

Bogomolov and Mumford proved that every complex projective K3 surface contains a rational curve. Since then, a lot of progress has been made by Bogomolov, Chen, Hassett, Li, Liedtke, Tschinkel and others, towards the stronger statement that any such surface in fact contains infinitely many rational curves. In this talk I will present joint work with Xi Chen and Christian Liedtke completing the remaining cases of this conjecture, reproving some of the main previously known cases more conceptually and extending the result to arbitrary genus.