



DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Colloquium

POSITIVITY, REPRESENTATIONS, AND NON-COMMUTATIVE
HYPERBOLIC GEOMETRY

Anna Wienhard
Mathematisches Institut, Ruprecht-Karls-Universität Heidelberg

ABSTRACT:

A matrix is said to be totally positive, if all its minors are positive. The notion of total positivity plays an important role in different areas of mathematics. Lusztig has generalized this notion to all split real Lie groups. He also introduced a notion of positivity in the corresponding flag varieties, that played a key role in the work of Fock and Goncharov on higher Teichmüller spaces. In this talk I will introduce a new notion of positivity in flag varieties that includes but generalizes Lusztig's definition. I will discuss some applications of this new notion to higher Teichmüller spaces, as well as the geometric and dynamical properties of the corresponding representations of surface groups.

4 – 5pm, Wednesday, April 26, 2023

Room 204, Smith Hall