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Holonomic sequences and walks in the quarter plane

In this talk we will consider the nature of the generating series for different families of walks in the quarter plane. In particular, we consider combinatorial criteria which ensure the holonomy of the counting sequences, that is, when sequences satisfying linear recurrences with polynomial coefficients. We will also ponder the nature of series associated to different classes of formal languages.

Work in collaboration with Mireille Bousquet-Melou and Mike Zabrocki.