

Focal Point



January and February 2009

Milwaukee Astronomical Society

Next Membership Meeting

Friday, January 16, 2009, 8:00pm

Horwitz Planetarium

Laptop Based Auto Guiding

Presenter: Paul Gruener

This evening's topic will be laptop based auto guiding for long exposure imaging. Paul will show how to use free software, a small USB camera, a camera lens, and a laptop to capture deep sky astro images.



Horwitz Planetarium
Is located in the Retzer Nature Center
S14 W28167 Madison Street
Waukesha WI 53188

2009 Schedule of Events

January 16, 2009

Meeting at Horwitz Planetarium

February 11, 2009

New Berlin Library Lecture Series

February 20, 2009

Meeting at Horwitz Planetarium

March 3, 2009

New Berlin Library Lecture Series

March 27 to 28, 2009

Messier Marathon (Ottawa Lake)

April 2 to 5, 2009

100 Hours of Astronomy

May 2, 2009

Astronomy Day 2009

July 24 to 26, 2009

WOW 2009

September 11 to 13, 2009

MAS Campout

December 4, 2009

MAS Holiday Party

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A Year of Astronomy

By Jeff Setzer

Happy IYA2009! The International Year of Astronomy has officially started, and it's going to be an exciting year for all astronomy enthusiasts. By the time you read this article, the 2-day worldwide opening ceremonies for IYA2009 will have been held in Paris, France. Additionally, separate individual ceremonies will have been held or will soon be held in dozens of countries, including the American Astronomical Society meeting in Long Beach, California.

So what's happening? Tons of stuff – too much to mention everything here. There are eleven separate Cornerstone Projects alone, in addition to Special Projects and lots of supporting activities. The international website is www.astronomy2009.org if you want to explore. I would, however, like to point out a few outstanding items.



First, there is **365 Days of Astronomy**. This is a short daily "podcast" about some aspect of astronomy, professional or amateur.

People from around the world are contributing, even Yours Truly. You don't need to have an iPod to listen, either, because you can play the audio right on the website.

There is also the **Cosmic Diary**. This is a website where dozens of



astronomy professionals write about the human side of being an astronomer. Want to know what Brother Guy is doing today in Vatican City? How about thoughts from Jean Creighton, the director our own Manfred Olson Planetarium on the UWM campus? This is rare insight into the world of professional astronomy and it's a lot of fun to read.

Also with Wisconsin ties is the **Galileoscope**. Developed by a team including Carthage College's Professor Doug Arion, this 50mm refractor kit is designed to bring the craters of the Moon and the Galilean Moons to the eyes of literally millions of people around the world. The target price is close to \$10 U.S. and the website may be taking orders by the time these words appear before you.



As an education and public outreach event, there can be no doubt **100 Hours of Astronomy** is the most ambitious project in history. From April 2-5, thousands of sites around the world will turn tens of thousands of telescopes to the sky, showing the heavens to millions of people. There are almost a dozen sites in the greater Milwaukee area being discussed for our local support of this fantastic E/PO opportunity.

Early in January, twelve people representing nine Wisconsin astronomy organizations met face-to-face for the very first time at the Milwaukee Public Museum. The meeting was called to allow everyone to get to know each other, learn about the capabilities of the different organizations, and to coordinate and plan IYA2009 events for our region. As a result of this meeting, a website has been created to act as a one-stop shop for Wisconsinites looking for their nearest astronomy group or event. That new website is www.wisconsinastronomy.org and it will be a dynamic resource for IYA2009 and many years beyond.

I look forward to participating in IYA2009 with other members of the Milwaukee Astronomical Society. Let's have some fun and tell people all about "The Universe, Yours To Discover."

Thank you Pete!

July 2, 2008

Milwaukee Astronomical Society
18850 Observatory Road
New Berlin, Wisconsin 53151

Dear M.A.S. Members -

Please accept this donation of a complete set of the former Kalmbach publication; Telescope Making. It was a wealth of ideas and practical solutions for those of us who were ATM's during the transition from heavy, permanently mounted small scopes, to large and portable alt-az telescopes.

Also, included is a number of issues of a publication called Deep Sky which was a production of the current editor of Astronomy, Dave Eicher. That publication served as encouragement to many to use our new, big aperture instruments to see "live" things formerly only accessible after a long exposure of film.

Finally, I've sent along four new red colored "rope lights" which I thought would be usable as pathway guides for the public during open house and other events. I hope you find a good use for them.

Sincerely,



Peter Smitka
Former M.A.S. President.

On the following pages you will read a paper submitted to our newsletter by Chris Epping, Trent Kuczynski, and Jenna Lichter titled "The Mysterious Galactic Center" enjoy!

The Mysterious Galactic Center

It is common knowledge that the Earth orbits around the Sun, but did you know that the Earth rotates around an even larger gravity source? Our entire solar system is currently in orbit within the Milky Way galaxy. The Earth orbits the Sun due to the extremely large mass of the Sun, so what could be massive enough to make our solar system and billions of other stars orbit a single object? Scientists believe the answer is an astronomical phenomenon known as a quasar.

A quasar characterized as a supermassive black hole at the center of a galaxy. A black hole is theoretical region of space where nothing can escape its gravitational pull.

This immense amount of gravity, which is about 10^6 to 10^9 times the mass of the Sun, creates a large disk of material



that orbits around the black hole until it is finally swallowed up. This accretion disk is the source of a quasar's power. The material in the disk moves so quickly that it heats up and produces the quasar's immense amounts of light.

When the first quasar was discovered in the 1980's, scientists put together the Sloan Digital Sky Survey to find more of these mysterious power sources. Thanks to this invention, over 100,000 quasars have been detected, ranging from a whopping 780 million to 28 billion light years away.

There are two main reasons that quasars can be detected at such an astronomical distance. First, quasars can be detected is because quasars average about 30,000 trillion km wide. If

something is that big it is hard to imagine that it cannot be seen. Second, quasars are extremely bright. If you thought the sun was bright, imagine a quasar being one trillion times brighter. The reason for quasars being this bright is that supermassive black holes consume 1000 masses of our sun per year, which is comparable to consuming 600 Earth's per hour.

Even today quasars remain a mystery to most astronomers. Although they were not discovered until the 1980's, there have been great advancements made to help detect and learn more about quasars. However, many astronomers agree that more advancements in technology will allow them to learn more and eventually solve the mystery of quasars.

Works Cited

Bennett, Jeffery, et al. The Cosmic Perspective Fifth Edition Stars, Galaxies & Cosmology. San Francisco: Pearson Education, 2008.

Simonetti, Dr. John. Frequently Asked Questions about Quasars. Virginia Tech U.

<http://www.phys.vt.edu/~jhs/faq/quasars.html>

Name this Telescope

Saturday Night Key Holder

On Saturday nights the MAS opens its New Berlin facilities to all its members. If interested in using an observatory on the following nights, the following key holders will be on hand. Please contact them in advance to ensure access.

January

- 17** Gerry Samolyk 414-529-9051
- 24** Neil Simmons 262-889-2039
- 31** Dan Yanko 262-255-3482

February

- 7** Brian Ganiere 414-961-8745
- 14** Carlos Garces 262-786-2623
- 21** Henry Gerner 414-774-9194
- 28** Chris Hesseltine 414-482-4515

March

- 7** Vern Hoag 262-548-9130
- 14** Tim Hoff 262-662-2212
- 21** Kip Hoffman 920-980-0670
- 28** Scott Jamieson 262-896-0119



MAS Officers / Staff

- President:
- Steve Diesso (262) 641-0331
- Vice President:
- Rebecca Setzer (262) 707-7478
- Treasurer:
- Brian Ganiere (414) 961-8745
- Secretary:
- Henry Gerner (414) 774-9194
- Observatory Dir:
- Gerry Samolyk (414) 529-9051
- Newsletter Ed:
- Rebecca Setzer (262) 707-7478

**MAS Observatory:
NOW WORKING (262) 542-9071**

Loaner Telescopes

These telescopes are available to members for local use.

- Scott Jamieson (Waukesha)
- (262) 896-0119 8"
- Paul Borchardt (MAS site)
- (262) 781-0169 6" & 8"

MAS Membership is open to anyone interested in enriching their knowledge of Astronomy and related topics.

Yearly Membership Dues:

Student (under 18)	\$13		
Resident (Milwaukee and adjacent counties resident)		Non-resident	
Individual	\$36	Individual	\$23
Family	\$42	Family	\$27

Members can get subscriptions to *Sky & Telescope* (©) and *Astronomy* (©) at a club discount.

For more information contact:
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