



## 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. 7 July 2015

### This Month's Meeting . . .

Thursday, July 9<sup>th</sup>, 2015 at 8:00 PM

Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

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



### Development of the Astroscan Wide-Field Newtonian

This month's speaker will be former ATMoB member, Norman Sperling. Norm will cover some of the history and background of the development of the popular Astroscan telescope. The Astroscan is a wide-field Newtonian reflector telescope produced by the Edmund Scientific Corporation. It was designed by Norman Sperling and Mike Simmons to be used as an introductory telescope. Rather than using a more traditional equatorial or alt-azimuth mount, the Astroscan features a spherical housing around the primary reflector, which sits in a cast aluminum cradle. The design is durable and allows for simple operation by novice amateur astronomers. It won an Industrial Design Award in 1976.

Sperling received a BA from Michigan State University after graduating from Montgomery Blair High School in Silver Spring, Maryland. He followed that with an MA in History of Science from the University of California, Berkeley. He has taught astronomy and related courses at Sonoma State University, California State University, Hayward, UC Berkeley, and San Francisco State University. He has also taught many personal interest adult classes. Sperling currently lives in San Mateo, California.

Norm founded the astronomical supplier and publisher blog, *Everything in the Universe*, in 1977. He was an assistant editor for *Sky & Telescope* magazine and, as of 2011, the editor and publisher of the *Journal of Irreproducible Results*, a science humor magazine. He has authored *What Your Astronomy Textbook Won't Tell You* and edited and published John Dobson's book *How and Why to Make a User-Friendly Sidewalk Telescope*. He has also been published in *Technology Review*, *Astronomy*, *Pacific Discovery*, *Journal of College Science Teaching*, *Mercury*, *Popular Astronomy*, *Telescope Making*, *Griffith Observer*, and *Reflector*.

Norm also invented for Spherical Concepts, Inc. an acrylic globe named "The Stars Above", which is sold as a personal planetarium.

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

### Aurora Borealis . . .



Aurora Borealis. June 23, 2015, Harvard, MA. Image by AI Takeda

Sunspot, Active Region AR2371, produced an M2 class flare and sent a coronal mass ejection toward the Earth on June 21st. On the evening of June 22rd, the Kp index fluctuated between 7-8 and produced an auroral display that was seen visually. Faint whitish "curtains" could be detected and occasionally, dim reddish areas would appear on the northern horizon between the Big Dipper and Cassiopeia.

~ AI Takeda – Member at Large and Newsletter Editor ~

## Member Night Presentations . . .



Mario Motta talking about the 3rd International Artificial Light at Night (ALAN) conference held in Quebec. \*



Bernie Voltz updating the membership on the upcoming 2017 eclipse trip. \*



Penny Lucinian presented her personal radio astronomy project. \*



John Sheff talked about the New Horizons planet Pluto mission. \*

## Membership Report . . .

Membership count as of June 26, 2015, is at 320 individuals.

Please welcome our newest and returning members:

Nikosi Muhangi, Mark Bouyer, Walter Carrington, John Bilancieri, and Anees Buxamusa.

The club's fiscal year began June 1st. The membership renewal period begins at this time. Please renew today! 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 now! Please follow the instructions outlined in the June 2015 Starfields newsletter.

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

If you cannot access the website or have forgotten your password, please contact me via email at:

[membership@atmob.org](mailto:membership@atmob.org).

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 Clubhouse openings, events and interesting astronomy related discussions. Contact me with questions regarding accessing these options at: [membership@atmob.org](mailto:membership@atmob.org).

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 ~*

## Annual Club Picnic at the Clubhouse . . .

Saturday, September 19, 2015 at 3:00 PM

All Members and their Families are invited

Saturday, September 19th is the date of this year's Annual Club Picnic at the Clubhouse in Westford, start time 3:00 P.M. Enjoy a day with good food and lots of astronomy talk with other ATMob members.

Please bring a favorite dish to share - salad, main dish, dessert, soup, appetizer, fancy bread,... A serving utensil would be helpful. We will provide hamburgers, drinks, potato chips, ketchup, mustard, coffee, paper goods and plastic cutlery.

Club members, their families and friends are invited. There will be astronomy activities for kids of all ages. Planned activities are a tour of the clubhouse facilities, a demonstration of mirror grinding, and the ever popular walk "up the hill", stopping along the way to talk about the MIT Haystack Observatory facility.

Share your astronomy stories and experiences. Bring any astrophotography images you would like to show. There will be daytime H-alpha and white light solar viewing and night sky observing after sunset (all, weather permitting). The picnic is on rain or shine. Bring lawn chairs or blankets to sit on. Bring your favorite suntan lotion and mosquito repellent. Observing will continue until Midnight if the sky is clear, so bring your telescope and your observing clothing and gear. The club's scopes will be open too.

Directions to the Clubhouse can be found on the last page of *Star Fields* and at the club website [www.atmob.org](http://www.atmob.org).

Questions - Email Eileen Myers at [starleen@charter.net](mailto:starleen@charter.net)

Don't miss the fun!

Organized by ATMob's Good Times Co-Hosts and Co-Chefs

~ Eileen Myers - Treasurer ~

## Clubhouse Report . . .



Steve Clougherty Weed Whacking \*

## May 2015 Clubhouse Report

The clubhouse hosted two work parties during May and a total of 26 members and friends were on hand for various projects.

Tree and brush trimming continued in May and several members helped haul away numerous loads to the tree line on the West side of the property. We have completed about half of the necessary trimming on the East side of the observing field to date. Other members scraped and sanded the porch railing on the clubhouse. The railing and posts will be stained once this prep work has been completed.

Special thanks to John Blomquist for hauling his tractor to the clubhouse during the week and spending nearly 5 hours mowing the lawn. His effort has greatly reduced the number of members needed to hand push-mow the property.

Phil Rounseville conducted a mirror cleaning clinic during the afternoon of the second work party on May 30.

John Maher trained a group of members who are interested in using the Meade 10 inch SCT telescope housed in the clamshell observatory.

Thanks to the kitchen crew for providing a great lunch on both occasions.

The next scheduled work party will be held on Saturday, Aug. 1.

Thanks to the following members and friends for all of their volunteer efforts during the month of May: Susan Adam, Jason Adam, Joshua Ashenberg, John Blomquist, Paul Cichetti, Steve Clougherty, Paul Courtemanche, Nina Craven, Karl Dean, Jeffrey Dean, Charlie Gettys, Jim Gettys, Joe Henry, Jan Hoey, Eric Johanson, Dick Koolish, Penny Lucinian, John Maher, Mike Mattei, Bill Murphy, Eileen Myers, Gary Phillips, Dave Prowten, Cheryl Rayner, John Reed, Bill Robinson, Phil Rounseville, Jacob Siegel, Art Swedlow, Al Takeda, Bill Toomey, Sai Vallabha, and Joe Wolfe.

~ Clubhouse Committee Chairs ~

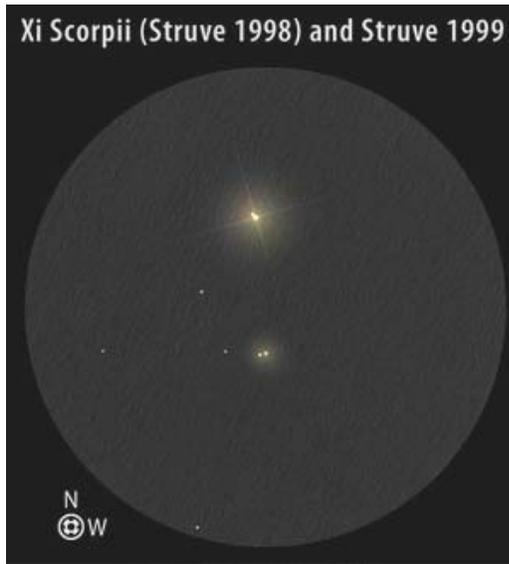
~ Steve Clougherty, John Reed and Dave Prowten ~

Clubhouse Saturday Schedule		
July 11	<b>THE CONJUNCTION</b> Joe Henry + Cheryl Rayner	
July 18	Karl Dean	Bill Robinson
July 25	John Maher	Glenn Meurer
Aug 1	<b>WORK PARTY # 8</b> Eileen Myers + Rich Nugent	
Aug 8	Brian Maerz	John Panaswich
Aug 15	<b>STELLAFANE</b>	
Aug 22	Dave Siegrist	Bill Toomey
Aug 29	<b>WORK PARTY #9</b> Bruce Berger + Mike Hill	
Sept 5	<b>ARUNAH HILL DAYS</b> Jim Gettys + Phil Rounseville	
Sept 12	Eileen Myers	Rich Nugent

# Sky Object of the Month . . .

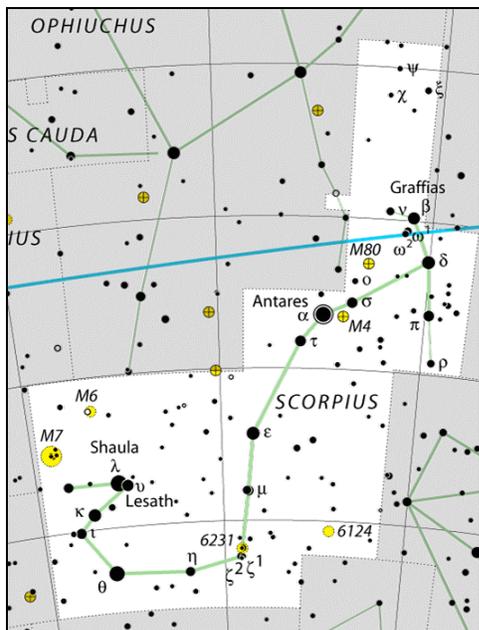
July 2015

Xi ( $\xi$ ) Scorpii ( $\Sigma$ 1998) – Double Star in Scorpius



Sketch by Jeremy Perez (www.perezmedia.net)

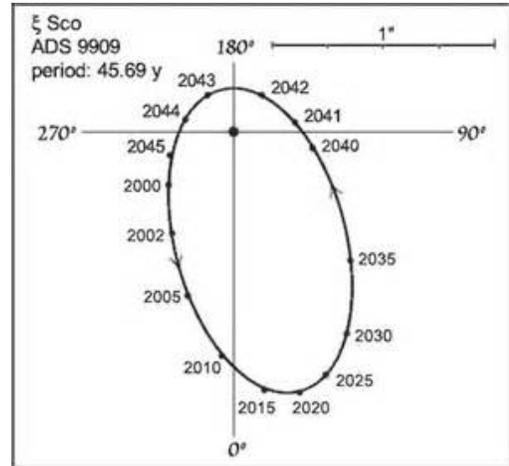
Our cosmic wanderings take us 93 light years away to the triple star xi ( $\xi$ ) Scorpii ( $\Sigma$ 1998), located in the Scorpion's northwest corner. A 60mm refractor magnifying 60X will reveal two stars (xi Scorpii A and C), of magnitudes 4.9 and 7.3 and separated by 7.0". If the seeing is extremely steady, check out the brighter star with a larger scope (minimum aperture of 4 inches) and magnification of 150X or more. You should capture a magnitude 5.2 companion (xi Scorpii B) just 1.1" away. Xi Scorpii A and B are a binary pair with an orbital period of 46 years. As the diagram shows, they are currently near greatest separation.



www.constellation-guide.com

When I first viewed xi Scorpii with a 3-inch reflecting telescope in the summer of 1971, I was surprised to see a faint

double star in the same field. I had "discovered"  $\Sigma$ 1999 (magnitudes 7.5 and 8.1; separation 11.8". Although nearly 5 minutes of arc separate  $\Sigma$ 1999 from xi Scorpii, the two have the same common proper motion and are likely gravitationally bound. When viewing xi Scorpii and  $\Sigma$ 1999, pay close attention to the colors of their component stars. Xi Scorpii A and B are F-type stars, while C is a cooler G8 dwarf. Both  $\Sigma$ 1999 stars have K spectral classes. What colors do you see?



www.dibonsmith.com

~ Glenn Chaple – Observing Committee and VP ~

## Upcoming Conventions . . .

### Connecticut River Valley Astronomers Conjunction

Friday, July 10, 2015 through Sunday, July 12, 2015

Some ATMoB members stay over Friday night to observe; some go only for the day on Saturday

Northfield Mountain Recreation and Environmental Center  
99 Millers Falls Road (Route 63), Northfield, MA 01360  
Highlights: Solar observing ("Barlow Bob" Memorial Solar Star Party), dark sky observing, lectures, swap tables, raffle prizes

Speakers:

- Jack Megas - "The Universe According to Chaple"
- Steve Hubbard - "Dance of the Polar Lights"
- Dick Parker - "Building Your Own Antique Telescope"
- Ed Faits - "Humans or Robots: The Future of Space Exploration"
- Keynote Speaker: J. Kelly Beatty – "Encounter with Pluto"

<http://www.philharrington.net/astroconjunction/>

## Stellafane Convention

Presented by the Springfield Telescope Makers

Thursday, August 13, 2015 through Sunday, August 16, 2015

Springfield, Vermont

Highlights: Dark sky observing, solar observing, lectures, mirror grinding and telescope making demos, swap tables and raffle prizes.

ATMoB Speakers:

- Al Takeda – “Deep Sky Imaging with Small Scopes”
- Glenn Chaple  
“Seeing Red – Observing Carbon Stars”  
“An Introduction to Telescopes for All Ages”
- Mario Motta – “The Health and Environmental Dangers of Blue Light at Night”
- Phil Rounseville – “Making Pitch Laps”
- John Briggs – “Discover and Enjoy the Night Sky”

John Briggs is also the founder and organizer of the Hartness House Workshop Series. This year's theme:

Innovation in Astronomy Education and Outreach

<http://stellafane.org/convention/2015/2015-hhw.html>

Thursday, August 13, 2015

Hartness House, Springfield, VT

[www.stellafane.org](http://www.stellafane.org)

## For Sale . . .

George East has retired and is selling his house and observatory in Sudbury. The following items are for sale:

- Vintage fork-mounted Celestron 14 with Byers retrofit drive, wedge and tripod. Primary mirror needs re-coating. \$2000
- SBIG ST-8XE CCD Camera and CFW-8 5-position Filter Wheel with L, R, G, B, H-Alpha filters. \$1000
- Mirror grinding machine. \$100
- Bridgeport vertical milling machine with J Head and 9" x 36" table, 1 Hp motor and phase converter, collets, vise, rotary table, drill chuck, boring head, and misc. milling cutters. \$2500
- South Bend lathe, 16" swing x 36" between centers, phase converter, collets, taper attachment, 3 and 4 jaw chucks, face plate, boring bar, follower, steady rest, drill chuck and misc. tool holders and cutting bits. \$1800
- Note: Phase converter allows 3-phase motor to operate from household power.

Please contact George at [George.East@comcast.net](mailto:George.East@comcast.net) or 978-460-3049.

*Editor: \* Photos by Al Takeda unless otherwise noted.*

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**September Star Fields DEADLINE**  
**Sunday, August 23<sup>rd</sup>**

**Email articles to Al Takeda at**  
**[newsletter@atmob.org](mailto:newsletter@atmob.org)**

**Articles from members are always welcome.**

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**POSTMASTER NOTE: First Class Postage Mailed**

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

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<b>PUBLIC OUTREACH</b>		
STAR PARTY COORDINATOR:	Virginia Renehan	<a href="mailto:starparty@atmob.org">starparty@atmob.org</a>

## How to Find Us...

### Web Page [www.atmob.org](http://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](http://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 15 New Moon  
July 18 Venus 0.4-deg N. of Moon  
July 24 First Quarter Moon (Moonset at midnight)  
July 28-29 S. Delta Aquariid Meteors peak  
July 31 Full Moon  
Aug 6 Last Quarter Moon (Moonrise at midnight)  
Aug 13 Perseid Meteors peak  
Aug 14 New Moon  
Aug 22 First Quarter Moon (Moonset at midnight)