

---

**LIOR SILBERMAN**, UBC

*A uniform spectral gap for congruence covers of a hyperbolic manifold*

I will describe work with Dubi Kelmer on the first Laplace eigenvalue in towers of manifolds covered by real or complex hyperbolic  $n$ -space. All congruence quotients in a given dimension have a uniform spectral gap; we show how to deduce from this a uniform spectral gap for the family of congruence covers of a fixed arithmetic (non-congruence) manifold. A key ingredient is a lower bound on the dimensions of irreducible representations of groups defined over finite local rings.