1107-53-343   **Wei Yuan*** (`wyuan2@ucsc.edu`), Department of Mathematics, UC Santa Cruz, 1156 High Street, Santa Cruz, CA 95064, and **Jie Qing**. *Rigidity of scalar curvature and vacuum static spaces.*

In this talk, the vacuum static spaces which appears to be spacial slices of a category of very special solutions to Einstein equations will be introduced first. After a brief discussion of classifications and properties of such spaces, the connection between vacuum static spaces and local rigidity with respect to scalar curvature will be revealed. (Received January 19, 2015)