

The Twelfth International Conference on Permutation Patterns, 2014

The *Twelfth International Conference on Permutation Patterns* (PP) was held at East Tennessee State University in Johnson City, Tennessee, USA from July 7–11, 2014. There were around 80 attendees, who, between them, gave 36 talks and 10 poster presentations.

The International Steering Committee for the annual PP conference consisted of:

Michael Albert, University of Otago, New Zealand;

Mathilde Bouvel, University of Zürich, Switzerland;

Alex Burstein, Howard University, USA;

Luca Ferrari, University of Firenze, Italy;

Lara Pudwell, Valparaiso University, USA;

Einar Steingrímsson, University of Strathclyde, UK.

The Steering Committee decided to approach the Editors of the Australasian Journal of Combinatorics with a proposal to publish selected refereed papers from the conference. We were delighted when the proposal was accepted, and the Australasian Journal of Combinatorics joined other journals such as *Advances in Applied Mathematics*, *Annals of Combinatorics*, *Electronic Journal of Combinatorics*, *Journal of Combinatorics*, *Lecture Notes of the London Mathematical Society*, and *Pure Mathematics and Applications*, as a distinguished outlet for the PP Proceedings. The guest editors listed below handled the editorial and refereeing process under the Editor-in-Chief's watchful eye, and, overall, the process unfolded with no major issues.

The 14 papers that follow were those finally accepted, from amongst the papers submitted to this special proceedings. The publication date has been held back for several of these papers, to ensure that they all appear together in this same issue of the journal. The selected papers include new research on classical pattern avoidance, avoidance in involutions, words, partitions, ascent sequences, avoidance in special structures, complexity of counting occurrences of patterns, q -analogues, and permutation classes.

The paper by *David Bevan* is on classical pattern avoidance; he studies enumeration of the classes $\text{Av}(1234, 2341)$ and $\text{Av}(1243, 2314)$. *Lara Pudwell*'s paper studies avoidance of two classes of ascent sequences, showing the connection between their enumeration and the binomial convolution of Catalan numbers. *Russell Chamberlain* et al.'s paper on generalized interval embeddings explores the “space between” the two ideas of word factors and word embeddings.

Mark Dukes studies generalized ballot sequences, i.e., sequences of non-negative integers that encode certain election scenarios, and shows that these are, in fact, ascent sequences. *Adam Goyt* and *Lara Pudwell* have written the first paper on packings of set partitions and their densities. Using bijections between pattern-avoiding permutations and certain full rook placements on Ferrers boards, *Jonathan Bloom* and *Vince Vatter* give short proofs of two classical enumerative results.

Miklós Bóna et al. consider the enumeration of pattern-avoiding involutions, focusing on sets defined by avoiding a single pattern of length 4. *Derek Levin* et al. study the phenomenon of pattern avoidance in k -ary heaps, a particular form of k -ary trees. *Nicolas Borie*'s paper is on the combinatorics of quadrant-marked mesh patterns in classical 132-avoiding permutations. *Josh Cooper* and *Anna Kirkpatrick* address complexity issues, in the context of counting patterns in a poset.

Jeff Remmel and *Janine Tiefenbruck*'s paper is on q -analogues of Fibonacci convolutions, whereas *Remmel* and *Quang Bach* study generating functions for descents over permutations which avoid specific sets of patterns. *Mike Atkinson* et al. study deflatability of permutation classes (a class is deflatable if its simple permutations are contained within a proper subclass). Finally, *Jonathan Bloom* and *Alex Burstein* resolve several conjectures of *Erge* on patterns avoiding three specific patterns.

Guest Editors:

Patrick Bahls
Joshua Cooper
Anant Godbole
Svetlana Poznanović