Abstract:

Calabi-Yau varieties and Fano varieties are building blocks of varieties in the sense of birational geometry. Birkar recently proved that Fano varieties with bounded singularities belong to just finitely many algebraic families. One can then ask if an analogous result holds for Calabi-Yau varieties. If one only considers rationally connected Calabi-Yau varieties with klt singularities - those Calabi-Yau varieties behaving most like Fano - Shokurov actually conjectured that also these varieties should be bounded in any fixed dimension. We show that rationally connected klt Calabi-Yau 3-folds form a birationally bounded family. In many cases, we can actually give more precise statements and we are able to relate the boundedness problem to the study of a quite mysterious birational invariant: the minimal log discrepancy. This is a joint work in progress with W. Chen, G. Di Cerbo, J. Han, and C. Jiang.

Special Note:
There will a pre-talk at 2pm.

Host: James McKernan

Friday, April 13, 2018
2:30 PM
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