The Presburger Award 2017
Laudatio for Alexandra Silva

The 2017 Presburger Committee consisting of Marta Kwiatkowska (chair), Stephan Kreutzer and Jukka Suomela has completed its deliberations and unanimously selected

Alexandra Silva

as recipient of the 2017 EATCS Presburger Award for young scientists.

Alexandra Silva has been instrumental in fostering the field of coalgebraic modelling and reasoning. In her groundbreaking thesis in 2010, she developed Kleene coalgebra, showing how automata and their extensions can be naturally embedded within a coalgebraic framework and formulating the coalgebraic analogue of Kleene’s theorem. This fundamental new insight has paved the way for mechanizing the correspondence between state-based and behavioural views of systems in much more general settings than was possible before. Working with collaborators, Alexandra employed coalgebraic techniques to shed new light into language equivalences, automata minimization and determinisation, resource allocation problems and infinitary term rewriting, in particular providing an explanation for why the Brzozowski minimization algorithm works and extending it to many other settings. More recently, her work has also resulted in practical impact in programming languages and software defined networks, including probabilistic extensions. Alexandra’s work is of exceptional quality and visibility, and has already been taken up by many researchers, establishing her credentials as a leader in this field.

The Presburger Committee 2017
• Marta Kwiatkowska (chair)
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


The Presburger Award is sponsored by CWI, Centrum Wiskunde Informatica. The award includes an amount of 1000 euro and an invitation to ICALP 2017 which will take place in Warsaw (Poland) from the 10th till the 14th of July 2017 for a lecture.