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Anthony M Bloch* (abloch@umich.edu), Dept. of Mathematics, University of Michigan, 530 Church Street, Ann Arbor, MI 48109. *Integrable systems, gradient flows, and dissipation.*

In this talk I will discuss the dynamics and geometry of various integrable systems that exhibit asymptotic stability and dissipative behavior, as well as dissipative perturbations of integrable systems. Examples include the finite Toda lattice, the dispersionless Toda partial differential equation, certain nonholonomic systems, certain Monge-Ampere equations and wave equations with dissipation. I will describe the geometric structures, including metric and complex structures, that give rise to some of these flows and determine their behavior. This includes work with P. Morrison and T. Ratiu. (Received December 06, 2011)