# Symplectic structures on Selmer schemes

*Jay Swar*

University of Oxford

Selmer spaces are intersections in moduli spaces of local Galois representations between the subspaces of global Galois representations and of representations satisfying various p-adic Hodge-theoretic conditions. The arithmetic-topological dictionary suggests one should compare such spaces with Lagrangian intersections inside of moduli spaces of surface group representations. Indeed, we'll show that Selmer schemes can be presented as intersections of Lagrangian subschemes inside a symplectic moduli space of local Galois representations and present some results towards using this description for effective Diophantine purposes.

This is joint work with Minhyong Kim.