

# Philadelphia Area Number Theory Seminar

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## Galois Module Structure of Lubin-Tate Modules

**Abstract:** Consider a finite, unramified extension  $E$  of the  $p$ -adic numbers  $\mathbb{Q}_p$  with  $p$  odd, and let  $F_n$  be the field obtained by adjoining a primitive  $p^n$ -th root of unity to  $E$ . Shari has produced explicit generators and relations for the multiplicative group of  $F_n$  as a module over the  $\mathbb{Z}_p$ -group ring of  $\text{Gal}(F_n/\mathbb{Q}_p)$ . Furthermore, he gives generators for the submodules in the principal unit filtration; these may be used to compute conductors of abelian extensions of  $F_n$ . I will outline Shari's method and discuss progress.