



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. 30, No. 7 July 2018

This Month's Meeting . . .

Thursday, July 12th, 2018 at 8:00 PM

Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

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

Member Presentations



June 2018 meeting audience with their 3-D glasses *

As has become an annual tradition, our July meeting will feature short talks by ATMoB members. Vice President Rich Nugent will lead off with a description of a virtual counterweight he's using on his 20-inch Dob. Julie Kaufmann will follow with an account of her experience with the 2017 Great American Eclipse. James Synge will update us on his PANOPTES project, and Corey Mooney will wind things up with a triple-header – using 3D printing for ATM, sand casting aluminum parts for ATM, and using a low cost wide field CMOS camera to augment binocular outreach.

Please join us for a pre-meeting dinner discussion at House of Chang, 282 Concord Ave., Cambridge, MA. at 6:00 pm before the meeting.

President's Message . . .

Dear Fellow Members of the Amateur Telescope Makers of Boston, It truly is an honor to be addressing you as the club's newest president.

I have been fortunate to take on this role, with support from Vice President Rich Nugent, returning Treasurer Eileen Myers, Secretary John Harrington, returning Membership Secretary Chris Elledge, returning Members-at-Large Al Takeda and Maria Batista, and newly elected Member-at-Large Alan Sliski.

At this time I would like to extend my heartfelt thanks to outgoing President Glenn Chaple for the fine job he did in guiding the club over the last few years. I have learned much by his example and the Board will continue to lean upon his experience in the coming years. Thank you to Bernie Kosicki, who served on the executive board as Past President for 6 years. His contributions in a wide range of areas have been of great assistance to the club. I also want to thank Phil Levine and Bruce Tinkler for service to the club through their roles on the Board. Their contributions are innumerable and I am grateful. I also want to recognize the Nomination Committee (James Synge, Bruce Berger and Peter Bealo) in working diligently to put forward a slate of candidates that hopefully will represent all members of the club.

The Amateur Telescope Makers of Boston relies on volunteers to remain one of the top astronomy organizations in the country. Our Clubhouse, Observing, and Outreach committee members donate countless hours in maintaining our facilities while ensuring our members have the best resources available to them. I am heartened by the uptick in star parties we have hosted over the last few months and the number of individuals making mirrors on Saturdays. I envision further investment in our mirror making capacity as well as improving our observing and imaging capacity over the next few years. Please visit our fantastic clubhouse and take advantage of our observatories, workshops and meeting space. I know of no better facility on the East Coast. As I stated earlier, ATMoB is a volunteer based organization. I ask you to consider contributing your time through work parties, star parties and the various committees where your skills may help the club to be even better.

It is with great sadness that I must announce the passing of longtime member Sai Vallabha after a brief illness. For many years Sai was a fixture at the Clubhouse, and went out of his way to welcome new members, making them feel comfortable. He made many good friends and will be missed. A celebration of his life at the Clubhouse is in the planning stages. An announcement will be made as plans coalesce.

Unfortunately, I will miss the July meeting as I am attending a family reunion in Portugal. I intend to recharge over the summer and look forward to our September meeting kickoff. Please feel free to reach out to me and any of the board members with comments and ideas for the upcoming new year.

Best regards,

~ Tom McDonagh – President ~

June Meeting Minutes . . .



Kelly Beatty *

Summary of the ATMoB meeting held June 14, 2018 at the Harvard-Smithsonian Center for Astrophysics in the Phillips Auditorium. Club President Glenn Chaple called the meeting to order at 8:00 pm.

- The Secretary's Report was read by Phil Levine.
- Eileen Myers presented the Treasurer's Report.
- The Membership Report was presented by Chris Elledge.
- Glenn Chaple presented the Observing Report.
- The Clubhouse Report was not given.
- Tom McDonagh presented the Mirror Making Committee Report.
- The Public Outreach Committee Report was presented by Rich Nugent.
- Announcements:
Maria Batista is creating a form to be used for requesting star parties. This form will be available on the ATMoB website.

Visiting Physics professor Ala'a Azzam from Jordan attended the meeting. She introduced herself and explained that she is interested in learning about mirror making. She is hoping to make a mirror at the Clubhouse in Westford. Ala'a is a professor of Physics at the University of Jordan in Amman. She received her Ph.D. from London University College in 2013. Her field is atomic and molecular physics and her research area is the atmosphere of exoplanets.

Mario Motta announced he has been elected as one of the trustees of the American Medical Association. As author of the AMA White Paper on light pollution, Mario hopes to provide continued guidance to lighting companies.

Eileen Myers informed the membership that Sai Vallabha, longtime ATMoB member, is very ill, and has entered hospice care. *Editor's note: Sai passed away on Sunday, June 17th.*

Greg MacDonald gave a presentation about his grandfather, Mal MacDonald, who made notable resources available to the astronomical community. Please visit ssastros.org, website for the South Shore Astronomical Society, to view star charts, a table of alignment stars, and other resources listed under "Mal's Downloads".

- Old Business: None
- New Business:
A collection was taken for the ATMoB website's Clear Sky Chart. The web pages, computer programs and databases at cleardarksky.com are written by Software Architect and Designer Atilla Danko. The money collected will be sent as a donation to Atilla.

Voting was conducted for the club's board member positions. Elected were: President - Tom McDonagh, Vice-President - Rich Nugent, Secretary - John Harrington, Treasurer - Eileen Myers, Membership Secretary - Chris Elledge, Members-At-Large - Maria Batista, Alan Sliski and Al Takeda.

Glenn Chaple introduced the guest speaker for the evening, Kelly Beatty. His talk was titled: "Mysterious Mars". Kelly outlined how throughout history many believed Mars was inhabited. He then detailed how early orbiter and later lander missions have contributed to our current understanding of Mars geology, climate, and atmosphere. Kelly discussed theories regarding how Mars may have lost its magnetic field, atmosphere, and water. He provided 3-D glasses, which displayed striking realistic images that made us feel as if we were visiting the red planet firsthand.

Refreshments were provided by Al Takeda

Glenn Chaple adjourned the meeting at 9:45 pm

~ *Phil Levine - Secretary* ~

Meeting Recordings . . .

The recording of ATMoB meeting #910 is available on YouTube: <https://youtu.be/E67XzVvcfAo>

I would like to thank Kelly Beatty for allowing us to record his presentation, Mysterious Mars.

This link is to the publicly available cut of the meeting recording. To view the original version of the meetings, please see the Announce Forum on the ATMoB Website <http://www.atmob.org>

~ *Chris Elledge - Membership Secretary* ~

Membership Report . . .

I am pleased to welcome our newest members: David Gardner; Monika Gupta; Mark Helton; James Jensen; Emma Jorgensen; Cathy Keller; Jim McLaren; Meagan Patrick; Nitin, Agamy, and Ajanerya Aggarwal; and Laura and Charlotte Zarba.

As of June 25th, 2018 we have 331 memberships covering 413 members. This is broken down as follows:

- 167 Regular Members
- 107 Senior Members
- 10 Student Members
- 43 Family Memberships covering 125 Members
- 3 Guest Members

Yearly membership renewals are due by September 1st. If you joined the club after January 1st this year, your membership is not due for renewal until next year.

You can check if you need to renew and start your renewal process on the website at <http://www.atmob.org/renew>

You can also download the membership application from the website at <http://www.atmob.org/signup> by clicking on the "Download an application" link.

Donations are encouraged during membership renewal to help keep our club running smoothly, our clubhouse maintained, and telescopes in good condition. Donations are tax deductible to the extent allowed by law. If you choose to pay by credit card, please consider making at least a small donation since credit card companies take a few percent of your payment to the club.

Please contact me if you need any help with renewing or logging into the website.

~ Chris Elledge – Membership Secretary ~

Clubhouse Report . . .



Professor Ala'a Azzam of Jordan *

June 2018 Clubhouse Report

It's summertime folks! Throughout the day the heat index kept rising as the temperature climbed to 95° F. So a special thanks go out to our intrepid 24 volunteers who accomplished today's tasks under very difficult conditions: John Blomquist, Bruce Berger, Paul Cicchetti, Paul Courtemanche, Nina Craven, Pierre Fleurrant, Marion Hochuli, Destin Heilman & Will Heilman, Barry Jensen, Eric Johansson, Dick Koolish, Ed Los, John Maher, Mike Mattei, Eileen Myers, Rich Nugent, Dave Prowten, John Reed, Sankar Ramamoorthi, Gus Simiao, John Stodieck, Art Swedlow, and Al Takeda.

This report covers activities on Saturday, June 30, 2018. As we arrived at 9:45 am, we were met by the aroma of freshly brewed coffee and the box of Dunkin doughnuts provided by John B. However, due to the challenging daytime conditions, most people had switched to water to stay hydrated. By the end of day we had consumed over 2 cases of bottled water.

John B. had mowed the property the week before, so he guided a team that trimmed and cut back brush along the perimeter. The debris was dragged to the edge of the field to the brush pile. Another group used the power mowers to trim around all of the structures, and raked the entire property. The volunteers were John S., Paul Co., Destin H. & Will H., Pierre F. and Al T. Also, in the afternoon, Al T. was seen cutting brush along the West edge of the observing field, and spraying herbicide onto the isolated poison-ivy plants that he encountered.

Meanwhile Dave P. and Rich N. dismantled the 17-inch Wray Dobsonian reflector that is housed in the Greg Chase hutch enclosure. The mice had departed, but evidence of their presence was found inside of the telescope tube. The nests were removed and the OTA (optical tube assembly) was completely cleaned and disinfected. This problem was encountered when someone cut holes in the wire mesh screen at the collimation bolts below the primary mirror end of the OTA. The mirror was cleaned, inspected and reinstalled. A new wire mesh screen, without holes or gaps, will now keep the telescope secure from rodents. Collimation was initiated, but further work is needed before the 17-inch will be usable.

We unfortunately lost our astro-buddy and long time friend, Sai Vallabha, this past month. We will miss his friendship and encyclopedic memory of our night sky. Work will continue at the next work party or before, as skies allow, on "his old instrument". Rich N. has volunteered to take over Sai Vallabha's duties and responsibilities, teaching star hopping to new members using "Sai's" 17-inch Newtonian Dob. New members will enjoy Rich's approach to star hopping.

Mirror making started at 10 am this day under the guidance of Mike Mattei, Ed Los, and Barry Jensen. Today's mirror maker was Prof. Ala'a Azzam of Jordan, who will take this information and learned skill to assist her in creating a similar mirror making facility for her students in Jordan. This was her third day of "pushing glass" and gathering info. Her mirror is now in the polishing stage. This was a 12 hour day.

John M. held a training class for the Clamshell Observatory, Losmandy EQ mount and the Meade 10-inch scope.

Lunch was prepared, served and cleaned up by our faithful lunch crew.

Several machine shop projects were completed.

While it was too hot and humid for applying stain today, we can start with the East side of each telescope enclosure and building at the next work party. Later we will proceed to the North side of each structure. Our goal is to have painting completed in time for our picnic in September.

Observing would have been possible between clouds, however the mosquito reaction to the warm weather was such that no human wished to test their abilities.

The Clubhouse was closed around midnight.

Important Notice: Mirror making sessions will now take place on **Saturday afternoon's beginning at 3:00 pm. Other times may be scheduled. Check your email on the ATMob-ANNOUNCE list.**

~ *Clubhouse Committee Chairs* ~

~ *Steve Clougherty, John Reed and Dave Prowten* ~

Clubhouse Saturday Schedule		
July 7	Joe Henry	Glenn Meurer
July 14	Bruce Berger	Mike Hill
July 21	Brian Maerz	Rich Nugent
July 28	WORK PARTY # 8 ** Dave Siegrist	
August 4	John Maher	George Paquin
August 11	CLOSED FOR STELLAFANE	
August 18	Glenn Chaple	Bill Toomey
August 25	WORK PARTY # 9 ** John Panaswich	
September 1	Bruce Berger	Jim Gettys
September 8	Steve Clougherty	Al Takeda

** Closing time for the Clubhouse is determined by the work crew

Clubhouse Evening Schedule	
Friday Night Educational Videos	7:00 pm - 10:30 pm #
Saturday Afternoon Mirror Making	3:00 pm - ##
Saturday Night Observing	7:00 pm - ##
# Closing time is determined by the organizers	
## Closing time is determined by the "A" members on duty.	
Saturday afternoon mirror making schedules will be posted to the ATMob-ANNOUNCE email.	
Note: The Clubhouse is closed on the 2nd Thursday of the month for our monthly meeting in Cambridge.	
Due to inclement weather 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 email messages posted to ATMob-ANNOUNCE.	

June Outreach Report . . .



Bernie Kosicki giving his walking tour of the solar system. Image by Rich Nugent

Innovation Academy Charter School Star Party

Due to the late arrival of darkness, running a star party 2 nights before the summer solstice is never easy. But ATMob members showed up at the Innovation Academy Charter School in Tyngsboro, MA on June 19th to do just that.

The primary date had been set for the previous evening, but storms passing through the area prompted us to postpone for a night. It was a good decision. The skies were crystal clear the following day.

Despite the bright sunshine, we set up our telescopes and began showing the students, teachers, and parents Venus, the 6-day old Moon, and Jupiter with its entourage of satellites. During twilight, Bernie Kosicki gave a walking tour through a model of the solar system he had set up. Later Glenn Chapel encouraged students to snap photos of the moon using their smart phones and his telescope. Those staying late were treated to some nice views of Saturn as it rose in the south-east, some beautiful double stars, and some of the brighter deep-sky objects. All told, about 50 folks were in attendance.

The two student organizers are rising seniors at the school, and are hoping that we can return during the next school year for another evening of astronomy.

We would like to thank the ATMob members that were in attendance: Joe Dechene, Pierre Fleurant, Bernie Kosicki, Brewster LaMacchia, Corey & Keira Mooney, Tom McDonagh, Rich Nugent, John Stodieck, and Bob Toop.

Summer Star Party Training

Laura Sailor and I are planning an event later this summer for members to learn what goes on at star parties and how they can become part of these outreach events. Stay tuned for a date and time!

~ *Outreach Committee Chair Rich Nugent* ~

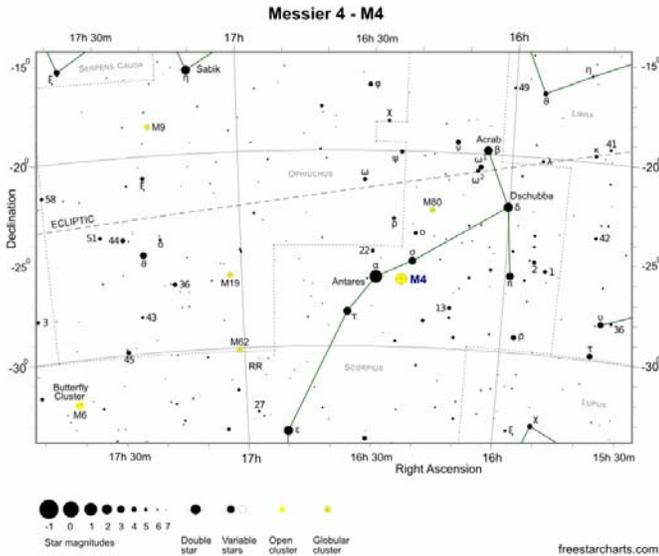
Sky Object of the Month . . .

July 2018

(Courtesy LVAS Observer's Challenge***

Messier 4 – Globular Cluster in Scorpius

Mag. 5.8; Size 26'



For the second straight month, the Las Vegas Astronomical Society's Observer's Challenge is a Messier object – this time, the globular cluster M4 in Scorpius. M4 is bright and easy to find (it's visible in binoculars just 1.3 degrees west of Antares), so where is the challenge? For starters, M4 is rather sparse as globular clusters go. What is the smallest aperture that resolves its stars? Secondly, William Herschel reported "a ridge of stars running through the middle from south preceding to north following." This spindle of 10th to 12th magnitude stars appears in the Mario Motta image. Can you see it visually, and with what aperture and magnifying power? Herschel also noted that these stars were red. Can you detect any color?

At a distance of approximately 7200 light years, M4 is one of the nearest globular clusters. It was discovered by the Swiss astronomer Jean-Philippe Loys de Chéseaux in 1746 and was catalogued by Messier 18 years later.

August 2018

Courtesy LVAS Observer's Challenge***

IC 1295 – Planetary Nebula in Scutum

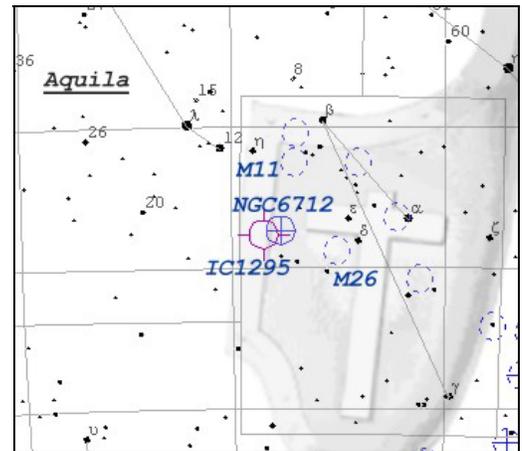
Mag. 12.7; Size 1.7' X 1.4'

This little-known planetary nebula was discovered by American astronomer/mathematician Truman Henry Safford on August 28, 1867. Its listed magnitude of 12.7 might cause backyard astronomers to shy away, but IC 1295 has a high surface brightness and may be glimpsed from dark-sky locations with telescopes as small as 6 inches in aperture. An OIII filter and moderately high magnification are essential if you want to visually detect IC 1295, let alone pick out any detail. A bonus is the presence, just 0.4 degrees west-northwest, of the 8th magnitude globular cluster NGC 6712.



IC 1295 and NGC 6712. www.capella-observatory.com

Your challenges: What is the smallest aperture with which IC 1295 can be seen? Can you detect any detail when using a large-aperture scope? Finally, can you see (or image) the 17th magnitude central star?



www.astrosurf.com

***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) or Fred Rayworth (fred@fredrayworth.com). To find out more, click on the following links: [LVAS Observer's Challenge past reports](#) and/or visit the [Las Vegas Astronomical Society website](#).

~ Glenn Chaple for the LVASS ~

Editor: * Photos by Al Takeda unless otherwise noted.

September Star Fields DEADLINE
Sunday, August 26th

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed July 8, 2018

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

EXECUTIVE BOARD 2018-2019

PRESIDENT: Tom McDonagh (617) 966-5221

VICE PRES: Rich Nugent

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2015 - 18 Glenn Chaple (978) 597-8465

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COMMITTEES

CLUBHOUSE: John Reed (781) 861-8031

Steve Clougherty (781) 784-3024

David Prowten (978) 369-1596

OBSERVING: Bruce Berger (978) 387-4189

NEWSLETTER Al Takeda newsletter@atmob.org

PUBLIC OUTREACH

COMMITTEE CHAIR: Rich Nugent starparty@atmob.org

STAR PARTIES: Bernie Kosicki

Laura Sailor

John Harrington

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 Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

July 6 Last Quarter Moon (Moonrise at midnight)

July 12 New Moon, Pluto at opposition.

July 12 Mercury at its greatest eastern (evening) elongation (26 degrees)

July 19 First Quarter Moon (Moonset at midnight)

July 27 Full Moon (apogee). Mars at opposition, Delta Aqariid meteors

Aug 4 Last Quarter Moon (Moonrise at midnight)

Aug 11 New Moon, Perseid meteors

Aug 18 First Quarter Moon (Moonset at midnight)

Aug 26 Full Moon