

## **On restricted words and colored compositions**

Daniel Birmajer, Nazareth College of Rochester

We consider binary strings of the form  $1, 10, 100, \dots$ , as building blocks for families of binary words that we utilize to enumerate compositions and restricted words over a finite alphabet. Our approach allows us to generalize and address in a systematic manner previous results in the subject. Regarding compositions of positive integers, we look at two families of coloring sequences and give closed formulas for the corresponding number of colored compositions with a prescribed number of parts. The results presented in this paper rely on the invert transform and its representation in terms of partial Bell polynomials.

This is joint work with Juan Gil and Michael Weiner.

Keywords: binary words, compositions of positive integers