



FOCUS

Editor, Diane Jeffer, astrodiane@gmail.com

March 2011

UACNJ KICKS OFF A NEW SEASON APRIL 2

Dale Gary, UACNJ President, AAI

United Astronomy Clubs of New Jersey (UACNJ) is gearing up for a blockbuster season of member club and public outreach activities in 2011. If you have not visited the UACNJ facilities in Jenny Jump State Forest lately, we urge you to come join us and have a look around.

The 2011 Saturday lecture series begins on April 2. Lonny Buinis of Raritan Valley Community College will present "What's Up in the April Sky?" at 8 PM. The lecture will be followed by viewing of the night sky through the 16-inch Greenwood Newtonian reflector telescope, and the seven-inch Brady Astro-Physics APO refractor (weather permitting). With a new moon on April 3, the sky promises to be at its darkest. We hope you'll join us!

UPCOMING EVENTS

March 12, 19, 26

Training, orientation, and work sessions

March 26

Board meeting

April 2

First public night

May 14

Astronomy Day

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Trustee 2011-2013

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Kyle Gary and the new Roman shades



Photo by Dale Gary, AAI

TIME, TALENT, AND MATERIALS DONATED

Diane Jeffer, UACNJ Treasurer, NWJAA

Many thanks to Kyle Gary who created Roman shades for the kitchen and living room at the UACNJ facilities in Jenny Jump State Forest. Kyle constructed the shades with instructions found at TerrellDesigns.com. She used blackout lining to keep light from spilling outside to the Observing Field. Her husband Dale routed out the headboards and mounted the shades.

Kyle and Dale plan to make additional shades when the windows on the back of the living room are replaced by State Park personnel.

SAVE THE DATE: 2011 SYMPOSIUM

Dale Gary, UACNJ President, AAI

The annual UACNJ Symposium will be held Saturday September 24, 2011. We have reserved a group campsite just down the road in Jenny Jump State Forest for a weekend of dark sky observing and other activities.

Contact Karl at hrickokj@embarqmail.com if you would like to help with this event.

SOLAR SYSTEM AMBASSADOR

Diane Jeffer, UACNJ Treasurer, NWJAA

NASA and the Jet Propulsion Laboratory (JPL) sponsor the Solar System Ambassador (SSA) network of volunteers. Ambassadors share their enthusiasm for space exploration with people in their local communities.

UACNJ Observer Krishnadas Kootale is one of nearly 500 Ambassadors in the US. He receives training and materials from NASA and JPL scientists and prepares lectures for presentation to astronomy clubs and other groups. Krishnadas welcomes inquiries from clubs affiliated with UACNJ and can be reached at ckkrish@gmail.com.

For more information about the SSA program, visit www2.jpl.nasa.gov/ambassador.



Photo taken at Jenny Jump by Helder Jacinto, AAI ⇨

⇨ ASTROPHOTOGRAPHY AT JENNY JUMP

The Whirlpool Galaxy (also known as M51a, or NGC 5194) is an interacting spiral galaxy in the constellation Canes Venatici at a distance of approximately 31 million light-years from the Milky Way Galaxy.

Contact Helder at hfacinto@verizon.net for details about how this image was produced.

UACNJ TEAMS WITH BOY SCOUTS AND JENNY JUMP STATE PARK

Marcus Valdez, Jr., UACNJ Trustee, AAI

The Boy Scouts of America marked its 100th anniversary in 2010. In recognition of this great American milestone, the UACNJ Board of Directors has agreed to sponsor the Eagle Project of Marcus Valdez, III and has appointed Gil Jeffer as mentor.

Marcus is a member of Troop 33 in Fanwood, NJ and holds the rank of Life Scout. His Eagle Project is to build a Solar System Walk at Jenny Jump State Forest. The walk will be constructed along the mile-long Orchard Trail and will show, in both size and distance, a scaled representation of the Sun and planets. The project calls for the construction of a small parking lot at the trail head, installation of a wayside exhibit at the beginning of the trail, and installation of planet signs at appropriate locations along the Orchard Trail.

The Solar System Walk will be a wonderful addition to the facilities of Jenny Jump State Forest and will also serve as a key program element for members of the public visiting UACNJ and the State Forest. The exhibit will help foster an appreciation of the vast distances and scale of the Solar System and what lies beyond.

This project would not be possible without the enthusiastic support of Ernie Kabert, Superintendent of Jenny Jump State Forest. Mr. Kabert has secured a \$3,600 grant from the New Jersey Department of Environmental Protection to support site preparation and the purchase of materials for the project.

In addition to leading the construction of the Solar System Walk, the Eagle Project requires the Scout to first produce an extensive Project Plan. The plan details the proposal, identifies the project sponsors, and specifies the work, materials, funding, and other required resources. Prior to the commencement of any work, the plan must be approved by the leadership of the Scout Troop, the Boy Scout Council, and the project sponsors. The Project Plan is currently in preparation.

BRADY OBSERVATORY

Gil Jeffer, Observatory Committee, NWJAA

In 2009, Maureen Brady donated her late brother Kevin's astronomy equipment to UACNJ. This generous donation included an observatory with an electric roll-off roof and a seven-inch Astro-Physics telescope on a Mathis MI-750 mount.

In 2010, professional builder Peter Karcher and a team of dedicated volunteers installed the new Brady observatory at Jenny Jump in record time.

Peter and his son Jonathan took pity on us when they stopped by and found us staring at the pieces of the observatory that had just been transported to the UACNJ site. In a matter of hours, they framed it out and over the next weeks UACNJ volunteers installed siding and assembled the roof.

The observatory saw first light in August 2010.



A dedication ceremony is being planned for 2011.

GALILEO AND 400 YEARS OF TELESCOPIC ASTRONOMY

A book review by Krishnadas Kootale, UACNJ Secretary, MMAS

My first impression of this book has also been a lasting impression. It not only talks about Galileo, but also many of the giants and key personalities in science and astronomy from around the world before, during, and after Galileo. A few things about the book stand out and make it a very interesting read.

While the historical account is provided in an engaging style, the authors also explain the scientific details. More than a dozen projects and experiments are included. There is a nice project for calculating the height of a mountain on the Moon by simple observations and the use of basic geometry. Another project explains how to construct a cross-staff using two rulers and a rubber band to measure angular separation between objects in the sky as they used to do before the telescope. This technique was also used for navigation as recently as the 17th century. There are many more, such as Galileo's gravity experiments - no, you don't have to drop a ball from a tower! Simply roll a ball down an inclined plane and use your smartphone to video record the action for accurate measurement of the elapsed times.

The authors have provided an updated account of the science of astronomy with a simple, concise, and up-to-date treatment of the essential physics and astrophysics. This takes the reader right into the 21st century, rather than being left stranded somewhere in the 18th or 19th century from a scientific point of view. For instance, a whole chapter, "*Beyond Vision*," deals with the latest in the entire spectrum of multi-wavelength astronomy from radio waves to gamma rays and even gives an account of gravitational wave detectors. It does all this in a highly readable and self-contained fashion.

This merging of the historical details with the latest science is another key aspect that makes the book very appealing. It puts the past and the present in perspective in relation to each other. With the inclusion of relevant scientific and mathematic principles—all kept at a simple level—and fun and practical projects, the book is actively engaging. A limited but useful glossary is provided at the end.

Amateur astronomers and informal educators should find *Galileo and 400 Years of Telescopic Astronomy* interesting. A weekend is all that is needed for a relaxed reading of this 300-page book. The review copy which was donated by the authors is available in the UACNJ library.

Galileo and 400 Years of Telescopic Astronomy. A volume in the Astronomer's Universe Series by Peter Grego and David Mannion, published by Springer, September 2010.

SCOUTS EARN ASTRONOMY MERIT BADGE

Jim Norton, UACNJ Trustee, NWJAA

Boy Scout Troop 380 from Newtown, Pennsylvania recently enjoyed a winter camping weekend in Jenny Jump State Forest. Eight Scouts and three Scout Masters from Troop 380 participated in a special session at the UACNJ facility at Jenny Jump. Marcus Valdez III and a Scout Master from Troop 33 in Fanwood, New Jersey also participated. All nine young men were seeking to qualify for the Boy Scouts of America Astronomy Merit Badge.

UACNJ Observers Karl Hricko, Chris Callie, Gil Jeffer, and Jim Norton conducted lectures and tours of the Jenny Jump facility. The presentations were specifically geared to cover the nine requirements of the Astronomy Merit Badge. The badge requires a visit to an observatory, an understanding of how different types of telescopes function, and an in-depth understanding of basic astronomy. The Scouts were also required to interact with the UACNJ Boy Scout approved counselors and participate in identifying various astronomical objects including ten features of the moon, planets and planetary motion, and various colored stars. The program included short discussions accompanied visits to the UACNJ museum, the Barker Solar Observatory, and the Brady Observatory.

All nine candidates successfully completed and earned the merit badge. We are proud of our ability to encourage future astronomers and eager to provide sessions like this for other Scout troops who can write us at contact@uacnj.org to schedule a program.



Photo by Chris Callie, NWJAA

Lecture Hall, November 2010



Photo by Chris Callie, NWJAA

Not quite done, but enough room for the Scouts, February 2010.

FACILITIES UPDATE

Gil Jeffer, Observatory Committee, NWJAA

Following the November Board meeting, a group of hard-working volunteers decided it was time to get serious about cleaning up the storage areas in the basement of the UACNJ facility.

The project involved emptying out several rooms and even removing a wall. The newly enlarged "Jenny Junk" room (formerly the Radio Room) has been repurposed as a tool and machine room which includes the old drill press plus the milling machine, lathe, and tool chest that were donated by Maureen Brady. With the addition of the mirror grinding machine that was recently donated by Ron DePack, UACNJ is now equipped to build a telescope from the ground up.

All the equipment needed for the regular Saturday night programs will be stored in the old shop area for easy access. Telescopes that are immediately usable or need minimal assembly, traffic cones, flashlights, projectors and other equipment used for presentations are all readily accessible in this room.

What looked like an impossible task is beginning to shape up nicely. The new arrangement will be ready to welcome our public guests on April 2.