Paul Hacking: **Theta functions for K3 surfaces**

Andrei Tyurin conjectured the existence of a canonical basis of global sections for an ample line bundle on a K3 surface, analogous to theta functions for abelian varieties. I'll describe joint work with Gross, Keel, and Siebert which uses ideas from mirror symmetry to prove the conjecture for K3 surfaces near a cusp of the moduli space.