

<b>Oberseminar Geometrie</b>	<b>Wednesday 6th March 2013</b>
Department of Mathematics	<b>10:20–12:00</b>
University of Fribourg	Seminar room, Math. II (Lonza)

MATTHIEU JACQUEMET (Fribourg)

## ‘The inner radius of a hyperbolic $n$ -simplex’

*Explicit volume formulas for hyperbolic polyhedra are difficult to find in dimensions  $n > 2$ . We are interested in estimating the volume of a hyperbolic polyhedron by means of its  $f$ -vector*

*(# of faces, # of edges, # of vertices)*

*and its inner radius.*

*Determining the inner radius of a hyperbolic polyhedron is in general a tricky task, which becomes simpler if we consider polyhedra of very simple combinatorial type: simplices. The main goal of this talk is to prove and discuss a formula giving the inner radius of a hyperbolic  $n$ -simplex in terms of the entries of its associated Gram matrix. If time allows, I shall also give some applications of this approach, especially in dimension 2.*