



General Meeting of the Omaha Astronomical Society  
Friday, March 2nd at 7:30 PM  
Durham Science Center, Room 169, UNO Campus  
Program: See Page 3

### Some things for March

Although March is known for the Messier Marathon, there are other observing opportunities besides Messier Objects. Let's start with the total Lunar eclipse on the evening of March 3. Those along the east coast of the United States will see the moon in totality when it rises at sunset. Unfortunately for those of us in the central time zone, the moon may already have begun to exit the earth's shadow by the time the sun sets. Those in the far west will probably miss out entirely. The predicted times for the Lunar eclipse are, as corrected to Central Time, eclipse begins at 3:30 pm, totality runs from 4:44 to 5:58 pm, while the last stage of the eclipse is 7:12 pm. The last stages of penumbral shading should disappear from the moon around 7:50 pm.

Item of note - one thing to remember this year is that daylight savings time will begin the 2<sup>nd</sup> Sunday in March and will not end until the first Sunday in November.

Do the names Encke and Petriew sound familiar, well if not they are two comets that can be seen this month. Encke is comet 2P/Encke and Petriew is comet P2001 Q2. These are not comets that will be seen like our last visitor from the outer areas of the solar system Comet McNaught. These comets will require fairly dark skies and some patience as you will need to track them down. If the weather happens to be clear on the evening of the 15<sup>th</sup> of March (just before new moon), you will find Comet Petriew four degrees west of Venus, while Comet Encke will be nine degrees to the right as seen in the northern

hemisphere. This whole grouping will be near Pisces, Aries and Cetus.

During March look for Venus in the western sky just after sunset, on the 20<sup>th</sup> of March look for Venus near a crescent moon. Venus will continue to move through Aries during the month of March. Look for Saturn moving west through Leo this month, thus it is visible for most of the night. Look for Jupiter to rise in the early morning hours and remain visible until sunrise. Also during March you will find Mars hanging around "The Archer" otherwise known as Sagittarius. March 15<sup>th</sup> will find Mars 8 degrees east of a thin crescent Moon, while the following day you will find Mars and Mercury on either side of the Moon.

Of course for some the biggest event in March will be the chance to do the Messier Marathon, the best date for 2007 is the night of 17/18 of March which is a Saturday/Sunday night. There is a second chance on 24/25 of March which is also a Saturday/Sunday night, but remember that this night is not as good a choice as the 17/18.

For those that have completed their Messier program, these nights are a chance to get acquainted with some old friends again, because I believe just like me that there are some of the Messier objects that you really enjoy looking at. Some of my favorites are M42 the Great Orion Nebula, M13 the bright globular cluster in Hercules, M51 the Whirlpool Galaxy in Ursa Major, and of course the Andromeda Galaxy M31 and her two dwarf galaxies.

So for March let's hope for clear skies and reasonable temperatures. Keep looking up.

**March Club Star Party,  
March 17, 2007  
OAS Club Site, Weeping Water**

**Omaha Astronomical Society is a member of the NASA Night Sky Network**

# Events and Stuff Section

## March Meeting Presentation

8" Dobsonian Refurbishment

By Stafford Pelish

## March Sky Calendar

3rd Full Moon

11th Last Quarter Moon

18th New Moon

25th First Quarter Moon

## New Members

Rod & Jan Turcotte of Omaha

John Flyzik of Omaha

Frank Baines of Glenwood

## OAS February 2007 Meeting Minutes

The **meeting** came to order at 7:32. We welcomed as guests, Theresa Stewart, Pauline Felker, and Rod and Jan Turcotte. No rooftop observing tonight. The secretary read the **January minutes** and Sharon Weiss motioned to accept, Gary Grimes seconded and the minutes were accepted. John Macy gave a short **Treasurer's report**, with income in January of \$232.95, expenses of \$150.90, balance of \$5454.74. John also sold the last of the new calendars.

### Old Business

**Outreach**—None in Feb. John suggested a book by a friend of his: Stargazing by Robin Scaggel. Also, as the weather warms up we will be offering weekend training sessions to OAS members who wish to learn more about Outreach.

### Club Telescopes--

6" Dobsonian, Ann Donovan

6" Newtonian, Bob Van Meteren

8" SCT, Larry Brennan

13 " Dobsonian, Chris Jewell

Binoculars, 11x80, Bill Bond

## Good March Observing Dates to Observe at the Club Site or other good dark sky location

Friday 09 March 07, last quarter moon

Saturday 10 March 07, last quarter moon

Friday 16 March 07, new moon

Saturday 17 March 07, new moon

## Mahoney Public Star Parties

All Friday evenings from Twilight On the Golf Driving Range of the Mahoney State Park Ashland, NE

Friday May 18, 2007

Friday June 15, 2007

Friday July 13, 2007

Friday August 10, 2007

Friday September 14, 2007

## Recent Observing Awards

None

**Observing**—Comet McNaught put on a great show in the Southern hemisphere. It was only briefly visible here. Our observing site, Astropark is snow packed. Club Star Party (weather permitting) Sat., Feb. 17<sup>th</sup>. Astropark

visits in Jan. = **0**. George Allen brought (free) Feb. viewing charts from [Skymaps.com](http://Skymaps.com) to share, good website. Clark Cheney suggests another good website, [spaceweather.com](http://spaceweather.com).

**Asteroid Occultation**--John Johnson let us know that the asteroid, Palma, did in fact occult (cover) the star as was expected to at 0345, Jan 26<sup>th</sup>. However, it was south of its predicted path, so observers in Omaha did NOT see the occultation. They still reported their data and their negative observations helped to better understand the asteroids shape and path.

**MidStates Conference**—The committee is finalizing the cost of attending, getting a key speaker, and making a T-shirt design. Brochure will be ready in the next few weeks. Planning a Friday social event of some kind, with the Conference on Saturday, possible brunch on Sunday(?) June 8<sup>th</sup> and 9<sup>th</sup>, 2007. Schedule is on our website, [omahaastro.com](http://omahaastro.com)

### **New Business**

**Reports**—Is there a way to keep Treasurer's and Secretary's reports shorter, disrupt the meeting less? Suggestions: make copies for all interested folks, project on wall, keep shorter? By-laws do require reading the minutes. We will consider all suggestions.

**Astronomy Days**—The Astronomical League (AL) is planning 2 dates to do astronomy outreach, April 21<sup>st</sup> and September 15<sup>th</sup>. OAS is planning (so far) to do our "Astronomy Day" effort along with the local Earth Day celebration, April 22<sup>nd</sup>, because of past success (good crowds, ready-made publicity, etc.)

**Nebraska Star Party (NSP)**—You won't get Plutoed! Eric Balcom brought brochures to share. Also, the planning meeting for NSP this month is Feb.19<sup>th</sup>, Mahoney State Park lodge.

**Next meeting, March 2nd, 2007.** Motion to adjourn business meeting made by Deb Cheney, seconded by Gary Grimes and passed.

Tonight's program: **Inferior Planets** with Eric Balcom

## **Grand Theft Pluto**

**February 26, 2007:** When New Horizons, NASA's Pluto-bound spacecraft, swings by Jupiter on Feb. 28th, it will pick up a few souvenirs along the way – photos, data, and an extra 9000 miles per hour courtesy of the largest planet in our solar system.

New Horizons is already the fastest spacecraft ever to leave Earth, but it needs even more speed to catch Pluto, which is receding from the sun. Winter is coming to Pluto, and researchers want New Horizons to arrive before Pluto's thin atmosphere freezes and falls to the ground. (It's so much easier to study an atmosphere when it's up in the air.)

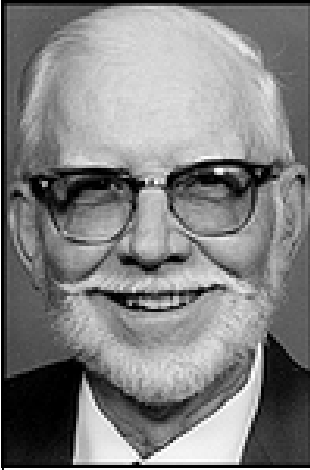
So New Horizons is going to steal a little energy from Jupiter.

"It's called a gravity assist maneuver," says Dr. Robert Farquhar, formerly the New Horizons mission director at the Johns Hopkins University Applied Physics Laboratory. "New Horizons will dip into the gravity well of Jupiter and 'slingshot out' with more velocity than it had when it went in."

For New Horizons to speed up, of course, Jupiter must slow down. "That's conservation of energy," he says. But no one will notice. The change in Jupiter's orbit around the Sun due to the flyby is fantastically small. New Horizons will absorb about  $1/10^{25}$  of Jupiter's orbital energy. That's like "taking a single drop out of the ocean," says Farquhar. ( $10^{25}$  is 1 followed by 25 zeros. Coincidentally, there are about  $10^{25}$  drops in the combined oceans of Earth, so Farquhar's analogy is correct.)

This insignificant loss for Jupiter amounts to a big boost for New Horizons. The piano-sized spacecraft will gain enough energy to exceed 52,000 mph – fast enough to reach New York from Tokyo in less than eight minutes. New Horizons will reach the Pluto system in July 2015 – five years earlier than without the Jupiter boost. Long before space travel was possible, Farquhar

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## Phil Heflin

The Omaha Astronomical Society lost its senior astronomer on Valentine's Day: Phil Heflin passed away peacefully at age 91, after more than forty years as an active member of our society.

We are not sure when Phil's initial interest in amateur astronomy began, but we know that he was an active observing enthusiast and telescope maker in the 1950's, while then a member of an astronomy club that met in Gretna, NE. (That club later disbanded but its members became the core of today's Prairie Astronomy Club in Lincoln, NE.)

Sometime in the mid-1960's, Phil and his first wife Margaret joined a fledgling OAS, and quickly became two of its pillars. Phil was very active in our local organization, but he also participated in regional and national conferences and conventions. He helped host a Mid-States Regional convention here in Omaha/Council Bluffs in the 1980's, offering participants the use of his personal observatory in Harrison County, Iowa.

Phil Heflin is remembered for many wonderful attributes. First, he was very generous. For example, the Heflins donated telescopes to several local schools, and a large refractor to the OAS itself. Second, he loved to tinker with equipment, as evidenced by the wide assortment of hand-made telescopes and eyepieces in his personally-designed observatory. Third, he was a highly skilled and technically proficient observer. His observations of the Messier objects catalog, for example, helped him earn one of OAS's

first *Comet Awards*, later adopted nationally by the Astronomical League as its *Messier Club* observing program. Finally, Phil truly exemplified the word "amateur": a person who is motivated to do a thing, for the love of a thing. He was the type of astronomer who took great pleasure at observing the same object three nights in a row simply because he loved seeing it. He had remained active at the eyepiece until about a year ago, when the demands of age began to severely limit his ability to enjoy the night sky.

Phil and his current wife, Virginia have been regular participants at OAS meetings for the past fourteen years. Look back through the minutes of business meetings and you'll find that Phil was a frequent contributor to topics under discussion. When he was able to attend, his experience, insight and humor were a wonderful part of our monthly gatherings. Phil will be missed.

## March Astronomy Quiz

1. An asterism (an obvious pattern of stars) in the Southern Sky called the False Cross is on the border of what 2 constellation?
2. Where is Oken?
3. A recent study of 2 extra-solar planets (planets around a sun other than ours) surprised scientists because they did not find what?
4. June 30<sup>th</sup>, 2007 brings a conjunction of which two planets?
5. In 1974 and '75 what spacecraft mapped about 1/2 the surface of Mercury?
6. What giant red star is 65 LY from us and has a name that means the "follower?"
7. Two planets in our solar system don't have water. Which are they?
8. What is Pakan's 3?
9. The southern celestial pole is in what constella-

tion?

10. This constellation is on meridian in February, contains a large, diffuse nebula with 3 different NGC numbers. Which constellation is it? And which nebula?

11. Which group of stars was referred to as Sidas Hyantis or "the rain bringing stars" by the Latin poet Ovid?

said, astronomers saw the potential of using gravity to fuel space travel. "We've known about this since at least the nineteenth century," he said.

Jupiter is not the only helping hand in the solar system. Earth's gravity has donated its share of energy to ten different space vehicles, beginning in 1990. The first was Giotto, a European Space Agency mission to study Halley's Comet. Giotto launched in 1985, passed Halley's Comet in 1986, and in 1990 returned to Earth's orbit, where it picked up a gravity-assist boost and a redirection toward another comet, Grigg-Skjellerup, in 1992.

The most-recent spacecraft to fly by Earth was MESSENGER, NASA's Mercury-bound spacecraft. Short for "MErcury Surface, Space ENvironment, GEochemistry, and Ranging," MESSENGER launched on Aug. 3, 2004 and swung past Earth almost one year later in 2005. Along the way, it picked up an added boost, a redirection, and hundreds of stunning images of Earth. Like MESSENGER, New Horizons will make the most of its flyby time. Through June, it will make more than 700 observations. This includes scans of Jupiter's turbulent, stormy atmosphere; a detailed survey of its ring system; and a detailed study of Jupiter's largest moons. The spacecraft also will take the first-ever trip down the long "tail" of Jupiter's magnetosphere, a wide stream of charged particles that extends tens of millions of miles beyond the planet, and the first close-up look at Red Spot Jr., a nascent storm south of Jupiter's famous Great Red Spot. Later, after an eight-year cruise from Jupiter, New Horizons will conduct a five-month-long study of Pluto and its moons. Stay tuned!

Authors: Sherrie Super and Dr. Tony Phillips | Editor: Dr. Tony Phillips | Credit: Science@NASA

## Get Addicted to Stargazing!

February 6, 2007

by the Editors of *Sky & Telescope*

Persistence pays. Using a 70-millimeter refractor and a 7-inch reflector, Tony Flanders conquered the Messier catalog from this hilltop above what once was a Cambridge, Massachusetts, garbage dump. Despite a nearby highway and shopping mall, Flanders was able to see more than one hundred star clusters, nebulae, and galaxies from this light-polluted site. *S&T / Craig Michael Utter*

If you have ever thought that stargazing is too difficult, too expensive, or too boring, then you should read *Stargazing*, our newest blog written by *Sky & Telescope's* associate editor Tony Flanders. As magazine readers and visitors of various online Internet forums already know, Tony captivates you with a combination of expertise, clarity, and enthusiasm that's rare among astronomy popularizers. Tony is always quick to point out that endless delights await you in the nighttime sky, no matter what your age or level of experience.

Unlike most of the editors here at *Sky & Telescope*, astronomy is a relatively new part of Tony's life. It wasn't until 1996 that the 40-something Flanders got hooked on the stars. While toying with buying a telescope for a nephew, he recalls, "It struck me like a bolt from the blue that I was a couple of decades over-ready for a telescope myself."

From that point on, astronomy became nearly all-consuming, and in late 2003 Tony found a home here at Sky Publishing, where his stargazing acumen and prolific writing have been heartily welcomed. Although he loves a dark sky as much as any stargazer, he's be quick to tell you just how much he delights in observing from light-polluted urban settings, or even out the window of his apartment. And his initial enthusiasm hasn't diminished a bit. "Every time I look through the eyepiece of my telescope," he says, "I get chills up my spine."

Tony will be posting his comments and observations a few times a week — maybe more if the New England skies cooperate.



## OAS Club Officers

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### February Astronomy Answers

1. Six! That includes a pair of faint red dwarfs. A telescope at about 100 power will allow you to see the 2 brightest of the six.
2. The open cluster known as M41.
3. Adhara is E (epsilon) Canis Majoris, and it's the second brightest star in the constellation at mag. 1.5, (Sirius is -1.4).
4. Mare Crisium often looks round to us like the image on the left because it is so close to the edge of the lunar disk, but the right hand image is the actual, undistorted shape, elongated east-west, as viewed from lunar orbit.
5. It's a hymn to our closet star, the sun, referred to as Aton, and is from Egypt around 1370 B.C.
6. Mercury's albedo (a measurement of it's reflectiveness) is the lowest, it's surface reflecting only 6% of the sun's light.
7. The Milky Way has at least a) 100 billion stars.
8. An orrery is a clockwork model of the solar system, made to explain the movements of the planets around the sun to lay people, when this idea of the planets going around the sun instead of the other way around was new. They were popular in the late 1700's and in the 1800's and are named after the Earl of Orrery.
9. It's Crux, the Southern Cross.
10. Crater, the Cup. Alkes is Arabic for 'wine cup.'
11. These are the dates for the next 2 Mar's oppositions.
12. On Mars.

Sun, Moon and Stars, Richard Whelan; Stars & Planets, Ian Ridpath, Destination Mars, Martin Caidin & Jay Baree; Atlas of the Moon, Antonin Rukl.

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- ◆ Members receive the STELLA, our monthly newsletter.
- ◆ Each member is automatically a member of the Astronomical League, the only nation-wide organization for amateur astronomers.
- ◆ Use of the observing site at Weeping Water, NE
- ◆ The opportunity to borrow one of several club-owned telescopes.
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