



the EYEPIECE



the FORT WAYNE ASTRONOMICAL SOCIETY • PO Box 11093 • Fort Wayne, IN 46855

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GENERAL MEETING

Visitors Welcome

Tuesday Evening, May 17, 7:30 PM

Star*Quest Observatory, 1730 S Webster Rd,
New Haven, IN 46774

ELECTIONS

Getting Ready for the Grand Opening of
our Star*Quest Observatory on
Saturday, May 20, 7:00pm

Explore the mission and status of this successor to the
Hubble Space Telescope

General Meetings are held the third Tuesday of each month,
7:30pm. Check our web site for location.

Climb on Board

The May General Meeting will be held at the Jefferson Township Park for final planning for our Grand Opening of our Star*Quest Observatory.

There will be a short business meeting for election of FWAS board members. You are encouraged to become a nominee, an exciting time in directing activities of the Society. **Contact Gene Stringer at 489-8135 or Phil Hudson at 484-7000 to get on the ballot.** Nominations will also be accepted from the floor.

Too, there will be a introductory class on the operations of the observatory and telescope following the meeting for those members interested in running the observatory on Saturday nights.

You are invited to stay for an evening of stargazing, weather permitting.

Calendar Events May-Jun

Scheduled events for the next two months:

Saturday Public star gazing at Jefferson Township Park begins in April. (Observatory is available for members to use, except for scheduled observing events)

May

General Meeting Tuesday, May 16

*Star*Quest Observatory Grand Opening*

Saturday, 20 May

Board Meeting Tuesday, May 23

June

General Meeting Tuesday, Jun 20

Board Meeting Tuesday, Jun 27

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. These events are closed to the general public to allow members to plan observing and photography projects that will be undisturbed.

This year you are invited to come to JTP for observing times, scheduled for Fridays near the new moon each month. This year the dates are: **May 26, June 23, July 21, Aug 18, Sep 15, Oct 20, Nov 17.**

Public Star Parties

The public observing season started in April. We will need trained volunteers to run the Richard Johnston (RJ) Telescope. **If you wish to participate, with the RJ scope, with your own telescope or without a scope, contact Mark Anderson (260)416-4094, to get on his volunteer list.** This is a great way to contribute to our community service.

Current events are:

Wed 10 May at JTP, 9 Garret HS students.

Fri 12 May at JTP, (Amera Platt) Ind Tech Students.

Thurs 15 Jun at Camp McMillen, Girl Scout Day Camp.

July dates at Girl Scout Camp Logan: Thurs July 6, Wed July 12, 19 & 26, Mon July 31.

Join the Board

As a member of the Fort Wayne Astronomical Society you can have a say in the business of the society by joining the Board of Directors. May is an important time for us because this is when the society elects members to the Board (See article in the April issue of the Eyepiece for the election procedure excerpted from the bylaws). Officers for the coming year are nominated by the Board at the May board meeting. You are invited to participate by joining the Board. **Call Phil Hudson at 484-7000 or Gene Stringer at 489-8135 to place your name on the ballot.** Also, nominations will be accepted from the floor at the May general meeting.

Star*Quest Update

by Gene Stringer

Preparation is underway to prepare the Star*Quest Observatory for a grand opening on 20 May. The Construction Support Team is hard at work to accomplish the following

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Board Meeting Highlights

- Board met on Tues, 25 Apr. in Phil Hudson's office.
- The Star*Quest observatory is under preparation for a grand opening on 20 May.
- Our new observing season began in April at Jefferson Township Park.
- The next board meeting will be on Tuesday, 23 May, at 7:30 p.m. in Phil Hudson's office.

FWAS OFFICERS

President: Larry Clifford 824-2655
Vice-President: Phil Hudson 484-7000
Secretary: Gene Stringer 489-8135
Treasurer: Dave Wilkins 444-3070

APPOINTED POSITIONS

Observatory Director: Mark Anderson
(260)416-4094
Star*Quest Project Manager: Gene
Stringer 489-8135
Star*Quest Treasurer: Dave Wilkins
444-3070

EDITORIAL STAFF

Eyepiece editor, Gene
Stringer, 489-8135
Distribution, Gene Stringer
489-8135 & Phil Hudson
484-7000

Submissions to the Eyepiece
are cheerfully accepted by
E-mail (preferred) or on CD
or other media, or on paper.
Submissions may be edited

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tasks:

3. **Install Red Lighting** (Leader Alan Paries)
4. **Plan and install signs** (Leader: Phil Hudson)
5. **Landscaping** (Leader Laura Ainslie)
6. **Recognition of donors & past members** (Leader: Phil Hudson/Dave Wilkins)
8. **Plan, procure and install observatory equipment** (Leader: Gene Stringer)
10. **Plan and conduct the grand opening on 20 May** (Leader: Gene Stringer)

Some of these tasks will not have been completed before the Grand Opening, so if you have not already volunteered and/or wish to support any of the above tasks please contact the task leader or Gene Stringer at (260)489-8135 or email at :
genestringer@mac.com to volunteer.

Spring Viewing Targets

by Gene Stringer

I first published this article in Spring of 2007

I have decided to explore some of the objects suggested by the veteran observer Steven O'Meara in his two Deep Sky Companion books, The Messier Objects and The Caldwell Objects (available from Amazon.com). In each book he offers a list of NON-Messier-Caldwell objects that are worthy to view. The following are some objects from those lists that may interest you.

NGC4605 Barred spiral galaxy in Ursa Major

RA: 12h 40.0m Dec: +61° 36'

Mag: 10.3 SB: 13.1 Dim: 5.7' x 2.5' Dist: 13 million LY
"A peculiar barred spiral galaxy... about 5 1/2° northeast of Delta Ursa Majoris in the Big Dipper's bowl. Despite its proximity to the bowl, amateurs do not commonly target [it], probably because [of] competition from M51, M101, and M108. Yet, NGC4605 rivals M 108 in brightness, apparent size, shape and detail [seen in] the eyepiece..."

NGC5866 Lenticular Galaxy in Draco

RA: 15h 06.5m Dec: +55° 46'

Mag: 9.9 SB: 12.6 Dim: 7.3' x 3.5' Dist: 50 million LY
"...a remarkable lenticular galaxy seen almost edge-on..."
O'Meara explains that in the past the usually reliable NASA Extragalactic Database erroneously listed it as M102. He describes NGC5866 as "a wonderful blaze of light [in his 4' refractor] immediately obvious as a condensed elliptical glow with white wing-like extensions... much more dramatic...than M99, M100 or M101.

NGC4490 Barred Spiral Galaxy in Canes Venatici

RA: 12h 30.6m Dec: +41° 38'

Mag: 9.8 SB13.0 Dim: 5.6' x 2.8' Dist: 25 million LY
"Canes Venatici harbors a wealth of extragalactic treasures [of which] NGC4490 is one of the more prominent... A chaotic late-type spiral...inclined 65° from face-on... with a ringtail core wrapped in a cocoon of stellar filigree and H II regions...Through a 4-inch [scope] [it] is a flying-saucer shaped lens of light with faint extensions."

NGC4656 Barred Spiral Galaxy in Canes Venatici

"The Hockey Stick; The Hook"

RA: 12h 44.0m Dec: +32° 10'

Mag: 10.5 SB: 14.8 Dim: 18.8' x 3.2' Dist: 23.5 million LY
"...Dubbed The Hockey Stick [or] the Hook... After seeing this galaxy through [large] reflectors, I understand both monikers...NGC4656 [has] a warped appendage on its northeastern end. Known as NGC4657, this appendage juts out at right angles to the main shaft like the hooked blade of a hockey stick." "NGC4656 is easily visible in [a 4-inch refractor]. Southwest of what may be considered its nuclear region, the galaxy is bright; on the opposite side it is very faint and appears segmented along its major axis..."

NGC 4565 spiral galaxy in Coma berenices

RA: 12h 36m Dec: +25° 59'

Mag: 9.6 Dim: 14'.0 x 1'.8 Dist: 20 million l.y.
"... the largest and most famous edge-on spiral galaxy in the night sky. In the 4-inch it is not a stunning sight but an elegant one... the galaxy appears as a slim streak of light-with a hazy central bulge that is punctuated by a starlike core. The challenge in small telescopes is to see and trace the dark dust lane that runs along the entire length of this spindle..."

Collinder 399 Brocchi's Cluster or Coathanger Cluster

RA: 19h 25.4m Dec: +20° 11'

Mag: 3.6 Dia: 90' Dist: 423 l.y.
"Although...visible to the naked eye as a 4th-magnitude fuzzy patch twice the diameter of the full moon. it looks best in binoculars....The shape of this possible open cluster's dozen or so brightest members looks irresistibly like a coathanger...one of the few stellar groupings in the sky that immediately looks like its nickname..."

I LOVE O'Meara's books! They add excitement to any observing session.

This article is provided by NASA Space Place. With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology. Visit spaceplace.nasa.gov to explore space and Earth science!



NOAA's Joint Polar Satellite System (JPSS) to monitor Earth as never before

By Ethan Siegel

Later this year, an ambitious new Earth-monitoring satellite will launch into a polar orbit around our planet. The new satellite—called JPSS-1—is a collaboration between NASA and NOAA. It is part of a mission called the Joint Polar Satellite System, or JPSS.

At a destination altitude of only 824 km, it will complete an orbit around Earth in just 101 minutes, collecting extraordinarily high-resolution imagery of our surface, oceans and atmosphere. It will obtain full-planet coverage every 12 hours using five separate, independent instruments. This approach enables near-continuous monitoring of a huge variety of weather and climate phenomena.

JPSS-1 will improve the prediction of severe weather events and will help advance early warning systems. It will also be indispensable for long-term climate monitoring, as it will track global rainfall, drought conditions and ocean properties.

The five independent instruments on board are the main assets of this mission:

- The Cross-track Infrared Sounder (CrIS) will detail the atmosphere's 3D structure, measuring water vapor and temperature in over 1,000 infrared spectral channels. It will enable accurate weather forecasting up to seven days in advance of any major weather events.
- The Advanced Technology Microwave Sounder (ATMS) adds 22 microwave channels to

CrIS's measurements, improving temperature and moisture readings.

- Taking visible and infrared images of Earth's surface at 750 meter resolution, the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument will enable monitoring of weather patterns, fires, sea temperatures, light pollution, and ocean color observations at unprecedented resolutions.
- The Ozone Mapping and Profiler Suite (OMPS) will measure how ozone concentration varies with altitude and in time over every location on Earth's surface. This can help us understand how UV light penetrates the various layers of Earth's atmosphere.
- The Clouds and the Earth's Radiant System (CERES) instrument will quantify the effect of clouds on Earth's energy balance, measuring solar reflectance and Earth's radiance. It will greatly reduce one of the largest sources of uncertainty in climate modeling.

The information from this satellite will be important for emergency responders, airline pilots, cargo ships, farmers and coastal residents, and many others. Long and short term weather monitoring will be greatly enhanced by JPSS-1 and the rest of the upcoming satellites in the JPSS system.

Want to teach kids about polar and geostationary orbits? Go to the NASA Space Place: <https://spaceplace.nasa.gov/geo-orbits/>



Caption: Ball and Raytheon technicians integrate the VIIRS Optical and Electrical Modules onto the JPSS-1 spacecraft in 2015. The spacecraft will be ready for launch later this year. Image Credit: Ball Aerospace & Technologies Corp.



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This Issue is Available in color on the Web





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Next General Meeting:
Tuesday, May 16, 7:30 pm
Jefferson Township Park
Star*Quest Observatory
1730 S. Webster Rd
New Haven, IN 46774

GRAND OPENING

of the Star*Quest Observatory
May 20, 2017 7:00 pm

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May 20, everyone is invited to the **GRAND OPENING** of the new Star*Quest Observatory. Festivities start a 7:00pm. Later the Fort Wayne Astronomical Society will turn telescopes to the Heaven's in early twilight where Jupiter and it's moons will be the feature. And maybe a peak at the Sombrero Galaxy in close apparent relationship to Jupiter, but much further out in space . . . much further. The new observatory features two large telescopes and is specially designed for free public visual observing and astronomy education on clear Saturday nights. Hope we see you there. [Family memberships are \\$36/year.](#)

