

**László Fehér: Enumerative geometry: classical and new problems**

Given 4 generic lines in space, how many lines intersect all of them? How many conics are tangent to 5 conics in the plane? These kind of enumerative questions were very popular in the 19th century. Their study initiated many new fields in mathematics. I will give intuitive and partial proofs to some enumerative problems and show how these are related to modern algebraic geometry, topology and representation theory.

*Prerequisites:* No prerequisite is required, however some knowledge in algebraic geometry and topology (notion of degree, manifold, homology, vector bundles) is useful.