The W.A.S.P.

June 2013
Iceland Aurora Trip

In April my wife and I went to Iceland for a week, on the Sky & Telescope group tour to see the Northern Lights. Unfortunately, the lights were disappointing.

I had been planning for several years to take a trip to Canada or someplace north, to see the Aurora Borealis during the peak of the 11-year solar cycle, which would be this year. I learned that the best time of the year for auroras is near the spring or fall equinox (about March 21 or September 21). I read a few months ago in Sky & Telescope Magazine that they were planning a trip to Iceland to see the lights, so I decided that going to Iceland with a group of like-minded amateur astronomers would be more fun than going alone to northern Canada.

Our first five nights in Iceland were mostly cloudy. Our bus tour took us out each night and spent hours driving us around to various locations to get under small breaks in the clouds, but no lights. On our final two nights in Iceland the skies were perfectly clear. Our tour bus took us away from the city lights to dark viewing places. But each night, we saw only small dim displays of pale green auroras for a few minutes at a time. The color shows up much more in photos than to the eye, so one thing I learned from this experience is not to believe some of the beautiful aurora photos I have seen in the past. If you look carefully at the left half of this photo, you can see a pale green patch similar to what we really saw.

The good news is that we enjoyed time chatting with our tour leader, Bob Naeye, the editor of Sky & Telescope. And we did enjoy seeing spectacular huge waterfalls, geysers, and hot pools such as the Blue Lagoon.

Jon
Seven Ponds Open Invitation

WAS members are invited to The Seven Ponds Astronomy Club monthly meetings. More information about upcoming meetings, maps to Seven Ponds Nature Center, etc. is available at http://bhmich.com/sevenpondsac/. Please let me know if you might attend so that appropriate plans can be made. Any questions, please contact me.

- John Lines

Upcoming Talks

July 1  C  Diane Hall  Enterprise: the myth of the sixth shuttle
         Dale Partin  Starfest
July 18 M  Brian Berta/Joey Lico  Innovative Presentations

August talks are in the works. If you are interested in giving a talk, please contact Diane Hall.
WAS Annual Picnic July 13

Our annual picnic will be on Saturday, July 13, beginning at 4 PM, at the pavilion adjacent to our Stargate observatory, at Wolcott Mill Metropark. The club supplies hot dogs, burgers, buns, and pop. Admission is free. Spouses and kids are welcome. We will also have observing that evening for everyone who wants to stay after the picnic.

This picnic is a great fun social event every year. Please mark you calendar and be sure to come. Email any questions to board@warrenastro.org.

An Evening With G.M. Ross

We had hoped to bring you James Steele Foerch and his presentation “Let’s Make Stars!” this evening, but sadly Jim will no longer be able to join us. G.M. Ross has stepped into the breach with a slate of talks:

“In Search of . . ..”
“Dakota Lapse”
“A Seat For Jack”

We will also feature classic astrophotos taken by Mark John Christensen with narration provided by Ross. We hope you will enjoy this astronomical-themed variety show; we believe certain late members of this august society should be with us in spirit this evening.

August Star Party

The Northern Michigan Astronomy Club invites all WAS members to their Second Annual NOMAC Star Party, August 8 to 10, 2013. It will be in a dark sky site at the Raven Hill Discovery Center in East Jordan, Michigan. This is about 5 miles south of Boyne City.

There will be on-field camping, some electrical hookups, and a large pad with a 16” Dob. There will be a porta-potty plus regular indoor bathroom. Food will be provided (donations accepted). The location is near Lake Charlevoix, for daytime boating and water activities. They have a guest speaker Friday night and may add one for Saturday night. The star party is free, though camping is $30 for 2 nights.

For more information, or to register, see their website at www.nomac.net (notice it is .net and not .com). Or email Bryan Shumaker (a former WAS member) at cystokid@charter.net.
NGC 6543 is a small planetary nebula in the constellation Draco the Dragon, which is better known by its common name: the Cat’s Eye Nebula. In addition to being a popular object for backyard astronomers, it has found fame as the subject of one of the most spectacularly beautiful images taken by the Hubble Space Telescope. Like many planetary nebulae, NGC 6543 has an integrated magnitude that contrasts greatly with its surface brightness. While it shines at a moderate 8.3 magnitude, it claims a 5.0 magnitude per square arcminute brightness owing to its diminutive 22” x 16” size, which puts it on par with some of the sky’s most dazzling deep-sky delights. As one might expect, the Cat’s Eye Nebula has acquired its name from the elongated shape, overall appearance, subtle structure, and most notably the greenish hue that can be observed when viewing the object through a telescope at medium to high power.

Pinning down the precise location of NGC 6543 can pose a bit of a challenge for two reasons: it does not lie close to any bright signpost stars and appears star-like at the low magnifications that are typically used for tracking down objects. Its position is probably best described as approximately five degrees nearly due east of the star zeta Draconis, although the high degree of curvature of latitudinal lines and the circumpolarity present in this part of the sky can make this navigation tricky. Perhaps more intuitively, it can be thought of as being about three-eighths the distance along a line from gamma Draconis to Polaris. As mentioned above, low power viewing is unlikely to yield much, as NGC 6543 may be mistaken easily for a field star, with only its color and perhaps slightly bloated appearance betraying its true nature. Medium power should be sufficient to grasp the iris-shaped spindle of a watchful feline gaze, with an emerald tone apparent. The elucidation of further detail will be largely dependent on the atmospheric seeing conditions, with a steady column of air between the observer and space being essential for increasing the magnification productively. When conditions permit and higher power is used, the 11th magnitude central star and perhaps some contrast variations representing some of the fine internal structure can be teased out. Sharing the field of view with the Cat’s Eye is the 13th magnitude spiral galaxy NGC 6552, however it is unlikely to be detected except from dark sites or when using a large aperture.

This column is written with the intention of introducing a new object each month that is visible from Stargate Observatory using a moderate-sized telescope typical of beginner and intermediate level amateur astronomers. In particular, special focus will be given to objects that are not among the common objects with which most observers are already familiar, but instead articles will mainly give attention to “hidden gems” or underappreciated features of the night sky.

- Chuck Dezelah

WAS Discussion Group

The WAS Discussion Group meetings take place at the home of Gary and Patty Gathen from 8 to 11 PM on the fourth Thursday of the month from January through October. Different dates are scheduled for November and December due to Thanksgiving and the holidays. The Gathens live at 21 Elm Park Blvd in Pleasant Ridge, which is three blocks south of I-696 and about a half block west of Woodward Ave. A map can be found at http://maps.yahoo.com/maps_result.php?q1=21+Elm+Park+Blvd.%2C+Pleasant+Ridge%2C+MI.

The agenda is centered around discussing one science topic at a time by all. Soft drinks are furnished while snacks are contributed by attendees. We usually have from 4 to 16 members and guests, so come on over (and bring some snacks for the group). Gary can be reached at 248.543.5400 and at gary@gathen.net.
The SWAP SHOP

This column is for those interested in buying, trading or selling. Ads run for six months. The month and year the ad will be removed is shown. Submit ads to publications@warrenastro.org.

For Sale: NexStar 5, Schmidt-Casegrain lenses, carrying case, tripod, spotting scope and a couple of lenses.

Contact name: Lee Prain
E-mail: leeprain@sbcglobal.net
Cell: 248-891-8673
Location: Oxford, MI

$500.00 OBO for all. Excellent condition, used very little. Has capability of complete portability using AA batteries. Can be tied to the computer via RS232 cable. Everything works.

2nd Vice President’s Report

Stargate open house on May 11 started with clouds and cold rain, but it became clear by about 10 pm and we started observing. There were roughly 15 people attending including a few interested in joining the club.

The next open house is scheduled for June 8.

-- Riyad I. Matti

Seven Ponds Special Invitation

WAS members are invited to come to Seven Ponds Nature Center on Saturday, July 20, 2013 at 7pm. They are having a multi-club event centered around a talk by Harlan Neuville - a retired NASA Mission Control Engineer. Harlan gave a very inspired talk to a well attended audience in March 2013. This time, Harlan will be talking about the Apollo missions in detail, with emphasis on the Apollo 11, 12, & 13 missions.

July 20 was picked for a reason. It will be the 44th anniversary of the first manned landing on the Moon - and Harlan was in Mission Control at that time. Also, it will be close to a full Moon. That way, it won’t interfere with club’s observing activities during new Moon times.

The Nature Center is located at 3854 Crawford Road, Dryden, Michigan 48428.

The Seven Ponds Astronomy Club website is: http://bhmich.com/sevenpondsac
Astronomy Education in Michigan and the US

by Bob Trembley

I’ve been a lifelong amateur astronomer, space enthusiast, and more recently: a solar observing enthusiast. In recent years, I’ve been doing increasing amounts of astronomy outreach; Last summer I held a weekly Sunday morning solar observing outreach program at a park near my home. For the people who looked at the Sun through my telescopes, it was the first time well over 90% of them had ever used one.

There’s no reason in the world, anyone should go through school, never having looked through a telescope.

Every time I’ve talked to the general public about how much astronomy they covered during their schooling, they tell me it was either: a few days, maybe a few weeks, or nothing at all. This includes people of all ages, but most disturbingly: people in their teens and twenties.

I held an Astronomy Outreach event at my wife’s elementary school in mid-April. I talked to three 3rd grade classes about the Sun, and showed them photos and videos from NASA’s Solar Dynamics Observatory. Then, I took them outside; my wife showed them some of my meteorites, while I showed them the Sun through my 8” Dob and a 40mm Solar Telescope. The students absolutely LOVED IT! So did I – I learned quite a bit myself.

If students are fortunate enough to have a fantastic teacher like my wife, who actually knows (and likes) astronomy, they’ll get a LOT of good information crammed into whatever brief time she’s allotted to teach it. But even as good a teacher as my wife is, that time is simply not sufficient anymore… Within the subject of astronomy, there’s too much that should be taught. Some topics in astronomy require prior knowledge in Math, Chemistry, and/or Physics before they can be well understood.

My wife was evaluating a well-known publisher’s Science series for her 3rd grade class. I flipped to the page on the Sun. I was literally shocked at what I saw: one single page about the Sun, 50% covered in pretty pictures, absolutely minuscule amount of useful information, AND the Sun’s core temperature incorrect. There was nothing about the fact that the sun is 99.86% of the total mass of the Solar System, nothing about what it was made of, nothing about the surface temperature, magnetic fields, prominences, flares, CMEs, plasma – completely dreadful! If this kind of text is being used to teach our kids astronomy and Science, I weep for Science education.

I recently attended a convention, and participated in a discussion panel titled “Science and Society.” I was asked to comment on NEOs and the Russian meteor impact event. I asked the audience if they’d ever heard of the Tunguska impact event; about 50% of them had. I gave them a quick overview, and got a lot of wide eyes.

It has been my experience that ignorance of astronomy is at near epidemic proportions. It is my very firm conviction that EVERY student in the State of Michigan, and the entire USA should be taught and experience astronomy during their school years. It needs to be done better. It needs to start earlier – around the 3rd or 4th grade. It needs to be taught not just for a few days, or one single quarter – but over the course of several years, integrated with Physics, Math, Chemistry and History.

Continued...
Carl Sagan once said that learning about astronomy is a humbling and character building experience; I can attest to that fact. Astronomy is a subject that inspires you to branch out and study other scientific disciplines: geology, chemistry, biology, physics, engineering, math, etc. Neil deGrasse Tyson frequently talks about how NASA’s Moon missions inspired a generation to dream about tomorrow – it certainly did for me. We need a return to this type of thinking, to inspire students and young adults to become critically-thinking, knowledgeable, engineers and scientists. Astronomy needs to become the prestigious, sought-after field of study it once was.

The way astronomy is being taught within our schools has to change. With the Next Generation Science Standards (NGSS) being accepted by more and more states throughout the US, now is the right time to make sure astronomy gets integrated into curriculums properly.

Bob Trembley & his 8” Dob

Hawaiian Observatories

For this evening, Lee Hartwell is going to present a film featuring Hawaiian astronomical observatories; he will provide narration for the film’s images.

Lee Hartwell is one of the club’s most tireless outreach presenters. He can be found carrying out our club’s mission at schools and with Scout groups, and has a stockpile of Astronomical Society of the Pacific kits available for other club members to use.

Change in Meeting Room at Macomb

Macomb meetings are in a different room in the summer. We will meet in room 151 on the lower level of the library building J. This is the same building as the rest of the year, but we need to enter from a different door. Come in from the northwest corner of the building, on the ground level, on the side facing 12 Mile Road.

Clear skies, - Bill MacIntosh
Photo and Article Submissions

Your WASP team wants to include your photos and articles. After all, this is YOUR publication!

To share your photos for submission in the WASP, please email them to publications@warrenastro.org

Documents can be submitted in Word (.doc), Open Office (.ods), or Text (.txt) formats, or put into the body of an email. Photos can be embedded in the document or attached to the email and should be under 2MB in size. Please include some captions for your photos along with the way you want your name to appear and dates taken.

“The dinosaurs became extinct because they didn’t have a space program. And if we become extinct because we don’t have a space program, it’ll serve us right!”

— Larry Nevin, American Novelist

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Treasurer’s Report

April 30, 2013

MEMBERSHIP
We currently have 99 members (21 of which are family memberships).

INCOME AND EXPENDITURES (SUMMARY)
We took in $379.33 and spent $340.29. We have $14023.97 in the bank and $219.61 in cash, totaling $14243.58 (includes subtracting one check not cashed yet, for $300.00).

COSTS AND REIMBURSEMENTS
$40.29 reimbursement for snacks
$300.00 donation to Astronomy at the Beach

INCOME
$214.00 new memberships and renewals
$15.00 Astronomical League memberships
$52.50 donations for snacks
$41.00 donations for new telescope and mount
$56.83 sale of web cam, four planispheres and excess snacks

$7558.55 Total donated to date for new telescope and mount

- Dale Partin

W.A.S. History S.I.G.

June 1970
The June issue(s) is a head scratcher as it appears to be two issues. The cover of the first issue was the second page (assembly error, I suppose). Inside, we find: “Notes on Deep-Sky Objects” (M11, M22, NGC 6826, NGC 7009, and M2) by D. Ther, “Planetological Fragments, Fragment 1 Basalt-Stuff of the Worlds?” compiled by C. Edsall, “Observational Astronomy M8 the Lagoon Nebula” by Frank McCullough and a guide to “A Messier Album” (a listing of Messier articles in Sky & Telescope) by John Mallas & Evered Kreimer - Compiled by D.T. Ther.

June 1970a
The second has a cover that strikes me as a bit of editorializing - by an unhappy(?) editor. Since it is in all-caps and no spaces, reading it is tricky at best. Typing returns to normal in “Observational Astronomy: M3, M56” by Frank McCullough, but then quickly followed by handwritten memoirs and “Meeting Notes”. Included in this issue: an “at the eyepiece” drawing of the May 7th transit of Mercury by Diane Bargiel.

June 1983
Stuffed in between information about the 37th National Convention of the Astronomical League and the University of Michigan “Astroschedule”, we find “The Calculating Astronomer” by Kenneth Wilson, and “Comet 1983e Koishikawa” by FDM. Frank McCullough then recounts the adventures of “Eclipse Expedition to Cap Chat, 1972”. Of historical note is the pair of group pictures of the W.A.S. members at the end of this issue.

-Dale Thieme
**Observatory Rules**

1. Closing time depends on weather, etc.
2. May be closed one hour after opening time if no members arrive within the first hour.
3. Contact the 2nd VP for other arrangements, such as late arrival time. Call 586-992-0498.
4. An alternate person may be appointed to open.
5. Members may arrive before or stay after the scheduled open house time.
6. Dates are subject to change or cancellation depending on weather or staff availability.
7. Postings to the Yahoo Group and/or email no later than 2 hours before starting time in case of date change or cancellation.
8. It is best to call or email the 2nd VP at least 2 hours before the posted opening with any questions. Later emails may not be receivable.
9. Generally, only strong rain or snow will prevent the open house... the plan is to be there even if it is clouded over. Often, the weather is cloudy, but it clears up as the evening progresses.

   - Riyad Matti, 2nd VP

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**Astronomical Phenomena**

**May 2013**

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*All times are in UTC*

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**2013 Stargate Observatory Open House**

June 8, July 13, August 10

**2013 WAS Meetings**

**Cranbrook Meetings: 1st Mondays**

June 3, July 1, August 5

**Macomb Meetings: 3rd Thursdays**

June 20, July 18, August 15

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**Snack Volunteer Schedule**

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<td>C Mike O’Dowd</td>
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<td>M Dale Thieme</td>
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<td>M Fred/Sheila Judd</td>
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If you are unable to bring the snacks on your scheduled day, or if you need to reschedule, please use the form on the website, or email the board at board@warrenastro.org as soon as you are able so that other arrangements can be made.


WAS Board Meeting May 6, 2013

Board members: Jon Blum, Diane Hall, Riyad Matti, Dale Partin, Dale Thieme, Bob Berta
Visitors: Bob Trembley, Ken Bertin, Brian Klaus, Marty Kunz, Jonathan Kade, Dave Bailey, Jon Root.

Jon Blum brought the meeting to order at 6:39

Reports:
President: Francette Fey at Macomb Community College would like us to set up telescopes June 14 Friday 8 PM to 1 AM out by the observatory and in building RST, SW corner of campus. Picnic July 13, 4:00 pm, Bob Berta has the pavilion reserved. Bob and Riyad will work on the food logistics.

1st Vice President: 501c-3, the lawyer is looking at the latest version, will call Diane this week with suggestions. Jonathan Kade presented his findings for replacing our stock of W.A.S. stickers. He showed the board samples and pricing for single color stickers:

- laminated 117.18 for 500
- screen printed 176.00 for 125, 203.00 for 250, 227.50 for 500

After discussion, the board will consider the two color option.

R.A.T.s (the Radio Astronomy club at Grosse Pointe North) invitation: May 16, Diane moved that we postpone the talk at the Macomb Meeting (Diane checked with the scheduled presenters and they were agreeable to the delay), Dale P seconded the motion. After discussion, the motion failed. Riyad then moved that we offer the opportunity to go to the R.A.T.s presentation in lieu of the Macomb meeting at tonight’s Cranbrook meeting. Seconded by Bob Berta. Motion passed.

2nd Vice President: This Sat May 11 open house, no new report on the new scope, Riyad sent an email to the telescope company asking about an update for the shipping date.

Treasurer: Dale Partin reported that we currently have 99 members (21 of which are family memberships). We took in $379.33 and spent $340.29. We have a total of $14243.58.

Secretary: No Report

Outreach: Just completed the St Peter Lutheran Church Star Party, last Friday/Saturday. Bob Trembley, Dave Bailey, Lee Hartwell, Angelo DiDonato and Bob Berta did presentations. Coming up on May 17, we are assisting Cranbrook with the Cub Scouts.

Publications: No Report

New business: Cranbrook donated two Galactic Pass vouchers to the group. We will offer them to the Cranbrook attendees by issuing raffle tickets to the members at the meetings, one at the June 3 and one at the July 1 meeting. Bob Berta asked if we could look into some kind of kids’ craft items (coloring books, DIY planispheres.)

The meeting adjourned at 7:19

Outreach Report

- Friday June 14th - Macomb Community College star party/new observatory “first light”. Drew Feustel NASA astronaut featured. Looking for members to bring scopes.
- Saturday July 20  6 pm - 7 pm Ponds special joint club event with retired NASA Apollo program controller….past talk was outstanding and this one will continue history of Apollo moon missions.
- Saturday August 10th  Saturday “S’mores and Stars” second annual star party sponsored by Bald Moutain Recreation Area park service with participation by WAS and OAC members. 10 pm to 1 am. This was a terrific event last year. The site has a large open viewing area on the beach of the lake/boat launch area with dark skies. More information as to location to follow.
WAS General Meeting, Cranbrook
May 6, 2013

Jon Blum brought the meeting to order at 7:30, with 45 present

Officer Reports:
President: Call for telescopes at Macomb College, Friday, June 14, 8:00pm to 1:00am. Summer Skies at Macomb. Summer room at Macomb is at the NW corner of the Library room 151. Picnic at Stargate July 13, we have the pavilion. Observing and dining.

1st Vice President: Diane Hall reported that we have some speaking gaps, need volunteers to fill them, Tonight Ken is talking on Edmund Halley, at Macomb Dave Bailey is talking on Sun Dogs, Rainbows and other lights in the sky (visual aid assist by Ken Bertin). Next month, at Cranbrook, we have James S. Foersch will talk on “How to Make Stars”, preceded by a short talk on “Searching for the Magellanic Clouds” by G.M. Ross. R.A.T.s (the Radio Astronomy Telescope group at Grosse Pointe North High School) has invited us to their school for presentations on radio astronomy.

2nd Vice President: Riyad Matti said it was cloudy at the last open house, but we did have some show up. Next open house May 11. New Scope is not here yet...

In July the open house will follow the picnic on the following weekend, giving us two observing nights at Stargate that month.

Treasurer: Dale Partin reported that we currently have 99 members. We contributed $300 towards Kensington’s Astronomy at the Beach. We took in $379.33 and spent $340.29. Full report is in the WASP.

Secretary: We have two Galactic Passes, courtesy of Cranbrook ($120 value ea.). We will issue raffle tickets to every member in attendance at the June and July Cranbrook meetings for a chance to win a Galactic Pass.

Outreach: Bob Berta passed around a sign-up list for anyone wishing to attend the R.A.T.s meeting. He announced a request for help with the Cub Scouts Friday, May 17 at Cranbrook.

Publications: Jon Blum reported that the May WASP is up on the site.

SIG Reports:
Solar Group: Yesterday was the Solar group day. Marty Kunz said they had some fair viewing with a bit of haze. Not good enough for H-alpha. Sun’s been fairly busy. Auroras possible, Jon Blum mentioned he went on an Aurora hunt in Iceland last month with Sky & Telescope. Marty thanked those that showed up at Cranbrook on Astronomy Day.

Astronomy League: Chuck Dezelah said that the due date for dues coming up, encouraged stragglers to join up.

GLAAC: Diane Hall reported that they were still looking for a 2013 speaker but for 2014, secured Alan Stern (principal investigator for the New Horizons Probe) for speaker.

Observing: Gary Ross observed that we are missing out on a great opportunity if we don’t take advantage of the talks at the Wayne State Planetarium. He suggested we make an effort to include links to their events on our site.

Jonathan Kade spoke of the spectacular view of Saturn last Saturday, up north, and then described how he and Diane Hall observed NGC 4565, a galaxy brighter than the Sombrero Galaxy.

In The News May 6, 2013 by Ken Bertin
- Black hole binge could test general relativity
- Helium drought retires Herschel space telescope
- SpaceShipTwo goes supersonic on first powered flight
- Ice-bound Hunter sees first hint of cosmic neutrinos

Epic Presentation: “Edmund Halley” by Ken Bertin

The meeting ended at 9:59

Members are encouraged to join the Warren Astronomical Society Yahoo Group for messages, photo posting and more.
WAS General Meeting, Macomb  
May 16, 2013

Jon Blum began the meeting at 7:30 with 19 present

Officer Reports:
President: After greeting and reminding the members to wear name tags, Jon Blum announced the WAS picnic, which will be Saturday, July 13, starting at 4 PM, at the pavilion by our Stargate observatory, in Wolcott Mill Metropark. Spouses and kids are welcome. There will be observing that night for everyone who wants to stay after the picnic. You can bring a salad or dessert to share if you want to. If you have them, please bring ice in an ice chest, portable BBQ grill, or an electric fan.
Francette Fey of Macomb Community College would like us to set up telescopes June 14 Friday 8 PM to 1 AM out by the observatory and in building RST, SW corner of campus “Summer Skies at Macomb” public event.
1st Vice President: Contact Diane Hall if you would like to give a short or long presentation. Coming up:
   June 3   Cranbrook: Jim Foersch “Let’s Make Stars!” (long) & Gary Ross “In Search of the Clouds of Magellan” (short)
   June 20  Macomb: Lee Hartwell “Hawaii Observatories”
   July 1   Cranbrook: Diane Hall “Enterprise: the myth of the sixth shuttle” and Dale Partin “Starfest”
   July 18  Macomb: Brian Berta/Joey Lico “Innovative Presentations”

2nd Vice President: Report from Riyad Matti: Stargate open house on May 11 started with clouds and cold rain, but it became clear by about 10 pm and we started observing. There were roughly 15 people attending including a few interested in joining the club. The next open house is scheduled for June 8.
Treasurer: Report from Dale Partin: We have 99 members paid so far for 2013. We have $14,243 of which $7,558 is donations for our new telescope and mount. Details of each month’s treasurer report are in the WASP.
Outreach: Report from Bob Berta: The star party at St. Peter’s Lutheran Church was a big success. The nice viewing weather allowed solar viewing during the early evening and later, night time viewing of Jupiter and Saturn plus a couple of other objects. In addition we showed a IMAX video called Solar Max, had talks, kid crafts, and QA. The church also provided pizza, snacks and drinks. We had a good turnout including several cub scouts and their scout leaders.

Publications: Current month’s newsletter is on the Website.
Jon then read an announcement from Gary Ross:
15 JUNE is «Star-be-que» at the James C. Veen Observatory, seat of operations for G. M. Ross, Second Greatest Observer in Michigan. This event is for Grand Rapids members and invitees. Bring food. Drinking is done discretely in cars. Starts formally at 22.30 Universal Time. As now planned, Bailey gets the best bed at near-by Kissing Rock Farm and Trembley gets second best bed. If more important people show up they will be moved to lesser quarters accordingly.
Upon due consideration and field experience, DOUG BOCK is now declared the Third Greatest Observer in Michigan.
Jon reminded us that the Discussion Group meets at Gary Gathen’s home in Pleasant Ridge at 8 PM on the 4th Thursday of each month. See the WASP and emails for details.

Observations:
Diane reported on Point Pelee stargazing on the past weekend. Enjoyed pretty good skies. Saw Hydra and other southern horizon constellations.
Bill Beers said he saw a spectacular view of the Milky Way in Cadillac during the Star Party. It snowed the next day.
In The News: 5/16/2013 by Ken Bertin
• New satellite sail is propelled by solar protons
• Mars Rover wakes up, gets better laser aiming
• Toxic Mars dust could hamper planned human missions
• New type of supernova born in stellar mashup
• Supersonic cosmic winds blow up giant galactic bubbles
• Moon water came from young wet Earth
• Annular eclipse May/9-10/2013
• Quantum trick offers source for mystery cosmic magnets
• Hints of lightweight dark matter get even stronger
• Why Mercury is a hard orange, not a soft peach
• Neutrinos from outer space open new eye in the sky
• Kepler telescope’s planet-hunting days crunch to a close
• Kepler’s failure doesn’t mean the mission is over

Presentation: “Sun Dogs, Halos, Rainbows and other lights in the sky” by Dave Bailey, assisted by Ken Bertin.

The meeting ended at 9:30