A local converse theorem and the local Langlands correspondence in families

Abstract:

In 2012 it was conjectured by Emerton and Helm that the local Langlands correspondence for $GL(n)$ of a $p$-adic field should interpolate in $\ell$-adic families, where $\ell$ is a prime different from $p$. Recently, Helm showed that the conjecture follows from the existence of an appropriate map from the integral Bernstein center to a Galois deformation ring. In this talk we will present recent work (joint with David Helm) showing the existence of such a map and describing its image.