Chenchang Zhu (Courant Research Center and University of Göttingen)

“String principal bundles and Courant algebroids”

Abstract: To a usual principal bundle, one can associate an Atiyah algebroid. For an $S^1$ gerbe, the higher version of an Atiyah algebroid is an exact Courant algebroid whose Severa class is the Dixmier-Douady class of the gerbe. In the case of the string principal bundle, the higher/noncommutative Atiyah algebroid turns out to be a transitive Courant algebroid. This explains why the obstruction to lifting a principal $G$-bundle to a principal String($G$)-bundle (controlled by one half the Pontryagin class) coincides with the one for a twisted Courant algebroid to be Courant. (Joint work in progress with Yunhe Sheng and Xiaomeng Xu).

Yusuf Gören (UC Santa Cruz)

“Conley conjecture for Lagrangian correspondences”

Abstract: Given a Lagrangian correspondence $M \xrightarrow{L} M$, one can define a periodic orbit $(x_0, \ldots, x_k = x_0)$ simply by requiring $(x_i, x_{i+1}) \in L \forall i \in \mathbb{Z}_k$. Now, the Conley conjecture for Lagrangian correspondences (CC$^L$) addresses the existence of infinitely many such periodic orbits. In this talk, we shall prove (CC$^L$) for a special class of Lagrangian correspondences, employing quilted Floer cohomology, while extending the well-known mean index for Hamiltonian diffeomorphisms to the said class.

There will be a dinner at 6pm.