

Spring 2021
MATH 80870
Alexander Shapiro

**Topics in Mathematical Physics:
Character varieties and their quantization**

This is a very rough syllabus, which is subject to change

- (1) Poisson-Lie groups, quasi-triangular Lie bialgebras, quantum groups (Etingof–Schiffmann “Lectures on quantum groups”)
- (2) Poisson structure on moduli spaces of flat connections (Fock–Rosly)
- (3) Cluster structure on Poisson-Lie groups and (quantum) character varieties (Fock–Goncharov)
- (4) (if time permits) skein algebras, higher Teichmuller theory

Participants are expected to have basic knowledge of differential geometry, topology, and Lie theory.