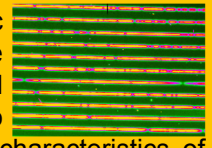


CWRU Astronomers

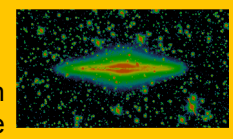
Earle Luck

Professor Luck's research concentrates on determinations of stellar elemental content primarily in the context of either stellar or galactic evolution. Two major programs are currently underway: 1) a large scale study of galactic cepheids to determine stellar properties as well as the galactic metallicity gradient, and 2) a large scale survey of the stars of the local neighborhood which seeks to determine the elemental abundance characteristics of the stars out to 100 pc from the solar system.



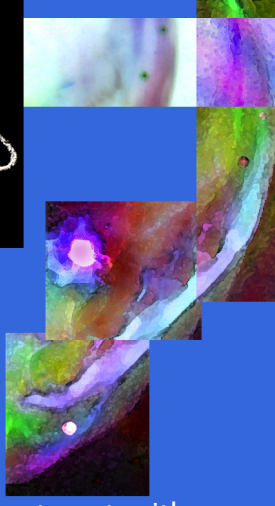
Heather Morrison

Professor Heather Morrison is an observational astronomer whose main research interest is the formation of galaxies. She uses observations of old stars in our own and nearby galaxies to reconstruct their history. A major project is the "Spaghetti" survey for stars in the outer halo of the Milky Way, which detects streams of stars which have been pulled off by tidal forces as small satellites are captured by the Milky Way. She is also interested in gender studies and the history and philosophy of science, and is co-founder of WISER, CWRU's community of women in science and engineering.



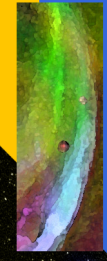
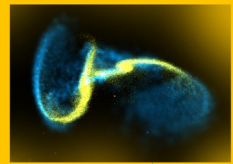
graduate programs

The graduate program is structured around the needs and interests of our students and so can accommodate a broad range of interests -- both theoretical and observational. A small department with an actively involved faculty means that all students have direct daily interaction with that faculty on a wide variety of levels: from small classes and discussion groups to involvement in research early in graduate studies. Access to private observational facilities gives students the opportunity to design and conduct both observational and instrumentational programs.



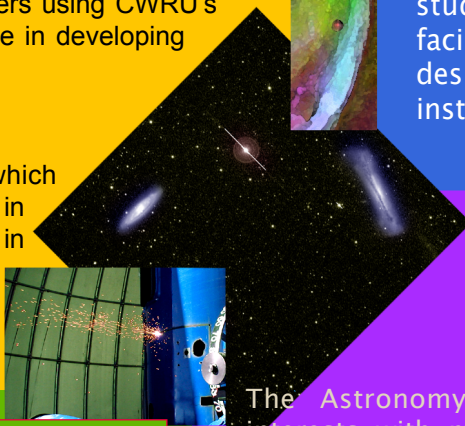
Chris Mihos

Professor Chris Mihos uses both computer models and observational data to study the formation and evolution of galaxies. Computational projects include simulations of colliding galaxies, galaxy clusters, and elliptical galaxies with supermassive black holes. Observational studies have focused on the kinematics of merging and starburst galaxies using ground based telescopes and the Hubble Space Telescope, as well as deep imaging of galaxy clusters using CWRU's wide field Burrell Schmidt telescope. Professor Mihos also is active in developing Java- and WWW-based materials for astronomy education.



Paul Harding

Paul Harding combines an interest in observations which constrain galaxy formation via the stellar "fossil record" with a broad background in telescope, instrument, and detector design. Students can gain hands-on experience in projects as diverse as the recent optimization of the Burrell Schmidt telescope's optical assembly (shown here, as a 3' hole was being cut into the side of the telescope), or working on the controller electronics for the Schmidt's wide field camera.



Joint Astronomy - Physics Ph.D.

The Astronomy Department shares many research interests with members of the Physics Department at CWRU. Joint interests include particle astrophysics and cosmology, and a joint Astrophysics degree is available for students whose research interests overlap with both departments. Under this program, students take coursework in both departments while pursuing a research plan which combines these interests. More details about this program can be found at

<http://burro.astr.case.edu/dept/jointgrad.html>

Research Areas

- Galaxy formation and evolution
- Stellar evolution and chemical abundances
- High performance computing and simulation
- Telescope control and instrumentation
- High dispersion stellar spectroscopy
- Deep surface photometry of galaxies and galaxy clusters



the core of the Virgo galaxy cluster, observed with the CWRU Burrell Schmidt telescope

