



STAR FIELDS

Newsletter of the
Amateur Telescope Makers of Boston
Including the Bond Astronomical Club
Established in 1934
In the Interest of Telescope Making & Using

Vol. 28, No. 10 November 2016

This Month's Meeting . . .

Thursday, November 10th, 2016 at 8:00 PM
Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

Parking at the CfA is allowed for the duration of the meeting

The Making of *Sky and Telescope Magazine*

What elements go into the production of a great astronomy magazine? *Sky and Telescope* Editor in Chief Peter Tyson has the answer. He will give a brief presentation about what life is like at 90 Sherman St., Cambridge, first door on the left. Topics include a capsule history of *S&T*, who is who and what they get themselves up to, how they wrestle with each monthly issue (Peter notes that it can get ugly!), and what other ventures they throw ourselves into, including website, products, tours, and, yes, some things just for the good old-fashioned fun of it.

From 1998 to 2012, Peter was editor in chief of NOVA Online, the award-winning website of the PBS science documentary series, based at WGBH in Boston. At NOVA, he produced companion websites to numerous NOVA astronomy and astrophysics programs. His team's website for *The Elegant Universe* won a George Foster Peabody Award. Prior to NOVA, Peter was a contributing editor at MIT's *Technology Review*, a senior editor at *Earthwatch* magazine, and an assistant editor at *Omni* magazine. Most recently he was editor in chief of *AMC Outdoors* magazine. He has written for *The Atlantic*, *Natural History*, *The Sciences*, and has published five books, most recently *Madagascar — The Eighth Continent: Life, Death and Discovery in a Lost World*.

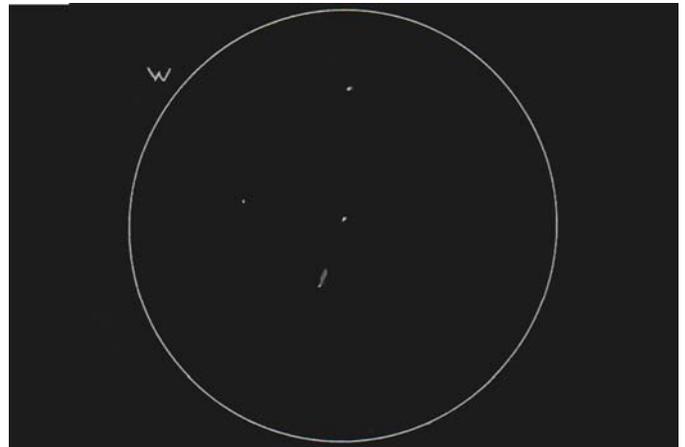
At home in Cambridge, Mass., Peter enjoys rowing a single scull on the Charles River, wrestling with the *New York Times* crossword, collecting daguerreotypes and fossil amber, and, most of all, doing anything with his two children.

Please join us for a pre-meeting dinner discussion at [Changsho](#), 1712 Mass Ave, Cambridge, MA at 6:00pm before the meeting.

President's Message . . .

Patience is a virtue. This saying is certainly true in amateur astronomy. Whether you're pushing glass, astroimaging, or trying for a telescopic glimpse of a faint deep-sky object, you can't rush the job. This was the case a few weeks ago when I tackled the October LVAS Challenge object NGC 7479 – a barred spiral galaxy in Pegasus. My first attempt was in early October. A superficial 15 minute search with a 10-inch f/5 Dob and 16mm Nagler eyepiece (80X) turned up zip, zilch, zero! I might as well give up on this one, I thought.

The LVAS doesn't call its monthly offerings "Observer's Challenges" for nothing. The other night, I rolled up my sleeves and gave NGC 7479 a serious effort. Using an Astro Card as a guide, I steered my scope to the proper location. Again, nothing. This time, I remained patient. After 15 minutes, I detected a faint, pulsing averted vision glow. After another 10 minutes, the glow became steady. I could have begun my sketch, but waited another 10 minutes. By now, the glow had taken on a definite elongated form with a faint star at one end. It was then that I took out clipboard, pencil and paper, turned on my red flashlight, and began my sketch. In all, it took me the better part of an hour to locate, get a satisfactory visual "fix," and complete my sketch (shown below). *Editor: NGC 7479 is below the center of the circle.*



NGC 7479 Sketch by Glenn Chaple

Patience has also been evident in the creation of a new website to replace our quickly-aging current one. Since last spring, our Website Committee has researched and tested several web providers, settling on ClubExpress. Committee member Maria Batista will provide an update at our November meeting.

Best wishes to all ATMoB members and their families for a safe and happy Thanksgiving!

Clear Skies,

~ Glenn Chaple – President ~

October Meeting Minutes . . .



Jim Zebrowski *

Minutes of the monthly ATMoB meeting held on October 13, 2016 in the Phillips Auditorium at the Harvard-Smithsonian Center for Astrophysics. Club President Glenn Chaple called the meeting to order at 8:00 pm.

- Phil Levine read the Secretary's Report.
- Eileen Myers was absent so the Treasurer's Report was presented by Glenn Chaple.
- Chris Elledge gave the Membership Report.
- Glenn Chaple gave the Observing Report. He listed several upcoming interesting conjunction and occultation events.

Sue French Fan Club Object of the Month: (Minkowski 1-79).

The Las Vegas Astronomical Society Observers Challenge: (NGC 7479).

Phil Levine submitted two observing picks for November: Melotte 20 and Kemble's Cascade.

- The Clubhouse Report was submitted by Steve Clougherty. For details please see the Newsletter.
- Solar Eclipse August 21, 2017 Update: Bernie Volz gave the membership an update on the upcoming Solar Eclipse. He has devoted much time to finding the best location for the membership to observe the eclipse, reserved a block of rooms at the hotel (getting ATMoB a discounted rate) and obtained local charter bus information in case the primary site is cloudy. For further details check the ATMoB website. <http://www.atmob.org/events/travel.php>
- Announcements:
A "Star Gazing" presentation was hosted by the Celestron company at Hunt's Photo and Video in Melrose on Oct 14th.

Glenn Chaple will be giving a beginners introduction to the autumn night sky at the Westford Clubhouse. Check the ATMoB announcement email for details.

Glenn reported on the MIT Haystack Observatory Open House on Oct 6. Bruce Berger and Glenn brought their telescopes to show the 50-60 people in attendance some astronomical objects in the autumn night sky. Glenn also announced that there will be another open house for the MIT Haystack group at the ATMoB Clubhouse on Thursday, Nov 3rd, from 4:30 to 10:00 pm. Members are encouraged to bring their scopes and help make this a memorable event.

Mario Motta informed the membership of a new book by Steven O'Meara, entitled *The Caldwell Objects*. Mario contributed many of the astrophotos in the book. Mario also gave the membership an update on a recent AMA article he wrote regarding light pollution, mentioning the wide impact this article has had regarding the health impact of light pollution.

- Old Business: Maria Batista gave an update on progress for the new ATMoB website service provider, ClubExpress. Maria will be giving more info regarding the new website at the November ATMoB meeting.
- New Business: Glenn Chaple mentioned that *Astronomy* magazine will be publicizing information on the upcoming Solar eclipse.
- Refreshments were provided by Bernie Kosicki

Glenn introduced Jim Zebrowski as the guest speaker for the evening. His topic: "The Real Martian – Earth Explores the Red Planet". Jim is president of the Aldrich Astronomical Society, a member of ATMoB and the Arunah Hill Natural Science Center, as well as an Ambassador in NASA's Solar System Program.

Jim first gave a historical review of Mars, detailing reports of "canals" (canali – "channels" in Italian was misinterpreted as canals) on Mars attributed to Giovanni Schiaparelli in 1877. http://www.nasa.gov/audience/forstudents/postsecondary/features/F_Canali_and_First_Martians.html

Percival Lowell, originally from the Boston area, funded an observatory in Flagstaff Arizona in 1894 and had his staff devote a considerable amount of time investigating what Lowell believed to be canals built by intelligent beings on Mars.

With public excitement about possible life on Mars, HG Wells wrote *War of the Worlds* in 1897. Orson Wells later used this story as a basis for his radio broadcast re-enactment in 1938. This infamous broadcast led many listeners to believe that a real Martian invasion was taking place.

Despite his controversial theories, Lowell did hire talented staff to work at the Lowell Observatory, many of whom made significant scientific contributions.

Vesto Slipher: Discoverer of high radial velocities of "nebulae" (galaxies). <http://www.roe.ac.uk/~jap/slipher/>

<http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/slipher-vesto.pdf>

<http://messier.seds.org/xtra/Bios/slipher.html>

Clyde Tombaugh: Discoverer of Pluto.

<http://www.space.com/19824-clyde-tombaugh.html>

<http://earthsky.org/space/this-date-in-science-clyde-tombaugh-discoverer-of-pluto>

The exploration of Mars took a giant step forward with space missions such as the Mariner flybys and orbiter, Viking landers and more recently the Odyssey orbiter and the Pathfinder/Sojourner, Spirit, Opportunity and Curiosity rovers. http://www.nasa.gov/mission_pages/mars/missions/index.html. Many of NASA's space missions have focused on Mars, given the relative proximity of the planet, and due to the possibility of finding life.

On December 16, 2014, NASA announced what appears to be confirmation of organic compounds found at a Curiosity rover drill site.

Jim reviewed/critiqued the recent movie, *The Martian*, giving his impressions on what was scientifically accurate in the movie. A manned Mars exploration would present severe engineering challenges: the length of the voyage, radiation exposure, living habitat, food and water supply.

Glenn Chaple adjourned the meeting at 10:30 pm

~ *Phil Levine - Secretary* ~

Membership Report . . .

I am pleased to welcome our newest members Lingzhen Zeng, Skip Gaede, Rachel Legmann, Tim Treacy, and John Hinz.

As of October 23rd, 2016 we have 269 members. In addition to that we have 81 members who have not yet renewed their membership. Please renew by December 1st! This is your last chance to make sure that you remain on the membership list for the coming year.

If you need any help at all in the renewal process, please contact me by email (membership@atmob.org), phone, or mail. My contact information is available on the cover page of the newsletter and on the website. A renewal form is available online which lists all the renewal options and costs: <http://www.atmob.org/about/join/atmobmemapp.pdf>.

While you are renewing please consider making a tax deductible donation to the club.

~ *Chris Elledge - Membership Secretary* ~

Meeting Recordings . . .

The recording of ATMob meeting #892 is available on YouTube: <https://youtu.be/NZY1xFbBN98>

Unfortunately, I had an equipment problem during the recording, and I missed part of Jim Zebrowski's presentation before I caught it. I'm sorry for the inconvenience. I labeled the failed section in the video so it will be obvious when and why it skips.

There is also a short section during the water bubble demonstration on the space station video where I needed to silence the audio. The background music was being flagged as copyrighted material. I only silenced the part of the video where there was no speaking, so nothing is being missed.

~ *Chris Elledge - Membership Secretary* ~

Clubhouse Report . . .



Chris Elledge painting the Clubhouse porch *

October 2016 Clubhouse Report

The October 15, 2016 Work Party commenced at 9:15 am when John Blomquist started mowing, hopefully for the last time this season. He was joined by 17 members who formed teams to tackle 5 major projects. A big thank you to: John Blomquist, Paul Cicchetti, Chris Elledge, Skip Gaede, Jim Gettys, Eric Johansson, Dick Koolish, Penny Lucinian, Mike Mattei, Vladislav Mlch, Eileen & Ben Myers, Dave Prowten, John Reed, Phil Rounseville, Art Swedlow, Al Takeda, & Sai Vallabha. Karl Dean and Bill Murphy joined us later in the day for mirror and telescope work.

The following list of activities was accomplished:

- John B.'s tractor mower was joined by push mowers, rakes, wheel barrows, & trimmers. John B., Skip G., & Al T. formed this team. The warm temperatures will be reversing soon and the mowed observing field will soon be covered by a layer of snow.

- Scraping, sanding & staining of the white roof supports around the porch continued. The same process for the porch trellis was also started. This effort continued late in the day to ensure a neat appearance for the upcoming ATMob/MIT Open House. This team included Chris E., Skip G., Penny L. and with assistance by a few others.
- Last month's winter inspection showed sagging roof panels and holes in the metal storage shed allowing rainwater to seep inside. The team of Dave P. & Eric J. tackled this problem by adding more internal 2x4 supports inserted into the original metal roof supports with additional 2x4 cross members. This now supports all sagging roof panels. They also plugged the holes with silicone sealant. We await the winter rain and snow to test the new structure.
- The "light bulb brigade" tackled bulb replacements (Sai V. and Eric J.) Two of the meeting room light fixtures require starters or ballasts. This was added to future work lists.
- The basement drain exit system was finished with new PVC cemented fixtures. The piping from the sump pump to the free flow sink drains is reconnected and should prevent water buildup in the basement if the sump pump fails. The team of Slav M., Skip G., and Dick K. completed this project that was started over 10 years ago. We await heavy rains to test this system.

With the opening temperature of 46 degrees F, our lunch menu returned to the winter fare of pasta and sauce, salad, garlic bread, and country fried chicken, with clementines for dessert. Thanks to the team of Eileen M., Sai V., John R. and others for preparing and cleaning up after lunch. Note: A new Bailey Hill sauce recipe was tried successfully today and will probably continue with some modifications. The switch from spaghetti to pasta was also well received. Stay tuned.

Later that evening, after Karl D., and Phil R. finished a group discussion of current grinding and polishing issues, and Bill M. finished his telescope setup, a small group sat around the Clubhouse main computer enjoying old club pictures found there. Bill M. and Phil R. recalled the names of some of our older members seen in their youth. It would seem beneficial if this information could be captured with those old photos for future members.

Unless closed for weather or adverse driving conditions, the Clubhouse is open on Saturday nights for observing, as noted on the ATMob website and in the current issue of *STAR FIELDS*. Two members with experience in Clubhouse procedures are responsible for Clubhouse operation on these nights.

Friday nights are usually set aside for astronomy classes scheduled by member-in-charge, John Maher, in coordination with The Great Courses. Observing is available for other members on the field at the same time without interfering with the class in session.

Thursday nights are reserved for mirror grinding or polishing sessions on an individual basis. These efforts are under the

supervision of club member(s) with experience in mirror making and Clubhouse procedures. This is important to ensure clubhouse integrity and security. Currently these supervisor members are experiencing increased work loads where they are employed. It is crucial that those grinding or polishing mirrors coordinate each week with the designated supervisor for the following week's opening time.

For all members using the Clubhouse, please leave it in better condition than you found it upon entry. That means the same closing procedures are required as on Friday and Saturday nights. **Leave it clean!**

~ *Clubhouse Committee Chairs* ~
~ *Steve Clougherty, John Reed and Dave Prowten* ~

Clubhouse Evening Schedule	
Thursday Night Mirror Making	8:00 pm - #
Friday Night Educational Videos	7:00 pm - 10:30 pm #
Saturday Night Observing	7:00 pm - ##
# Closing time is determined by the organizers	
## Closing time is determined by the "A" members on duty	
Note: The Clubhouse is closed on the 2nd Thursday of the month for our monthly meeting in Cambridge.	
Due to inclement weather or cloudy conditions on Saturday evenings, the "A" members on duty may elect to close the Clubhouse. Please call the Clubhouse at (978) 692-8708 or check for messages posted to ATMOb-ANNOUNCE.	

Clubhouse Saturday Schedule		
November 5	Dave Siegrist	John Small
November 12	WORK PARTY # 11 Rich Nugent **	
November 19	Eric Johansson	Tom McDonagh
November 26	Phil Rounseville	Joe Wolfe
December 3	John Reed	Sai Vallabha
December 10	WORK PARTY # 12 Dave Prowten **	

**Duty member is supplemented by a work crew volunteer. If a volunteer is not available, the work crew closes the Clubhouse

Arlington Touches the Stars: Peter Schwamb and the Mt. Wilson Observatory Lecture. . .

Tom Calderwood will give a talk about Arlington's connection to the 100-inch Hooker telescope on Friday, November 11 at 7 pm at the Old Schwamb Mill, 17 Mill Lane (not Mill St.) in Arlington. See the [October Star Fields](#) for details.

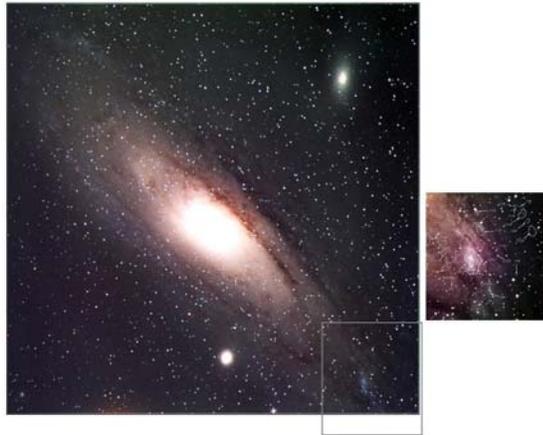
~ *Submitted by Tom Calderwood* ~

Sky Object of the Month . . .

November 2016

Courtesy LVAS Observer's Challenge***

NGC 206 – Star Cloud in Andromeda Galaxy



www.narrowbandimaging.com

NGC 206 is an enormous star cloud located in the southwest part of the Andromeda Galaxy. In 1786, it was observed as a separate entity by William Herschel, who catalogued it as H V.36, the 36th Category 5 [Very Large Nebulae] entry in his deep space catalog. Once categorized by Edwin Hubble as an open star cluster, NGC 206 is now considered to be an OB association. It contains over 300 members, many of which are young O and B type stars and spans about 4,000 light-years.

***The purpose of the LVAS Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested, and if you are able to contribute notes, drawings, or photographs, the LVAS will be happy to include them in their monthly summary. If you would like to contribute material, submit your observing notes, sketches, and/or images to either [Roger Ivester \(rogerivester@me.com\)](mailto:rogerivester@me.com) or [Fred Rayworth \(fred@fredrayworth.com\)](mailto:fred@fredrayworth.com). To find out more about the LVAS Observer's Challenge or access past reports, log on to lvastronomy.com/observing-challenge.

~ Glenn Chaple – Observing Committee ~

Deep Space Mysteries 2017 Calendars for Sale . . .

Astronomy Magazine's wall calendars - *Deep Space Mysteries 2017* – will be sold at the next monthly meetings until all are copies are sold. They are \$8 each, which includes a \$1.50 donation to ATMob. Please have \$8 in cash or check payable to Eileen Myers. Payment for Calendars and Handbooks may be combined.

According to their website: “*Deep Space Mysteries 2017* calendar is filled with stunning images of stars, planets, galaxies, and other deep space wonders. Every photograph includes an informative essay written by Rich Talcott, *Astronomy* senior editor. For each month, celestial viewing opportunities, historical events, and national holidays are listed.

You'll also find a special section on observing the 2017 total solar eclipse, written by Michael E. Bakich, *Astronomy* senior editor.”

~ Submitted by Eileen Myers ~

2017 RASC Observer's Handbook for Sale . . .

The 2017 RASC Observer's Handbooks will be sold at the next monthly meetings until all copies are sold. Handbooks are \$21 each, which includes a \$1.35 donation to ATMob. Please have \$21 in cash or check payable to Eileen Myers. Payment for Calendars and Handbooks may be combined.

Published annually by The Royal Astronomical Society of Canada (RASC), it is very readable and puts all sorts of astronomical data and reference information at your fingertips in one small book. There is also a 24-page section called “The Sky Month By Month”, which gives an extensive listing of events for each month, so you won't miss any of them.

According to their website: “The *Observer's Handbook* is a 352-page guide published annually since 1907 by The Royal Astronomical Society of Canada. Through its long tradition and the expertise of more than 60 contributors, the *Observer's Handbook* has come to be regarded as the standard North American reference for data on the sky. The material in the Handbook is of interest to professional and amateur astronomers, scientists, teachers at all levels, students, science writers, campers, Scout and Guide leaders, as well as interested general readers. The *Observer's Handbook* is an integral part of many astronomy courses at the secondary and university levels, and it should be on the reference shelf of every library. The various sections in the *Observer's Handbook* are of two kinds: Upcoming Astronomical Events and Astronomical Reference Information.” See <http://www.rasc.ca/handbook> for more information.

~ Submitted by Eileen Myers ~



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Editor: * Photos by Al Takeda unless otherwise noted.

December Star Fields DEADLINE
Sunday, November 20th

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed November 5, 2016

Amateur Telescope Makers of Boston, Inc.
c/o Chris Elledge, Membership Secretary
99 College Ave
Arlington, MA 02474
FIRST CLASS

EXECUTIVE BOARD 2016-2017

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David Prowten (978) 369-1596

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NEWSLETTER Al Takeda newsletter@atmob.org

PUBLIC OUTREACH

STAR PARTY COORDINATOR:

Virginia Renehan starparty@atmob.org

How to Find Us...

Web Page www.atmob.org

MEETINGS: Held the second Thursday of each month (September to July) at 8:00PM in the Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge MA. For INCLEMENT WEATHER CANCELLATION see www.atmob.org and check your email on the ATMOB-ANNOUNCE list.

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W

The Tom Britton Clubhouse is open every Saturday from 7 p.m. to late evening. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 North from Rt. 128 or Rt. 495 to Exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farmhouse on left side of the road. Clubhouse attendance varies with the weather. It is wise to call in advance: (978) 692-8708.

Heads Up For The Month . . .

To calculate Eastern Standard Time (EST) from Universal Time (UT) subtract 5 from UT.

Nov 6 Daylight Saving Time Ends ("Fall Back")

Nov 7 First Quarter Moon (Moonset at midnight)

Nov 14 Full Moon

Nov 17 Leonid Meteor Shower peak

Nov 21 Last Quarter Moon (Moonrise at midnight)

Nov 29 New Moon

Dec 6 Neptune Occultation by the Moon

Dec 7 First Quarter Moon (Moonset at midnight)