

## Welcome to the $p$ -modular World

*Thursday, July 24, 2025 11:00 AM (30 minutes)*

Given a prime integer  $p$ , the goal of this talk is to explain how the  $p$ -modular representation theory of  $p$ -adic groups strongly differs from the classical representation theory of  $p$ -adic groups (i.e. over complex vector spaces) and from the  $\ell$ -modular representation theory when  $\ell$  is a prime integer other than  $p$ . We will use the basic examples of  $\mathrm{GL}_2(F)$  and  $\mathrm{SL}_2(F)$ , with  $F$  being a finite extension of the field of  $p$ -adic numbers, as guidelines, so that no specific background beyond classical representation-theoretic definitions is required.

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