

Speaker: **Rubinstein, Joachim**

Title: *Ideal triangulations, angle and hyperbolic structures on 3-manifolds*

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Abstract: M. Lackenby recently introduced a theory of taut ideal triangulations, coming from Gabai's taut foliations. Our main result is that for an irreducible atoroidal 3-manifold with tori boundary components, any taut ideal triangulation admits a space of angles structures, where all angles are strictly positive. This is the first step in an attempt (similar to Casson's) to reprove the existence of complete hyperbolic metrics of finite volume on such manifolds. A key part of the result is an analysis of the space of singular or embedded spun normal surfaces in ideal triangulations. In particular, a canonical basis for this space is constructed and it is shown that there is a nice boundary map from spun normal surfaces to homology classes of loops in the boundary tori, which has image of finite index.