

SPECTRUM

Northern Cross Science Foundation Newsletter

February 2009

LOOKING UP

February 5, Thursday

Annual Banquet

6:00 - Social Hour

7:00 - Dinner

Fox & Hounds Restaurant
Hubertus, WI

February 7, Saturday

Candlelight Ski and Hike

6:00 p.m. to 9:p.m.

Harrington Beach

February 14, Saturday

Candlelight Ski and Hike

6:00 p.m. to 9:p.m.

Pike Lake

February 19 Thursday

Board Meeting

7:30 p.m.

Home of Joyce Jentges

March 5, Thursday

Membership Meeting

7:00 p.m. Astronomy 101

7:30 p.m. Main Program

(To be announced)

Business Meeting to follow

Cosmic Diary

By Jeff Setzer IYA 2009 Coordinator

What's it like to be an astronomer? Do they spend all their time on top of a mountain? Is it all crunching numbers? They all wear suits from the 1960's and smoke pipes, right?

The Cosmic Diary, an IYA2009 Cornerstone Project, is a website designed to let people learn about how astronomers live their lives. It's very different from any astronomy website you've ever seen! There is very little talk about research projects and science, but much more about the everyday challenges faced by astronomy professionals. Looking at the number of proposals, journal articles and symposium presentations these folks blog about, astronomers appear to do a lot more writing and speaking than most people would think. I'm sure there's a lot of math in there somewhere, but astronomers need to hone their communication skills as much as anyone in the corporate world.

The bloggers in Cosmic Diary include astronomers, planetarium directors, science writers, telescope operators, and other professionals in the astronomy field. It's fascinating reading, and the 27 authors make for a broad spectrum of writing styles and discussion topics so there's something for everyone. By the way, Jean Creighton, Director of the Manfred Olson Planetarium on the UW-M campus, is one of the bloggers, so chalk up more Wisconsin representation in the IYA2009 global projects!

You can find the Cosmic Diary at www.cosmicdiary.org, or you can link from our own IYA2009 webpage at www.ncsf.info.



How Fast Are You Moving When You Are Sitting Still? Part 1 of 2

by Andrew Fraknoi Foothill College & the Astronomical Society of the Pacific

When, after a long day of running around, you finally find the time to relax in your favorite armchair, nothing seems easier than just sitting still. But have you ever considered how fast you are really moving when it seems you are not moving at all?

Daily Motion

When we are on a smoothly riding train, we sometimes get the illusion that the train is standing still and the trees or buildings are moving backwards. In the same way, because we "ride" with the spinning Earth, it appears to us that the Sun and the stars are the ones doing the moving as day and night alternate. But actually, it is our planet that turns on its axis once a day—and all of us who live on the Earth's surface are moving with it. How fast do we turn?

To make one complete rotation in 24 hours, a point near the equator of the Earth must

move at close to **1000 miles per hour** (1600 km/hr). The speed gets less as you move north, but it's still a good clip throughout the United States. Because gravity holds us tight to the surface of our planet, we move with the Earth and don't notice its rotation in everyday life.

The great circular streams of water in our oceans and of air in our atmosphere give dramatic testimony to the turning of the Earth. As the Earth turns, with faster motion at the equator and slower motion near the poles, great wheels of water and air circulate in the northern and southern hemisphere. For example, the Gulf Stream, which carries warm water from the Gulf of Mexico all the way to Great Britain, and makes England warmer and wetter than it otherwise would be, is part of the great wheel of water in the

(continued on pg 2)

January Meeting Minutes

by Kevin Bert

The January business meeting of the Northern Cross Science Foundation was held at the Unitarian Church North in Mequon. President Joyce Jentges opened the meeting at 7:10 pm and welcomed over 31 members and guests. She reminded the membership that there would not be a regular meeting next month because of the annual NCSF banquet that will be held this year at the Fox and Hounds restaurant in Hubertus. She encouraged all members to participate and get their reservations in to Gene by the 21st. Joyce then asked for standard reports.

Treasurer Gene Dupree reported a balance of \$5305.35 in the general fund and \$2688.26 in the Observatory account. He says that money for membership dues and subscriptions have been coming in and members that have

brought theirs tonight can see him later in the evening. Gene said the observatory donation jar was opened recently and the amount totaled \$55.00.

Secretary Kevin Bert had nothing new to report about the membership or Astronomical League.

Jeff Setzer gave a brief report on latest IYA happenings. 134 countries have now officially become involved. Of the 365 daily podcasts sponsored by the IYA, all will be archived as they are presented so you can look them up at any time. The club's website will have a link to it along with other IYA details. The Galileo scope is nearing completion and if all is on schedule orders could be made in a few weeks. At an organizational meeting for all active southeastern Wisconsin IYA participants there

was talk of sponsoring one major joint event that would have up to 100 telescopes. Details still need to be worked out.

Under new business Joyce gave a list of upcoming events. February 7th at Harrington Beach and 14th at Pike Lake are sky & hike events. Gene and Charlotte Dupree can use your help by bringing a telescope. Joyce said the next board meeting will finalize activities for the year and members should look for the entire public and members schedule for 2009 in the February newsletter.

With no further new business, Joyce closed the business meeting at 7:25 p.m.

Things to See In the February Night Sky

By Don Miles

Mercury, Mars, & Jupiter. Look ahead of the rising sun for Mercury and Mars in the eastern horizon before sunrise early in the month. Mercury will be much brighter than Mars. Jupiter will also join the group, but not until mid-month. They'll form a small triangle on the morning of the 24th, with Mars @ top-left, Jupiter @ top-right, & Mercury roughly centered below the two. Mercury is furthest from the sun on the 13th, and then will continue on its path towards the "back" side of the sun.

Pluto: May be viewable early in the morning, but at only about 15th magni-



tude, and low in the south, you'll need at least a 12" scope and dark skies.

Neptune: Will be behind the sun this month, so not visible.

Venus & Uranus: Look for blazing Venus in the western sky after sunset. Early in the month, Venus will be above and to the left of the much fainter Uranus by 9 degrees (about the separation of the two upper dipper stars in the big dipper). As the month progresses, Venus will optically leave Uranus behind as Venus continues its journey between the Sun and Earth.

Saturn: Rises about 8:30pm early in the month, and by about 7pm by the end of the month. Saturn is still located below the "hind legs" of Leo and will be highest in the sky around 1am, but will stay up the whole night. Saturn's rings are still pretty flat, but are continuing to "open up" until the next maximum tilt, which is around the middle of April.

Moon:

February 2nd: First Quarter
February 9th: Full Moon
February 16th: Last Quarter
February 24th: New Moon

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North Atlantic Ocean. The wheel (or gyre) that the Gulf Stream is part of contains more water than all the rivers of the world put together. It is circulated by the energy of our turning planet.

Yearly Motion

In addition to spinning on its axis, the Earth also revolves around the Sun. We are approximately 93 million miles (150 million km) from the Sun, and at that distance, it takes us one year (365 days) to go around once. The full path of the Earth's orbit is close to 600 million miles (970 million km). To go around this immense circle in one year

takes a speed of **66,000 miles per hour (107 million km/hr)**³. At this speed, you could get from San Francisco to Washington DC in 3 minutes. As they say on TV, please don't try going this fast without serious adult supervision.

The Sun's Motion

Our Sun is just one star among several hundred billion others that together make up the Milky Way Galaxy. This is our immense "island of stars" and within it, each star is itself moving. Any planet orbiting a star will share its motion through the Galaxy with it. Stars, as we shall see, can be moving in a random way, just "milling about" in their

neighborhoods, and also in organized ways, moving around the center of the Galaxy.

If we want to describe the motion of a star like our Sun among all the other stars, we run up against a problem. We usually define motion by comparing the moving object to something at rest. A car moves at 60 miles per hour relative to a reference post attached to the Earth, such as the highway sign, for example. But if all the stars in the Galaxy are moving, what could be the "reference post" to which we can compare its motion?

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February Meeting

By Rick Kazmierski

As is customary, the General Meeting in February is replaced by our Annual Banquet. This year's Banquet is being held at the Fox & Hounds Restaurant, 1298 Friess Lake Rd, Hubertus. All those having registered will enjoy an evening of socializing with other members of the Club, not to mention a quality dinner at a very reasonable price. Hope to see you there!

Regular meetings will resume in March.

January Events

Dawn of IYA – 2009

This event scheduled at the Bayshore Town Center for January 1st was cancelled do to inclement weather.

Ski and Hike

Gene DuPree reported that this event scheduled on January 3rd was clouded-out, and they had no one show up.

January Main Program

Paul Guener presented the Main Program at the January General Meeting with a talk on Astro-Photography. I am an avid astro-photographer, and I found his presentation to be both humorous and educational. I am incorporating several of his ideas into my own practice. Please join me in thanking Paul for sharing his experience.

Notes:

Jeff Setzer introduced some of the Board Members to the new Skytools 3-Pro Software, and as a result, I am now \$95.00 lighter in the pocket book. Maybe we can get him to do a Main Program on the Skytools' Software sometime in the future?

As of the Board Meeting on January 22nd, the 90mm Coronado Solar Telescope and Skyview Pro mount with RA drive should be in our possession by the end of January. This solar scope will be an exciting addition to our Club's arsenal of Equipment. I for one am excited about seeing it in action.



2nd Annual Swap-n-Sell

Diane Van Minsel

President, Sheboygan Astronomical Society www.shebastro.org

Now is the time to mark your calendars and spread the word about our 2nd annual Swap-n-Sell event. Got some astronomical stuff (scopes, eyepieces, books, etc.) laying around and you want to get rid of it?? Here's your chance!

The event is being held on Saturday, April 11th (full moon, so this won't interfere with any night sky events) at the [Aviation Heritage Center](#) at the Sheboygan County Airport from 10 a.m. to 3 p.m. The local EAA group will be holding a brat fry so we all can visit, buy, swap, eat and have a super good time. This is a great opportunity to meet and greet fellow amateur astronomers. Terms are cash, check or swap. The Sheboygan Astronomical Society is not responsible or will not be held liable for any dealings which do or do not occur. The event was a hit last year, and we have pictures posted.

If you know of items being brought, we will post a listing for all to see. Remember, anticipation of the great find is part of the fun!

Jim and Gwen Plunkett

Observatory



**Observatory Director:
Dan Bert: 262-375-2239**

CURRENT CLACK

New Members

NCSF welcomes the following new Club member, effective February 1st.

Dan Yanko

Leaders for Public Viewing

February 7

Candlelight Ski and Hike

Harrington Beach

Leaders: Gene and Charlotte Dupree

February 14

Candlelight Ski and Hike

Pike Lake

Leaders: Gene and Charlotte Dupree

March 27 & 28

Messier Marathon

Dusk

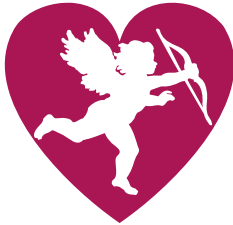
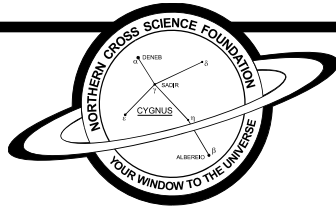
Harrington Beach

Members wishing to submit an article or to advertise Astronomy related items-for-sale in the Spectrum can do so by submitting entries to me by the 20th of the month.

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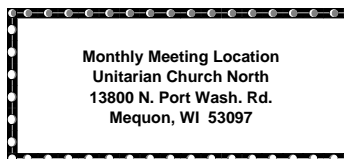
Rick & Mickey Kazmierski
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Astronomers define a local standard of rest in our section of the Galaxy by the average motion of all the stars in our neighborhood. (Note that in using everyday words, such as “local” and “neighborhood”, we do a disservice to the mind-boggling distances involved. Even the nearest star is over 25 thousand billion miles (40 thousand billion km) away. It’s only that the Galaxy is so immense, that compared to its total size, the stars we use to define our Sun’s motion do seem to be in the “neighborhood.”)

Relative to the local standard of rest, our Sun and the Earth are moving at about **43,000 miles per hour** (70,000 km/hr) roughly in the direction of the bright star Vega in the constellation of Lyra. This speed is not unusual for the stars around us and is our “milling around” speed in our suburban part of the Galaxy.

Part 2 - (March Spectrum)

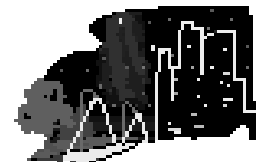


SPECTRUM

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