

## JOB OFFER

Position in the project:	PhD Student
Scientific discipline:	Physics
Job type (employment contract/stipend):	scholarship
Number of job offers:	1
Remuneration:	3 800 PLN monthly (scholarship)
Position starts on:	December 2020
Maximum period of contract/stipend agreement:	30 months
Institution:	Jagiellonian University, Cracow
Project leader:	Jacek Tabor
Project title:	<b>Bio-inspired artificial neural networks</b>  <b><i>Project is carried out within the TEAM-NET programme of the Foundation for Polish Science</i></b>
Project description:	Artificial neural network model was created basing on analogies to biological counterparts, such as a simplified model of the neuron or a system of retinal neurons. Due to the increasing complexity of tasks and problems with the development of effective methods for learning deep neural networks, solutions based on algebraic structures dominate Today, advanced approaches in machine learning such as deep learning show a number of undesirable features, such as forgetfulness, susceptibility to adversarial examples, the requirement for a large training set, and slow learning. Most of these features do not occur in biological systems, thus it would be beneficial to take an inspiration from them to help training artificial systems. The aim of the project is to analyze high-level behaviors of biological neural systems and to build innovative artificial models by proposing new paradigms of learning and new architectures of computational models.

	<p>The Jagiellonian University will run six research groups: Cognitive group (leader Tadeusz Marek), Physics-group (leader Maciej A. Nowak), Machine-learning group, Neuro-group, BioDataScience-group, InfoTech-group.</p> <p><b>We seek for a PhD Student of the Physics group.</b></p>
Key responsibilities include:	<p>The responsibility of the potential contractor shall be:</p> <ol style="list-style-type: none"> <li>1. analysis of large sets of neuronal data</li> <li>2. numerical cross-check of the models of correlations</li> </ol>
Profile of candidates/requirements:	<ol style="list-style-type: none"> <li>1. a participant in doctoral studies run by an authorized university organizational unit,</li> <li>2. knowledge of the methods in the complexity theory</li> <li>3. good knowledge of English,</li> <li>4. knowledge of environments and programming tools for ML.</li> </ol>
Required documents:	<ol style="list-style-type: none"> <li>1. filled in recruitment form (basic formal information);</li> <li>2. curriculum vitae;</li> <li>3. list of publications and ongoing research projects;</li> <li>4. statement on the knowledge and acceptance of rules regarding intellectual property and legal protection of intellectual property;</li> <li>5. documents confirming status of PhD Student (will be required when signing the contract);</li> <li>6. statement of knowledge and acceptance of intellectual property rules and legal protection.</li> <li>7. information about processing of personal data.</li> </ol>
We offer:	<ol style="list-style-type: none"> <li>1. cooperation with the best machine learning groups in Poland;</li> <li>2. scholarship in the amount of PLN 3 800;</li> <li>3. possibility to cover the costs of participation in conferences and workshops;</li> <li>4. access to computing infrastructure.</li> </ol>
Please submit the documents to:	<p><a href="mailto:bionn@matinf.uj.edu.pl">bionn@matinf.uj.edu.pl</a></p>
Application deadline:	<p>10 November 2020 (12 PM CEST)</p>
General rules of the recruitment process	<ol style="list-style-type: none"> <li>1. Candidates may run simultaneously for all positions offered by the project. This must be declared in the application form.</li> <li>2. The decision will be taken by the Recruitment Committee (RC) established at the The Faculty of Physics, Astronomy and Applied Computer Science of the Jagiellonian University to 18<sup>th</sup> November 2020.</li> <li>3. An interview is expected. RC reserves the right to invite for the interview only pre-selected candidates. We expect that the interview will be held on the 16<sup>th</sup> November 2020. The confirmation will be sent to the prospect candidates on 12<sup>th</sup> November 2020.</li> <li>4. RC's decision is to appear 19th of November. The final decision must be approved by Foundation for Polish Science.</li> <li>5. RC reserves the right to close the competition without selecting the candidate.</li> </ol>

	<p>6. In the case of the resignation of a candidate recommended for the position of a Research Junior, or failure to receive the Foundation for Polish Science's approval, RC will be evaluate the candidates, or may ask to publish a new call for the position.</p> <p>7. The results of the recruitment procedure may be appealed by the candidates within the period of one week after obtaining information about the decision RC.</p>
<p>For more details about the position please visit</p>	<p><a href="http://bionn.matinf.uj.edu.pl">bionn.matinf.uj.edu.pl</a></p>
<p>Euraxess job/stipend offer:</p>	<p><a href="#">PhD Student</a> (EURAXESS Job Offer id: 566114)</p>

Due to the entry into force of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, we also require that by applying, a candidate expresses his/her consent to the processing of his/her personal data needed for the recruitment process by the Jagiellonian University.