

Regiomontanus PhD Seminar - Sixth Session

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Local Systems. A Tale in Three Acts

Nicolas Weiss

If you have ever taken a course on topology, know what the fundamental group is, and maybe have talked to someone about sheaves, chances are that you also know about local systems. But even if you don't have seen them in topology, I want to argue that you likely have encountered them (perhaps without knowing) in differential geometry and even (most importantly) analysis, too.

Notions of Size, Dynamics, and Schmidt Games

Alexander Furlong

A lot of Mathematics can be reframed as a rigorous exploration of different notions of largeness: uncountability, dimension, positive Lebesgue measure, etc... to name a few. We will see that there are examples in dynamics, for which these are not sufficient. We will then introduce Schmidt Games, and define winning sets, which will serve as a new notion of size with some fundamentally nice properties, and see natural applications of these in the realms of Number Theory and Geometry.