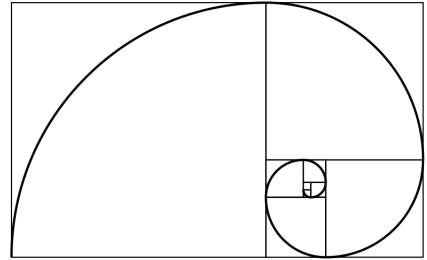


**Oberseminar Geometrie**  
Department of Mathematics  
University of Fribourg  
Physics 2.52  
**Wednesday October 5, 2022, 10:20**



LIVIO LIECHTI (UNIFR)

### **Minimal spectral radii for nonnegative integer matrices**

We first recall McMullen's strategy to leverage the clique polynomial in order to determine minimal spectral radii  $> 1$  among all nonnegative integer matrices of a given size. This strategy can be applied to different types of nonnegative integer matrices and works very well for primitive or irreducible ones—the matrices relevant in Perron-Frobenius theory. We then carry out this strategy for primitive and irreducible matrices that are skew-reciprocal, which means that their eigenvalues are invariant under the transformation  $t \mapsto -t^{-1}$ . We hope to convincingly discuss why this is a natural and important class of matrices.