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Megan A. Martinez* (mmartinez@ithaca.edu), mmartinez@ithaca.edu. *On the enumeration of pattern-avoiding inversion sequences.*

Permutations that avoid given patterns have been studied in great depth for their connections to other fields of mathematics, computer science, and biology. From a combinatorial perspective, permutation patterns have served as a unifying interpretation that relates a vast array of combinatorial structures. Recently, the study of patterns has been applied to inversion sequences; these are integer sequences (e_1, \dots, e_n) with $0 \leq e_i < i$ for each i . This application is motivated by the natural correspondence between permutations and inversion sequences, where for each $\pi_1\pi_2 \dots \pi_n \in S_n$, we can associate an inversion sequence (e_1, e_2, \dots, e_n) such that $e_i = |\{j \mid j < i, \pi_j > \pi_i\}|$. In this talk, we will discuss the recent advancements in the enumeration of pattern-avoiding inversion sequences, introduce new bijections between permutations and inversion sequences, and present remaining open questions. (Received September 24, 2018)