



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. 15, No. 5 May 2004

This Month's Meeting...

Thursday, May 13th, 2004 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

THIS MONTH'S SPEAKER will be ATMoB member Rich Nugent. Rich will talk about some of the rarest of astronomical phenomena - "The Transits of Venus" in anticipation of the transit will take place on Tuesday, June 8, 2004. Rich has been an amateur astronomer since the mid-1960's, and was a member of the Aldrich Astronomical Society during his college years. He studied Chemistry, receiving an MS at Northeastern University and worked for New England Nuclear Corp. for 24 years. He then decided to make a career change and became a teacher in 2001 at the Fuller Middle School in Framingham, and is currently teaching 6th grade science and math. Rich served as the club's Observing Chairman for many years, and organized lots of star parties. He observes with a home-built 20-inch Dob.

Please join our speaker 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 at the Clay Center for Science and Technology in Brookline on Saturday, April 24th was a marvelous day. ATMoB Club Star Party Coordinator Charlie McDonald and Robert Phinney, Director of the Clay Center for Science and Technology for the Dexter-

Southfield Schools, pulled together an extraordinary number of speakers, demonstration materials, literature and exhibits. Over 40 line items were discussed within a 30-day period. Everything was well thought out and well coordinated, and although they were few, those weeks of careful planning paid off. Mr. Phinney kept everything organized on the Clay Center's Astro website. Invited were all students who have ever attended the Dexter-Southfield Schools, including summer camps, and students from the Brookline Public Schools, and the invitations included the family and friends of all of these students. Bob carefully scheduled all speakers, demonstrations and events, created signage, organized tables for demonstrations, materials for registration, and lined up assistance from teachers and students. There were even raffle prizes. Ron Dantowitz gave tours of the observatory all day and all evening. Even Bob's wife lent a hand, driving to a site where literature from NASA was available. Some educational materials were purchased by the Clay Center, such as lenses to demonstrate optics, and refractors which students assembled and decorated themselves, using plastic lenses and cardboard tubes. The fine custodial staff helped bring inside many of the exhibits, and also directed traffic. For telescopes requiring electricity, electric power was made available. Compliments of our host, astronomers and presenters were provided with dinner and snacks. Bob even fed us a second time after the event was over and permitted us to visit the observatory once again. Don't miss reading Mr. Phinney's thank you letter to the club in this newsletter, and take one more look at the schedule at <http://www.claycenter.org/astro/>.

Many people helped to make Astronomy Day 2004 a success. We tried to keep records of everyone who helped, but may have missed writing down a name in the excitement of the day. We apologize for any omissions and please let us know so that you will be acknowledged in the next newsletter.

Daytime viewing of the Sun, Venus and the Moon were provided by Bruce Berger, John Blomquist, Paul Cicchetti, Jack Drobot, George Foster, Steve and his son Daniel Herzberg, Ed Knight, Brian Leacu, Paul Manning, Haldun Menali, Rich Nugent, John Reed, Joseph Rothchild, Phil Rounseville, Al Takeda, Alex Vanderburgh, Jr., Gary Walker, and Daniel Winchell. Night sky viewing was provided by telescopes brought by: Bruce Berger, John Blomquist, Paul Cicchetti, Jack Drobot, George Foster, Steve and Daniel Herzberg, Ed Knight, Brian Leacu, Paul Manning, Charlie McDonald, Haldun Menali, Rich Nugent, John Reed, Joseph Rothchild, Phil Rounseville, Gerry Sussman, Al Takeda, Gary Walker, and Daniel Winchell. ATMoB lecturers were: Paul Manning as Galileo, Bob Naeye on Mars, and Rich Nugent on Venus transits. ATMoB members doing demonstrations were: Jason Cerundolo (Junior at BC High School) - optics, Steve Herzberg - double stars, Ted Poulos - Cosmic Questions - distances in the universe, Virginia Renehan - making and using planispheres, George Roberts - Starlab planetarium shows, Dave Siegrist - mirror grinding, Matt BenDaniel - robotic telescope Slooh, and Hung Pham RITI - Lunar Map Pro, Mars, and astronomical Tic Tac Toe. Non-ATMoB lecturers and presenters were Dr. Richard Binzel, MIT - asteroids, author Becky Cross - children's book on the space shuttle, and Kay Whitmar - constellations. Educational literature was provided by *Astronomy Magazine*, Mrs. Robert Phinney - NASA educational materials, Dr. Laura Whitlock - 600 NASA Starchild CD's, *Odyssey Magazine*, Regina Schraut - Planetary Society, Bill McIninch, Jr. Radio astronomy, and *Sky & Telescope*. Helping at the Registration Table and at the ATMoB Table were:

Welcome Bender, Marsha Bowman, Noreen Grice, Eileen Myers, and Art Swedlow. Club cartoonist George Foster drew his impressions of the event. Telescopes were organized by Eileen Myers. Astronomy Day site searches were done by: Bruce Berger, Dick Koolish, Charlie McDonald, Eileen Myers, John Reed and Virginia Renehan.

It was an exciting day, and everyone there was filled with enthusiasm and had fun. Thank you to everyone who made the day such a success. And thank you to Mr. Robert Phinney and the Clay Center/Dexter/Southfield Schools for agreeing to host the event. The students we met were delighted with the activities, asked thoughtful questions, and were involved and participated in all that was offered. - *Eileen Myers*-

April Meeting Minutes. . .

The 768th meeting of the Amateur Telescope Makers of Boston was opened by Eileen Myers with a portion of the night's club business. A call to volunteers for upcoming astronomy day was put out, the candidates for the nominating committee were announced and ballots passed out to all members, and copies of Owen Gingerich's book that members had pre-ordered were passed out. Voting ballots were collected for counting during the evening presentation. Alison Doane, who is the current curator of the Harvard College Observatory (HCO) photographic plate collection, introduced the speaker, Bob Simcoe, who is an ATMoB club member. Bob has volunteered to work with HCO to digitally scan and archive the entire HCO plate collection. He first presented a brief historical perspective on the practice of astronomical photography, and the practice of astrometric and photometric processing of images. The first measuring machines were the 1886 Gauthiers Macromicrometre, and the 1916 Harlan Stetson Plate Photometer. Early measuring engines were very slow, taking up to 24 hours to scan a plate. The last photographic measuring engine could do a 14x14 inch plate in 1 to 4 hours. The scanning of the HCO plates needs to be done much faster for the project to be feasible. The goal is to do all the plates in 3 to 5 years. The other factors to consider are that the plates must be measured to sub-micron accuracy with at least 12 bit photometric density range. Luckily the technology to do all this is now upon us. Bob says that the scanning technology is now available to scan an 8x10 inch plate in as little as 26 seconds and a 14x14 inch plate in just under a minute. The scanning bed he is looking into has an X-Y table that is carried on super accurate linear air bearings which have half-micron positional accuracy. Online storage will be used for archival purposes and will be up to 200 terabytes in size. The project is moving forward and a new round of funding from the NSF is almost complete. Help will be needed so if you want to volunteer to be part of this project by all means contact Bob.

The conclusion of the business meeting followed with the standard committee member reports. The matter of the club insurance was discussed and it was agreed that even though the price is higher now, it is necessary and still a good deal

amounting to only \$3.32 per member. Bruce Berger asked for someone to do a presentation at his star party on April 16th. Other star parties were announced. Virginia, Eileen and Paul Valleli spoke about various non-observing activities available for use at star parties. Paul Valleli proposed that long time member, Mike Mattie, be made an honorary member. John Reed announced that Mike Mattie would like to donate a snow blower to the club. Paul Valleli announced that Stellafane is commencing its fund raising drive for the pole barn and encouraged members to donate. They need to raise \$80,000 dollars and have got \$15,000 so far. Please consider donating to this worthy fund. Remember the rains last year . . .

Gary Walker presented pictures of the nearly completed 20" telescope for the observatory and lastly a cake was rolled out for member Art Swedlow who is celebrating his 60th birthday. The nominating committee was announced and will be Mario Motta (chairman), Joseph Rothchild, and Peter Bealo. - *Michael Hill* -

Treasurer's Report...

Income: \$197.31
Expenses: \$401.42
Net outflow: \$204.11

Note that expenses included receipts for several months which were just submitted in April.

Checking account balance: \$8,593.78
Money market account balance: \$35,771.10
Land fund contribution this month: \$25.00
Current land fund balance: \$3,026.01
- *Gary Jacobson, Treasurer*-

Membership Report...

Please welcome our new members for this month:

Andrew Johnston	Newton MA
Steven Notinger	Nashua NH
Avner Butnaru	Needham MA
Eva Hedlund	Cambridge MA
Joseph Carlson	Cambridge MA
Kevin Murray	Burlington MA

- *Shilpa Lawande, Membership Secretary* -

Astronomy Day - 2004

Astronomy Day was a success. The weather was sunny and clear during the day, the clouds arrived late in the evening. The wind was an issue. Thank you to everyone who helped. The following was received from Bob Phinney, Technology Director of the Clay Center, and coordinator for Astronomy Day - *Eileen Myers* -

To all who helped on Saturday

First, let me thank all of you for your help and expertise in making Saturday's Astronomy Day event so wonderful. I plan to make photos of the event available on the /astro website as soon as possible (probably later tonight). Secondly, I thought you all might like to see the report I made for the school administration, particularly the statistics and demographics (see below). For the Schools' purpose for the report I did not list every ATMoB person who was here, so even if your name is not in it, don't think I didn't appreciate your help and hard work. I will try to get around to thanking each of you individually soon.

Thanks again,
--Bob Phinney

Report on Astronomy Day 2004 at the Clay Center at Dexter and Southfield Schools.

Astronomy Day at the Clay Center went very well for a first-time event that had just over a month of planning time. I am very grateful to the Amateur Telescope Makers of Boston (ATMoB) for their partnership and assistance in bringing astronomy education to so many people in celebration of National Astronomy Day. Many thanks go to ATMoB member Charlie McDonald and ATMoB President Eileen Myers for all their help in activating a large force of volunteers.

The event had quite a menu of choices for visitors, including 6 lectures, 15 different demo/activity tables or locations, regular Star Lab planetarium showings, opportunities to visit the observatory and roof deck, and a chance to look through up to 15 daytime scopes and up to 20 nighttime scopes. The lit Stars Court in the evening was a particularly big hit with all ages. Galileo and the planetarium seemed to be the biggest hits with the children, followed very closely by the robotic arm, making telescopes, the Mars Tic-Tac-Toe table, the red light key chains, the Moon and Mars scales. However, all the activities saw plenty of visitors of all ages. I appreciate the volunteer time and effort of the many ATMoB members, teachers, and professionals who staffed the activities, and special thanks go to all the astronomers who set up and showed their telescopes to visitors on the ball field.

There were educational materials and handouts from 17 different sources. Many companies sent us cases of free educational pamphlets, magazines, posters, and CDs. The

biggest contributors were Sky & Telescope Magazine, Astronomy Magazine, the Planetary Society, Carus Publishing (Cobblestone and Odyssey magazines), NASA, and Learning Technologies.

For the lectures I am grateful for the effort and expertise of the following people: Bob Naeya, Senior Editor of Sky & Telescope; Rich Nugent, science teacher in Framingham; Dr. Richard Binzel, M.I.T. Professor of Planetary Astronomy; Paul "Galileo" Manning, who works for Ration but does extraordinary acting and entertaining on the side. For bringing, setting up, and running the Star Lab planetarium, special thanks go to George Roberts who does shows regularly for the Wellesley schools.

Over the entire day there were at least 515 people in attendance, including volunteers. When I remove all the ATMoB and Clay Center volunteers, it breaks down to the following: At least 177 unique families comprised of 233 adults and 235 children for a total of 468 visitors.

Best calculation for Day vs. Evening: (not counting volunteers) Day: At least 100 families comprised of 106 adults and 105 children, 211 total. Evening: At least 79 families comprised of 137 adults and 137 children, 274 total. (The evening families often registered up to 4 adults and up to 4 or 5 children.)

Most people put down the ages of their children as requested. Here is the spread:

Day: 60% under age 9, 37% ages 9-12, 3% age 13 and up.

Evening: 45% under age 9, 46% ages 9-12, 9% age 13 and up.

Total: 52% under age 9, 42% ages 9-12, 6% age 13 and up.

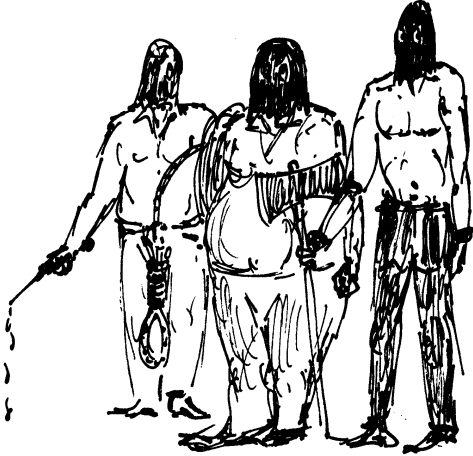
A look at the demographics of the visitors shows the following:
From the immediate area - Brookline/Boston/Newton: 41%
Between immediate area and Rt. 128 belt: 37%
Between Rt. 128 belt and Rt. 495 belt: 19%
Beyond Rt. 495 belt: 3% (includes two from out of state)

It is interesting to note that, although students in the Brookline public schools were invited this year, very few attended, probably because they were on vacation this past week. It is interesting to note that most of the children who attended, whether day or evening, were ages 7 to 10. Finally, it is worth noting that, although the turnout was decent, there was certainly room for at least twice the numbers we got, so it would probably be safe to advertise this event more widely than we did, if we should consider holding Astronomy Day next year.

Overall, Astronomy Day was a highly successful event. A great many families commented to me during the event about how much they enjoyed it, and I have received quite a few e-mails about it, too. I would sincerely recommend that we consider doing this as an annual event.

*Respectfully submitted on April 26th, 2004,
Robert F. Phinney, Technology Director*

The ATMob
nominating
committee



Slate of officers selected by the nominating committee for 2004-2005

President: Bruce Berger
VP: Virginia Renehan
Secretary: Mike Hill
Membership Sec: Shilpa Lawande
Treasurer: Gary Jacobson
At-Large: Lew Gramer , David Prowten

Please note that this is the nomination committee selection after interviews, careful thought, and deliberation. This is to notify all members one month before the election. The vote on the officers will be at our annual June meeting. I am pleased with this slate and feel this group will serve our organization admirably. Per our bylaws, any member in good standing may also run for any office, provided he/she provide 7 signatures from other members supporting such a nomination before the June meeting, and present this to the president in writing. If that occurs, a ballot election will occur during the June meeting.

Respectfully submitted, Nominating Committee for the ATMOb:
Mario Motta, MD , Chair
Peter Bealo
Joseph Rothchild, MD

I also wish to say a few words about the role of the officers. It became apparent during the interview process, that there was some confusion among many members about what the

role of some of the officers are. I therefore wish to give to all a brief summary. All of the officers are part of the executive committee, as well as the immediate past three presidents.

President: This officer is the spokesman for the organization, runs the meetings, is obligated to hold executive board meetings as needed, and may appoint members to special non elected posts (E.G. observing chair, clubhouse committee, etc.) or form committees.

Vice-president: The VP will fill in for the president whenever the president is absent or indisposed. This officer is basically in training for president. The post should rightly be called president-elect, as the purpose of the post is to have the future president a voting member of the exec committee, and have knowledge of all club dealings before he/she becomes president, so as to minimize the "learning curve". Though not expressly stated in the bylaws, the vice president is expected to then step up to be president by long historical tradition. Several candidates wished to run for president, but did not want to commit to be president after the 2 years, which is not the intent of this position. This would lead to an inexperienced leader taking over with no historical knowledge of club affairs, and is discouraged.

Secretary: This officer signs the state filings, prepares documents, and prepares the club newsletter, Star Fields. NOTE: By state law, this officer, MUST be a citizen of Massachusetts, as we are incorporated in this state. (Other officers may be out of state.) There is an apparent feeling that this takes much work, and filling this slot has at times been difficult. Mike Hill has agreed to stay on this year as secretary, but I encourage members to consider this position for next year so one person does not need to do this regularly. For those who were considering, please speak to members who have done this in the past, and consider filling this slot next year.

Membership secretary: Keeps a list of all members, accepts applications for members, welcomes new members, collects dues.

Treasurer: Custodian of club assets, sets up bank accounts for the club, disburses funds and pays club expenses.

Member-at-large:(2 positions). Voting member of the executive committee. Represents the members at meetings. Available for special duties as requested by the president. (Many had no idea what this position was for).The executive committee is rounded out by the immediate 3 past presidents. I hope this is a helpful reminder and summary. I encourage any who would like to become an officer to consider some of these posts in the coming years. Most find this a rewarding and fulfilling role to be an officer in the club. -**Mario Motta-**

Astronomical Concert Debut

"SCORPIUS RISING" a symphonic composition based on the constellation Scorpius by ATM member composer HAYG BOYADJIAN will be performed by the Cambridge Symphony Orchestra, Mark Latham conductor, on Sunday May 16 at 3 pm. During the performance slides of astronomical objects provided by ATM former President DENNIS DI CICCIO will be projected. This performance will mark the concert world premiere of Boyadjian's "SCORPIUS RISING". The composition was recorded on CD by the Polish Radio Symphony Orchestra and is commercially available on the Opus One Record label. The work received very positive music reviews. The concert will also include "HUNGARIAN ANDANTE AND RONDO" by Carl Maria von Weber with Jerry Blum bassoon soloist, and the famous "SYMPHONY FANTASTIQUE" by Hector Berlioz. The concert will take place at the Maria Baldwin School, corner of Oxford and Sacramento streets in Cambridge near Harvard Square. The concert is free, but come early because seating is limited.-

Hayg Boyadjian -
e-mail: haygboya@rcn.com

Special Thanks

I want to thank those that came to my observatory in Gloucester to help me finish off the dome and construct and lift the dome slit door into place: John Bloomquist, Mike Deneen, Jack Heinzman, Virginia Renehan, a neighbor Randy Rutan, and of course my wife, Joyce Motta. It takes a "village" to make a great observatory! Thanks to all for making this observatory a reality.

- **Mario Motta** -

ATMoB Trivia

There were two ATMoB's founded in 1934, ATM's of Boston and ATM's of Buffalo! The second group was only about 15 members; So presumably, they changed their name at a later date. One later member was Walter Semereau who built a quartz monochrometer for viewing prominences. The instrument is now at the Museum of Telescope Making at Hartness House.

- **Paul Valletti**-

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

May

Date: Fri, May 7th

Location: North Chelmsford - Russell Mill Soccer Field

Observing: set-up 6:30

Attendance: Community event

Directions :

http://www.chelmsfordlibrary.org/programs/programs/star_party.html

Coordinator: Bruce Berger bruce@scopemaker.com cell 978-387-4189 and Gary Jacobson

Refreshments / Pizza for Volunteers

Date: Wed, May 26th (cloud date, May 27)

Location: Melrose, Horace Mann Elementary School, 40 Damon Ave.

Lecture: 7:30

Observing: 8pm - 9:30

Attendance: 200 expected, K-5 and family

Coordinator: Howard LeVaux (617) 354-1281

levaux@theworld.com

Clubhouse Saturday Schedule

May 8	Shilpa Lawande	Nitin Sonawane
May 15	Steve Clougherty	Steve Mock
May 22	Dan Feldkhun	Tom Wolf
May 29	John Panaswich	Jim Suslowicz
Jun 5	John Small	Gary Walker

June *Star Fields* deadline
Sunday, May 30th

Email articles to Mike Hill
at noatak@aol.com

POSTMASTER NOTE: First Class Postage Mailed May 7th, 2004

Amateur Telescope Makers of Boston, Inc.
c/o Shilpa Lawande, Membership Secretary
13 Royal Crest Dr., #12
Nashua, NH 03060

FIRST CLASS

EXECUTIVE BOARD 2002-2003

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1998-00 Joseph Rothchild (617) 964-6626
1996-98 Peter Bealo (603) 382-7039

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John Reed (781) 861-8031
Steve Clougherty (781) 784-3024

HISTORIAN: Anna Hillier (781) 861-8338

OBSERVING: Charlie McDonald (781) 944-6140

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.

May 11 Last Quarter Moon
May 14 Mercury at greatest Western elongation (26°)
May 19 New Moon
May 27 First quarter Moon