Skeins, tori and DAHA

Abstract: I will present some recent works with Gunningham, Safronov, Vazirani, and Yang (in various combinations) and which compute GL_N-, SL_N- and PGL_N-skein modules for the 3-torus T^3, and related work of Kinnear which generalises this to mapping tori $T^2 \times_\gamma S^1$, for $\gamma \in SL_2(\mathbb{Z})$.

The proofs for GL_N and SL_N start with a description of the skein category of T^2 via the representation theory of double affine Hecke algebras, while for PGL_N they rely on an instance of electric-magnetic duality.