



## The 2018 Petra Šparl Award

Dr Petra Šparl was a talented woman mathematician with a promising future who worked in graph theory and combinatorics, but died mid-career in 2016 after a battle with cancer. In her memory, the Petra Šparl Award was established recently to recognise in each even-numbered year the best paper published in the previous five years by a young woman mathematician in one of the two journals *Ars Mathematica Contemporanea* (AMC) and *The Art of Discrete and Applied Mathematics* (ADAM).

Nominations for the inaugural award were invited in AMC in 2017, and cases were considered by a committee (consisting of the three of us) appointed by Dragan Marušič and Tomaž Pisanski as editors of AMC and ADAM.

As judges we were impressed by the large number of papers in AMC over the five years 2013–2017 having a woman author or co-author: almost 60 in total, with well over half of those being women in the early stages of their career. With helpful commentaries from co-authors (in some cases) we drew up a long list of candidates for the 2018 award, sought reports from referees on those, and also considered the papers themselves, before making a decision, which was unanimous.

The winner of the Petra Šparl Award for 2018 is *Dr Monika Piłśniak* (Department of Discrete Mathematics, AGH University, Kraków, Poland), for her paper ‘Improving upper bounds for the distinguishing index’, in *Ars Mathematica Contemporanea* **13** (2017), 259–274.

Monika Piłśniak published four papers in AMC in 2016 and 2017, but one stands out: a single-author paper in 2017 on the distinguishing index of a graph. This is the smallest number of classes in a partition of the edge-set such that the only class-preserving automorphism of the graph is the identity automorphism. Monika helped introduce this concept in 2015, and in her 2017 paper in AMC, she classified all graphs with distinguishing index being at least equal to the maximum vertex degree. The main theorem is impressive, and difficult to prove, and it improves on the analogous theorem from 2005 on the distinguishing number (for partitions of vertices).



Dr Monika Piłśniak



In summary, and quoting a referee: “Monika richly deserves the Petra Šparl Award: four papers in ACM pioneering a new concept, and one solo paper with an outstanding theorem, worthy of an award by itself.”

We would also like to make special mention of other high quality papers, by Sophie Decelle, María del Río Francos, Klavdija Kutnar, Klara Stokes and Aleksandra Tepeh.

Monika Pilšniak will be awarded a certificate and invited to give a lecture in the Mathematics Colloquium at the University of Primorska, and to give lectures at the University of Maribor and the University of Ljubljana.

Finally, we encourage nominations for the next Petra Šparl Award in 2020, and submissions of high quality new papers that will be worthy of consideration for future awards.

Marston Conder, Asia Ivić Weiss and Aleksander Malnič  
Members of the 2018 Petra Šparl Award Committee