Adam Towsley (University of Rochester). "A Hasse principle for periodic points."
Abstract: We prove that for a rational map f of degree at least 2 a point being periodic is equivalent to it being periodic modulo p for almost every prime p. The result is true over any number field or function field with finite field of constants. Over a number field the Hasse principle is immediate from a Theorem of Benedetto, Ghioca, Hutz, Kurlberg, Scanlon and Tucker. To prove the Hasse principle in the function field case we prove an analog of their theorem, the key to which is an integrality result proved using a method of Runge.