TITLE: **Moduli spaces of G-local systems and Poisson geometry**

ABSTRACT: Let G be a split semi-simple algebraic group over Q. We introduce a natural cluster Poisson structure on moduli spaces of framed G-local systems over surfaces with marked points. As a consequence, the moduli spaces of G-local systems admit natural Poisson structures, and can be further quantized. We will study the principal series representations of such quantum spaces. If time permits, I will discuss its applications in the study of quantum groups. This talk will mainly be based on joint work with A.B. Goncharov (arXiv:1904.10491).