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*Random Embedded Planar 4-Regular Graphs and Random Knot Diagrams*

A natural combinatorial model for random knotting is the idea of taking a random knot diagram chosen from the finite set of such diagrams with $n$ crossings and asking for the knot type of the resulting diagram. In this talk, we'll discuss results from a new computer enumeration of all the knot diagrams (for small $n$) based on expanding candidate embedded planar simple graphs with vertex degree $\leq 4$ produced by Brinkmann and McKay's *plantri* code and classifying the resulting embedded planar 4-regular multigraphs by embedded isomorphism type.