

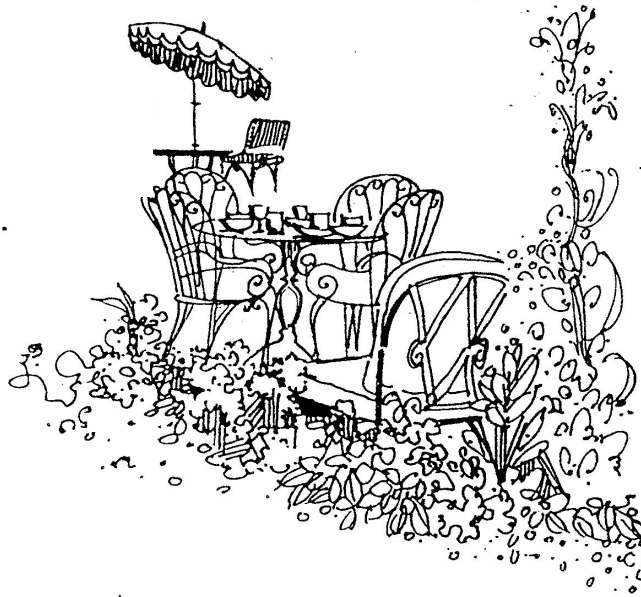
# *Chez Pierre*

Presents ...

**Tuesday, December 1, 2015**

**12:00pm**

**MIT Room 4-331**



## **Chez Pierre Seminar**

**Klaus Ensslin**

ETH-Zurich

### **” Non-local transport in the topological insulator candidate InAs-GaSb“**

This talk focuses experimental results on InAs/GaSb coupled quantum wells, a system which promises to be electrically tunable from a normal to a topological insulator. Hall bar structures of dimensions between 100 nm and a few micrometers gradually develop a pronounced resistance plateau near the charge neutrality point when reducing the device dimension, which comes along with distinct signatures of non-local transport along the sample edges. Plateau resistances are found to be above or below the quantized value expected for helical edge channels depending on device size. We present a discussion of these results based on the interplay between imperfect quantized edge conduction and a residual local bulk conductivity which suggests that occasionally reaching approximately the quantized edge-resistance in some devices may be an accidental coincidence. This work was done in collaboration with Susanne Mueller, Atindra Pal, Matija Karalic, Thomas Ihn, Thomas Tschirky, Christoph Charpentier, and Werner Wegscheider