Mathematics Department Colloquium

Organizer(s): Kenneth Ribet

Thursday, 4:10–5:00pm, 60 Evans

Mar. 19 **Wilfrid Gangbo**, Georgia Institute of Technology

Lagrangian Dynamics on an infinite-dimensional torus

The space $L^2(0,1)$ has a natural Riemannian structure on the basis of which we introduce an $L^2(0,1)$-infinite dimensional torus $\mathbb{T}$. We consider a class of Hamiltonians defined on its cotangent bundle, invariant under the action of a group. We establish existence of a viscosity solution for a *cell problem* on $\mathbb{T}$, invariant under the action of that group. We apply this to the study of one-dimensional nonlinear Vlasov systems with periodic potential. (This is joint work with A. Tudorascu.)