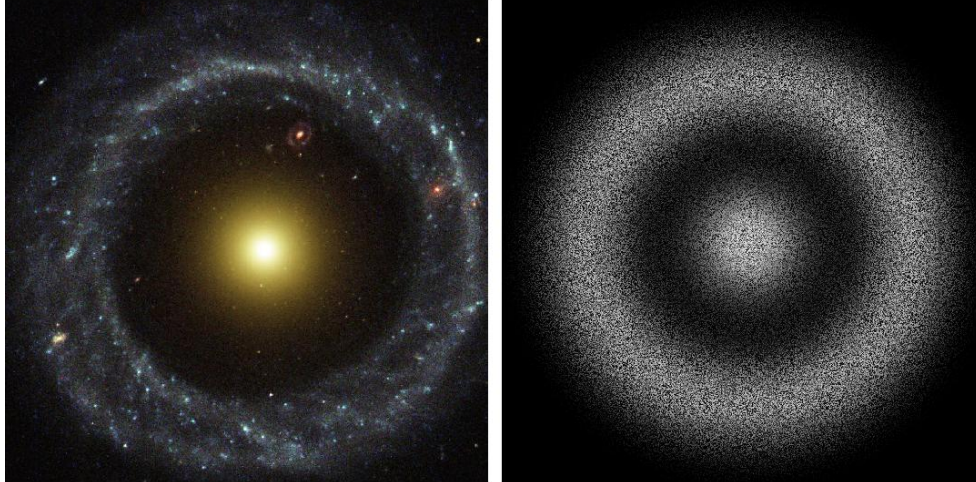# Department of Mathematics
Fall 2016 Colloquium Series

"A Trip Through the Numerical-Galaxy Zoo"

Ellery Ames,
Humboldt State University

Thursday, October 6, 2016

Behavioral and Social Sciences Building Room 166, 4 pm

Self-gravitating collections of "particle-like" objects are found on the scale of galaxies as well as the entire universe. In this talk I will present the Vlasov model for describing such systems where the gravitational interaction is modeled in different scenarios using Newtonian gravity or with general relativity. Axisymmetric equilibrium solutions to the corresponding equations are numerically constructed using a finite-element code. We will explore the rich space of numerical solutions including ones with flattened and toroidal shapes as well as solutions with black-hole like behavior. This talk will be accessible to those familiar with calculus.

Ellery Ames is an instructor in the Mathematics Department at Humboldt State University. He holds a B.A. in Physics and Mathematics from the University of Colorado Boulder, and a Ph.D. in Physics from the University of Oregon, where he studied mathematical relativity under the direction of Jim Isenberg. Ellery's primary research interests are in mathematical and numerical relativity. He most recently finished a two-year postdoctoral position at Chalmers University of Technology in Sweden.

For a complete abstract, go to http://www.humboldt.edu/math/news-and-events/math-colloquium

We cordially invite you to the Pre-Colloquium Tea on the third floor of the BSS

building at 3:30 pm on Thursday.