period necessary to achieve the objectives set out in paragraph. 3. In the case of a negative result of your recruitment, your data will be deleted immediately after the recruitment is completed, unless the law requires the archiving requirement within the specified scope - for the time specified in these provisions.
8. Your personal data will not be disclosed to third parties, except as provided for by law. In the case of submission of application documents by electronic means, the recipient of your data may be an entity acting on behalf of the administrator, ie an entity that is the operator of the postal service.
9. Under the rules laid down in the provisions of the GDPR, you are entitled to:
  - a. the right to access the personal data,
  - b. the right to rectify them when they are inconsistent with the real state,
  - c. the right to remove them, limit processing and transfer data - in cases provided for by law,
  - d. the right to object to data processing,
  - e. the right to lodge a complaint to the supervisory body - the President of the Office for Personal Data Protection, when you think that the processing of your personal data violates the provisions on the protection of personal data.