1131-52-271 **N M Ercolani***, Department of Mathematics, 617 N. Santa Rita Avenue, University of Arizona, Tucson, AZ 85721-0089. *Discrete Surfaces and Quantum Gravity.*

The idea of describing rough or random surfaces in terms of *worldsheets* for a discretization of the Euclidean Einstein-Hilbert action in 2 dimensions goes back to Polyakov and leads to a beautiful variational problem for the probability generating functions of these combinatorial objects. In this talk we will briefly review this problem and describe its recent resolution in terms of Hopf algebras related to inverse Bessel functions. (This is joint work with Patrick Waters.) We hope to also have the time to at least pose the question of extending this subject to its Lorentzian analogue. (Received July 17, 2017)