



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

Vol. 15, No. 4 April 2004

This Month's Meeting...

Thursday, April 8th, 2004 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

THIS MONTH'S SPEAKER will be club member Bob Simcoe, an amateur telescope maker and engineer. Bob explained that he read the minutes of the May 2003 meeting and made a major decision. At that meeting Dr. Martha Hazen, retired curator of the Harvard Astronomical Photographic Plate Collection, and Alison Doane, the current curator, spoke about Harvard College Observatory's glass plate collection, the world's largest and most complete collection of astrophotographs in the world, comprising some 500,000-600,000 plates taken over about a 110-year time span. Alison spoke about their hopes to transform this collection into a form that allows the modern tools of astronomy to be used to mine the rich database. Unfortunately this "analog" treasure is not easy to use in a "digital" world. She talked about the difficulties they face trying to find someone to create a high-speed scanner that will allow them to digitize the collection. Bob decided to volunteer his help to them.

Accompanied by Alison, Bob will present "Scanning the Historic Sky". Bob will give some historical perspective on the machines that have been used to measure the plates, discuss some of the requirements for his design for a scanner that will have the capability to capture all of the data on a plate, and his plans to handle the several hundred terabytes of storage needed to put the results online. This will be no small task and Bob has stated that they can certainly use help in this endeavor. Bob added that amateur astronomers played a significant role in the early development of astrophotography. It would be fitting if

amateurs take a role in making this wonderful resource accessible to the younger generation of astronomers.

Together with Professor Josh Grindley, Bob and Alison have submitted a National Science Foundation (NSF) proposal to build the scanner and to develop the processes to enable them to effectively scan the Harvard plate collection in a 3-5 year timeframe. Dr. Grindley just recently stepped down as the director of the Harvard College Observatory so that he will have more time for research. He is professor of astronomy at Harvard College, and is the PI (Principal Investigator) for the NSF proposal.

Please join our speakers 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.

-Eileen Myers, President-

President's Message...

ASTRONOMY DAY this year is on Saturday, April 24th. The Boston Museum of Science has decided not to sponsor Astronomy Day activities this year. A group of club members approached different institutions to seek a new venue for our club's outreach. The Dexter School, located at 20 Newton St. in Brookline, was very excited about having an Astronomy Day program. The school is a non-profit independent day school, and their astronomy teachers work closely with the Brookline public school fifth grade science teachers, helping them to develop an astronomy curriculum for the public schools. Brookline public school fifth graders visit the Dexter School's Clay Center Observatory and receive instruction in astronomy there. At the June 2003 ATMob monthly meeting, Ron Dantowitz, who teaches astronomy at Dexter, presented photos of the recently built state-of-the-art Clay Center for Science and Technology. In addition to inviting the current student body and their families from the Dexter School (for boys) and the Southfield School (for girls), alumni and their families, students who have attended the summer programs (80% from public schools) and their families, and the Brookline fifth-graders and their families are invited. Expected attendance is over 2,000.

Setup will start at 12 noon. The doors will open at 2PM and will remain open for lectures and activities until 5. Evening observing will start be from 7-10 PM. Activities planned are mirror grinding lead by Dave Siegrist, solar viewing, night sky viewing, exhibits on telescopes, lectures (Paul "Galileo" Manning, Rich Nugent on the Venus transit, and Bob Naeye on Mars). Learning Technologies has also agreed to be there. Other activities and lectures are still being planned. Telescopes will be needed for both solar and night sky observing. We would also like to have club members talk to the visitors about telescopes and their uses, and about any topics in astronomy. Members can demonstrate the differences and attributes between reflector and refractor telescopes, explain how amateurs contribute to science through the organization of the AAVSO, talk about astrophotography, video or CCD imaging, etc. They can also talk about the planets that will be visible that evening, explaining what the observer should look for. There are also several simple demonstration kits sent to the club for our use by NASA. These kits with CD explanation can be used to demonstrate why telescopes are placed out in space, how planets are found around stars, how stars and planets form, and where those stars discovered to have planets are located by using star maps. Please email me or phone Charlie McDonald 781-944-6140 to help

with observing or small exhibits, or Dave Siegrist david.siegrist@intel.com to help with mirror grinding. We are still planning the location for our group evening dinner.

Elections for the Nominating Committee will take place at the April meeting. This committee will be charged with the task of selecting the slate of candidates for club officers for 2004-05.

Don't forget that the Northeast Astronomy Forum and Telescope Show in Suffern, NY will be April 17-18. See <http://www.rocklandastronomy.com/neaf/> I have reserved a room for myself for Friday and Saturday nights. Any female member interested in going and staying overnight is welcome to share the room and the drive. **-Eileen Myers-**

March Meeting Minutes. . .

Eileen Myers opened the 767th meeting of the Amateur Telescope Makers of Boston with a display of the recent image taken by the Hubble telescope, looking back as far in time as is optically possible. The ultra deep field was taken over 10 days by the advanced camera survey. Objects seen were down to 31st magnitude. The Speaker this month was Bob Naeye, editor of Sky and Telescope Magazine. Bob's topic was the Mar's rovers and some of the historical missions that have led up to these most successful missions. See Dave Siegrist's excellent recollection of the talk later on in the newsletter. The business meeting followed with reports from board members and committee members.

* Eileen expressed condolences echoed by all on the passing of Mario Motta's mother. Flowers were sent by the club.

* Clubhouse: members were warned to be careful about the mud up at the clubhouse. Cars have gotten stuck. John showed some slides of the electrical work in the observatory. Lincoln labs has an experiment going in the observatory, and members are asked to be careful for their setup. Lots of folks doing lots of volunteer work to keep the clubhouse running smoothly for all members.

* Steve C. gave the observing report. A few clear nights, and more cloudy nights.

* Virginia and Charlie reported about upcoming star parties, which will be noted elsewhere in the newsletter. It was reiterated that an extensive knowledge of astronomy was not needed to help at star parties. There are always folks who will help volunteers set up, and find interesting objects. The club also has telescopes for loan to members which can be used at star parties.

* Plans are coming together for the 75th anniversary dinner at CfA for the club. Speakers will be Anna Hillier, and Owen Gingerich.

Thanks to Dave Siegrist for standing in for me and taking notes. – **Michael Hill** -

Treasurer's Report...

Checking account balance: \$8670.23

Money market savings account balance: \$35736.29

Income: \$32.69

Expenses: \$341.18

Net outflow: \$308.49

- Gary Jacobson, Treasurer-

Membership Report...

This month we would like to welcome new members:

WILLIAM LE COMTE, Burlington MA

WILLIAM KRUGER, Westford, MA

- Shilpa Lawande, Membership Secretary -

Clubhouse Report

After the incorporation of power to the Ed Knight Observatory, the electrical box for data was relocated to make room to better move around the observatory. The composting toilet was cleaned out and "clean" section was rotated in place for use. After lunch, John Reed cleaned the grill to prep it for the spring. Also, measurements were made for two new structural roof support walls in the attic. This will keep the roof from sagging any time soon. Thanks to John Reed, Dave Prowten, Larry Swezey, John Panaswich, Steve Clougherty, Dick Koolish, and Ed Knight.

Clubhouse Saturday Schedule

April 3	Jack Drobot	Steve Herzburg
April 10	Ed Budreau	Eileen Myers
April 17	Richard Burrier	Lew Gramer
April 24	Dave Prowten	Brian Maerz
May 1	Henry Hopkinson	Gary Jacobson

70th / 80th Anniversary Party

The ATMoB 75th and Bond Astronomy Club 80th Anniversary celebration party was a great success. Eileen Myers, who did a great job planning this event started things off with a roll call of long time members of note and a brief summary of the history of the clubs in the very early years, when Harvard College began hosting the meetings here in Cambridge. The catered dinner was excellent and went very smoothly including a serenading musician (one of the caterers). Following dinner, Anna Hillier presented a more detailed look into the history of the two clubs with some very old pictures of members making mirrors in the various locations that have served as the club workshops. This was followed by our main speaker, Dr. Owen Gingerich who spoke about the topic of his latest book, "The Book Nobody Read" which chronicles the efforts to understand the famous work of Copernicus "De Revolutionaris". Owen has traveled the world to examine every first and second edition copy of this publication that he could find, focusing on the annotations that various owners have made in these books. The talk was most interesting and I'm sure has perked the interest of many of us to get his book and read it. Following Owens talk Bob Naeye, who spoke to us about the Mars Rovers last month presented some of the latest findings and pictures which were stunning to say the least. The party wrapped up around 11:00 after which those who wanted to do so were treated to a tour of the old 15" refractor led by Owen Gingerich. Thanks to all who helped setup, cleanup, and of course to Eileen for putting on this event. Great Job !!



Anna Hillier – Club Historian



Owen Gingerich speaking to the group

Upcoming Star Parties

Below is a condensed list up upcoming star parties. A full pdf version has been included with the email version of the Newsletter and has also been sent out to the announce list. If you do not have email access and only get a hardcopy of this NL, then call one of the contacts listed if there is star party of interest and you need more information.

**Club Star Party Coordinator - Charlie McDonald -
781-944-6140 Star Party News Editor - Virginia
Renehan 978-283-0862 starparty@atmob.org**

April

Date: Fri, April 2nd

Location: Marblehead - Eveleth Elementary School Lecture:
6:30pm Paul "Galileo" Manning

Observing: 7 - 8 pm

Coordinator: Charlie McDonald 781-944-6140

Date: Fri, April 2nd

Location: Lowell, Pine Arts Magnet School

Observing: 6:00pm

School Contact: Joy Sirota

Coordinator: Bruce Berger Bruce@scopemaker.com
(978)387-4189

Date: Sat, April 24th Astronomy Day

Location: Brookline - Dexter School, 20 Newton Street
www.claycenter.org/astro for event updates

Observing: Solar observing and evening star party

Attendance: 1000 minimum

Coordinator: Charlie McDonald (781) 944-6140

Date: Mon, April 26th (cloud dates April 27, 28 29)

Location: North Andover, St. Michael's School Lecture:
Paul "Galileo" Manning and Boy Naeye

Observing: 8pm - 9:30

Coordinator: Virginia Renehan (978) 283-0862 or
VRENEHAN@GIS.NET

Refreshments

Date: Mon, April 27th (cloud dates April 28, 29)

Location: Andover, Sanborn School

Observing: TBA

Coordinator: Ted Carlman (781) 942-1573
ECARLMAN@COMCAST.NET

Star Party Thank You's . . .

The Reading star party at Killam Elementary School on March 3, 2004 was a great success. Over 400 students and family attended with great views of Jupiter, the Moon, and Saturn. Paul 'Galileo' Manning entertained the crowd with his popular lecture - as did Rich Nugent with his talk on telescopes. The event was taped by the local cable TV

crew and will be aired soon. Thanks also to club members who volunteered : John Blomquist, Bob Cohen, Brewster Lamachia, Leon Lupien, Eileen Meyers, David Rannow, John Reed, Virginia Renehan and Scott Romanowski

~Charlie McDonald

The Birch Meadow Elementary School star party in Reading on March 23, 2004 looked like a GO, but unfortunately the clouds rolled in just at observing time. Lecturer Paul 'Galileo' Manning did double duty - actually quadruple duty - he gave four consecutive lectures as some 220 students and parents waited for a break in the clouds - which unfortunately never came. But there were some good views of a distant street light through John Reed's Dob as he explained the ins and outs of how a telescope works. Thanks also to club members who volunteered: John Blomquist, Marsh Bowman, Bob Cohen, Ed Los, Virginia Renehan and Scott Romanowski. *~Charlie McDonald-*

The Barrows Elementary School star party in Reading on February 26, 2004 was another success. 200 students and parents braved the cold for excellent views of the night sky, including Jupiter and Saturn. Thanks to ATMob volunteers: John Blomquist, Ted Carlman, Bob Cohen, Steve Feinstein, Karen Funkenstein, Paul Manning, Eileen Meyers, Virginia Renehan, and Scott Romanowski. *~Charlie McDonald-*

Good Things Come To Those Who Wait

A crowd of almost 800 comprising students, parents, volunteers, lecturers, and astronomers all had a wonderful time at the 2nd Annual Acton Star Party. Everything seemed to be in concert: the weather, the people, the activities, and most importantly, all the celestial wonders (all five naked-eye Planets were visible) - it made for a perfect evening.

Thank you all for contributing your time, your enthusiasm, your experience, and your knowledge. It was well received by all the attendees. Countless times last night, I saw both child and parent alike, pulling the other, saying "Come on, I want to see the Star Lab" or "C'mon, the telescopes are this way" or even "After Galileo, let's hear about Mars and then go outside". There was lots of energy on the attendee's side as well.

Again, our star guest lecturers... Paul "Galileo" Manning and Alan MacRobert - had the full attention of everyone. This year's addition of the Star Lab (George Roberts), a demonstration of remote CCD astronomy via Slooh.com (Matt BenDaniel) and a captivating talk on the Mars Rovers by Bob Naeye provided even more opportunities for the attendees to be "lost in space".

Of course, there are the astronomers. Members from ATMob, Skylight Astronomical Society, and others provided over 18 telescopes and therefore very little waiting in lines for the attendees. Unfortunately, I can't recall all by name so I won't try and thereby excuse for missing someone, but I want to extend a huge THANK YOU to each of them. You were there the earliest and stayed the latest. And through the whole night, provided brilliant views of the all the Planets and other celestial marvels. *Steven Feinstein-*

“Go Spirit, Go Opportunity”

This month's presentation by Bob Naeye was both interesting and informative and well received by the members. Here is a summary of the talk for those of you who missed it. Bob started with a survey of Mars exploration over the last 30 years. Highlights included: 1971 Mariner 9 whose notable discoveries were surveying Olympus Mons, and the Valles Marineris. Among images returned were channels that looked like dry river beds. 1976 Viking Missions: Two landers and two orbiters. Their notable scientific addition was discovering the average temperature and low atmospheric pressure would not be sufficient to support liquid water. Bob pointed out that many planetary scientist believe mars and earth have similar timelines, that 4.5 million years ago there was volcanic activity and liquid water on both planets. The CO2 emission from the volcanoes helped keep the atmospheric pressure high enough to perhaps allow liquid water on Mars. Over time Mars lost its atmosphere. 1997 Mars Lander: Pathfinder. This was a relatively low cost mission whose goal was not primarily to do science, but instead proof of concept of placing a lander on the surface, and operate it. In tandem with Pathfinder was the orbiter, Mars Global Surveyor. This satellite is still working today sending back images of the planet, and assisting with communication with the landers of today. 1999 Saw two failures in Mars exploration. The Mars weather satellite burned up due to the infamous metric-english conversion problem. The other failure was the Polar Lander. Bob speculated that the Polar lander failed because most of the funding was invested in the science packages, and not the engineering. While the lander did not succeed, the lessons learned were invaluable for future missions. 2001 Saw the Mars Odyssey - an orbiter still in place and providing images. It is equipped with a moderate resolution wide angle camera, to complement the images of Mars Global Surveyor. Odyssey also mapped the distribution of Hydrogen up to several meters below the surface of the planet. 2003-2004 Two separate Mar's rovers, Spirit, and Opportunity were both placed on the planet. These rovers dwarfed the previous rovers in size and capability. Among the instruments are 9 cameras, including the panoramic camera, and three spectrometers. for studying the mineral and chemical composition of the rocks and soil. Bob first discussed what Spirit is up to. It landed near Gusev Crater and is hoping to make it to 'Bonneville' crater to examine the ejecta around the crater. The hope is that the ejecta would represent rocks from deeper in the interior of the planet. Opportunity landed in a small crater on a plain. It fortunately is very close to an outcropping of bedrock and has been able to use its spectrometer to examine it. Bob went on to summarize the four reasons researchers believe that liquid water was once present on Mars:

* grooves have been discovered in rocks where crystalline deposits once formed and were later dissolved away.

- * spheroids - 'blueberries' - accretions of minerals, which on earth generally form in the presence of water.
 - * Jarosite - a mineral found on Mars, which on earth only forms in acidic lakes or hot springs
 - * Abundance of sulfur and chlorine, minerals usually found in dry lake beds here.
- Many questions remain about liquid water on Mars?
- * How long ago did liquid water exist on Mars?
 - * How much water was there?
 - * Was it an aquifer, or on the surface?
- More research follows. - *Dave Siegrist* -

Book Donation

The Executor for the Estate of the late E.F. Sherman Jr. donated some eighty books on astronomy to ATMob. Forty of the books were distributed to children at the Butler School of Technology, an urban city school in Lowell, while the remaining forty books will be included in the club house library. The donation is appreciated

May *Star Fields* deadline
Sunday, May 2nd

Email articles to Mike Hill
at noatak@aol.com

POSTMASTER NOTE: First Class Postage Mailed April 2, 2004

Amateur Telescope Makers of Boston, Inc.
c/o Shilpa Lawande, Membership Secretary
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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.

April 2 Venus 2° south of Pleiades

April 5 Full Moon

April 11 Last Quarter Moon

April 19 New Moon

April 22 Lyrid Meteor shower

April 20-24 Nice evening shows with Moon passing planets

April 27 First Quarter Moon