“p-adic numbers and p-adic groups”

ABSTRACT: I will introduce the p-adic numbers $\mathbb{Q}_p$ and the subring of p-adic integers $\mathbb{Z}_p$. Like the real numbers, the p-adic numbers are a completion of the rational numbers where one can do analysis. I will also discuss the structure of p-adic groups, like $GL_n(\mathbb{Q}_p)$, and their maximal compact subgroups. Inspiration comes from the theory of Lie groups, but several new features arise, which were greatly clarified by F. Bruhat and J. Tits. Their work has recently been refined by M. Reeder and J-K. Yu. This structure theory of these compact subgroups plays an important role in the construction of irreducible representations and the modern theory of automorphic forms.

Structure of $p$-adic groups I, II, III

LECTURE I: Friday, February 6 12:00-1:00PM in 383-N
“Simple groups over $p$-adic fields”

LECTURE II: Friday, February 13 12:00-1:00PM in 383-N
“Parahoric subgroups”

LECTURE III: Friday, February 20 12:00-1:00PM in 383-N
“Supercuspidal representations”