



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

Vol. 18, No. 7 July 2006

This Month's Meeting...

Thursday, July 13th, 2006 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

Parking at Cfa is allowed for duration of meeting

We have a late addendum to this month's meeting. In addition to presentations by some of our members, Mr. Robert Benoit, Manager of the Optical Division and Systems Engineer at SSG Precision Optronics in Wilmington, MA will speak first about optical systems design and fabrication for aerospace applications. SSG's Optical Fabrication Division specializes in the polishing of small to moderately large (up to 1 meter) off-axis, low scatter, aspheric optical components for use in space environments to cryogenic temperatures. They are currently working on mirrors for the James Webb Space Telescope. Mr. Benoit, with a degree in applied physics, brings 20 years of experience in optical systems project management and is responsible for overseeing all aspects of fabrication of optics for SSG's flight telescope systems. Some of Mr. Benoit's accomplishments include work on the following projects:

- CLAES – a cryogenic IR spectrometer in polar orbit used to characterize the defects in the earth's ozone layer.
- MICAS - a multi wavelength integrated camera and spectrometer on board NASA's Deep Space One spacecraft, which rendezvoused with Comet Borrelly.
- HSI/OMS – a hyperspectral imaging telescope aboard NASA's ill-fated Lewis spacecraft
- CIRRIS 1A, SPIRIT 2, – space shuttle and rocket borne cryogenic IR spectrometers used by NASA/DOD to characterize the earth limb
- SBV and SPIRIT 3 – visible and IR telescopes on board the DOD's Midcourse Space Experiment

(MSX) spacecraft, used to characterize the earth limb and atmosphere

Please join us for a pre-meeting dinner at 5:45 PM (seating at 6:00 PM) at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge.

President's Message...

Thank you, Bernie Volz, outgoing ATMoB President, for a productive year in service to the club. In addition to facilitating our full executive board meetings and scheduling a series of great guest speakers, Bernie, along with Peter Richardson, Brewster LaMacchia, Bruce Berger and Henry Houh, spearheaded the effort to create a new club website. No small task! For those who have not visited the site, you should. The new website is more interactive. Members can now contribute directly to site content – add your favorite photos, post an event, create your own member profile. Your feedback on the new site is welcome.

We also extend our thanks to outgoing Clubhouse Director, Paul Cicchetti, who, after 14 years of dogged effort to keep our aging clubhouse afloat, often against insurmountable odds, has decided to step down. Paul will focus his efforts on college prep for his sons, his boy scout troop, and completion of a home construction project. Dave Prowten, long-time clubhouse committee member and our resident carpenter/builder par excellence has been appointed to join Clubhouse Directors John Reed and Steve Clougherty.

We have some new faces on the Executive Board this year. Welcome Al Takeda, who many of you know from star parties, as well as his excellent photography work. Long-time member, Steve Beckwith also joins the Board as Vice-president. We have lured him back from his home observatory in Bolton, MA. And with this year's change in Club President, Bob Collara will be relinquishing his board post as past president. Thank you Bob for six years of service to the club as a member of the Executive Board.

As summer moves into full swing, don't forget to include some of the following astronomy events on your calendar – in particular, the annual club picnic.

July 17-19th Community Cosmos Educator/ Amateur Astronomer enrichment workshop in Earth and Space Science, Halibut Point State Park, Gloucester, MA. To register go to www.mos.org/nessie/events.php

July 28-29th Stellafane, Springfield Vermont. www.stellafane.com

August 5th ATMoB Clubhouse, Westford. Annual club picnic and new member orientation.

August 18-20th The Conjunction, Northfield, MA. www.philharrington.net/astroconjunction

August 25-27th Arunah Hill Days, Cummington, MA. www.arunah.org/calendar.html

-Virginia Renehan, President -

New Executive Board . . .

At the June meeting a new executive board was voted in by the membership.

President	Virginia Renehan
Vice President	Steven Beckwith
Secretary	Al Takeda
Treasurer	Gary Jacobson
Membership	Daniel Winchell
Member at Large	Bruce Tinkler
Member at Large	David Prowten

June Meeting Minutes . . .

The June meeting of the Amateur Telescope Makers of Boston started with an announcement of the launch of the updated club website. Peter Richardson showed and described various features and the member's profile area. Bernie thanked the new web advisory committee, Peter Richardson (software), Bruce Berger, Brewster LaMaccha, Henry Hauh (content) for this project.

The featured speaker was Joshua Semeter, Assistant Professor of Electrical and Computer Engineering at Boston University. Joshua's talk was about "Optical Remote Sensing of the Aurora Borealis." His answer to why we study auroras is that " It is basically the only 3-dimension time dependent projection of the magnetosphere of the earth. The magnetic field lines forecast are a lens to the atmosphere. . Think of it as plasma laboratory without a wall. There are properties you can study in the natural plasma of the Earth's atmosphere that you can't study under the spatial stations in Tokamac or other types of terrestrial plasma devices." He went on to describe the aurora creation process. The solar wind is heavily modified by prominences and flares and are flung back and forth to the earth. The magnetic field and particles are tied together and they change the dipolar nature of the earths magnetic field. He describes the magnetosphere as "a big capacitor back there. It charges up and charges up and charges up for a long time and then suddenly something happens. We really don't know what exactly. We call it a storm or sub storm. That can trigger the magnetosphere to bounce back to a dipolar configuration. This manifests itself as a storm. He mentions that "the Aurora is not produced by the direct entry of particles from the earth planetary space as it is sometimes found in the literature. Interplanetary space acts like the trigger to the gun but the gun is back here with the plasma feeder holding the particles which produce the true Aurora." For his studies, he would like to use an imaging spectrometer but needs to keep the bandpass narrow (within 10 A or 1 nm). "So you have to design an optical system that has 2 contradictory goals. We need to look at large field of view i.e. large angle into the device and a

narrow filter." The solution is a telecentric system. "They might put an all-sky objective out front with a telecentric optic in the middle. We can restrict the angle of the filter can be + or - 3 or 4 degrees and can widen the passband of the filter." He proceeded to show some aurora movies showing arcs (decoupling). The next showed pulsations. These are caused by the high energy particles leading then the low energy particles following. They always pulse upwards. The last showed auroras with an afterglow. He described it as " the metastable emissions of atomic oxygen".

The business meeting followed with Bernie Volz handing out Certificates of Appreciation to Mike Hill, Virginia Renehan, John Reed, Paul Cicchetti, Steve Clougherty, Dr. Fred Ward, Shawn Bryan of Newton Roofing. Bernie then gave a few last words as President. Since there was no other nominations, the slate of candidates were elected by a voice vote. Mike Hill gave the Secretary report. Dan Winchell gave the membership report. Gary Jacobson gave the treasurers report including the year end report. John Reed gave the clubhouse report. He congratulated the members that helped prepare the forms for the concrete pour during the torrential rains. Virginia showed some images of that work party. The next work party on June 10 will involve removing the concrete forms. Virginia Renehan thanked Bruce Tinker for representing the club at the Science Center at Portsmouth, NH. She also reported on an a convention of Radcliff alumni at the CFA. John Reed and Dick Koolish opened up the 9 inch refractor for them . Bernie floated an idea of a question of the day on the ATMob website. Charlie McDonald had comments on Project Astro participation. Bernie reported on the Executive Board meeting on June 1 to approve the budget (\$13,385) for the new fiscal year. Bruce Berger reports that the classes for the C14, The Sky and CCD Soft are proceeding slowly due to the bad weather. Eileen Myers announced that StarConn is on June 17. Mario Motta talked about the final assembly of his 32 inch relay scope. Some images of the assembly were shown. Paul Vallelli announced the Stellafane convention on July 28-29. The ATMobs are also invited to Stellafane on June 23 for training on the Schupmann and Portor telescope. The club's Shupman has been disassembled. Ken Launie is donating a set of telescope making books to the club and a couple of 5 lb. pails of silicon carbide. Dick Koolish showed his copy of Century Magazine, Sept 1923 which has Robert Frost's Starsplitter. John Boudreau showed his Jupiter images using his C11 at f26 (FL6200 mm) and a Phillips 2U cam from May.

- *Al Takeda* -

Membership Report . . .

This month we have 1 new member:

JOYCE WU from Brookline

- *Dan Winchell* -

Annual Club Picnic . . .

Saturday, August 5th is the date for this year's Annual Club Picnic held at the Tom Britton Clubhouse in Westford! Starting at 3:00 P.M., sit down with other ATMob members and enjoy the day sharing your astronomy stories and experiences. Please bring a tasty dish to share - salad, main dish, dessert, soup, appetizer, fancy bread, anything goes! A serving utensil would be helpful. We will provide the hamburgers, kielbasa, potato chips, ketchup, mustard, coffee, paper goods and plastic cutlery. The food is always varied and delicious. There will be solar viewing during the day 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 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.

Club members, their families and friends are invited. Do bring the kids and grandchildren. There will be a tour of the clubhouse facilities and a demonstration of mirror grinding. There will be opportunities for kids to take part in astronomy activities. We also plan to walk and/or drive "up the hill", stopping along the way to talk about the MIT Haystack Observatory.

Directions to the clubhouse can be found on the last page of *Star Fields* and at the club website www.atmob.org.

Questions - Email hosts Eileen Myers at starleen@charter.net or contact Chief Chef John Reed at 781-861-8031.

Don't miss the fun!
Clear skies,

- Eileen Myers and John Reed -

For Sale . . .

Original orange tube Celestron C-8.
Fork mount, variable speed drive, stand, wedge and tripod, 4 eyepieces, barlow and diagonal.

\$200 or best offer. Proceeds will go to the club as a donation. The scope will be shown at the July meeting.

-Ed Los-

Astronomy Day 2006 . . .



Bruce Gerhard showing the sun



Sunset



Eileen setting up in front of the Clay Center



John Reed With a Student

Membership Renewal Time

Membership renewals are due on September 1st.

Renewal forms are available on the membership website <http://www.atmob.org> or with the link -

<http://www.atmob.org/about/join/atmobmemapp.pdf>
(you'll need Adobe Acrobat Reader.)

I will provide renewal forms at the next ATMoB meeting. If your magazine subscription(s) are through the club you may want to renew early. It is possible that processing a renewal can take several weeks.

I will send out renewal forms by snail mail only for those who do not have Email addresses listed with the club. I will be happy to snail mail forms to those who request it.

- Dan Winchell -

Clubhouse Report . . .

Thanks to all those who have participated in work culminating in the last 3 work parties. The next work party will take place on July 8th at which time the remaining sod and soil will be moved into the parking area to raise low spots. The gravel will be used to remove mosquito ponds and fill low spots in the driveway. Rebuild of the far barn front doors will commence allowing us to start replacing failed clapboards on the front of the barn.

In the meantime, the grass is growing beautifully! In order to stay one step ahead of a hay field, stalwart people to push mowers are needed! Come join us.

We have acquired a 1995 dome from the former Ayer/Anderson Observatory on Wingaersheek Beach in Gloucester. Thanks go out to Justin Motta and friend, Mario Motta, Virginia Renehan, Al Takeda, and Dan Quinn who disassembled the dome – and Dave Prowten who delivered the 10' diameter Home Dome to the clubhouse. We are in touch with the current people at Home Dome to ensure proper reconstruction of the dome on clubhouse grounds.

- J. Reed, S. Clougherty, D. Prowten and P. Cicchetti -

Clubhouse Saturday Schedule

July 1	John Small	Dave Siegrist
July 8	Closed -Work Party	
July 15	Brian Leacu	Phil Rounseville
July 22	Steve Clougherty	Bruce Gerhard
July 29	Closed	Closed
Aug 5	John Panaswich	Bill Toomey

Proposed Bylaws Change . . .

Bernie Volz, after discussions with Virginia Renehan and Dick Koolish, proposes that at the September meeting the members vote to adopt the following bylaws changes.

For details on the procedure for changing the bylaws see ARTICLE XIV - AMENDMENTS of

<http://www.atmob.org/about/bylaws/bylaws.pdf>.

In ARTICLE VII, OFFICERS, Section 2: President, change:

"As soon as practicable following his or her election, the President, with the advice and approval of the Executive Board, shall appoint (1) an Auditor, who shall make an audit of the accounts of the Treasurer at the close of the ensuing fiscal year of the corporation and submit the same to the Executive Board; (2) an official delegate to the Astronomical League; and (3) chairman and members of Committees ..."

To:

"As soon as practicable following his or her election, the President, with the advice and approval of the Executive Board, shall appoint (1) a Reviewer, who shall make a review of the accounts of the Treasurer at the close of the ensuing fiscal year of the corporation and submit the same to the Executive Board; and (2) chairman and members of Committees ..."

The two changes are:

1. Change "an Auditor" to "a Reviewer" and "audit of accounts" to "review of accounts". The reason for this is that audit has a set meaning to accountants and what we're after is more what is typically called a review. Review is defined as "Review - Accounting service that provides some assurance as to the reliability of financial information. In a review, a CERTIFIED PUBLIC ACCOUNTANT (CPA) does not conduct an examination under GENERALLY ACCEPTED AUDITING STANDARDS (GAAS)." Under an Audit, GAAS must be used.

2. Dropping "an official delegate to the Astronomical League" as we are no longer a member of the Astronomical League. The membership voted to drop out of the Astronomical League about 10 years back.

- Bernie Volz -

**July Star Fields deadline
Friday, Sept. 1st**

POSTMASTER NOTE: First Class Postage Mailed July 7th, 2006

Amateur Telescope Makers of Boston, Inc.
c/o Dan Winchell, Membership Secretary
20 Howard St.
Cambridge, MA 02139-3720

FIRST CLASS

EXECUTIVE BOARD 2005-2006

PRESIDENT: Virginia Renehan (978) 283-0862
president@atmob.org

VICE PRES: Steven Beckwith (978) 779-5227
SECRETARY: Al Takeda (978) 263-6257
MEMBERSHIP: Dan Winchell (617) 876-0110

TREASURER: Gary Jacobson (978) 692-4187
MEMBERS AT LARGE:

Bruce Tinkler (781) 862-8040
Dave Prowten (978) 369-1596

PAST PRESIDENTS:
2005-06 Bernie Volz (603) 968-3062
2004-05 Bruce Berger (978) 256-9208
2002-04 Eileen Myers (978) 456-3937

COMMITTEES

CLUBHOUSE : John Reed (781) 861-8031
Steve Clougherty (781) 784-3024
David Prowten (978) 369-1596

HISTORIAN: Anna Hillier (781) 861-8338

OBSERVING: Virginia Renehan (978) 283-0862

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 listen to WBZ (1030 AM)

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 3 First Quarter Moon

July 10 Full Moon

July 17 Last Quarter Moon

July 20 Moon Occults Pleiades, 07 hrs UT (3 a.m. EDT)

July 25 New Moon

July 28 Southern Delta Aquarid Meteor Shower peak before dawn