# COLLOQUIUM
# UNIVERSITY OF PITTSBURGH
# FRIDAY, JANUARY 29, 2016

704 THACKERAY HALL

3:30 P.M.

**ROMAN FEDOROV**

**DEPARTMENT OF MATHEMATICS**

**KANSAS STATE UNIVERSITY**

## PRINCIPAL BUNDLES, MODULI SPACES, LANDLANDS DUALITY AND MOTIVES

**ABSTRACT:** I will introduce the notion of a principal bundle. After discussing some recent general results about principal bundles, I will define the so-called Hitchin integrable system. In the simplest case, the Hitchin systems boils down to the description of a diagonalizable linear operator via the sets of its eigenspaces and eigenvalues. I will formulate the conjectural Langlands duality for Hitcihn systems. After giving a survey of the current state of the conjecture, I will speculate on how one can use motivic classes to approach the conjecture.

**Refreshments served at 3:00 p.m.**
**in the Math Dept. COMMON ROOM, Thackeray 705**

*The speaker is a candidate for a position in the Department.