COMBINATORICS SEMINAR
New Results On Old Crossing Numbers (or Old Results On New Ones?)

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Abstract:

The *crossing number* of a graph G is the minimal number of edge crossings in a drawing of G in the plane. A common interior point (crossing) of k edges contributes $\binom{k}{2}$ to this number. We discuss several new results concerning this parameter. For instance, we establish upper bounds on the crossing numbers of graphs that admit crossing-free drawings on a fixed surface of higher genus.

What happens if we slightly change the definition, as follows? We define the *degenerate crossing number* of G just like above, with the difference that k-wise crossings are now counted only once. Are we up to a surprise? (Joint work with Géza Tóth.)