
THE PRESBURGER AWARD 2018

LAUDATIO FOR ALEKSANDER MAĐRY

The 2018 Presburger Committee consisting of Monika Henzinger, Stephan Kreutzer (chair) and Jukka Suomela has completed its deliberations and unanimously selected

Aleksander Mađry

as recipient of the 2018 EATCS Presburger Award for Young Scientists.

Aleksander Mađry has made several groundbreaking contributions to the theory of algorithms which have firmly established him as a leader in his field. Some of his most notable work is on the maximum flow problem in graphs and digraphs.

In a 2011 paper, he and his co-authors presented an approximation algorithm for maximum flows in graphs running in time what $O(mn^{1/3})$. This already was the first algorithmic improvement to the problem for a very long time. But it was quickly followed by his 2013 paper where he presented an exact algorithm for the directed maximum flow problem which was the first ever to break the famous 1975 barrier of $O(n^{3/2})$ by Evan and Tarjan, a barrier that withstood all attempts to break it for nearly 40 years.

Additional to his work for the maximum flow problem, his work also contributed to significant advances (or groundbreaking advances) for the k-server problem and the Asymmetric Travelling Salesman problem.

Aleksander's results have been celebrated in the community not only because he broke long standing complexity barriers but moreover because he introduced new and very different techniques to the field which since have successfully been picked up by others.

Aleksander Mądry's work is of exceptional standard and visibility, establishing as a leading researcher in his field.

The Presburger Committee 2017

- Monika Henzinger
- Stephan Kreutzer (chair)
- Jukka Suomela

The Presburger Award is given to a young scientist (in exceptional cases to several young scientists) for outstanding contributions in theoretical computer science, documented by a published paper or a series of published papers. The award is named after Mojzesz Presburger who accomplished his path-breaking work on decidability of the theory of addition (which today is called Presburger arithmetic) as a student in 1929. The list of the previous recipients of the EATCS Award is available at

<http://eatcs.org/index.php/presburger>.

The Presburger Award is sponsored by CWI, Centrum Wiskunde Informatica. The award includes an amount of 1000 euro and an invitation to ICALP 2018 which will take place in Czech Republic, from the 9th till the 13th of July 2018 for a lecture.