Abstract:

The mod $p$ cohomology of locally symmetric spaces for definite unitary groups at infinite level is expected to realize the mod $p$ local Langlands correspondence for $GL_n$. In particular, one expects the (component at $p$) of the associated Galois representation to be determined by cohomology as a smooth representation. I will describe how one can establish this expectation in many cases when the local Galois representation is Fontaine-Laffaille.

This is joint work with D. Le, S. Morra, C. Park and Z. Qian.