

YONG-GEUN OH
(UNIVERSITY OF WISCONSIN-MADISON)

**Lagrangian currents, Calabi invariants and
non-simpleness of the area-preserving homeomorphism
group of S^2**

In this talk, I will introduce the notion of ‘Hamiltonian limits’ of Hamiltonian flows, and define continuous Hamiltonian flows and their associated Hamiltonian functions, which I call ‘topological Hamiltonians.’ I will give a proof of the uniqueness of the topological Hamiltonian associated to continuous Hamiltonian flows. The uniqueness proof uses the method of geometric measure theory and some C^0 symplectic geometry. I will discuss some implications of this study in a well-known conjecture in dynamical systems on the simpleness of the area preserving homeomorphism group of S^2 .