

Observer

EVANSVILLE ASTRONOMICAL SOCIETY, INC.

May
2012



Inside this Issue...

- 2 - Local Events and Info.
- 3 - Pictures from Dome work day and Astronomy Day
- 4 - More pictures from Astronomy Day
- 5 - June Calendar/ Events
- 6 - NASA Helps Europe Study a Comet
- 8 - Minutes of April meeting
- 8 - New Members



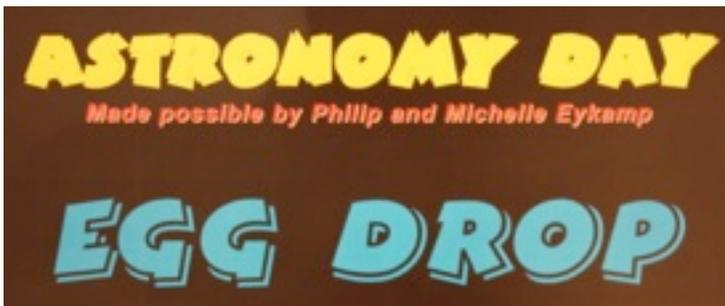
Tobin Schneider and friends with Legos



A successful drop !



Trinity McVay (left) and Alexis Cole (right) enjoy views of the Sun



The EAS newsletter, **Observer**, is published monthly. Anyone wishing to contribute articles or photos may mail them to the club's PO box: EAS, PO box 3474, Evansville, IN 47733, or e-mail them to the editor at: gneireiter@wowway.com

The **Evansville Astronomical Society** (EAS) is a non-profit organization fully incorporated in the state of Indiana. It has, as its primary goal, the advancement of amateur astronomy. Founded in 1952, the society seeks to:

- 1... maintain adequate facilities for its members and for the public in order to extensively study the skies, and
- 2... promote an educational program for those who wish to learn more about the science of Astronomy.

Meetings are held the third Friday of each month, except June, when the annual EAS picnic is held. The society also sponsors monthly Open House events during the warmer seasons that afford the public an opportunity to tour the observatory.

EAS 2012 Officers and Contacts

President - Scott Conner 812.604.7164
ssconner24@gmail.com

Vice President - Tony Bryan

Secretary - Charleen Kaelin 812.303.1711

Treasurer - Scott Bishop

Counselors - Michael Borman, Kent Brenton, and Ed Erickson

Webmaster - Michael Borman

Program Director - open

Newsletter Editor - George Neireiter
812.629.7822 gneireiter@wowway.com

For more information about EAS or directions to the Observatory, visit the club's web page:
<http://www.evansvilleastro.org/>

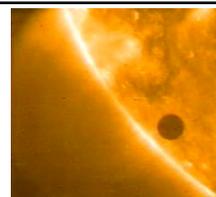


Local Events and Information

Dome Roof Repair Day... On **April 14**, a group of members worked on the Observatory property. Ken Harris and Wayne Donohoo cut and cleared brush near the building, while Ted Ubelhor cut and trimmed the grass. Scott Conner, Glen Bye, and George Neireiter cleaned the dome roof and applied a first coat of aluminized sealant. Inside the observatory, Charleen Kaelin and Glen Bye cleaned and vacuumed. Bernie Skerl replaced conduit in the dome and worked on the drain for the women's bathroom sink. Many thanks to the crew for their efforts! See pictures of some of the crew in action on page 3.

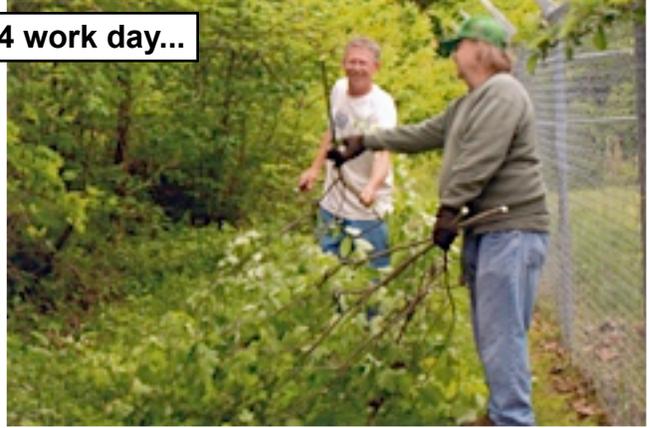
Dome Enhancement Day... Coming up on **May 12** (Saturday) is another opportunity for member support of observatory maintenance. Again, this work day will focus on the Dome: scraping and painting the interior walls, replacing the carpet, and possibly applying another coat of sealant to the flat roof. Please contact Scott Conner if you can assist.

Save the date (June 5) for the **Transit of Venus 2012**. Viewing at the Evansville Museum. Contact Mitch Luman for details at mluman@emuseum.org



Astronomy Day 2012 was a universally agreed upon success this year, thanks in no small part to those who volunteered. Despite cloudy weather later in the afternoon nearly 400 people attended the event which took place in the Museum's Old Gallery which was populated with huge baskets that were part of the current exhibition. There were shows in the Planetarium. Ron Keller loaned us his fantastic meteorite display, and we had several of the Museum's Outreach to Space exhibits on display. Thank you to Mike Borman, David Kube, and Mark Miller (aided by Dr. Bob Colvin) for sharing views of the Sun during the two hours it was visible. Much appreciation to Scott Conner for making a comet in a silver bowl, three times no less; to Charleen Kaelin for conducting the Trivia Contest and managing the "cargo" for the Mars Egg Drop; to Mike Borman for the astro slide show; and to Bob Colvin and everyone else who drove from afar and near to lend a helping hand. Special thanks to our Observer Editor for documenting the event.
< continued on page 3 ... Astronomy Day 2012 >

Pictures by Charleen Kaelin from the April 14 work day...



Astronomy Day 2012 continued...

Astronomy Day was made possible this year by supporters Phillip and Michelle Eykamp. On behalf of the Museum staff (Amber, Jim and all) I thank the EAS for partnering with the Evansville Museum on this event.

Mitch Luman, Astronomy Day Coordinator



3.. 2.. 1.. launch



Girl Scout Troop 99 - Chandler, IN



Egg Drop target area -- the wind was tricky

EAS OBSERVER NEWSLETTER

More pictures from Astronomy Day at the Museum...



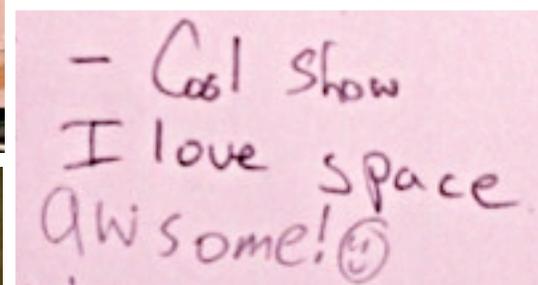
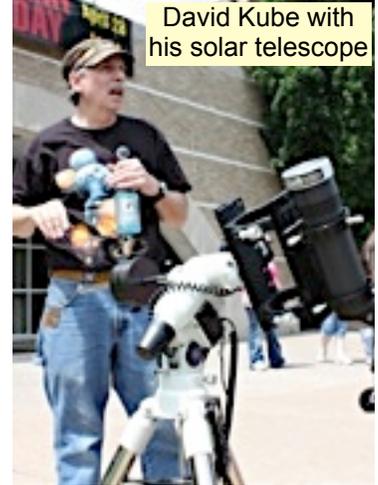
David Kube with his solar telescope



Scott Conner makes a comet



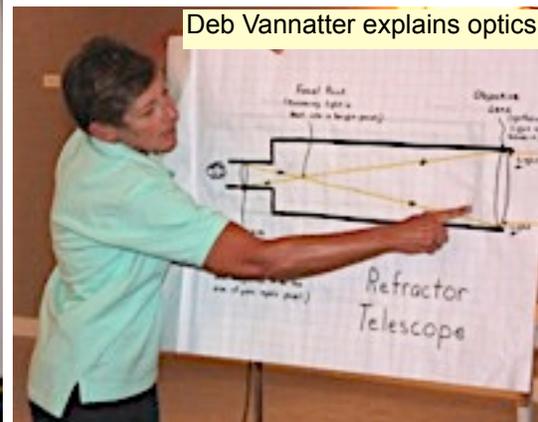
Mike Borman assists with solar telescope



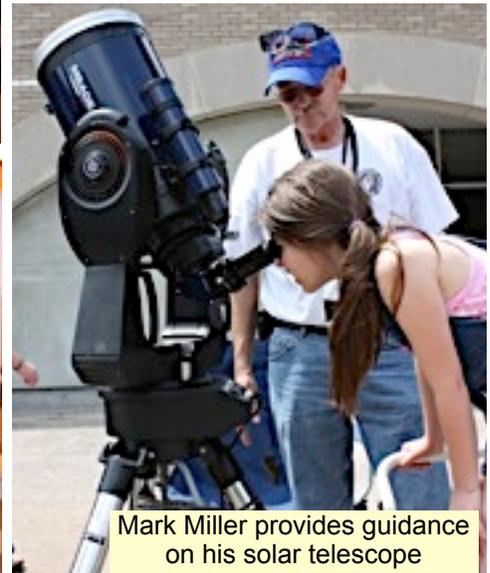
Jonas Lannert having fun at the Mars Rocket display



Deb Vannatter explains optics



Mitch Luman as Trivia co-emcee



Mark Miller provides guidance on his solar telescope

NASA Helps Europe Study a Comet— Up Close and Personal



By Dr. Tony Phillips

Europe's Rosetta spacecraft is on its way to intercept comet 67P/Churyumov-Gerasimenko. Comets have been intercepted before, but this mission is different. Rosetta aims to make history by landing a probe on the comet's surface while the mother ship orbits overhead.

"Rosetta is the European equivalent of a NASA flagship mission," explains Claudia Alexander, project scientist for the U.S. Rosetta Project at NASA's Jet Propulsion Laboratory. "It will conduct the most comprehensive study of a comet ever performed."

Rosetta's payload contains 21 instruments (11 on the orbiter, 10 on the lander) designed to study almost every aspect of the comet's chemistry, structure, and dynamics. Three of the sensors were contributed by the U.S.: Alice (an ultraviolet spectrometer), IES (an ion and electron sensor), and MIRO (a microwave sounder).

The main event of the mission will likely be the landing. The 100-kg lander, which looks a bit like a cross between NASA's old Viking Mars landers and a modern microsatellite, will spend two weeks fastened to the comet's icy surface. The European-built probe will collect samples for analysis by onboard microscopes and take stunning panoramic images from ground level.

"First the lander will study the surface from close range to establish a baseline before the comet becomes active," explains Alexander. "Then the orbiter will investigate the flow of gas and dust around the comet's active, venting nucleus."

Rosetta's sensors will perform the experiments that reveal how the chemicals present interact with one another and with the solar wind. Alice and MIRO detect uncharged atoms and molecules, while IES detects the ions and electrons as the solar wind buffets the nucleus.

One problem that often vexes astronomers when they try to study comets is visibility. It's hard to see through the dusty veil of gas billowing away from the heated nucleus. The microwaves MIRO detects can penetrate the dust, so MIRO can see and measure its target molecules even when other instruments can't.

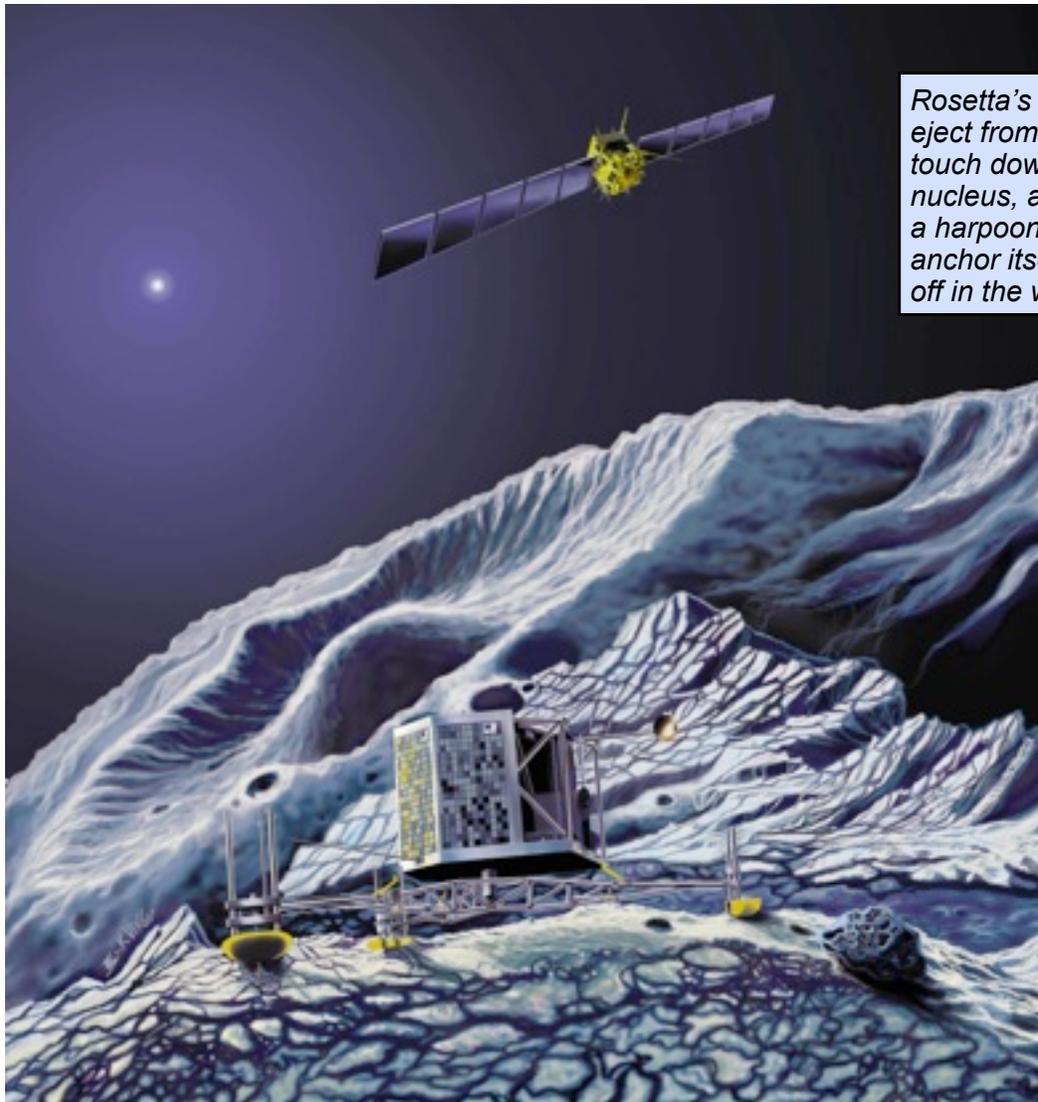
MIRO is one of several experiments focused on the comet's structural properties. It will determine the comet's dielectric constant, emissivity, and thermal conductivity to determine whether it is made of a powdery loose material, has a detectable layer of loose material, or is hard as rock.

"We want to find out whether comets have retained material from when the solar system formed," says Alexander. "If the ancient materials are still there, we can get an idea of what conditions were like at the dawn of the solar system."

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Rosetta enters orbit in 2014. Stay tuned for updates!

Check out "Comet Quest," the new, free iPhone/iPad game that has you operating the Rosetta spacecraft yourself. Get the link at spaceplace.nasa.gov/comet-quest.



Rosetta's lander Philae will eject from the spacecraft, touch down on the comet's nucleus, and immediately fire a harpoon into the surface to anchor itself so it won't drift off in the weak gravity.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

For more on the night sky objects of May, play the Movie of Tonight's Sky at Amazing Space

EAS Meeting Minutes -- April 20, 2012

Editor's note: At the April meeting, two of the officers (Scott Conner and Charleen Kaelin) were unable to attend. Therefore Tony Bryan, vice-president, ran the meeting, while Ken Harris filled in as secretary.



Here is the info I have from our last meeting in April.

Acting President Tony Bryan called the meeting to order at 7:32 PM.

Scott Bishop gave a report on our finances. We paid our biggest bill of the year -- insurance.

Tony read the upcoming events (see our calendar sheet) for the next two months.

Astronomy Day	Saturday, Apr 28	@ Museum 11 am – 9 pm
Dome Enhancement Day	Saturday, May 12	9:00 am (possibly apply coat #2 to roof)
Regular Meeting	Friday, May 18	7:30 pm
PSW	Saturday, May 19	8:15 pm (new Moon on 20th)
Venus Transit	Tuesday, Jun 5	4:30 pm at the Museum (first contact 5:05 pm)
EAS Picnic	Saturday, Jun 23	4:00 pm observing in Illinois after picnic

We had a total of 14 members and 4 guests present: Kendra and Jessica from Louisville (JCC) and Steve and Andrew from Evansville.

The program was "**Constellations with Ken**", and was given by Ken Harris about the constellation Leo.

Submitted by acting Secretary, Ken Harris



Welcome new member:
Warren Rodgers