Richard Thomas: **Homological projective duality**

We cannot have a section on derived categories without Sasha Kuznetsov. Since he is unable to make it, I will pretend to be him.

I will review Beilinson's theorem, Orlov's family version, and then how this leads naturally to Kuznetsov's wonderful theory of Homological projective duality. Basically I am advocating reading his paper backwards to make the theory easier to understand (for me).

HPD is a generalisation of classical projective duality that relates derived categories of coherent sheaves on different algebraic varieties. I will explain some applications that occur in joint work with Addington, Calabrese and Segal.