



the EYEPIECE

the Fort Wayne Astronomical Society • PO Box 11093 • Fort Wayne, IN 46855

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GENERAL MEETING

Visitors Welcome

Tuesday Evening, October 20, 7:30 PM

STAR*QUEST

QUO VADIS?

Your inputs are needed

This meeting will be a Star*Quest update and open business meeting, where members are asked for their input on several choices and options involving our Society and its relationship with the public and community.

General Meetings are normally held at Fox Island "Nature Observatory" (Octagon Building), the third Tuesday of each month, 7:30pm.

Which Way ?

In the 1951 MGM epic film Quo Vadis (from the Latin "Where are you going?") the apostle, Peter, faces a moment of decision. Shall he flee for his life, or shall he return to Rome (and certain death) to support Christian martyrs of the tyrant emperor, Nero? We all know the outcome of his choice.

The Star*Quest project has also come to a moment of decision, although not as momentous as was St. Peter's. The decisions we soon must make will affect FWAS relations with the public and Fox Island Park for the next 30 years.

We have invited Jeff Baxter, Superintendent of Allen County Parks to join us in a panel discussion at the general meeting this month. We need your inputs, but before you can respond you need to hear about the circumstances and issues that have brought us to this point. IF AT ALL POSSIBLE YOU SHOULD ATTEND THIS IMPORTANT MEETING. Please mark your calendar to join us as we conduct a panel discussion of issues, answer your questions, and invite your opinion on which avenues to pursue.

A Society tradition of meeting at Pizza Hut after the regular general meeting has been going on for years. Join us there too.

Calendar Events Sep - Oct

Following are the scheduled events for the next two months:

October

Public star gazing at Fox Island Observatory every clear Saturday for 2 hours +, starting 1 hour after sunset.

General Meeting Tuesday, Oct 20

Deep Sky viewing at Pike's home, Oct 16 (see below)

Board Meeting Tuesday, Oct 27

November

Public star gazing at Fox Island Observatory every clear Saturday for 2 hours +, starting 1 hour after sunset.

General Meeting Tuesday, Nov 17

Board Meeting Tuesday, Nov 24

Deep Sky Star Parties

Deep Sky observing events are scheduled for FWAS members and their guests to observe the fainter objects in the sky from a location away from city lights. Greg Pike has again generously allowed the FWAS to use his property for deep sky observing this season. Observing times are scheduled for Fridays near the new moon each month.

The remaining date for this year is **Oct 16**. Directions and a map to Greg's site are presented in the May issue of the Eyepiece, available as a download from our web site: <http://fortwayneastronomicalsociety.com>

Special thanks to Greg and his family for the hospitality they have shown to our members this year.

Star Party Requests

The following star parties are scheduled. Volunteers please check with Chris Highlen, 744-4623 for details:

Star Party at Roush Reservoir,

Little Turtle Area off of S.R. 5, Friday, October 23 from 7:00 PM to 9:00 PM, Scouts and Family + public, 50-75 total.

Star Party at Ouabache State Park,

Friday, October 30 from 7:00 PM to 9:00 PM. for families camping at the park. Directions to the park are published in last month's Eyepiece.

Galileo Nights

Thursday through Saturday, 22, 23, 24 October at Barnes & Nobel at Jefferson Point, and at Border's Books at Coldwater & Coliseum Blvd. for public viewing of Jupiter and the Moon (an "International Year of Astronomy" event).

Board Meeting Highlights

- The Board met on Tuesday, 22 Sep at 7:30 p.m. in Phil Hudson's office.
- Treasurer reports a total of \$3,578
- S*Q total pledges \$58,309
- Discussed the FWAS-ACPB lease agreement.
- The next board meeting will be on Tuesday, 27 Oct at 7:30 p.m. in Phil Hudson's office.

FWAS OFFICERS

President: Robert Crider 747-0774
Vice-President: B.J. Harper 489-2753
Secretary: Larry Clifford 824-2655
Treasurer: Phil Hudson 484-7000

EDITORIAL STAFF

Eyepiece editor, Gene Stringer, 489-8135
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Submissions to the Eyepiece are cheerfully accepted by E-mail (preferred) or on CD or other media, or on paper. Submissions may be edited for space or style.

O'Meara's Ghost Hunt

By Gene Stringer

Stephen James O'Meara is a renown amateur astronomical observer, and author of several books on the subject. His volumes on observing the Messier, Caldwell and Hershel objects grace my bookshelves and have been a great resource for my personal stargazing and for articles I have written for the Eyepiece. This year he has been writing articles for Astronomy Magazine, and in the October issue he has issued a challenge to readers. He has created a list of viewing targets similar to the Messier and Caldwell objects, but suitable for doing an all-night marathon in the Fall season. In the downloaded article from the web site, astronomy.com, O'Meara writes:

"I have created a list of 109 deep-sky objects that you can hunt down in a single night on or around the New Moon closest to Halloween. In deference to the time of year, and considering that many deep-sky objects appear as pale specters of fuzzy light, I decided to call this October treat the Ghost Hunt.

Like the Messier Marathon, the Ghost Hunt is intended to be a fun and challenging activity that lasts from dusk to dawn. But there's one big difference: What you'll search for in the Ghost Hunt are not just Messier objects but 109 targets carefully selected from several deep-sky object lists.

The Ghost Hunt features 25 open star clusters, 27 galaxies, 16 emission nebulae, four reflection nebulae, 19 planetary nebulae, 14 globular star clusters, three supernova remnants (including two segments of the Veil Nebula), and one dark nebula. While nearly 70 percent of the objects in the Ghost Hunt are not Messier objects, they should be no more challenging to see..."

So there it is. The gauntlet is thrown. For those of you who wish to accept the challenge we are printing the PDF file

from the web site that lists the objects in Right Ascension order. O'Meara suggests you try the weekends near the dark of the Moon. That would be the Fridays of the 16th or the 23rd. But any clear night from the 15th through the 25th should work. If it is clear on Saturday the 24th I am volunteering to do the marathon with the 16" Johnston Telescope at Fox Island. You are welcome to participate.

Focal Point

Phil Hudson has been constructing a 1/5 scale model of the Hevelius Telescope of 1653. The original had a focal length of 150 feet, so Phil ordered a 5" plano-convex lens with a focal length of 30 feet. Upon receiving the lens he tried to find its point of focus in daylight without success. Jon Thomas and Chris Highlen agreed to help, so they set up the test one night on the observing deck on the roof of the science building at St. Francis University. At left



Phil and Chris are checking the mounting of the objective lens. They mounted a laser in the eyepiece tube and used it to align the axis of the objective lens. They removed the laser and chose as a target one of the blinking lights

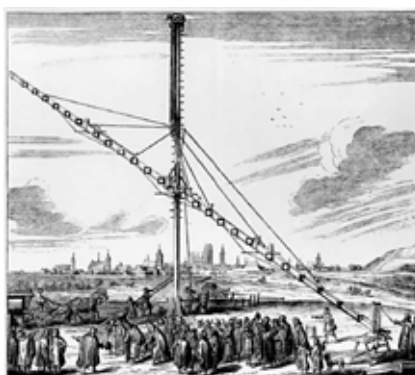
atop the Summit Square building, about 2 miles away.

They searched for the focal point by sighting through the eyepiece tube with the eyepiece removed. In the picture at left Phil takes a sighting as Chris and Jon look on. To Phil's chagrin the focal point was found at 72 feet, over twice the distance specified! Furthermore, knife-edge testing showed



several flaws in the figure of the lens.

Phil has decided to regrind, polish, and figure the lens by himself to the correct focal length. We suspect he will be checking with Jim Severs for tips on doing the process by hand. We are not sure how long it will take, but the telescope model is scheduled to be displayed in the History Museum in March or April of next year.



Hevelius Telescope of 1653



Spitzer, the Sequel

The Spitzer Space Telescope is getting a second chance at life. The liquid helium “lifeblood” that flows through the telescope has finally run out, bringing Spitzer’s primary mission to an end. But a new phase of this infrared telescope’s exploration of the universe is just beginning.

Even without liquid helium, which cooled the telescope to about 2 degrees above absolute zero (-271°C), Spitzer will continue to do important research—some of which couldn’t easily be done during its primary mission. For example, scientists will use Spitzer’s “second life” to explore the rate of expansion of the universe, study variable stars, and search for near-Earth asteroids that could pose a threat to our planet.

“We always knew that a ‘warm phase’ of the mission was a possibility, but it became ever more exciting scientifically as we started to plan for it seriously,” says JPL’s Michael Werner, Project Scientist for Spitzer. “Spitzer is just going on and on like the Energizer bunny.”

Launched in August 2003 as the last of NASA’s four Great Observatories, Spitzer specializes in observing infrared light, which is invisible to normal, optical telescopes.

That gives Spitzer the power to see relatively dark, cool objects such as planet-forming discs or nearby asteroids. These objects are too cold to emit light at visible wavelengths, but they’re still warm enough to emit infrared light.

In fact, all warm objects “glow” with infrared light—even telescopes. That’s why Spitzer had to be cooled with liquid helium to such a low temperature. Otherwise, it would be blinded by its own infrared glow.

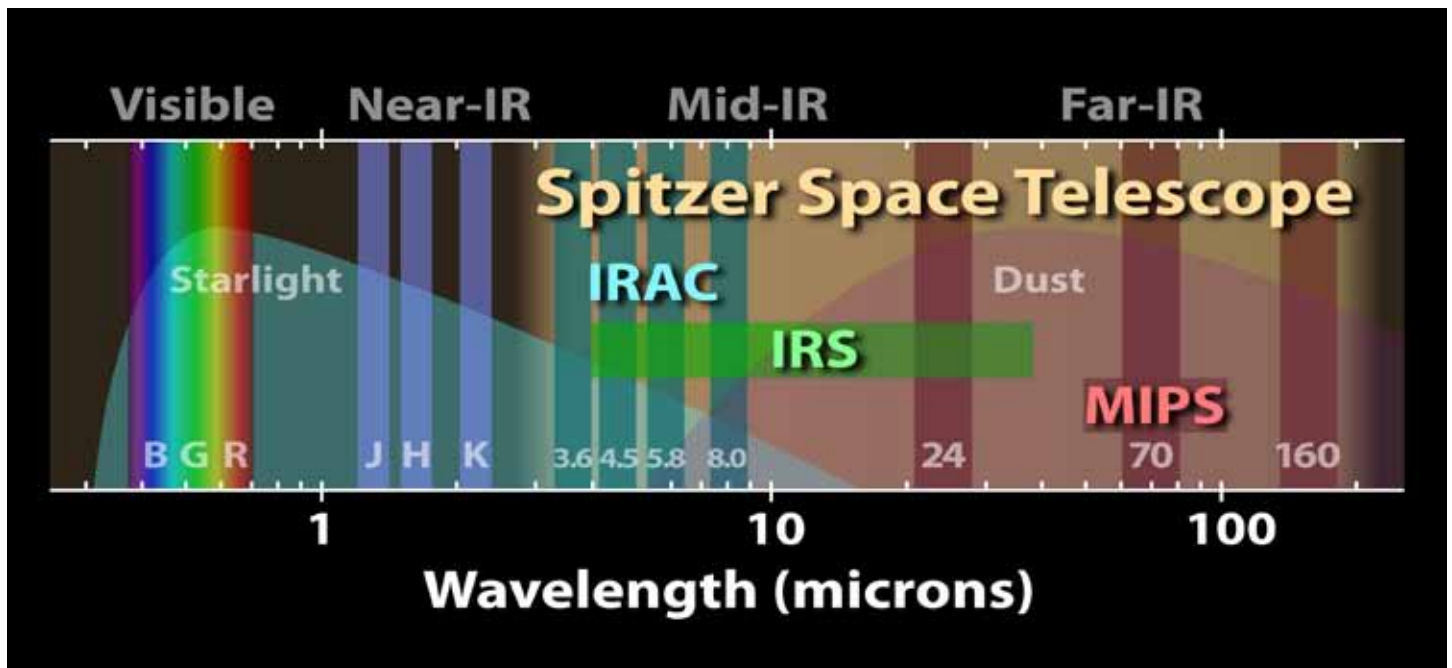
As the helium expires, Spitzer will warm to about 30 degrees above absolute zero (-243°C). At that temperature, the telescope will begin emitting long-wavelength infrared light, but two of its short-wavelength sensors will still work perfectly.

And with more telescope time available for the remaining sensors, mission managers can more easily schedule new research proposals designed for those sensors. For example, scientists have recently realized how to use infrared observations to improve our measurements of the rate of expansion of the universe. And interest in tracking near-Earth objects has grown in recent years—a task for which Spitzer is well suited.

“Science has progressed, and people always have new ideas,” Werner says. In its second life, Spitzer will help turn those ideas into new discoveries.

For kids, The Space Place Web site has a fun typing game using Spitzer and infrared astronomy words. Check it out at spaceplace.nasa.gov/en/kids/spitzer/signs.

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The “warm mission” of the Spitzer Space Telescope will still be able to use two sensors in its Infrared Array Camera (IRAC) to continue its observations of the infrared universe.



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color on the Web**