

# Philadelphia Area Number Theory Seminar

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## Constant slope problems for $p$ -adic families of modular forms

**Abstract:** The purpose of this talk is to discuss two related problems about modular forms. The first is a conjecture stated by Gouvêa and Mazur in the early 1990's. Their conjecture aims to predict a specific local constancy result for the multiplicity of (the  $p$ -adic norm of) a certain Hecke eigenvalue appearing in spaces of modular forms, as the weight varies. (Caveat: their conjecture was disproven!) Their conjecture was an attempt to nail  $\quad$  on  $p$