

University of Nebraska-Lincoln

ASTRONOMY EDUCATION WORKSHOP

<http://astro.unl.edu>



(Saturday, October 9, 2010 — Avery 19, UNL City Campus)

This event is free to high school and college astronomy/physics instructors and undergraduate students interested in careers in science education. Please register in advance with Shannon Parry by phone at 402-472-9312 or by email at sparry3@unl.edu. This workshop has three goals: 1) to acquaint educators with innovative usages of instructional technology in astronomy education, 2) to bring together members of the astronomy and physics teaching community to share ideas and identify potential collaborators, and 3) to promote new developments in the UNL Department of Physics and Astronomy.

Tentative Workshop Agenda

8:30 am	Continental Breakfast
9:00 am	Welcome
9:10 am	Keynote Address: Travis Rector, University of Alaska "The Search for Novae in the Andromeda Galaxy" (Avery 19) Abstract: The Andromeda Galaxy (M31) is often referred to as our "sister galaxy" because it is nearby and very similar to our own. Since 1995 we have been conducting an intensive search for novae in M31. Novae are white dwarf stars that have explosive eruptions on their surfaces, making them a million times brighter than normal on timescales of a few weeks to over a year. Novae are important because these explosions eject elements like carbon, nitrogen and oxygen into space - elements that are thought to be essential for the formation of life. Our students are searching for these novae by comparing images of M31 taken at regular intervals. So far they have found over 200, which is more novae than any other research group, professional or otherwise, has ever found. This is one of six real research projects that we do with students, where they learn science by actually doing science.
10:00 am	Computer Lab: "M31 Nova Search" Travis Rector & Friends (Avery 12 and Avery 18) Description: The lab will consist of a tutorial where participants will learn how to use ImageJ to open images of M31 to search for novae. They will also learn how to measure the locations of the novae as well as do aperture photometry. The experience will be enough for them to learn how to do the project with their own students.
11:30 pm	Presentation: "Your Astronomy DVD Collection" (Avery 19) Kevin Lee (UNL) — "Gravitas", Kepler's Laws, Dark Skies, etc.
12:00 pm	Lunch (Selleck Hall Cafeteria — President's Room)
1:00 pm	Presentation: "Kepler: Discoveries and Educational Public Outreach" (Avery 19) Kevin Lee (UNL) & Chris Siedell (UNL)
2:00 pm	Short Presentations (Avery 19) UNL Science Scholar Program—Jon Pedersen, Computerized Ranking Tasks—Renee Augustyn, Astronomy Demonstration Videos—Ben Skudlarek, TBA
2:55 pm	Workshop wrap-up and door prize raffle (must be present to win!)

This workshop is sponsored by the UNL Center for Science, Mathematics, and Computer Education and the Department of Physics and Astronomy. Numerous educational materials, continental breakfast, and lunch are provided.