

**Selman Akbulut** (Michigan State University)

*Title: Corks, plugs, Glucks*

Abstract: Corks and plugs are small fundamental pieces in smooth 4-manifolds which determine their smooth structure (twisting along them changes smooth structure). Roughly cork-twisting is related altering Floer homology, while plug-twisting is related to altering  $\text{Spin}^c$  structures. Also in the extreme case plug-twisting operation degenerates to well known Gluck-twisting operation. I will discuss two related results (recently proved joint with Yasui). Roughly they are:

- 1- Gluck twisting operation does not change smooth structure of odd manifolds,
- 2- There are contact 3-manifolds that can be filled by infinitely many simply connected Stein manifolds, with second Betti numbers two, which are exotic copies of each other.