Trevor Evans Award

The Trevor Evans Award, established by the Board of Governors in 1992 and first awarded in 1996, is made to authors of expository articles accessible to undergraduates and published in *Math Horizons*. The Award is named for Trevor Evans, a distinguished mathematician, teacher, and writer at Emory University.

Lara Pudwell

"The Hidden and Surprising Structure of Ordered Lists," *Math Horizons*, 29(3), February 2022, pp. 5–7. doi.org/10.1080/10724117.2021.2002646

This engaging article takes the reader on a journey in which a graphical representation of permutations provokes an interesting counting problem with surprising results. The article begins with a clear definition and visualization of permutations. A well-chosen permutation of the digits 1-9 illustrates patterns within permutations, prompting the question of how many permutations avoid a given pattern. The article continues with progressively more complicated examples which prepare the reader for two surprising examples and an unsolved problem.

There are unexpected connections made to famous landmarks as the journey unfolds. A computer science problem from Donald Knuth motivates the counting question. A nicely illustrated explanation of a recursive solution of one counting problem leads directly to the Catalan numbers. A related problem is solved with a familiar recurrence relation, the generator of the Fibonacci numbers. The article concludes with some intriguing clues to send the reader on a journey into more complicated and unsolved problems.

Response

What a surprise to receive the Trevor Evans award! I am delighted to share one of my favorite areas of combinatorics with a broader audience. The path to writing this article was truly due to serendipitous encouragement from the community. In 2021, I gave a talk for the Math Encounters public lecture series at the National Museum of Mathematics. Jennifer Quinn urged me to write up a version of the talk for *Math Horizons*, which wouldn't have been on my mind without her enthusiasm. Thanks are due to Jenny for inspiration and to Tom Edgar for encouraging feedback during the editing process.

Biographical Sketch

Lara Pudwell is professor of mathematics and statistics at Valparaiso University, where she has been since 2008. She earned her BS in mathematics and

BA in computer science from Valparaiso University and her PhD at Rutgers University. She is a coauthor of *A Mathematician's Practical Guide to Mentoring Undergraduate Research*. Since 2021, she is also executive director of MathPath, a national residential summer camp for middle schoolers who love mathematics. She enjoys the experience of communicating mathematics with peers and with students of all ages.