



The Prairie Astronomer

April, 2011

Volume 52, Issue #4

The Official Newsletter of the Prairie Astronomy Club

April Program

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- What's up in Space for April

Deep Sky Filters By Dave Knisely

In April we are proud to present Dave Knisely for the program at the PAC Meeting. Dave will be presenting a program on "Deep Sky Filters".

Dave is not only an extremely knowledgeable amateur astronomer (and I hesitate to use the term amateur when talking about Dave), but is nationally recognized. We can probably have a presentation every month by Dave and not run out of topics he can speak on. This one I imposed on him as I thought many of our newer members (and experienced ones) could benefit from his knowledge of filters and which ones are worth using.

NASA engineer Ernie Wright looks on as the first six flight ready James Webb Space Telescope's primary mirror segments are prepped to begin final cryogenic testing at NASA's Marshall Space Flight Center. This represents the first six of 18 segments that will form NASA's James Webb Space Telescope's primary mirror for space observations. Engineers began final round-the-clock cryogenic testing to confirm that the mirrors will respond as expected to the extreme temperatures of space prior to integration into the telescope's permanent housing structure.

Image Credit: NASA/MSFC/David Higginbotham

Featured Photo



Meeting Minutes - Brett Boller

March 29th, 2011 PAC Meeting

Announcements: Dan Delzell called the meeting to order.

The next PAC meeting will be Tuesday April 26th, 7:30 PM at Hyde.

Upcoming Programs will be

April – A guide to filters by Dave Knisely.

May – Viewing the Sun by Dave Churilla.

Outreach upcoming events

Beginning Astronomy Class – April 7th & 8th.

Lunar Party at Hyde April 8th.

Nebraska Realtors Convention April 13th 6:30pm to 9:00pm

Astronomy Day May 7th.

Hyde Saturday nights.

Volunteer at Hyde

We are looking for Volunteers.

Observing Report by Jim Kvasnicka

Star parties

February 28th Snow 0 attendees.

March 4th partly cloudy 25+ mph winds 0 attendees.

March 5th Excellent night

March 11th Lunar Party and outreach.

Evening planets in April include Saturn.

Morning Planets in February include Venus and

Neptune

Jupiter, Mars, Mercury, and Uranus are low and difficult to see.

There is an upcoming meteor shower the Lyrids which will produce 10-20 per hour.

Ursa Major was the topic constellation.

What's Up in Space by Jason Noelle

Messenger arrived in orbit around Mercury

Took its first images at 2:40 am on March 29th.

Mars Opportunity Rover is going strong and has covered 16.6 miles in 2552 Martian days.

Hubble discovered furthest object ever at 13.2 billion years.

New Horizons is slated for a July 2015 flyby of Pluto.

The Mars Science Laboratory is being prepared for launch.

It will launch Curiosity and be powered by plutonium.

Club Business

Annual gift for allowing us to use observing site will be given to the Busboom family of 200 dollars to Southpoint. Dave Churilla first, Kris Gainsworth second. Approved unanimously.

Expense of 50 dollars a month for gas and upkeep of the time to Jim Kvasnicka, Bob Kacvinsky first, Kris Gainsworth second. Approved unanimously.

The Club will provide 320 dollars for Astronomy Day raffle item. Kris Gainsworth first, Lee Taylor second.

Approved unanimously.

Club Events

ON THE NET

Newsletter submission deadline, May 15, 2011

PAC Club Meeting:

Tuesday April 26, 2011 7:30pm @ Hyde Obsv.

Program: The Dummy's Guide to Filters by Dave Knisely

PAC Club Meeting:

Tuesday May 31, 2011 7:30pm @ Hyde Obsv.

Program: Safely Viewing the Sun by Dave Churilla

PAC Club Meeting:

Tuesday June 28, 2011 7:30pm @ Hyde Obsv.

BBQ & Swap Meet

PAC:

www.prairieastronomyclub.org

PAC E-Mail:

info@prairieastronomyclub.org

NSP:

www.nebraskastarparty.org

NSP E-Mail:

info@nebraskastarparty.org

OAS

www.OmahaAstro.com

Hyde Observatory

www.hydeobservatory.info

Panhandle Astronomy Club

Panhandleastronomyclub.com

2011 PAC Star Party Dates

April	Apr 22nd	Apr 29th	May 6th
May	May 27th	Jun 3rd	
June	Jun 24th	Jul 1st	
July	Jul 22nd	Jul 29th	
August	Aug 26th	Sep 2nd	
September	Sep 23rd	Sep 30th	
October	Oct 21st	Oct 28th	
November	Nov 18th	Nov 25th	
December	Dec 16th	Dec 23rd	

Lunar Party Dates:

May 13th
Jun 10th
Jul 8th
Aug 5th
Oct 7th
Nov 4th

Dates in **BOLD** are closest to the New Moon. Lunar Party dates are possible dates and not official.

Volunteer Activities

Hyde Observatory on Saturday nights

New Club Member's Instructional Class: To be determined.

Please see the website or email a club member for more information and as always additional volunteer events will occur when they are scheduled.

PAC-LIST: You may subscribe to the PAC listserv by sending an e-mail message to: mailsrv@prairieastronomyclub.org. In the body of the message, write "Subscribe PAC-List your-email-address@your-domain.com"

For example:

Subscribe pac-list me@myISP.com

To post messages to the list, send to the address

pac-list@prairieastronomyclub.org

PAC can also be found on Twitter and Facebook.

Buy club apparel through the club website. Shirts, hats, mugs, mouse pads and more.



May Observing: What to View--Jim Kvasnicka

This is a partial list of objects visible for the upcoming month.

Planets

Venus: Shines at magnitude -3.9 in the dawn sky.

Neptune/Uranus: Visible in a telescope just before dawn.

Jupiter: Easily seen the last half of May at dawn.

Mercury: Very low at dawn and difficult to see.

Mars: Faint and small at dawn. Not visible to the naked eye.

Saturn: Dims in brightness from 0.5 to 0.7. Look for it 15° to the upper right of Spica. The rings are 7°-8° from edge on.

On May 12th Venus, Jupiter, Mercury, and Mars fit in a 6° binocular FOV.

May Messier List

M49/M61: Galaxies in Virgo.

M51: The Whirlpool Galaxy in Canes Venatici.

M63: The Sunflower Galaxy in Canes Venatici.

M64: The Black Eye Galaxy in Coma Berenices.

M85: Galaxy in Coma Berenices.

M94: Galaxy in Canes Venatici.

M101: The Pinwheel Galaxy in Ursa Major

M102: Galaxy in Draco. Look for NGC 5866.

M104: The Sombrero Galaxy in Virgo.

Last Month: M40, M65, M66, M95, M96, M105, M106, M108, M109

Next Month: M58, M59, M60, M84, M86, M87, M88, M89, M90, M91, M98, M99, M100

NGC and Other Deep Sky Objects

NGC 4244: Long, thin galaxy in Canes Venatici.

NGC 4361: Planetary nebula in Corvus.

NGC 4631: Edge on galaxy in Canes Venatici.

NGC 4866: Edge on galaxy in Virgo.

Mel 11: The Coma Cluster in Coma Berenices. Use binoculars.

Double Star Club List

Kappa Bootis: Yellow and blue pair.

Iota Bootis: Yellow primary with a dim blue secondary.

Pi Bootis: Pair of white stars.

Epsilon Bootis: Yellow primary with a greenish yellow secondary.

Xi Bootis: Pair of yellow stars.

Delta Bootis: Yellow and blue-white stars.

Mu Bootis: Yellow pair of stars.

Zeta Corona Borealis: Light blue and greenish yellow pair.

Focus On Constellations - Jim Kvasnicka

Virgo, The Maiden, is well away from the dust of the Milky Way and contains a super-abundance of galaxies. Eleven of them have Messier numbers. Virgo is in the heart of the Coma-Virgo Supercluster. In the central 12° x 10° area some 3,000 galaxies can be counted, and those are just the brightest members. Virgo is best seen in May.

Mythology and History

Virgo is named for the Greek goddess Demeter, the Earth goddess, and is associated with the arrival of spring and the growing season. Hades, the god of the Underworld, fell in love with Demeter's daughter, Persephone and carried her back to the Underworld. Demeter became worried and went to look for her. Zeus pleaded with Demeter to return. Demeter refused and continued to search for her daughter. People everywhere were starving and could not understand how the Earth goddess could be so cruel. Zeus sent Hermes to Hades telling him that Persephone must return home to Olympus. Demeter was happy but Persephone told her mother she was in love with Hades. Zeus solved the problem saying that Persephone would spend half of her time with Hades in the Underworld and half of her time with her mother on Olympus. Winter comes when Persephone goes to the Underworld and spring begins when she returns to Olympus.

Objects Magnitude 11.0 and Brighter

Galaxies: M49, M58, M59, M60, M61, M84, M86, M87, M89, M90, M104, NGC5018, NGC5068, NGC5084, NGC5247, NGC4654, NGC4487, NGC4546, NGC4593, NGC4697, NGC4699, NGC4958, NGC4856, NGC4902, NGC5044, NGC5054, NGC4517, NGC4560, NGC4526, NGC4665, NGC4636, NGC5364, NGC4030, NGC4179, NGC4216, NGC4261, NGC4267, NGC4365, NGC4371, NGC4388, NGC4429, NGC4438, NGC4435, NGC4442, NGC4457, NGC4527, NGC4535, NGC4536, NGC4568, NGC4570, NGC4596, NGC4608, NGC4612, NGC4643, NGC4666, NGC4698, NGC4753, NGC4754, NGC4762, NGC4772, NGC5363, NGC5566, NGC5576, NGC5701, NGC5746, NGC5813, NGC5838, NGC5846, NGC5850

Open Clusters:

Globular Clusters: NGC5634

Planetary Nebulae:

Bright Nebulae:

SNREM:

Dark Nebulae:

Named Stars: Spica (Alpha), Zavijah (Beta), Porrima (Gamma), Auva (Delta), Vindemiatrix (Epsilon), Heze (Zeta), Zaniah (Eta), Syrma (Iota)

Number of Objects in Various Observing Clubs

Messier Club: 11 objects

Double Star Club: 1 object

Herschel 400 Club: 50 objects

Globular Cluster Club: 1 object

Open Cluster Club: 0 objects

Planetary Nebula Club: 0 objects

Urban Club: 4 objects

ANNUAL MEMBERSHIP

REGULAR MEMBER - \$30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - \$35.00 per year. Same as regular member except gets 2 votes at club meetings.

If you renew your membership prior to your annual renewal date, you will receive a 10% discount.

Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.

Club Telescopes

To check out one of the club telescope contact **Jason Noelle**. If you keep a scope for more than a week, please check in with Jason once a week, to verify the location of the telescope and how long you plan to use it. The checkout time limit will be two weeks, but can be extended if no one else has requested use of a club scope.

100mm Orion refractor:
Available

10 inch Meade Dobsonian:
Available

13 inch Truss Dobsonian:
Available

Program Chair Minute - Dave Churilla

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Dave is not only an extremely knowledgeable amateur astronomer (and I hesitate to use the term amateur when talking about Dave), but is nationally recognized. We can probably have a presentation every month by Dave and not run out of topics he can speak on. This one I imposed on him as I thought many of our newer members (and experienced ones) could benefit from his knowledge of filters and which ones are worth using.

Following are upcoming programs you won't want to miss.

May 2011: Safely Viewing the Sun by Dave Churilla. This will be a short presentation on Solar Filters, both White Light and H-Alpha, how to view the sun safely, how to get started, what's new in the past few years and what are the best buys. Its will be, by necessity, very NON-TECHNICAL (meaning I'm Techno-Challenged). If the sky is clear I will be giving the presentation at the beginning of the meeting and outside with the telescopes for a more hands experience with White Light and H-Alpha filters and will have slides on my laptop. We'll then adjourn to inside Hyde for the main meeting. But you know my reputation so it's likely we'll be INSIDE (due to clouds) with a regular PowerPoint presentation.

Jun 2011: BBQ & Swap Meet We plan to have a swap meet & BBQ in June. It will feature Cajun Bob K's Smoked Pulled Pork sandwiches. Cost will be \$5 a head (at the door) & we'll need those coming to RSVP to Dave Churilla. If you came to the Star-B-Que at the 2010 MSRAL Convention then you sampled Bob's work and

trust me, it's worth the taste. Stay tuned for details.

Jul 2011: Comet Hunting by Cal Beard. This presentation should be very interesting. More to come.

Aug 2011: Astrophotography by Brett Boller & John Willman. Brett and John will try to help show everyone how they can get started and what to look for. More to come.

Sep 2011: Making Telescopes by Brian Sivill. Building your own scope isn't as difficult as many think it is. Brian will help with some basics. More to come.

Oct 2011: Astronomy Update by Jack Dunn. Jack will fill us in on things space and astronomy as well as multimedia. More to come.

Nov 2011: How to Buy a Telescope This will be our now annual public seminar on how to buy a telescope. We'll need help talking to guests. More to come.

I'll try to keep you apprised of upcoming programs so you can plan to attend.

The members of the PAC Executive Committee work together to plan the monthly PAC Programs. Our goal for the programs is to provide a good mix of information, entertainment (including time to visit with one another), and to make them relevant for all experience levels as well as to hit all interests in astronomy. In addition we want to get club members involved with giving presentations as there is a lot of expertise in different areas that we all could benefit from. So we would love to have your comments and suggestions concerning what you would like see in our programs. Call me at 402-467-1514 or email me at weber2@inebraska.com.



Brett Boller

Sombrero Galaxy

Challenge Observing Objects for April/May

Each month I will have two objects, one for the more seasoned observer and one for the beginning observer. Each object I hope will challenge you just a little bit. I will provide you with a little bit of information about the object. It is your job to find it and if you would write a little report or draw what you see. The first person to report back on each object will have their report published in the next issue of the newsletter. Happy Hunting!

Advanced Object

NGC 4038 and NGC 4039

The Antennae Galaxies are a pair of interacting galaxies in the constellation Corvus. They were discovered by William Herschel in 1785. About 1.2 billion years ago, the Antennae were two separate galaxies. NGC 4038 was a barred spiral galaxy and NGC 4039 was a spiral galaxy.

A recent study finds that these interacting galaxies are closer to the Milky Way than previously thought—at 45 million light-years instead of 65 million light-years. Their apparent magnitude is about 11.2.



Image credit: NASA

Beginner Object

The moons of Saturn

These are the seven largest moons of Saturn with their apparent magnitudes. See how many you can find!

1. Titan - 8.82
2. Rhea - 10.16
3. Tethys - 10.68
4. Dione - 10.83
5. Iapetus - 11.66
6. Enceladus - 12.21
7. Mimas - 13.45

Astronomy Day Volunteers: Dave Churilla

May 7, 2011 is Astronomy Day. This is a day across the nation that we celebrate the science and hobby of Astronomy and Space Exploration. For those new to the club, PAC joins with other groups to man stations at the UNL Museum, Morrill Hall, to allow the public to experience first hand the fun and fascination of the different disciplines of Astronomy. Last year PAC had 9 stations and we will need volunteers to man those stations again this year. It encompasses several floors and generally draws over 500 people. It's a great outreach opportunity for PAC not to mention a lot of fun.

This year I'll be organizing the volunteers ahead of time and assigning the stations, and Kris Gainsforth will be task master the day of the event to help you get to your assigned stations as I can't be there because my son is graduating from UNL that day. I'll be emailing everyone in PAC as a reminder about the event and volunteering then I'll try to email you individually or talk to you at a meeting to see if you can help out and assign you a station to work if you don't have a preference. We like to have the same stations we did last year although we'll be replacing a couple of the stations with new ones. But if you know ahead of time you want to work, please email me and let me know at weber2@inebraska.com or call me at 402-467-1514. Now this is not a warning to hide when you see me emailing you for help or asking for it during meetings. But it is a heads up that we will be looking for people to work Astronomy Day. So please be thinking of what you want to do. And mark May 7th on your calendars and I'll be in touch!!!

NASA Selects Museums in Florida, California, New York and the Smithsonian for retiring Space Shuttles - by Ken Kremer of Universe Today

NASA Administrator Charles Bolden unveiled the winners in the bidding war to become home to one of NASA's retiring space shuttle orbiters. Bolden selected the Kennedy Space Center in Florida, the California Science Center, the Intrepid Sea, Air and Space Museum in New York City, and the Smithsonian National Air and Space Museum, outside Washington D.C.

Bolden made the announcement at a ceremony at the Kennedy Space Center coinciding with the 30th anniversary of the first space shuttle flight. Space Shuttle Columbia blasted off on the STS-1 mission on April 12, 1981, also the 50th anniversary of the first manned spaceflight by Cosmonaut Yuri Gagarin was on April 12, 1961. Only two shuttle flights remain before the Space Shuttle Program and the orbiters are retired after 30 years of speceflight and 133 mission so far. The final two missions – STS-134 and STS 135 – are slated for late April and late June 2011. The orbiters will then be transferred to their new homes and put on display where NASA hopes they will inspire the next generation of explorers and engineers. But the word mentioned by Bolden and all the other speakers was “bittersweet” – because today is a mixture of sadness that the orbiters are being retired while still flight worthy and happiness that the program has achieved so much.

Atlantis, the final shuttle to fly, will be displayed at the Kennedy Space Center Visitor Complex. Kennedy is the natural home to the orbiters and where every shuttle mission has launched and where every shuttle mission is processed for flight. Kennedy plans to display shuttle Atlantis as though it were “In Flight”. Read my earlier story on Kennedy's proposal to showcase the orbiter with interactive exhibits and numerous shuttle program artifacts , such as like the White Room and the Beenie Cap.

Space Shuttle Atlantis at Pad 39 A at the Kennedy Space Center will be displayed at KSC. Atlantis will blast off on the final mission of the shuttle era in late June 2011.

As expected, Shuttle Discovery was assigned to the Smithsonian's National Air and Space Museum Steven F. Udvar-Hazy Center in Virginia. Discovery is the first of the orbiters to be retired and just completed its final mission, STS -133, in March 2011

The prototype orbiter Enterprise, which is currently on display at the Smithsonian, will be moved up the east coast to the Intrepid Sea, Air & Space Museum in New York City

Space Shuttle Endeavour will go to the California Science Center in Los Angeles, near to the location where all the shuttle orbiters were constructed. Endeavour will be the only orbiter to be display outside the east coast. Endeavour is being processed for her final flight, the STS-134 mission, set to launch on April 29.

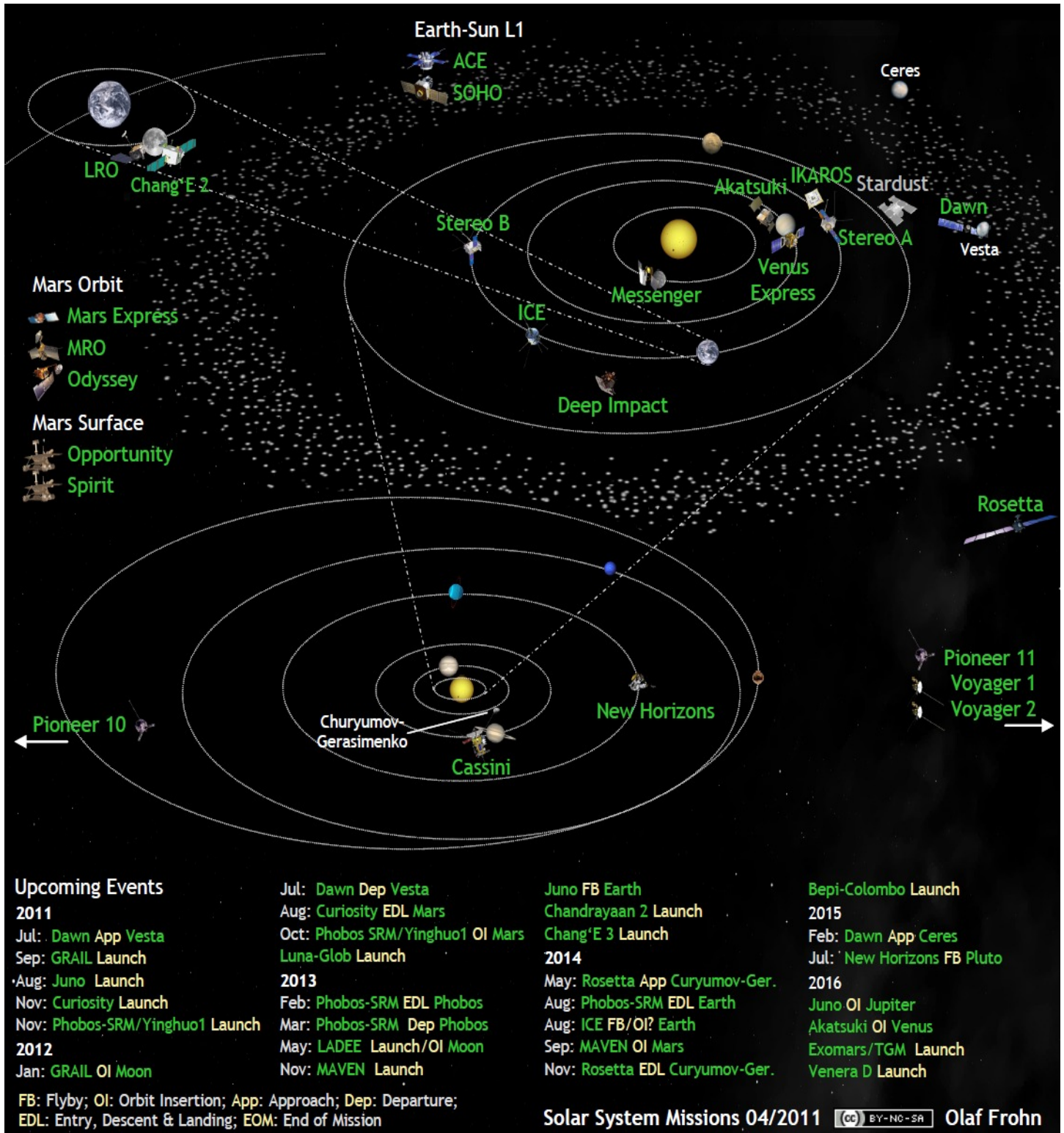
Oddly left out is the Johnson Space Center, home to all the Space Shuttle astronauts and their training facilities.

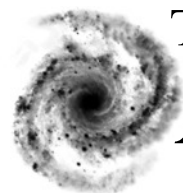


Image Credit: NASA

Solar system exploration missions in April 2011

Here is a pretty neat map made by Olaf Frohn that I found that shows where most of the currently operating spacecraft in the Solar System.





THE *Prairie* *Astronomy* *Club*

Amateur Astronomy --
A Hobby as Big as the Universe

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: **Regular \$30/yr, Family \$35/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585.** For other club information, please contact one of the club officers listed to the right. Newsletter comments and articles should be submitted to: **Jason Noelle at oegrad2002@yahoo.com,** no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

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FIRST CLASS MAIL

Next PAC Meeting
Tuesday
April 26 , 2011
7:30 PM
Hyde Observatory