talks:

Speaker: Jingyu Zhao (Columbia University)

Time and place: 14:00-16:00, September 22 – 25, 2015, SR 10

Title and abstract:

"Symplectic cohomology and homological mirror symmetry"

Symplectic cohomology is an invariant of exact symplectic manifolds with contact type boundary. It was first studied to answer purely symplectic topological questions, such as obstructions to symplectic or Lagrangian embeddings and existence of exotic symplectic structures. It also has nice algebraic properties: functorial with respect to embeddings, admitting TQFT-like operations. Recent development in homological mirror symmetry suggests that symplectic cohomology is the correct closed string model on the A-side when the symplectic manifold is open. In these talks, I will talk about basic constructions of symplectic cohomology and homological mirror symmetry correspondence between various equivariant versions of symplectic cohomology on the A-side and de Rham cohomology on the B-side. In particular, one equivariant version, called periodic symplectic cohomology, possesses certain Hodge structure, which is conjecturally related to that of defined by Katzarkov-Kontsevich-Pantev.