Dr. Arne Smeets, Imperial College London

**Cohomological tameness and logarithmic good reduction**

Abstract:
The Néron-Ogg-Shafarevich criterion says that an abelian variety over a local field has good reduction if and only if the Galois action on its l-adic cohomology is unramified. For curves, there exists a "non-abelian" criterion for good reduction in terms of the Galois action on the fundamental group.

I will discuss analogues of these results in the setting of logarithmic geometry. I will explain what it means for a variety over a local field to have logarithmic good reduction, and prove that both for curves and abelian varieties, this property is equivalent to the Galois action on l-adic cohomology being tamely ramified.

For curves, this statement was already known by work of T. Saito and Stix; I will present an alternative proof of their result. For abelian varieties, the result is new (joint work of the speaker with Alberto Bellardini).