GIL MOSS, University of Utah
Toward a local Langlands correspondence in families

The local Langlands correspondence connects representation of p-adic groups to Langlands parameters, which are certain representations of Galois groups of local fields. In recent work with Dat, Helm, and Kurinczuk, we have shown that Langlands parameters, when viewed through the right lens, occur naturally within a moduli space over Z[1/p], and we can say some things about the geometry of this moduli space. This geometry should be reflected in the representation theory of p-adic groups, on the other side of the local Langlands correspondence. The "local Langlands in families" conjecture describes the moduli space of Langlands parameters in terms of the center of the category of representations of the p-adic group– it was proved for GL(n) in 2018. The goal of the talk is to give an overview of this picture, including current work in-progress, with some discussion of the relation to recent work of Zhu and Fargues-Scholze.