Mars Dunes Move

NASA's Mars Reconnaissance Orbiter has detected ripples and shifts in the sand dunes on Mars, which means the surface of the planet is more dynamic than previously thought. Planetary scientist Nathan Bridges said, "Mars either has more gusts of wind than we knew about before, or the winds are capable of transporting more sand. We used to think of the sand on Mars as relatively immobile, so these new observations are changing our whole perspective." The article explains, "The air on Mars is thin, so stronger gusts of wind are needed to push a grain of sand. Wind-tunnel experiments have shown that a patch of sand would take winds of about 80 mph to move on Mars compared with only 10 mph on Earth. Measurements from the meteorology experiments on NASA's Viking landers in the 1970s and early 1980s, in addition to climate models, showed such winds should be rare on Mars."

Black Hole

The black hole at Cygnus X-1 has been studied using the Chandra X-Ray space telescope, the Rossi X-ray Timing Explorer, the VLBA, and the Advanced Satellite for Cosmology and Astrophysics (ASCA is Japan's 4th cosmic X-ray telescope). Results include: the event horizon spins at 800 Hz, Cygnus X-1 is 6.070 light years away, the 3-D velocity vector is now known, the black hole was born 6 million years ago (Happy Birthday), and it's 14.8 times the mass of the Sun. Since the black hole is so young, it was likely formed at this mass. It was also likely formed spinning at nearly this speed. Cygnus X-1 is moving slowly with respect to the Milky Way, suggesting that it was not born in a supernovae explosion. Therefore the progenitor star must have collapsed without an explosion.

Great Lake on Europa

Data from the Galileo spacecraft have been used to detect a subsurface lake with the volume of water of the Great Lakes. Images of two roughly circular, bumpy features on Europa's surface called chaos terrains were studied. A four-step model was developed to explain how the features form on Europa. Similar processes are seen here on Earth on ice shelves and under glaciers overlaying volcanoes. Several conflicting observations are resolved, some of which seemed to suggest that the ice shell is thick and others that it is thin.

The finding is good for the prospect of life on Europa as it suggests that the subsurface ocean communicates with the surface. However, as the lakes are likely kilometers below the surface, a dedicated probe is needed for confirmation.
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 Stephen Uitti, 313 389-5609 publications@warrenastro.org.

FOR SALE: Late 1970's model Criterion RV-6 Dynascope 6" Newtonian reflector. Original owner. Well used, but good condition. Mirrors rarely cleaned and could use another cleaning. Original pier, German equatorial mount, setting circles, finder scope and Ramsden eyepieces. Clock drive motor died & replaced with a hand-made manual slow-motion control. Includes hardware for mounting a camera & solar projection screen. I can no longer lift it and am looking for something smaller and lighter. Asking $200 or best offer. Contact Brian Klaus 586-731-0011 [10-2011]

FOR SALE: 2 year old Celestron CGEM 800 telescope (8" SCT, Eq mount, Go To), with accessories purchased at the same time including the Celestron Power Tank. Asking $1800 for the entire set up. Please feel free to call with any questions. David Rumble 586-295-5853 [3-2012]

FOR SALE: Large 30" x 40" NASA 1982 framed Manned Space Achievements poster. Starting with Mercury it shows all the teams, logos and descriptions of the flights. NASA stickers that represent the flight logos. Several front pages from these flights including Shepard etc. Can be brought to meeting. nbiz@sbcglobal.net [12-2011]

FOR SALE: Excellent condition classic LX-200 Meade 12" (not GPS) with a good collection of Meade eyepieces (some higher quality) and accessories. There is also a DSI Meade camera. Also: a Russian Maksutov of around a 5" aperture. Joe Tringali BlipsterJoe@gmail.com 586-663-0816 [5-2012]

FOR SALE: Meade 10" LX200 Goto SCT with heavy duty field tripod and accessories. Asking $2500.00 for everything. More photos all items: http://photobucket.com/tomsastro Contact t_zimmerman@ameritech.net or call Tom, noon to 7 pm: 248-446-0072

http://tinyurl.com/6zo6jt6
WAS Club logo wear at WAS meetings

Diane Worth, dianewsky-night@yahoo.com or 248-980-7832 sells club logo clothing (hats, shirts, sweatshirts, jackets). Stephen Uitti brings the catalog to meetings.
Astronomical Phenomena - December 2011

Day Hour Event (Times in EST)
1 16 Neptune 5.6°S of Moon
1 18 Venus 5.4°S of Pluto
2 14 FIRST QUARTER
4 8 Uranus 5.8°S of Moon
4 14 Mercury inferior conjunction
6 6 Moon at apogee
6 21 Jupiter 4.9°S of Moon
10 3 Aldebaran 5.9°S of Moon
10 18 Moon furthest North (22.6°)
10 21 FULL MOON Eclipse
10 20 Uranus stationary
14 10 Mercury stationary
16 8 Regulus 5.6°N of Moon
18 5 LAST QUARTER
20 5 Spica 1.9°N of Moon
22 7 Moon at perigee
22 10 Solstice
23 8 Mercury 2.6°N of Moon
23 9 Antares 4.2°S of Moon
23 16 Mercury greatest elong W(22°)
23 22 Moon furthest South (-22.5°)
24 23 NEW MOON
25 6 Pluto 1.9°N of Moon
26 16 Jupiter stationary
29 2 Neptune 5.6°S of Moon
29 12 Pluto at conjunction
31 16 Uranus 5.7°S of Moon

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.

- Bob Berta, 2nd VP

2011 Stargate Observatory Open House
Nov 19, Dec 3, Jan 21, Feb 18

2011 WAS Meetings
Cranbrook Meetings: 1st Mondays
Dec 5, Jan 9, Feb 6

Macomb Meetings: 3rd Thursdays
Nov 17, Jan 19, Feb 16

Events
15 Dec – WAS Annual Banquet 50th Anniversary

WAS 2011 Upcoming Presentations

<table>
<thead>
<tr>
<th>Date</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 Nov</td>
<td>Tom Field</td>
<td>Do-able Spectroscopy</td>
</tr>
<tr>
<td>5 Dec</td>
<td>David Cinabro</td>
<td>Golden Age of Cosmology</td>
</tr>
<tr>
<td>5 Dec</td>
<td>Chuck Dezelah</td>
<td>Open Clusters: The Trumpler Classes</td>
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<tr>
<td>9 Jan</td>
<td>Bob Berta</td>
<td>Aliens on Earth</td>
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<td>9 Jan</td>
<td>Fred Gluckson</td>
<td>Asymmetry in the Cosmos</td>
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<td>19 Jan</td>
<td>Dave Bailey</td>
<td>What Goes On Inside the Sun</td>
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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 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

Oakland Astronomy Club newsletter
http://oaklandastronomy.ulmb.com/oacnews.html
Clear skies, - Bill MacIntosh

Election of Officers for 2012
At the Cranbrook meeting on November 7, our club held the annual election of officers. The following people were nominated, seconded, and voted into the following offices for 2012.
President - Jon Blum
1st Vice President (programming) - Diane Hall
2nd Vice President (observatory) - Riyad Matti
Treasurer - Dale Partin
Secretary - Dale Thieme
Publications (newsletter) - Debra Chaffins
Outreach - Bob Berta

50th WAS Banquet
It's time to reserve your place at the 50th ANNIVERSARY CELEBRATION AND ANNUAL BANQUET of the Warren Astronomical Society!
Thursday, December 15, 2011
Place: DeCarlos Restaurant and Banquet Center in the Fiesta Room, 6015 E. 10 Mile Road near Mound in Warren 48091 (there is another DeCarlos at a different location...don't go there!)
Time: OPEN BAR opens at 6:00 PM.
DINNER at 7:30 PM.
PRESENTATION at 8:30 PM.
AWARDS AND RAFFLE at 9:30 PM.

Cost: $30 per person.
RESERVATIONS REQUIRED! By 5 December.
Send check and number of people attending to:
Jonathan Kade
WAS Banquet
22712 Nona St.
Dearborn, MI 48124
or give to Jonathan at an upcoming WAS meeting.

Speaker: WAS History Committee and Special Guests (?)

Topic: Celebrating 50 years of the Warren Astronomical Society

Menu:
Family style meal includes
Boneless Chicken Breast
Roast Beef with mushrooms
Meatballs and Gravy
Mostaccioli w/ meatsauce
Scalloped potatoes
Buttered corn
Tossed Green Salad
Rolls
Coffee, Tea
Cherry Cheesecake

THE PRESENTATION For our 50th anniversary, Jonathan Kade is coordinating a presentation about the Warren Astronomical Society: its history, its members, its achievements and struggles. Please join us for this important evening to celebrate what the WAS has been, is now, and will be. Learn about the founders of the WAS, the people who kept it going through hard times, and perhaps get some insight into how we can keep our favorite local institution going for another fifty years.
**December Cranbrook Talks**

 Despite Professor Cinabro's long record of achievement in science, his work in cosmology has made him realize that he is Doomed, Insignificant, and Ignorant. His talk will make it clear that you are too.

Professor Cinabro joined the faculty of Wayne State University in 1995. Inspired by the discovery of Dark Energy he became interested in cosmology and spent 2006 as a visiting scholar at the Kavli Institute for Cosmological Physics at the University of Chicago. There he joined the Sloan Digital Sky Survey Supernova Search, and has contributed to cosmology and the study of supernovae with the results of that survey.

The short talk will be given by Charles (Chuck) Dezelah, who joined the WAS in 2011. His presentation is entitled *Observing Open Clusters: A Tour of the Trumpler Classes*. It will give an overview of the challenges and opportunities of observing open clusters, compare and contrast them with other stellar associations, providing observational insights from the perspective.

**November Discussion Group**

The WAS Discussion Group meeting in November, 2011, will be held on Monday, November 21, at 8 PM at the home of Jon Blum.

The November meeting is always changed to a different day than normal, so that it will not conflict with Thanksgiving.

Directions: Take 696 or any mile road to Orchard Lake Road.
Turn west from Orchard Lake Road onto 13 Mile Road.
Go 1½ miles west on 13 Mile Road (passing Farmington Road)
Turn left (south) onto Lake Park Drive
Follow Lake Park Drive winding for 3 blocks to 28727 Lake Park Drive (right side)
Please do not bring food. Jon will provide all snacks.

**W.A.S. History SIG Report**

After a short break in the scanning process, we are underway again with a fresh batch of issues to scan and replicate. Meanwhile, we have the complete set so far on USB drives and on the web site. Dale will have the drives available at the meetings for anyone wishing to get a fast download.

The four covers in this issue are from November in the years 1969, 1971, 1977 and 1986. Featured in the 1969 issue, we find a listing of useful Astronomy books (David Ther) and a report on M2 and M15 in observational astronomy by the intrepid Frank McCullough. In 1971, Tim Skonieczny discusses winter observing, Chris Edsall opines about a connection between Auroras and Heart Disease and provides the membership with a list of amateur periodicals. As 1977 drew to a close, Louis Faix taught us to build a DIY apodizing screen. Finally, with the 1986 issue, we get a description of the Shuttle Orbiter waste collection system. “TMI!” according to the poor History SIG member assigned to transcribing that issue.

-Dale Thieme

**October Board Meeting**

**Officers**: Jon Blum, Gary Ross, Therese Oldani, Jonathan Kade, Dale Partin,

**Guests**: Dale Theime, Gary Gathen, Brian Klaus, Marty Kunz

**President**: Work at Stargate with no leaks.

**1st VP**: Speakers scheduled through April.

**2nd VP**: Kalonowski fund Institutional development Group... SFAA Donation to club, Phillips camera equipment for planetary imaging..

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Outreach: Next Open House Oct 22. International of the Moon night in Hazel Park (Jonathan and Diane will be present till 5pm, Gary Ross will be present. Boy Scout night at Cranbrook.

Treasurer: 100 good standing memberships. 20 members are joining the Astronomical League. Renewed Corporation status with the State. Good through next October. 501c3 to meet in Southfield with a few board members Wednesday, October 5th at 7:30pm.

Secretary: Beg list working with Treasurer.

Publications: September WASP is out.

Old Business: Dinner will begin at 6:30pm [later changed to 7:30].
Jon will announce on Elections for November 7.

New Business: none

Cranbrook General Meeting

President: December Banquet announcement. Introductions made.

1st VP: Short talk and Main talk highlights to come. December there is a game instead of presentation at Cranbrook meeting.

Warren club sample wear by Diane Worth.

Macomb at 221 (regular room ) enter from Library. Pick up your Name Tag tonight. Scheduling for short and long talks for next year.

2nd VP - Riyad Matti to host the next Stargate Open House, which conflicts with the autumn Cadillac West Star Party on the 22nd.

Treasurer:, Astronomical League signups for 2011 are closed.

Outreach solicits volunteers for two events on 7/8 — a Cranbrook Boy Scouts event with an astronomy theme and an International Observe the Moon event in Hazel Park.

32-year WAS veteran Alan Rothenberg is relocating to Nevada. He invites those interested to check out an annular eclipse that will be visible from the Las Vegas. He has two refractors, one built by WAS member Bill Whitney, that are available for sale at a reasonable price.

Star Parties: Cadillac West Orionid Party is next.

Solar group reconvening for those interested; see Marty Kunz for details.

Archives: Dale Thieme mentions a Gary Ross guest appearance from 1979 in which he laid down a challenge for Dave Harrington. Also, we have the Sky & Tel DVD library available.

Astro League: Chuck Dezelah has copies of The Reflector newsletter available.

Diane Hall gives a report on the Great Lakes Star Gaze—good fun in spite of iffy weather and a low turnout; the President’s Challenge of seeing M33 naked-eye could not be achieved because of atmospheric conditions.

In The News was presented by Ken Bertin

Dave Bailey to give special presentation on 10/14 at Delta College Planetarium, Bay City sponsored by http://www.sunsetastronomicalsociety.com/ on Fri October 14, 7pm. The talk is on non-spherical stars. Get directions from website.

The Last Shuttle Launch. STS-135 presentation by Jonathan Kade, Diane Hall, Ben Handlesman. On April 12, 1981, a group of WAS members saw the first Space Shuttle launch. On July 8, 2011, five members of the Warren Astronomical Society (Jonathan Kade, Diane Hall, Tony Semenuk, Dale Mayotte, and Ben Handlesman) saw the final Space Shuttle launch. Pictures and personal stories were shared.

Snack break, courtesy of Kat Siegel

Main Talk: Dale Partin, The History of Cosmic Ray Astronomy. Cosmic rays were discovered in the course of initial studies of radioactivity. The early history of research into the nature of cosmic rays was presented. The more recent history of cosmic ray studies were reviewed, with an emphasis on particles with stupendous energies of 10^20 electron volts, which is millions of times larger than the highest energies produced with any man-made particle accelerator, including the Large Hadron Collider. - Therese Oldani, Secretary
WAS Macomb Meeting 10-20-2011

Meeting ambled in to session with 25 in attendance.

President: Recognized new people in attendance: Dave And Sharon Pearson, followed by roll call.

1st VP: Speaker scheduler, More name tags, Tonight is Astro Jeopardy. Next month annual election of Officers.

Treasurer: 103 members in good standing. Financial details posted in WASP.

Publications: Oct issue is out.

Outreach: Annual Banquet is coming up

Discussion Group: One week from tonight. At G. Gathen’s. 8-11. In November it will be at Jon Blum’s.

Hands On: Open House at Stargate this Sat.

Solar: Sun’s getting busy. Discussion of the Carrington event ensued. Followed by a killer comet discussion.

Star Party: NA- Gone up to Cadillac

History: All of the scanned issues have been transcribed and posted on the WAS website. Also have two USB drives with the files on them for anyone wanting to get them at the meeting. Failing that, if all you have is a USB drive with you, Dale has the files available on his computer.

Astro League: 20 members from our club.

Observing reports: Show and tell: magnetic rock found, could be a meteorite? Meteor spotted from the summer triangle on the 5th.

Main Talk: Astro-Jeopardy. Much hilarity ensued.

Astronomy in the News: Ken Bertin shared items like: Laser Tracker beams could pull in Astronauts, Comets may be creating oceans on alien planets, Area around black holes could reveal dark energy. Also shared a demonstration of an Exoplanet database App.

- Therese Oldani, Secretary

Treasurer’s Report

ASTRONOMICAL LEAGUE: Chuck Dezelah has submitted our materials and we are a member organization once more. I expect mail from the AL soon.

NONPROFIT STATUS: Dale, Gary, and I met after the Cranbrook meeting to review the application and work on moving it forward. Dale completed a draft fund raising plan. I started work on annual reports for the last four years, but have not finished it yet. I expect to get some work done. Gary was going to work on converting the spreadsheet of activities that Marty and I put together into a narrative description, but we may run into some computer software problems there.

SKY & TELESCOPE BILLING ERROR: S&T billed us for shipping on that 7 decade box set, which was supposed to have free shipping. The person I talked with said that we would be credited the $15 difference, but it hasn’t yet showed up in our bank account.

INCOME AND EXPENDITURES: We took in $158.50 and spent $122.40. I counted the money in the cash box for the first time in a few weeks and found that we have a surplus of $18. This is not desirable, but better than missing money, I suppose. I’ve been racking my brain trying to figure out what the money was for, but could not think of anything. Were there any donations for food last meeting? I didn’t write anything down, but I was interrupted while trying to pack up. We have $6,899.22 in the bank account and $336.69 in cash.

COSTS AND REIMBURSEMENTS: $122.40 to the Astronomical League for club and member membership.

INCOME
Planisphere sales: $15
Renewals: $112
Donations: $10 (Cranbrook), $21.50 (Macomb).

- Jonathan