

Speaker: Krzysztof Klosin

Title: Modularity of some residually reducible Galois representations

Abstract: I will report on recent joint work with Tobias Berger concerning modularity of certain 2-, 3- and 4-dimensional residually reducible Galois representations. In the last case, a motivating problem is the Paramodular Conjecture postulating that certain abelian surfaces over \mathbb{Q} should arise from weight 2 Siegel modular forms. In the 3-dimensional case, there is a similar conjecture concerning Picard curves and in the 2-dimensional situation we will discuss some recent results on $GL(2)$ -modular forms of weight one. In each case, the Taylor-Wiles does not apply partly due to the fact that the Hodge-Tate weights are not distinct. I will discuss progress in these cases as well as some obstacles that arise.