1145-05-168   **Stephanie van Willigenburg*** (`steph@math.ubc.ca`), Department of Mathematics, University of British Columbia, 1984 Mathematics Road, Vancouver, BC V6T 1Z2, Canada. *The shuffle conjecture.*

This talk assumes no prior knowledge, and will be accessible to undergraduates.

Walks in the plane taking unit-length steps north and east from $(0,0)$ to (n,n) never dropping below $x = y$, and parking cars subject to preferences, are two intriguing ingredients in a formula conjectured in 2005, now famously known as the shuffle conjecture.

Here we describe the combinatorial tools needed to state the conjecture. We also give key parts and people in its history, including its eventual algebraic solution by Carlsson and Mellit, which was published in the Journal of the American Mathematical Society in 2018. Finally, we conclude with some remaining open problems. (Received August 14, 2018)