## **LiT III Living in Topology**



Contribution ID: 7 Type: not specified

## On the Topology of Virtual Artin Groups

Monday, 22 September 2025 14:00 (1 hour)

Virtual Artin groups were introduced a few years ago by Bellingeri, Paris, and Thiel, with the aim of generalizing the well-studied structure of virtual braid groups to the broader context of Artin groups. These fascinating objects possess a rich algebraic structure that encompasses both Coxeter groups and classical Artin groups. In this talk, we will explore the topology of virtual Artin groups, focusing in particular on the construction of cell complexes that serve as promising candidates for classifying spaces of certain remarkable subgroups. We will also highlight a connection between the topological properties of these spaces and a well-known problem in the theory of Artin groups: the  $K(\pi,1)$  conjecture.

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