

**Up to 3 postdoctoral positions  
in the scientific project “CUTACOMBS. Cuts and decompositions: algorithms and  
combinatorial properties”  
financed by the European Commission (grant agreement no 714704)  
Principal Investigator: Marcin Pilipczuk**

The ERC project „CUTACOMBS. Cuts and decompositions: algorithms and combinatorial properties”, led by dr Marcin Pilipczuk, is offering up to three postdoctoral positions in the Institute of Informatics at the Faculty of Mathematics, Informatics and Mechanics of the University of Warsaw.

**Terms of employment**

Selected candidates will be employed as full-time researchers (*pol.* adiunkt). The duration of employment is flexible, but needs to be between 1st November 2021 and 31st August 2022, up to an agreement between the candidate and the principal investigator. The offered salary combined (basic salary approx. 6 700 PLN gross/month plus project bonus) is around 9 000 PLN per month pre-tax (around 2 125 EUR), which is more than enough for a comfortable life in Warsaw. The position comes with no teaching obligations and generous travel budget. Selected candidates will work on problems in the intersection of the fields of structural graph theory, algorithm design, and fixed-parameter tractability.

**Description of the project**

Project CUTACOMBS focuses on the boundary of structural graph theory and algorithm design, with particular emphasis on parameterized algorithms. The work within the project concentrates on the following directions:

- Parameterized complexity of graph separation problems, with particular emphasis on directed graphs.
- Structural properties of directed graphs, with algorithmic applications.
- Algorithmic and structural properties of hereditary graph classes, with particular emphasis on graph classes excluding a small forest or linear forest as an induced subgraph.
- Approximation and parameterized algorithms in planar graphs and other sparse graph classes.

**Requirements**

We expect that candidates at the moment of employment hold a PhD degree in either mathematics or computer science and have an excellent background in both of these disciplines, in particular in one or more of the following fields:

- structural graph theory;
- algorithm design;
- parameterized complexity.

Research experience in any of the following areas will be an advantage:

- logic and automata;
- approximation schemes in planar graphs;

- algorithms on graph classes;
- structural theory of sparse graphs (notions of bounded expansion and nowhere denseness);
- decompositions of graphs, in particular treewidth and cliquewidth.

### **Applications**

An application should include **Curriculum Vitae** that:

- presents an overview of the background and scientific achievements of the candidate;
- lists all the candidate's research works (including not yet published manuscripts);
- gives a list of three experienced researchers that may serve as references for the candidate.

In addition, there should be a **signed cover letter** addressed to the Dean of the Faculty of Mathematics, Informatics and Mechanics, University of Warsaw together with the personal data clause (attached). The cover letter should also indicate preferred dates of employment.

No research statements are required.

**Applications**, as well as further questions on both the scientific topic of the project and on formal details of the call procedure should be directed to dr Marcin Pilipczuk: [m.pilipczuk@mimuw.edu.pl](mailto:m.pilipczuk@mimuw.edu.pl)  
In order to apply for the position candidates should send an e-mail and submit the documents as attached .pdf files.

**Application deadline: 25<sup>th</sup> of August, 2021**

Applications which do not satisfy the above requirements or are submitted after the deadline will not be considered for the position.

The applications will be evaluated by a selection committee appointed by the Dean of the Faculty of Mathematics, Informatics and Mechanics, University of Warsaw. The committee may invite a candidate to a meeting, which will be conducted remotely. The results of the competition will be sent to candidates electronically on 28<sup>th</sup> of September, 2021 at the latest. The competition is the first stage of the recruitment process as described in the Statute of the University of Warsaw, the recommendation by the selection committee being a basis for its subsequent stages.

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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](mailto: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;
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5. Provision of data in the scope stipulated in the Labor 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;
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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.

.....  
(place and date)

.....  
(signature of the person applying for employment)