

1154-05-1028 **Elizabeth Drellich***, edrellich@haverford.edu, and **Heather Smith**. *Folding words around trees: Combinatorics inspired by biology.*

At the intersection of mathematics and biology we find mathematical models built to address biological questions as well as new mathematical theories inspired by biology. This talk will present a combinatorial model for folding words around plane trees, inspired by the bond formed between the nucleotides of a single-stranded RNA molecule. Valid plane trees, consisting of a word in a complementary alphabet wrapped around a plane tree, are fairly new constructions, and much of the work on these combinatorial structures has been joint with undergraduates. This talk will serve as an introduction and present several open questions that are appropriate for undergraduate research. (Received September 12, 2019)