Preface to the special issue of Permutation Patterns 2021 (PP2021)

David Bevan, Sergey Kitaev, and Einar Steingrímsson

Department of Mathematics and Statistics, University of Strathclyde, Glasgow, UK
Email: david.bevan@strath.ac.uk   sergey.kitaev@strath.ac.uk   einar.steingrimsson@strath.ac.uk

This issue of *ECA* is dedicated to *Permutation Patterns 2021* (PP2021), the nineteenth annual permutation patterns conference, which was held as a two-day virtual workshop in June 2021. It was organized and hosted by the Combinatorics Group at the University of Strathclyde in Glasgow, Scotland. The workshop attracted a total of 164 registered participants from around the globe, to listen to thirty-six short talks and two keynote addresses covering the breadth of current research into patterns in permutations and related combinatorial structures. Links to all the abstracts, slides and videos can be found on the workshop web page, combinatorics.cis.strath.ac.uk/pp2021.

The varied talks at PP2021 reflected some of the connections that exist between the combinatorics of permutation patterns and other areas of mathematics and computer science, such as algorithms and computational complexity, probability, and algebraic geometry. The keynote address on sorting permutations with stacks and queues, by Luca Ferrari of the University of Florence, dealt with new results concerning a classical topic going back to the roots of permutation patterns research in Donald Knuth's *The Art of Computer Programming*. In contrast, in the other keynote address, Lucas Gerin, of the École Polytechnique in Paris, took a probabilistic perspective, an approach that has been notably gaining in prominence in recent years.

This special issue contains a selection of papers (some related directly to presentations at PP2021) that display the continued dynamism and scope of contemporary permutation patterns research. In addition, this issue includes an interview with Michael Albert, who, together with Mike Atkinson, initiated the first Permutation Patterns conference, held in New Zealand in 2003. He is also the author of numerous papers in the area and is the prime developer of the *PermLab* software, "a laboratory for conducting research on permutation patterns", which has been invaluable to many investigating questions concerning patterns in permutations.

We thank all the contributors to this special issue and all the participants who logged in to the virtual workshop, who were fundamental to making *Permutation Patterns 2021* a great success.