

Project 8/2014: "**Feedback in turbulent molecular clouds**"

Proposer: J. Dale (LMU)

Abstract:

The formation of filamentary structure and stars in two turbulent molecular clouds with very different masses, densities and turbulent velocity dispersions will be modelled. The feeding of clusters by the flow of gas/stars along the filaments will be examined. The effects of ionizing feedback on the low-mass, lower-density cloud will be investigated, particularly on the low-mass end of the IMF. The more massive denser cloud has a high enough escape velocity that it is nearly immune to effects of feedback and will be run close to gas exhaustion, forming a small globular cluster. I will test the effect on the IMF of competitive accretion in a strongly stellar-dominated potential, and examine the onset of the regime where stellar dynamics takes over from hydrodynamics in controlling the evolution of the cluster.