



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. 27, No. 10 November 2015

This Month's Meeting . . .

Thursday, November 12th, 2015 at 8:00 PM
Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

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

Pluto's Amazing Story



Pluto and Charon. Copyright: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

This month's speaker will be Kelly Beatty, a *Sky and Telescope* (*S&T*) Senior Editor and ATMoB member since 2004. His talk, "Pluto's Amazing Story," will bring us up to date on discoveries made by the New Horizons Mission.

In July 2015, NASA's New Horizons spacecraft flew past Pluto after a 9½-year-flight. But really this historic encounter has been 85 years in the making, ever since 24-year-old Clyde Tombaugh discovered this enigmatic body at the edge of our planetary system. Today we realize that Pluto is among the largest objects in the Kuiper Belt, even though initially it was believed to be a body perhaps as massive as Earth. Kelly traces the history of Pluto — from predictions of its existence to the discovery of its moons to its "demotion" to dwarf-planet status. He then details

what New Horizons has revealed about Pluto and Charon — truly the "odd couple" of our solar system. "Pluto's Amazing History" will be of particular interest not only to astronomy enthusiasts but to the public in general. ATMoB members are encouraged to be family and friends.

Kelly Beatty, a *Sky & Telescope* magazine Senior Editor, writes many of the feature articles and news items found in *Sky & Telescope* and on this [website](#). He joined the staff of Sky Publishing in 1974 and served as the editor of *Night Sky*, a magazine for beginning stargazers, in 2004-07. Specializing in planetary science and space exploration, Kelly conceived and edited *The New Solar System*, considered a standard reference among planetary scientists. He also taught astronomy for six years at the Dexter Southfield School in Brookline, Massachusetts. He observes when he can through one of his eight telescopes, and, with fellow ATMoB member Mario Motta, has been active nationally in the fight against light pollution.

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 . . .

It's November, and our clocks have been reset to Standard Time. Early sunsets will bring on a case of Seasonal Affective Disorder to much of the population, but not to those of us who enjoy backyard astronomy. What a treat to be able to step outside right after supper and take in the wonders of the autumn sky or, with a glance eastward, catch a sneak preview of Orion and his wintry companions. So put away that bug spray and get out the long johns. The upcoming months will bring cold weather, but the nights will be beautifully clear – and LONG!

~ Neil Fleming – President ~

November Meeting Minutes



Glenn Chaple *

Minutes of ATMoB meeting held on October 8, 2015 in the Phillips Auditorium at the Harvard-Smithsonian Center for

Astrophysics. President Neil Fleming started the meeting at 8:00 PM.

- The Secretary's Report of the October meeting was given by Sidney Johnston.
- Eileen Myers gave the Treasurer's report.
- The Membership Report was not given.
- Glenn Chaple presented the Observing Committee Report.

Glenn recapped last month's super moon, total lunar eclipse. Although it was difficult to perceive, this perigee of the moon made the diameter 14 percent larger. Many members reported that this eclipse seemed darker than usual. Also apparent was the bluish color on the edge of the eclipsed moon.

Uranus reaches opposition on the 11th of October. The planet will be in the constellation of Pisces. It forms a nice triangular pattern with the stars epsilon and zeta Pisces. Telescopic views show a nice bluish dot and its current diameter is about 4 arc-seconds.

For the next few months, Jupiter, Venus and Mars will be clustered together in the morning sky. Also, on October 26th, Venus will be at its greatest western elongation.

It's time to change the clocks back to Standard Time on November 1st. "Astronomers celebrate and everybody else gets depressed."

The Sue French Fan Club objects for this month are star clusters centered around epsilon Cygnus. Glenn discovered that some of these clusters were not found on the *Sky Atlas 2000* charts so he recommends that observers use the object list and charts found in her October 2015 *Sky and Telescope* article.

The observers challenge from the Las Vegas Astronomical Society is the 9th magnitude star cluster, NCG 7128. Located in the constellation of Cygnus, it is 4 arc-minutes across. Glenn observed this cluster with his 4.5-inch reflecting telescope at around 60x magnification.

The Object of the Month is the globular cluster, Messier 2, in Aquarius.

Glenn reported on an AAVSO alert for a 12th magnitude nova in Aquila. The location is RA: 19 hrs, 21.5 minutes, Dec: +15 degrees.

- The Clubhouse report was not given.
- Announcements:
Bernie Volz announced that for this evening he is assisting Eileen Myers in selling *Astronomy Magazine's 2016 Deep Space Mysteries Calendar*. They are \$8.00 apiece.
- Old Business:

Julie Kauffman and Al Takeda reported that the club picnic was a success. It was estimated that 60 - 70 people attended. It was a lovely day with Mario Motta putting on a popular mirror making demonstration, solar viewing with many telescopes, Bill Toomey giving a tour of the Haystack Observatory antennas and evening observing with portable scopes and the club's observatory telescopes.

- New Business:

Al Takeda mentioned that Eileen is also ordering the Royal Astronomical Society of Canada's. 2016 Observer's Handbook. Members must preorder a copy from her.

Eileen Myers provided the refreshments for this evening.

Neil introduced Glenn Chaple as this evening's speaker. Glenn is a retired teacher from the Fitchberg and Groton-Dunstable school systems and has been an author and co-author of many astronomy books. He has written columns for *Deep Sky Magazine*, *Odyssey* and is currently writing the "Observing Basics" column for *Astronomy Magazine*. He is a member of the Amateur Telescope makers of Boston (currently Vice President), the American Association of Variable Star Observers (AAVSO), the Astronomical League, and, the Astronomy Outreach Foundation.

Glenn's talk focused on science, and in particular, astronomy-oriented humor, through his collection of comic strips he has acquired throughout the years.

"Astronomy is an activity that you have to have a sense of humor or you will go crazy". Glenn mentioned that a lot of jobs require that you have a sense of humor. He regaled us with a few stories on how humor allowed him to keep his sanity in his teaching career for over 30 years.

It is amazing how many cartoons are out there; astronomy humor, space science humor, science jokes and so forth. He noted that not all of them are "yuckers" but most will make you smile or make you think.

He organized the presentation as astronomy through the ages, starting from the "beginning" to the present, the astronomers, astrophysics made simple, the Big Bang theory, space travel and astronomy and the public.

Astronomers are almost always shown wearing a white lab coat and peering through their enormous refracting telescopes, which are always sticking out of a domed observatory. Glenn noted that sometimes the most hilarious cartoons are not factually correct.

Throughout the presentation there were outbursts of laughter, snickers and sometimes silence. Members also shared their own humorous stories.

~ Al Takeda, Member at Large and Newsletter Editor ~

Membership Report . . .

Membership count as of October 25, 2015 is at 246 individuals.

The membership renewal period ended September 1st. Please renew today as time has run out!

Many members' subscriptions to *S&T* and *Astronomy* magazine are tied to their last renewal date. You can avoid interruption of subscription delivery by renewing during the open renewal period. Detailed instructions for renewing are outlined in the September Star Fields Newsletter.

<http://www.atmob.org/newsletters/201509.pdf>

An electronic copy of the membership renewal form can be downloaded at: <http://www.atmob.org/about/join.php>

New members on record in 2015 are not required to renew at this time.

Please welcome our newest and returning members.

Craig Sandler, John Stodieck, Nicholas Goulas, Pat Power and Suzanna Black

Our communication lifeline includes the ATMOb-Announce and ATMOb-Discuss mailing lists as well as our fantastic newsletter. Please refer to these tools for up to date information on club openings, events and interesting astronomy related discussions. If you find you are not receiving ATMOb-announce, discuss or the newsletter, please contact me at membership@atmob.org. I will be happy to assist you!

The Amateur Telescope Makers of Boston, Inc. is a 501(c)3 organization. Donations are gladly accepted and are tax deductible to the fullest extent allowed by law. Consider making a tax-deductible contribution to the club during your estate and tax planning this year. Many companies make matching contributions at an employee's request. It is a simple way to make your donation go twice as far.

~ Tom McDonagh – Membership Secretary ~

Clubhouse Report . . .



(L-R) Steve Clougherty, Paul Cicchetti and Brian Maerz installing fencing *

October 2015 Clubhouse Report

Our monthly clubhouse work session was held on Saturday Oct. 24. There were a total of 21 members and friends of the ATMOb who volunteered for a number of projects that day.

Several volunteers helped Vladislav Mlch finish our tree trimming effort. Slav arrived with chain saws and ladders ready to tackle the last section of trees along the East side of the observing field. With the help of Paul Courtemanche, Al Takeda, Brian Maerz, Bill Toomey, Paul Cicchetti and Dick Koolish, this 3 season long task was completed. A huge volume of tree limbs and brush was hauled to the west side of the property. The eastern horizon has been cleared to its maximum extent, and is now limited by those trees growing on the opposite side of the street on Haystack property.

Dave Prowten is refurbishing a 13-inch Coulter Dob for eventual club members' use at Bailey Hill, NH. The truss assembly will be replaced with a solid tube, along with a new plywood mirror and rocker box.

The new snow "fence" was erected along the Clubhouse driveway. Reflectors tied to each metal post have replaced the need for the orange plastic fence barrier.

Eric Johansson pulled the Schupmann field mirror out of the telescope tube in order to have it re-aluminized by Steve Jaynes in Medford MA. The Schupmann should be ready for member use in about one month.

Steve C. and Joe Henry cleaned the 25-inch Dob, tuned up the truss tube mount and collimated the telescope. Al T. mounted and wired up a secondary heater to the 25-inch mirror cover. The Ed Knight roll-off observatory was cleaned and organized. It is now ready for observing projects throughout the year.

Many thanks to the lunch crew for all of their efforts Saturday: Eileen Myers, Maureen Maerz, Eric Johansson and Sai Vallabha.

The ATMOb Research and Imaging Observatory (ARIO) had a new 12 VDC power distribution panel installed on the Paramount GT1100 mount by Christina Sage. The red rope lighting was replaced by Bruce Berger.

The Clamshell observatory red rope lighting barrier was secured around the inside circumference of the dome by John Maher. The observatory was cleaned and Vladislav Mlch was trained on the operation of the dome and telescope equipment.

The following members and friends made this work session possible: Bruce Berger, John Blomquist, Paul Cicchetti, Steve Clougherty, Paul Courtemanche, Tom Harpin, Joe Henry, Eric Johansson, Dick Koolish, Maureen Maerz, Brian Maerz, John Maher, Vladislav Mlch, Bill Murphy, Eileen Myers, Dave Prowten, Christina Sage, Jacob Siege, Art Swedlow, Al Takeda, Bill Toomey and Sai Vallabha.

The next work party will take place on Saturday, Nov. 28th.

~ Clubhouse Committee Chairs ~

~ Steve Clougherty, John Reed and Dave Prowten ~

Clubhouse Saturday Schedule		
Nov 14	Art Swedlow	Sai Vallabha
Nov 21	George Paquin	Dave Prowten
Nov 28	WORK PARTY # 12 Glenn Chaple + Joe Wolfe	
Dec 5	Paul Cicchetti	John Reed
Dec 12	Eric Johansson	Tom McDonagh
Dec 19	Steve Clougherty	Glenn Meurer
Dec 26	WORK PARTY # 13 Prep. for New Year's Eve	
Dec 31	New Year's Eve Party	

Gary Jacobson – In Memoriam . . .



It is with extreme sadness that I tell the club about the passing of long - time ATMoB member and former treasurer Gary Jacobson of Westford. Gary lost a long battle with cancer.

Gary and I had many adventures together. We went to the Winter Star Party in Florida and the Black Forest Star Party in Pennsylvania. We traveled to see the 2013 annular solar eclipse in California, and we were both part of an ATMoB team deployed by MIT to gather data on the Kuiper Belt Object 55636 stellar occultation in 2009. Gary was the one that turned me on to lunar and asteroid occultations as a way of contributing to real science, and I'll think of him each time I'm out under the stars.

A memorial service was held at the Acton Funeral Home on Sunday, October 18th. Expressions of sympathy may be sent to the family's home at 63 Griffin Road, Westford, MA 01886.

On a final note, if anyone has pictures of Gary please let me know.

Bruce Berger

Acton Funeral Home Obituary: Gary Jacobson passed away from esophageal cancer in the early hours of October 13, 2015 at his home in Westford, MA.

Gary was born in Augusta, GA on January 13, 1956, the son of the late Robert J. and Roslyn (Bogeslov) Jacobson. He is survived by his wife, Karen Jacobson; daughters Alexis Jacobson and Hannah Jacobson; sister Toby Holmes; and many extended family members.

Gary was a lifelong amateur astronomer, having traveled to view solar eclipses in Africa, Mexico and other locations. He was a member and served as treasurer of the Amateur Telescope Makers of Boston astronomy club.

For many years, he received joy and drew inspiration and life lessons of peace and kindness from the community and music of the Grateful Dead. Gary was a loving husband, father, son and brother, and a wonderful friend to many.

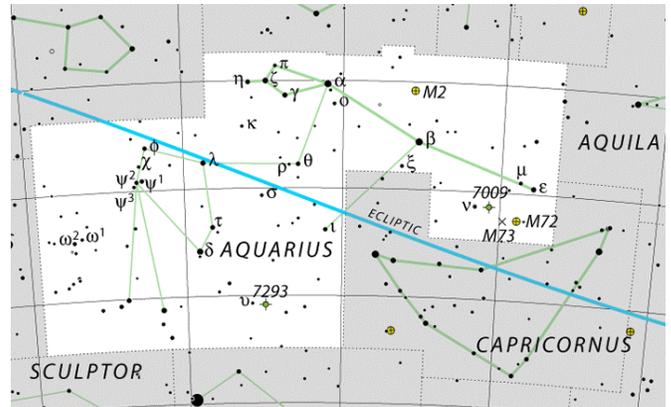
Gary was a professional mechanical engineer, having received a BS degree from Case Western Reserve University. He worked nationwide and internationally in the water and wastewater treatment, electric power generation, and custom control valve industries. His work included cutting edge development of systems used for monitoring security and quality of drinking water at cities across the nation.

A memorial service was held at the Acton Funeral Home on Sunday, October 18th. Memorial gifts to either the Mass General Hospital, Attn. Development Office, 125 Nashua St, # 540, Boston, MA 02114. On the memo line please specify Gary Jacobson-Cancer Research; or to Buddy Dog Humane Society, 151 Boston Post Rd, Sudbury, MA 01776.

Sky Object of the Month . . .

November 2015

NGC 7009 (Saturn Nebula) – Planetary Nebula in Aquarius



An entry in my astronomy logbook dated October 6, 1977 reads, "I finally notched a real stinker!" No, it wasn't one of the skunks that occasionally stroll across my back yard while I'm outside observing. My notes continue, "After numerous attempts to see the planetary nebula NGC 7009 (Saturn Nebula), I tried tonight using 60X. To my surprise, a relatively bright, bluish star would not focus clearly. When I obtained clear focus on a nearby star of similar magnitude, I returned to the mystery object. It was still "out of focus"! The elusive nebula had passed as a "star" all the time! I had to chuckle. Hopefully, I will be more careful in searches for other planetaries."

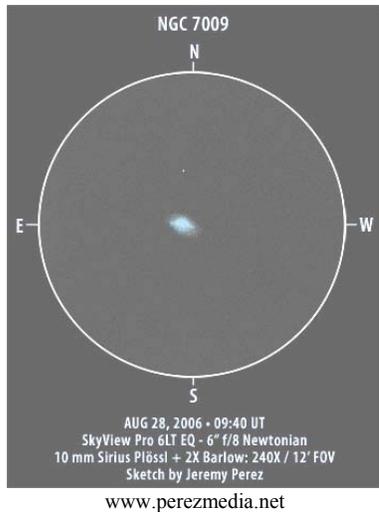
I was. In rapid order, my trusty 3-inch f/10 reflector and I picked off the planetaries NGC 7662 (the Blue Snowball) in Andromeda and NGC 6826 (the Blinking Planetary) in Cygnus.

NGC 7009 was discovered by William Herschel in 1782. When William Parsons, the third Earl of Rosse, viewed it in the 1840s with his 72-inch reflector, the Leviathan of Parsonstown, he noticed fine lines, or ansae, stretching out to the sides. The visual similarity to the planet Saturn led Parsons to give the nebula its present-day nickname.

The Saturn Nebula shines at magnitude 8.3 and sports angular dimensions of 45" by 25" - slightly larger than its namesake planet. Estimates of its distance are all over the map, ranging from as little as 1400 light years to as much as 5200 light years.

The best way to find the Saturn Nebula is to point your telescope at the 4.5 magnitude star nu (ν) Aquarii. Using a magnification of 50-75X, move a little over a degree west until a bluish star appears in the field. Then, jack up the magnification as high as your telescope and seeing conditions allow. Under ideal skies, telescopes as small as 6-inches might capture the ansae and 12th magnitude central star. Much larger apertures will be a must when the Saturn Nebula is observed from typical suburban locations.

Recently, I revisited the Saturn Nebula, this time with a 10-inch f/5 reflector and magnifying power of 208X. It was definitely elongated, but I was unable to see the ansae or central star (the limiting magnitude that night was 5.0). By chance, someone nearby was viewing the planet Uranus. I jumped at the chance to make a color comparison. Like the Saturn Nebula, it sported a pale blue color. On occasions when its ansae aren't visible, we could aptly refer to NGC 7009 as the "Uranus Nebula."



~ Glenn Chaple – Observing Committee and VP ~
Deep Space Mysteries 2016 Calendars for Sale . . .

Astronomy Magazine's wall calendars - Deep Space Mysteries 2016 – will be sold at the next monthly meetings until all are copies are sold. 50 calendars were ordered, and they will sell again this year for \$8 each, which includes a \$1.50 donation to ATMob.

According to their website: “Deep Space Mysteries 2016 calendar is filled with stunning images of stars, planets, galaxies, and other deep space wonders. A highly informative essay accompanies each inspiring photograph. For each month, celestial viewing opportunities, notable events, and national holidays are listed.”

2016 RASC Observer's Handbook for Sale . . .

Fifty (50) copies of the *Royal Astronomical Society of Canada (RASC) Observer's Handbook 2016* have been received.

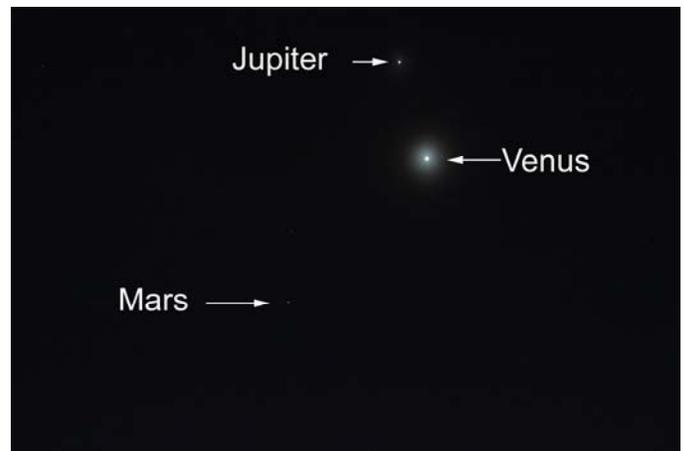
This guide is published annually and is regarded as an excellent reference for data on the sky. The first handbook was published in 1907, making this its 109th year of publication. The 2016 guide has 352 pages. The 28-page section called “The Sky Month By Month” has an extensive listing of events for each month of the year. See <http://www.rasc.ca/handbook> for more details.

They will be ready for distribution at the Thursday, November 12th and the December 12th monthly meeting. Please email Eileen directly at starleen@charter.net to reserve a copy, \$20 each.

~ Submitted by Eileen Myers ~

Morning Planetary Conjunctions . . .

For those able to drag themselves out of bed in the wee hours of the morning, a wonderful dance of the planets has been taking place in the eastern sky. This display will be occurring for the next few months, so set the alarm, get outside and look up!



Morning Planetary Conjunction. October 27, 2015, 04:45 EDT, Canon T1i, 70-200mm f/2.8L (at 125mm), 2 seconds, f/8, ISO 1600. Image by Al Takeda

Editor: * Photos by Al Takeda unless otherwise noted.

**December Star Fields DEADLINE
 Sunday, November 22th**

**Email articles to Al Takeda at
newsletter@atmob.org**

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed November 8, 2015

Amateur Telescope Makers of Boston, Inc.
c/o Tom McDonagh, Membership Secretary
48 Mohawk Drive
Acton, MA 01720
FIRST CLASS

EXECUTIVE BOARD 2015-2016

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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 (EDT) from Universal Time (UT) subtract 5 from UT.

Nov 11 New Moon
Nov 18 Leonid Meteors peak (05:00 UT)
Nov 19 First Quarter Moon (Moonset at midnight)
Nov 22 Uranus 0.9 deg. North of Moon
Nov 25 Full Moon
Nov 26 Aldebaran 0.7 deg. South of Moon. Occultation 10:44-11:32 UT
Dec 3 Last Quarter Moon (Moonrise at midnight)
Dec 7 Venus 0.7 deg. South of Moon. Occultation 17:41-18:45 UT
Dec 11 New Moon