

## JOB OFFER

Position in the project:	Postdoctoral Research Associate (junior)
Scientific discipline:	Theoretical Physics
Job type (employment contract/stipend):	Employment contract
Number of job offers:	2
Remuneration:	8000 PLN monthly (gross income )
Position starts on:	1 November 2019
Maximum period of contract/stipend agreement:	3 years
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 analyse high-level behaviour 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 an junior postdoc (up to 5 years after getting Ph.D.) in the Physics group. Experience in machine learning is highly welcomed.</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 low-level and high-level neuronal information from the point of view of complex systems and critical phenomena</li> <li>2. suggestions of the general scheme of new paradigms and architectures of neural networks based on implementation of the results of above analysis.</li> </ol>
Profile of candidates/requirements:	<ol style="list-style-type: none"> <li>1. PhD degree obtained up to 5 years from the date of employment</li> <li>2. Publications in top scientific journals in theoretical physics and mathematical methods of physics.</li> <li>3. Knowledge of artificial intelligence problems, neural networks, deep learning is welcomed</li> <li>4. Perfect knowledge of English,</li> <li>5. Full engagement in the project</li> <li>6. Taking up work no later than March 1<sup>st</sup>, 2020</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. statement of knowledge and acceptance of intellectual property rules and legal protection.</li> <li>6. information about processing of personal data.</li> <li>7. document confirming the scientific degree ( copy of the PhD diploma)</li> </ol>
We offer:	<ol style="list-style-type: none"> <li>1. cooperation with the best machine learning groups, complexity groups and neuroscience groups in Poland;</li> <li>2. remuneration based on monthly salary 8000 PLN gross</li> <li>3. possibility to cover the costs of participation in conferences and workshops;</li> <li>4. access to computing infrastructure.</li> <li>5. raising qualifications</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>5 October 2019 (12 PM CEST)</p>
General rules of the requirement 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 at to 10 October 15<sup>th</sup> 2019.</li> </ol>

	<p>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 in second week of October 2019. The confirmation will be sent to the prospect candidates on October 20th.</p> <p>4. RC's decision is to appear 15th of October. The final decision must be approved by Foundation for Polish Science.</p> <p>5. RC reserves the right to close the competition without selecting the candidate.</p> <p>6. In the case of the resignation of a candidate recommended for the position of an experienced resreacherr, 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 (in case of PhD and postdoc positions):</p>	<p><a href="#">Research Junior</a> (EURAXESS Job Offer id: 442774)</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.