

The OBSERVER

The Newsletter of the Twin City Amateur Astronomers, Inc.

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PLANS FOR TCAA BANQUET SHAPING UP!

~ by Jean Memken ~

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This year's TCAA banquet promises to be a night to remember! The festivities start at 5:00 p.m. on Saturday, February 11th, with a social hour in Room 104 Turner on the campus of Illinois State University. A sumptuous buffet meal by the ISU Catering Club will follow. There will be the usual business meeting, and then our guest speaker, Dr. Roger J. Phillips will give a presentation titled "MESSENGER, Mercury, plus a bit of Venus & Mars" starting at 7:30 p.m. in Room 200 Turner.

Final arrangements for the banquet are still pending, but the cost for the buffet will be about \$12 for adults and \$7 for children for those who register in advance. (On site meals without reservations will be served on an "as available" basis at a cost of \$17 and \$12 respectively. Ed.) There will be several entrees, including a vegetarian selection, side dishes, drinks and dessert. As those of you who have attended the banquet in the past know, the ISU catering club does a tremendous job, and so you can be assured of a wonderful buffet meal.

MESSENGER is NASA's first probe to Mercury in over 30 years, and no one is better qualified to talk about it than Dr. Roger Phillips, Director of the McDonnell Center for the Space Sciences. From the Apollo missions

to the Mars Global Surveyor and now MESSENGER, Dr. Phillips has been intimately involved in the exploration of the solar system. He has worked at JPL, headed the Lunar and Planetary Institute in Houston, and is now at the Department of Earth and Planetary Sciences at Washington University in St. Louis. While most of his talk will focus on MESSENGER and Mercury, Dr. Phillips will also spend some time describing what he has learned from missions to Venus and Mars.

If you would like to make a reservation for the banquet, please contact Jean Memken at 828-8655 or e-mail jmemken@ilstu.edu. The meal is limited to the first 40 people who sign up, so get your reservations in soon! You need to make your reservation by February 1, and you can pay at the banquet. If you would just like to come in and hear the speaker, that's fine. Just plan to arrive a little before 7:30 p.m. at Turner Hall. (If you wish to attend the annual business meeting as well, just show up at around 6:30 p.m. Ed.) There's parking between Turner and Redbird Arena.

If you have any questions about the banquet, please call Jean or Mike at the above phone number. We hope to see you all there!

TCAA Calendar of Events

- January 28, Members-Only Observing Session, SGO, 7-? p.m. (Coordinators needed; Adult Ed session begins at 9 p.m.)
- February 11, Annual Meeting of the TCAA to be held at ISU's Turner Hall, 5:00 p.m.
- February 25, Members-Only Observing Session, SGO, 7:00 p.m. CST (host needed)
- March 25, Members-Only Observing Session, SGO, 7:00 p.m. CST (host needed)
- April 1, first Public Observing Session, SGNC
- April 16, Astronomy Day display at local mall (tentative)
- April 21-22, TCAA road trip to NCRAL convention in Appleton, Wisconsin

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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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

MESSENGER, Mercury, plus a bit of Venus & Mars

~ Talk abstract by Roger Phillips ~

This talk will be largely devoted to the MESSENGER mission to Mercury, which is NASA's 7th mission in the Discovery Program (devoted to launching frequent, small, scientifically focused missions). MESSENGER was launched from Cape Canaveral Air Force Station on August 3rd, 2004, on a Boeing Delta II rocket. Last December 12th, an engine burn put the spacecraft on track for a Venus flyby in October of this year. MESSENGER uses gravity assists from Earth, Venus and Mercury to lower its speed relative to Mercury. One flyby assist from Earth (done in August, 2005), two flyby assists from Venus, and three from Mercury itself will lead to a Mercury orbit insertion in March of 2011.

The guiding science questions for the MESSENGER mission are: (i) What planetary formation processes led to the high metal/silicate ratio in Mercury? (ii) What is the geological history of Mercury? (iii) What are the nature and origin of Mercury's magnetic field? (iv) What are the structure and state of Mercury's core? (v) What are the radar reflective materials at Mercury's poles? (vi) What are the important volatile species and their sources and sinks on and near Mercury?

To attempt to answer these questions, MESSENGER carries a plethora of instruments in order to address the following measurement objectives: (i) Map the elemental and mineralogical composition of Mercury's surface, (ii) Image globally the surface at a resolution of hundreds of meters or better, (iii) Determine the structure of the planet's magnetic field, (iv) Measure the libration amplitude and gravitational field structure, (v) Determine the composition of the radar-reflective materials at Mercury's poles, and (vi) Characterize exosphere neutrals species and accelerated magnetosphere ions.

In this talk, I will highlight the major scientific issues for Mercury and how MESSENGER will address them. I will also talk about the resurfacing history of Venus; this will be on my mind as the day after my talk I am heading to Florida to speak on this topic. I expect that the weather in Key Largo will be different than the weather in Bloomington in February. I will also touch on some missions to Mars in which I participate, focusing on radar probing of the interior of the red planet. Finally, I will try, briefly, to contrast the evolution of these three planets.

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NOMINATIONS NEEDED

~ by Michael Rogers ~

As tradition (and our Bylaws) decrees, at the February banquet we will be holding an election for our Board of Directors -- 5 intrepid souls who govern the doings of the TCAA. Members at large elect the Board, and then Board members elect from within the President, Vice-President, Secretary, Treasurer, 5th Director, and appoint all the other officers.

The job requires that you attend approximately 6 meetings per year, help set up the schedule of events, decide how and what to spend \$\$\$ on, and just make sure that the club continues to prosper and grow.

So, if you'd like to help out with the club, or just want to pad your resumé :-), please consider running for the Board. You can let any Board member (Kal, Brian, William, Duane or myself -- our e-mail addresses are in *The Observer*) know in advance, or just

throw your hat in the ring, so to speak, during the banquet. Candidates are requested to please keep all campaign speeches under 3 hours :-)

**NEXT MOOS
JANUARY 28 AT 7 P.M.**

A host for this event is needed. Because of the potential for cold weather under a clear sky, observing will begin at 7:00 p.m. and will conclude when observers get too cold to continue. If you'd like to take advantage of this opportunity to observe, please be at SGO by the start of the event. Latecomers risk not being able to observe if the hosts get too cold to continue observing and shut down early.

**COORDINATORS NEEDED
FOR 2006 MOOS**

Members-only observing sessions for 2006 have been set as shown below. Two coordinators are needed for each event. Times listed for the start of the session are either 7:00 p.m. or the end of civil twilight – whichever is later. Observing sessions typically run about two hours during warmer weather; sessions can be considerably shortened during cold weather so be certain to arrive early.

If you are willing to host one or more of these members-only observing sessions, please contact Carl Wenning. Coordinators must be SGO keyholders because the Sugar Grove Observatory is the central focus of these sessions.

January 28, 7:00 p.m. CST
February 25, 7:00 p.m. CST
March 25, 7:00 p.m. CST
April 29, 8:19 p.m. CDT
May 27, 8:49 p.m. CDT
June 24, 9:04 p.m. CDT
July 22, 8:52 p.m. CDT
August 19, 8:17 p.m. CDT

September 23, 7:19 p.m. CDT
October 21, 7:00 p.m., CST
November 18, 7:00 p.m. CST
December 16, 7:00 p.m. CST

**HOLIDAY PARTY PLEASURABLE
EXPERIENCE**

~ by Carl Wenning ~

The TCAA Holiday Party on Friday, December 9, was a real pleasure. There was much lively conversation, and excellent food and drink. We had a chance to meet face-to-face, and actually see who we were talking to for once. Several of our own of who we don't see enough showed up, and lively talk ensued. Conversations ranged from past and future travels, to observing programs and equipment, our January adult education program, and just about anything else you can imagine.

William Carney was kind enough to open up the SGO for views of Mars. While neither the bone-chilling 10°F temperatures nor the condensation of our breaths on the eyepiece helped with viewing, we did manage to see markings on the Red Planet with the aid of a light blue filter purchased earlier in the year by the Board. If there was ever a clear need for a warming room within SGO, that night provided it. While the night was bitterly cold, and followed a 5-inch snowfall on Thursday, the warmth of re-kindled relationships was enough to allow us to shake off the cold.

While in the observatory for only a short time, William did have a chance to show off the used computer just donated by Sheri Rodgers as an early Christmas present to the TCAA. (Thanks, Sheri!) He also demonstrated how the new wireless connection worked. Thanks to William, too, for moving the computer to the SGO that very evening, and for getting it set up and loaded with software.

A large part of the evening was spent gathered around an electric fireplace in the Nature Center's bird viewing

room along with Daisy, the Center's resident cat who seemed to love all the attention shown her. The SGNC made this wonderful setting available to us at no charge. (Thanks, Angela!) If you weren't present for this wonderful gathering, all we can say is that you missed a good time, and we missed you. We wish that you had come. In attendance were nine TCAA members: Lenore Trainor, Sharon MacDonald, William Carney, Jean and Cheyenne Adams, Sheri and Blake Rodgers, Duane Yockey, and Carl Wenning.

**OBSERVATIONAL ASTRONOMY
COURSE OVERFLOWS!**

Not only has the 5-part January adult education course at SGNC filled, it has filled to overflowing! On Friday, December 23, Angela Smith reported that the original cap of 15 had been reached, and asked whether or not this cap could be exceeded. Carl Wenning, who is leading the course, granted permission to do so. As a result, 30 individuals (including 8 minors) signed up for the TCAA observational astronomy course. Thirty is the



TCAA

maximum capacity of the SGNC classroom when using chairs and tables. By January 6 the number of people on the waiting list had grown to 10! Theoretically speaking, as many of 40 people could have signed up for the course. SGNC interpreter Angela Smith is elated with the turn out, and has already asked that the TCAA consider running a second series in the not too distant future.

During the first evening, January 7, Carl, assisted by Duane Yockey, entertained a lively group of would-be amateur astronomers. Twenty-three of the 30 pre-registrants (along with one additional walk-in registrant) were at the meeting making for a total of 24. Several of the course registrants are current (and undoubtedly future) TCAA members. On the following evening, 21 of the 24 were present for the 90-minute presentation at the ISU Planetarium. The course continues January 14, 21, and 28 with an exciting list of activities planned. Central to the course is a two-hundred-page *Galileo Observer's Guide to the Heavens* written by Carl during four months in 1991, and recently updated.

Thanks to Duane for his valuable assistance, and for bringing treats for

the first night of class. Thanks, too, to Mike Rogers for suggesting that the course be opened to those 12-17 years of age in the company of an adult! This undoubtedly made the course especially appealing to several of the families in attendance. Promotion of this course has been done primarily through the TCAA and SGNC newsletters. Thanks and a tip of the hat to Angela Smith and SGNC for making this event possible.

PROPERTY MANAGER REPORT

~ William Carney ~

Thanks to Sheri Rodgers for donating a computer and monitor for the Sugar Grove Observatory. I was able to get the wireless Internet connection up and working after some hassle. It works intermittently, so will require a longer cord to place the antenna by the outside wall. Nonetheless, it still works.

I would like all telescopes and other equipment on loan returned for a short time late January or early February for an annual cleaning and checkup. I will only need them for a short time unless there is a problem. To arrange for returns, please contact me. (See phone number and e-mail address on page 2, first column.)

The last time I was at the observatory there was a little snow under the plastic that covers the telescope. We really need to get the weather strip re-installed on the dome. (It was inadvertently left off when the dome was reassembled.) For all SGO key holders, keep pointing the dome to the west at the end of the night's use to reduce incoming rain and snow.

To receive discount rates for *Astronomy* or *Sky & Telescope* magazines your subscriptions or renewals must go thru me. I have to fill out a special form for each magazine. We need a minimum of 5 subscribers all the time to keep our discounts. See the accompanying article for details.

MAGAZINE SUBSCRIPTIONS

~ by William Carney ~

TCAA members can subscribe to *Astronomy* and *Sky & Telescope* magazines for reduced rates. *Sky & Telescope* is available for \$32.95 per year, and *Astronomy* for \$34.00 per year if subscriptions are purchased through official club channels. If you would like to subscribe to either or both magazines, send a check or money order made payable to William Carney in the correct amount. Please include one or two 39-cent postage stamps (postal rates went up January 8) if either is a new subscription. If renewing, then the publishers usually send a stamped envelope. Send that envelope plus your mailing label or renewal form to William at P.O. Box 52, Bloomington, IL 61702.

THOUGHTS ON SGO

~ Carl J. Wenning ~

Recently I've been trying to enjoy some nights of observing at SGO; I'm moving ahead with my Herschel 400 observing program. Observing sessions during December have reminded me of those winter nights of 1976 when I observed with the 32-inch reflector at Perkins Observatory near Delaware, Ohio. Those nights were frigid with little respite from the cold! With a recent string of clear nights and 10-20 degree Fahrenheit temperatures, thoughts of a warming room within the SGO have grown cozier than ever! Such a warming room – a reasonably air-tight area on the ground floor of the SGO – would make wintertime observing much more enticing.

Imagine going there from a freezing dome to warm up, work with the computer, and perhaps share a bit of camaraderie over some cookies and a cup of coffee or hot chocolate. These have been visions passing through my mind on recent cold nights when I could

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TCAA Treasurer's Report – December 2005

OPERATING FUND BALANCE – November 30, 2005 - \$ 1,473.62

Income

Dan Miller (Dues Renewal in Nov.) - \$ 40.00
 Allan Timke (Dues Renewal) - \$ 40.00
 Duane Yockey (Dues Renewal) - \$ 40.00

Expenses

Carl Wenning (December Observer) - \$ 54.20

OPERATING FUND BALANCE – December 31, 2005 - \$ 1,539.42

OBSERVATORY FUND BALANCE – November 30, 2005 - \$ 1,083.89

Income

Keyholder Renewal (Carl Wenning) - \$ 5.00
 Keyholder Renewal (Duane Yockey) - \$ 5.00
 Donation - \$ 100.00
 Donation - \$ 100.00
 Interest (Oct., Nov. & Dec.) - \$ 0.73

Expenses

Deposit & Withdrawal Bank Slips - \$ 5.54

OBSERVATORY FUND BALANCE – December 31, 2005 - \$ 1,289.08

TOTAL TCAA FUNDS – December 31, 2005 - \$ 2,828.50

Respectfully submitted,
 L. Duane Yockey, Treasurer

Sugar Grove Observatory

only look at the sky and sigh. I suspect that several of our other keyholders might feel much the same.

It's a shame that TCAA members can't do more observing under pristine conditions – the dark, clear skies of winter. They would be able to go, given a warming room. I encourage the new TCAA Board of Directors to consider spending some of the observatory funds on just this sort of endeavor. We might also want to consider purchasing a video projector now that some of the best have come down in cost to just over \$750. We'd have to move some of the telescopes stored in the SGO to temporary housing, but that shouldn't be much of a problem during the winter when no one seems to be using them any way. Oh, such are the thoughts of an armchair amateur astronomer during the long nights of winter.

TCAA/SGNC RECEIVE PICTORIAL DONATION

On December 2nd TCAA member Mark Cabaj donated five matted and framed photographs of the planets whose images he had taken from his temporary observing site set up at SGNC. He sent the images to Rebecca Wenning along with the following note addressed to both TCAA members and the Funk's Grove Board Members, "Thank you for allowing me to use the property at Funk's Grove to do astrophotography! I plan on improving my skills during 2006. This is a little thank you from me. You may hang these anywhere you wish. Merry Christmas and a Happy New Year in 2006 – Mark Cabaj."

The images are approximately 3 x 4 inches and professionally mounted in black matted 5" x 7" frames. Images include three pictures of Mars showing tremendous detail and beautiful coloration, one of Jupiter showing detail that rivals that achieved by the

Voyager spacecraft, and Saturn with incredible ring and disk detail. All images were taken using a C-8 telescope with CCD imaging. Anyone observing these images will be greatly impressed by the quality of Mark's work, and the beauty of these planets.

Because these images were donated to both the TCAA and the SGNC, it seems only reasonable to use them as a centerpiece of a TCAA display within the Sugar Grove Nature Center. With the approval of both Boards, such a display will be set up in the not too distant future. Many thanks and a tip of the hat to Mark for these wonderful gifts and his exceptional work.

2006 KEYHOLDER RENEWAL FEES DUE

SGO keyholders take note. Now is the time to renew your key holder status for 2006 by sending \$5 to our esteemed Treasurer, Duane Yockey. After the initial \$10 fee, there is an annual \$5 maintenance fee for continuing your privileges of using the club's observatory.

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

- Duane Yockey
(April 2001/renewed through 2006)
- Michael Rogers
(August 2001/renewed through 2006)
- William Carney
(March 2002/renewed through 2005)
- Carl Wenning
(January 2004/renewed through 2006)
- Brian Barling
(Feb. 2004/renewed through 2005)
- Lenore Trainor
(Dec. 2004/renewed through 2005)

- Kal Kumar (January 2005)
- Kevin Brown (May 2005)
- Sothilingam family (June 2005)
- Christopher Franklin (July 2005)

OBSERVING UPDATES

The following individuals are currently working on observing awards available through the Astronomical League. The list below tells who is working on what observing award, and how far they have gotten. This, hopefully, will provide incentive for those intrepid observers, and perhaps inspiration for armchair amateur astronomers.

Messier Award

Jean Memken	10
Michael Rogers	10

Herschel Award

William Carney	48
Carl Wenning	21
Brian Barling	180

Asteroid Award

William Carney	04
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Comet Award

William Carney	03
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If you are working on an observing award and want to gain fame and serve as an inspiration to your colleagues, please e-mail *The Observer* editor Rebecca Wenning at rwennin@ilstu.edu. If you want advice on how to choose an observing list to work on, feel free to ask at an observing session or e-mail our Yahoo group.



**START AN
ASTRONOMICAL LEAGUE
OBSERVING PROGRAM
TONIGHT!**

~ by John Goss ~

Astronomical League, Secretary

After finally finding some time under the stars, have you ever thought, "What should I observe? There's so much up there!"

The Astronomical League offers nearly 30 observing programs to help in just that situation. Some are designed for the novice such as Constellation Hunters, Universe Sampler, and Lunar Clubs. Other programs, including the Messier, Urban, and Planetary Observer Clubs, are better suited for intermediate observers. More experienced deep sky hunters can hone their skills with the tougher selections of the Herschel, Arp Peculiar Galaxies, and Galaxy Groups and Clusters Clubs. Truly, there is a program for everyone!

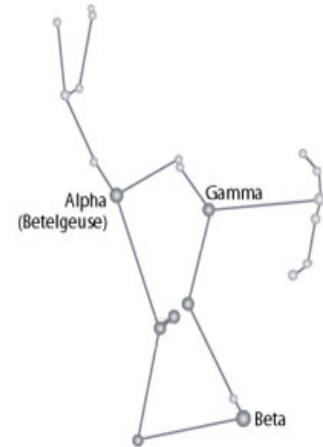
Upon completion of each club, the observer is presented a certificate suitable for framing and a nifty lapel pin. These lists are a low stress way to enjoy the many wonders of the night sky.

Check out which program is right for you! Visit www.astroleague.org/observing.html

**TIME TO RENEW YOUR
MEMBERSHIP?
CONSIDER "ELECTRONIC
MEMBERSHIP OPTION"**

Recall that there is now an "electronic membership option" when joining or renewing your membership in the TCAA. Following Board approval of an electronic membership at its December 2005 meeting, electronic memberships are available at a \$5 discount over regular membership rates. Electronic members must be subscribed to the

TCAA listserv to receive notification that *The Observer* can be downloaded as a PDF, and to get a reminder that a monthly star map can be downloaded from www.skymaps.com. Electronic members do not receive hard copy of *The Observer*; neither do they receive copies of the Abrams Planetarium Sky Calendar.



**STARS OF THE
WINTER CONSTELLATIONS**

~ Submitted by Brian Barling ~

M G J F F T U B V S P J Y X J
S D J V I M D O E P L V Z U I
F Z D Q G K A S I R I U S L M
O V M O N O C E R O S V F L I
B E N R A N R E H C A S T O R
H O F D N R U A A Y H Y Y P A
F V C M I R F A K O T P U R K
B E T E L G E U S N A R E K N
A R I R A S T A B A N G S Z E
C D I E K C A L G O L M K C M
G A H G N N F L F H E B E O B
V O M A E I H E P G J A J A G
M T I A M L H P D I W M A T V
P A T Y G A M A Z R I M P G A
G P X X E R L C L X G N Q H B

Achernar	Mira
Algol	Mirfak
Arneb	Mirzam
Betelgeus	Monoceros
Capella	Nihal
Castor	Pollux
Elnath	Procyon
Hamal	Rastaban
Menkalinan	Rigel
Menkar	Sirius



Welcome New Members:

Sherman & Kristi Lewis



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