Daniel Greb:Â **Movable curves & semistable sheaves**

I will discuss several geometric and moduli-theoretic motivations for generalising the notion of "semistable sheaf" from the classical case where stability is measured with respect to ample divisors to the general setup where degrees are computed with respect to movable curve classes. Afterwards, I will present recent results obtained in joint projects with Kebekus-Peternell and Toma: First, I will explain that most of the basic properties one expects from semistability still hold true. Then, I will address the question of boundedness of the family of sheaves that are semistable with respect to a movable curve class, as well as the relation between natural chamber structures on the ample and the movable cone. Finally, as an application of these fundamental results, I will sketch the construction of a higher-dimensional analogue of the Donaldson-Uhlenbeck compactification.