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# Fundamental Groups of Arrangements

Fundamental groups of complements of arrangements are difficult to study, yet enough light has been shed on their structure, that once seemingly intractable problems can now be attacked in earnest. A unifying framework for the study of arrangement groups is provided by their characteristic and resonance varieties. Those varieties, in turn, are connected in subtle ways to the combinatorics of the arrangement.

In this talk, I will discuss several aspects of fundamental groups of arrangements, such as homological and enumerative questions regarding their finite-index subgroups. I will focus on arrangements of affine lines in the complex plane, but will also consider arrangements of transverse planes in real 4-space.