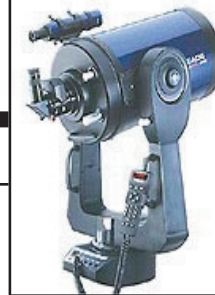


The OBSERVER

The Newsletter of the Twin City Amateur Astronomers, Inc.

November 2004 Volume 29, Number 11



Learn About Space Physics with Dr. Shaukat Goderya of the ISU Physics Department

Come join us on November 13th at 6:00p.m. in attending an exciting program to be presented by Illinois State University's Dr. Shaukat Goderya of the Physics Department. Dr. Goderya will give a presentation in relation to his current research involving the classification of distant galaxies through the use of computers.

Dr. Goderya's other research interests include observational astronomy (especially eclipsing binary stars) and astronomy and physics education. At Illinois State University he is the director of general education laboratories and teaches a number of introductory physics courses for college students.

Dr. Goderya received his Ph.D. at the University of Nebraska-Lincoln in 1995. Visit his personal webpage at <http://www.phy.ilstu.edu/%7Egoderya/> for more information regarding his research, teaching, and scholarly work.

Be sure to come out on November 13th to Sugar Grove and not miss out on this exciting program.

PRESIDENT'S CORNER

October saw three very successful events for the club, the grand opening of the renovated Sugar Grove Nature Center, the presentation on Cassini at Saturn, and the club's assistance to the Challenger Learning Center during the lunar eclipse. During the grand opening approximately 100 people toured the observatory. About

40 people attended the Cassini mission followed by a good viewing. On October 27th, the skies magically cleared giving approximately 70 people a chance to see the eclipse of the moon after listening to a presentation by TCAA members Carl and Rebecca Wenning sponsored by the CLC. On November 3rd, Mike Rogers presented a program for about 60 students and parents from the Olympia School District. The students were then given a tour of the observatory, however no viewing was possible because of the weather. These outreach events are important to the club and I would like to thank the members who made them a success.

This is the last month for public observing until March when the first 2005 observing will take place. During the winter we will have our Holiday Party, a special event at the CLC in January, and our annual meeting that will mark the 45th anniversary of the club, in February. I hope everyone will be able to participate in these events.

On the science front, NASA is preparing to launch Demonstration of Autonomous Rendezvous Technology (DART) flight. DART is a flight demonstrator that provides a key step in establishing autonomous rendezvous capabilities for the U.S. space program and the Vision for Space Exploration. While astronauts have piloted previous rendezvous and docking efforts, the unmanned DART spacecraft will have only computers and sensors to perform all of its rendezvous functions.

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TCAA Calendar of Events

November 13: At SGNC

Regular Meeting, 6:00p.m.

Event: "Galaxy Classification," by Dr. Shaukat Goderya

Public Observing Session, 7:00p.m.

Featured Sky Object: "M31," coordinated by Lyle Rich

December 18: At home of Lyle and Mary Anne Rich

Christmas Party, 7:00p.m. to 10:00p.m.



The Observer

Newsletter of the TCAA, Inc.

The Observer is a monthly publication of the Twin City Amateur Astronomers, Inc., a registered 501(c)(3) non-profit educational organization of amateur astronomers interested in studying astronomy and sharing their hobby with the public.

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Observer Editor/

TCAA Education Coordinator

Rebecca Wenning 21 Grandview Dr. Normal, IL 61761 309-454-4164 rwennin@ilstu.edu	Submissions must be received by the 10th of each month.
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Membership Dues

Individual Adult/Family \$40
Full-time Student/Senior \$25

To join the TCAA, send your name, contact info, and dues payment to:

Duane Yockey
508 Normal Avenue
Normal, IL 61761

Future applications of technologies developed by the DART project will benefit the nation in future space systems development requiring in-space assembly, services, or other autonomous rendezvous operations. DART is being considered as an approach to servicing the Hubble Space Telescope

On Mars, the Mars rovers continue to provide new science. Spirit employed its full instrument suite on Sols 285 through 291 to study "Uchben," an interesting rock encountered on the way into the Columbia Hills. The engineering team continued to diagnose and study work-arounds for a problem with the steering brake relay. An anomaly related to electric-circuit grounding came to light during this period and is also being studied by the engineering team. Neither problem has hampered Spirit's daily operations. Spirit is otherwise healthy and ready to continue its trek further into the Columbia Hills.

Opportunity's health is excellent. Solar exposure continues to be very good. Opportunity spent its first night inside "Endurance Crater" on sol 134. To date, the rover has spent 130 sols in the crater, grinding 21 targets with the rock abrasion tool, performing 62 integrations with the Mössbauer spectrometer and 33 with the alpha particle X-ray spectrometer, and taking 115 observations with the miniature thermal emission spectrometer. Opportunity finally completed observations on the rock "Wopmay," and is ready to begin its trek towards "Burns Cliff" on the way to exiting Endurance Crater.

Saturn continues to amaze. On October 26th, the Cassini mission flew within 1000 miles of Saturn's largest moon Titan. During the flyby, the Cassini radar imaging produced detailed images of Titan's surface. The first radar images of Saturn's moon Titan show a very complex geological surface that may be relatively young. Previously, Titan's surface was hidden behind a veil of thick haze. The Oct. 26 flyby marked the first time Cassini's imaging radar was used to observe Titan. The radar instrument works by bouncing radio signals off Titan's surface and timing their return. This is similar to timing the returning echo of your voice across a canyon to tell how wide the canyon is. Radio waves can penetrate the thick veil of haze surrounding Titan. Approximately 1 percent of Titan's surface was mapped during the Oct. 26 flyby. Radar images

from Titan's northern hemisphere, a region that has not yet been imaged optically, show great detail and features down to 300 meters (984 feet) across. A wide variety of geologic terrain types can be seen. There are bright areas that correspond to rougher terrains and darker areas that are thought to be smoother.

The next major event for Titan is the landing of the Huygen in January. The probe will parachute through the atmosphere sending detailed information about the moon during its brief life.

~Lyle Rich, TCAA President

LONG-TIME MEMBER PASSES

It is with sadness that we report the passing of Mrs. Donna Miller on Friday, October 22nd. Donna, along with her husband Eugene, joined the TCAA in 1962 when their son Mike expressed interest in amateur astronomy. Donna was an active member of the TCAA for many years, extending into the 1970's. Mike continued active in the TCAA through the 1980's. Both Donna and Mike's activities in the club are documented in the history of the TCAA which may be found online at the club's website. Our condolences to Mike on the loss of his mother.

EDUCATION AND PUBLIC OUTREACH

On October 1st, Rebecca Wenning presented a solar system review for a group of 16 fourth grade school children at Saunemin, IL. The children were involved in a month-long problem-based learning activity in which they were playing the role of several groups of space aliens who were surveying our solar system in the hopes of finding a home that met each of their populations' needs.

On Friday/Saturday October 6/7, Rebecca Wenning presented a solar system talk to two groups at Camp Peairs at Lake Bloomington. Over the two evenings Rebecca spoke at a father/daughter campout that was attended by more than 175. She presented a brief PowerPoint presentation followed by activities relating to the "folded solar system" and star maps. The sky was clear on Saturday evening at which time Carl Wenning led an observing session for about 75 campers.

Several TCAA members were part of the grand opening of the Sugar Grove Nature

Center on October 16th. Duane Yockey and William Carney were present from 10 a.m. to 3:00 p.m. and hosted an Astronomy Day type display. According to Chief Naturalist Angela Smith, some 500 individuals visited the open house events. The TCAA public observing session that evening was attended by about 45 members of the general public. The presentation by Jerod Gross, Cassini at Saturn, included two large groups of students from Roanoke-Benson High School and Illinois State University. In attendance were TCAA members Lyle Rich, Duane Yockey, William Carney, Marc Cabaj, and Rebecca and Carl Wenning. William, Lyle, and Marc ran the 12-inch, Duane observed with his 10-inch, Carl presented a sky lecture under the dark clear sky, and Rebecca took charge of crowd management and media equipment. Duane, Rebecca, Carl and Jerod were favored with what appears to have been a short view of a small, but intense curtain aurora at about 8:30 p.m. It quickly moved from northeast to east and then rapidly faded.

Prairie Aviation Museum's Challenger Learning Center, in cooperation with the TCAA, presented a special moon talk and lunar eclipse observing session at the former terminal building of the Central Illinois Regional Airport on Wednesday, October 27th. Fortunately, the sky cleared for just in time for moonrise, and remained clear long enough for observations to be made of the entire lunar eclipse! Events began at 7:00 p.m. with a presentation of "Our Amazing Moon" delivered by astronomy educators Carl and Rebecca Wenning. The presentation dealt with a wide array of lunar phenomena including the Harvest Moon, red and blue moon, moon phases, libration, and the moon illusion. The talk incorporated a variety of interactive demonstrations, and concluded with a discussion about the total lunar eclipse that started at 8:14 p.m. that evening. This talk was followed by a TCAA-sponsored total lunar eclipse observing session held on the east side of the former terminal building at CIRA. Sixty-six members of the general public (mostly one parent and one or more children) paid \$5 each to participate in the evening's events. Many of the children were decked out in Halloween costumes making the event rather "unusual." Also in attendance were five staff members from the Prairie Aviation Museum as well as our own Duane Yockey. Thanks and a

"tip of the hat" to Duane for assisting with the lunar eclipse observing session that followed the talk.

On November 3rd, Michael Rogers led a special session for the school class of Sheryl Stephens of the Olympia School District. The session ran from 7-9 p.m. There was a brief talk at the picnic shelter, and then groups broke into small groups to observe with various telescopes.

On November 12th Rebecca Wenning will repeat her October 6/7 program at Camp Peairs, but this time for older Girl Scouts.

MINUTES OF OCTOBER 6th BOARD OF DIRECTORS MEETING

The Board was called to order at 6:09 p.m. by President Lyle Rich at Lewis, Yockey & Brown. Also in attendance were Duane Yockey, Michael Rogers, Carl Wenning and property manager William Carney. The following topics were discussed and decisions made:

- The October 16th grand re-opening at SGNC will feature an Astronomy Day like display. Lyle and William will oversee this event all day, but will seek part-time volunteers through the list serve. Solar observing will provided if the sky is clear, and brochures will be distributed. At 7:00 p.m. Jerod Gross will give his presentation; no additional POS talks will be held other than in informal sky lecture. A public observing session will begin immediately after Jerod's talk and will last until about 10 p.m. An effort will be made by Lyle and Mike to contact the Peoria, Champaign, Decatur, and Springfield astronomy clubs with information about this event.

- There will be an October 27th public lunar eclipse observing session at the Challenger Learning Center beginning at approximately 8:15 p.m. Lyle will solicit telescopists participation at the event. It was noted that Carl and Rebecca Wenning will be giving a talk, "Our Amazing Moon," starting at 7:00 p.m.

- The November public observing session will held as previously described.

- The annual December party will take place at the home of Lyle and Mary Ann Rich on December 18th from 7:00 to 10:00 p.m. Lyle will assemble a small planning committee to organize some events for the party.

- The January meeting will take place at the Challenger Learning Center. An effort will be undertaken by the Board to determine the interest in having a mission rather than a tour. The fee for a mission is \$600 and a maximum of 32 individuals can be integrated into the mission. A fee will be charged for participation in the mission depending on the number of participants. Carl will pursue details.

- The February Annual Meeting needs to be held at a place other than the SGNC. Carl will investigate the possibility of using Ewing Manor in Bloomington. The anticipated cost is \$90 for use of the facility if the event is sponsored by an ISU entity. Carl will contact David Williams, former club member, about presenting a talk about his variable star work. Carl will let David set possible dates for the meeting so as to ensure his availability. Special efforts will be made to have Taylor Cisco and Bill Blunk attend. Minor but important amendments to the club's Bylaws.

- A key holder training session will be held for the TCAA very soon. William will organize this event.

- William was formally authorized to remove the 12-inch LX200 telescope from the SGO for ground-based observing any time after November 13th in an effort to determine whether or not the observatory is in anyway responsible for the degraded images in the telescope. The telescope will be returned to Meade after December 8th for repair of the mirror lock system and checking of the optical system if approved at the subsequent Board meeting. William will check into return and repair costs.

- Carl will revise the recently proposed TCAA letterhead in line with new recommendations of no personal information other than telephone numbers and e-mail addresses.

- The next Board meeting will take place December 8th at 6:00 p.m. At that meeting the March meeting will be planned, nominations will be addressed, a report from William about the 12-inch telescope will be reviewed, and Bylaw amendments will be reviewed.

- Mike reported that he has been unable to find any information relative to a computer-based auto dialer on the Web. Carl will contact Fuller Communications in Bloomington to see if they can provide any insights. The meeting was adjourned at 6:59 p.m.

TCAA Treasurer's Report – October 2004

OPERATING FUND BALANCE – September 30, 2004 - \$ 1,247.30
Income

Tim Winter (dues renewal) -	\$ 40.00
Gail Fisher (dues renewal) -	\$ 40.00
Ben Josefik (dues renewal) -	\$ 40.00
Vic Connor (dues renewal) -	\$ 40.00
Shaukat Goderya (dues renewal) -	\$ 40.00
Orlyn Edge (senior dues renewal) -	\$ 25.00
Roy Ostberg (senior dues renewal) -	\$ 25.00

Expenses

None -	\$ 0.00
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OPERATING FUND BALANCE – October 31, 2004 - \$ 1,497.30

OBSERVATORY FUND BALANCE – September 30, 2004 - \$ 760.51
Income

Keyholder Renewal (Vic Connor) -	\$ 5.00
Interest -	\$ 0.68

Expenses

None -	\$ 0.00
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OBSERVATORY FUND BALANCE – October 31, 2004 - \$ 766.19

TOTAL TCAA FUNDS – October 31, 2004 - \$ 2,263.49

Respectfully submitted,
L. Duane Yockey, Treasurer

Sugar Grove Observatory

Listing of Official Keyholders (Paid \$10 deposit/\$5 renewal)

Jim Swindler (April 2001, renewed through 2004)
Duane Yockey (April 2001, renewed through 2004)
Sandy McNamara (June 2001, renewed through 2004)
Dan Miller (August 2001), renewed through 2004
Michael Rogers (August 2001), renewed through 2004
Dan Meyer (February 2002, renewed through 2003)

William Carney (March 2002, renewed through 2004)
Vic Connor (August 2002, renewed through 2004)
Neale Lehmkuhl (May 2003, renewed through 2004)
Carl Wenning (January 2004)
Brian Barling (February 2004)
Lenore Trainor
Jim Baker

**Announcing New
TCAA Members**



Gary Showers
Renewal Date: 200511
9309 Deer Ridge Dr.
Bloomington, IL 61704



Welcome!



The OBSERVER
Newsletter of the TCAA, Inc.

Rebecca Wenning, Editor
21 Grandview Drive
Normal, IL 61761-4071

Are Your Dues Due?

The Dues Blues?

If you see a check in the box above, it means your dues are due. To retain membership, please send your dues renewal to our esteemed Treasurer:

Duane Yockey
508 Normal Avenue
Normal, IL 61761