



## SCMS Seminar

### *On Index Theorems for Good Orbifolds*

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**Time:** 2:00-3:30 pm, Thursday, December 27, 2012

**Venue:** Room 2201, East Guanghua Tower, Handan Campus

**Abstract:** Let  $X$  be a complete Riemannian manifold and let  $G$  be a discrete group acts on  $X$  freely, isometrically and cocompactly. It is known that the Atiyah  $L^2$ -index of a  $G$ -invariant elliptic operator on  $X$  agrees with the Atiyah-Singer index of the corresponding elliptic operator on the base manifold  $X/G$ . However, when  $G$  acts properly instead of freely on  $X$  (so  $X/G$  is an compact orbifold), the  $L^2$ -index does not agree with the Kawasaki's orbifold index for  $X/G$ . We study the difference of the two indices and present a K-theoretic index interpretation of the difference. This is a preliminary report of my joint work with Bai-Ling Wang.