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

In order to apply for the position candidates should send an e-mail and submit the documents as attached .pdf files.

**Application deadline: 25th 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 28th 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.
INFORMATION ON THE PROCESSING OF PERSONAL DATA

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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 Labor Code (uniformed text: Dz.U. of 2018, item 917) and your consent for processing of personal data;
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(place and date)                                                                 (signature of the person applying for employment)