

The IAS News & Views

Volume 78, Issue 4



www.iasindy.org

**The April General Meeting
April 23, 2011
7:00 PM
Holcomb Observatory
Butler University**

**Seeking Signs of Martian Life and Caching Samples for Potential
Return to Earth
Dr. Lisa Pratt**

If microbial life ever emerged and flourished on Mars, then chemical and isotopic evidence of metabolic processes should be preserved in sedimentary rocks exposed at the martian surface. Diverse samples could be collected along a single over transect because the tilt of Mars undergoes extreme variation and causes cyclic changes in climate and depositional environments. Building on the technical and operational heritage of Spirit, Opportunity, and Curiosity, a mission has been proposed for a new generation of rover capable of exploring, sampling, and caching a diverse suite of rocks from outcrops.

The name Mars Astrobiology Explorer-Cacher (MAX-C) reflects the dual purpose of conducting *in situ* science and taking steps towards a potential return of samples to Earth. MAX-C would enable scientists to evaluate paleo-environmental conditions, to characterize the potential for preservation of physical and chemical biosignatures, and to examine multiple sequences of geological units in a carefully orchestrated search for evidence of past life. It is critical that samples addressing the life question be taken from strata that are crosscut or bounded by datable igneous units so as to constrain the timing of tectonic, magmatic, and climatic processes evolving in tandem with putative biogeochemical cycles. Due to the inferred small size of early life forms, gathering evidence at sub-millimeter scales is highly desirable to facilitate complex decisions related to sample acquisition, encapsulation, and caching. Ultimately, a sealed cache could be recovered by a fetch rover, launched by an ascent rocket, and transferred in orbit to a return rocket. NASA engineers are actively engaged in assessing technical solutions to the challenge presented by the Planetary Decadal Survey's recommendation to only launch MAX-C if the mission cost can be dropped from \$3.5 billion to \$2.5 billion.

MEPAG Mid-Range Rover Science Analysis Group (2009-2010) Mars Astrobiology Explorer-Cacher (MAX-C): A potential rover mission for 2018. Final report posted at <http://mepag.jpl.nasa.gov/reports/>.

Lisa Pratt is Provost's Professor of geological sciences at Indiana University and recipient of the 2003 Distinguished Faculty Award in the College of Arts and Sciences. With research support from NSF and NASA, she has collected samples of water, rock, and natural gas in active gold mines at depths up to 2.5 miles below the surface in South Africa and in the Canadian Arctic. Her collaborative research with Tullis Onstott at Princeton University on radiolysis of water as a source of energy for microbial metabolism has been highlighted by news media worldwide. She has published more than 90 peer-reviewed journal papers and has served as the dissertation advisor for 16 Ph.D. students.

She was chair of the NASA science advisory group that proposed a drilling/caching rover for launch in 2018 as the first step in a Mars sample return campaign. The Mars Astrobiology Explorer Cacher (MAX-C) was announced recently as the highest priority flagship mission by the National Research Council's Planetary Science Decadal Survey.

Degrees: B.A. Botany, University of North Carolina at Chapel Hill, 1972 (Phi Beta Kappa)
 M.S. Botany, University of Illinois at Urbana-Champaign, 1974
 M.S. Geology, University of North Carolina at Chapel Hill, 1978
 Ph.D., Geology Princeton University, 1982

IAS/WVAS Joint Observing Session and Campout **April 29-30** **Camp Cullom**

Our annual joint observing party with the WVAS is at the end of the month April 29 and 30. You can arrive after 4pm Friday in our usual place. This is a perfect opportunity for our new members to meet everyone and have two days of observing. If you don't have a scope that is not a problem. The Camp Cullom scopes will be open or pair up with someone and have a ball. Hopefully the weather will cooperate.

There will be scouts on site Friday night and a camper group has reserved the nature center but we can use the bathrooms. Friday night is an open house for WVAS.

IAS NEWS

IAS Calendar of Events for April

General Meeting April 23
Board Meeting April 26
Campout at Camp Cullom April 29-31
NAG at McCloud May 7

First NAG of the Year is a Success - Finally a Night to Observe

Well yesterday started out with heavy rain and I would not have given a plug nickel for the chance to do any observing. Low and behold about 4 pm the clouds parted and the sun came out. After a great presentation by Phil, the group was able to look through the scopes and see the

objects of our sky. The moon was in a great position for observing. Come out next month and have fun with us. We had a great turnout of IAS scopes. Thanks guys.

100 Years of Amateur Astronomy in Cincinnati

2011 marks the centennial of the Cincinnati Astronomical Society.

As one of the country's oldest amateur societies CAS traces its beginnings back to the Cincinnati Observatory. CAS founder Delisle Stewart left the Cincinnati Observatory where he served as an assistant astronomer to start a new facility on the west side of the city. Far removed from the rapidly expanding neighborhoods that were making astronomical research difficult from Mt. Lookout, the Cincinnati Astronomical Society would feature a 27" telescope with state-of-the-art photographic equipment. The grand three-domed observatory's façade would be faced with the huge granite blocks that originally graced the city's famed Chamber of Commerce building which tragically burned to the ground in 1911. Many of those massive stones would later find a home as the monumental sculpture in Burnett Woods near the University of Cincinnati.

While Stewart's dream of a new professional observatory on Zion Road would eventually falter, CAS lives on today as an active amateur society serving its members as well as offering outreach programs to the general public, scouts and students.

On Saturday April 23rd at 8pm the public, amateur and professional astronomers, scouts, educators - everyone who is interested in the night sky - are invited to our Centennial Celebration. There will be programs, tours, Q&A, stargazing and of course birthday cake

Hope to see you at CAS on the 23rd!
Craig

What do Egyptians in Tahrir Square, half a billion people on the 3rd rock from the sun, and the IAS have in common?

Facebook! Facebook is a social media website that allows users (aka Friends) to share information easily from most Internet-capable devices, like traditional computers, smartphones, and tablet devices. In January and February of this year, the protesters in Egypt's Tahrir Square used Facebook to organize their activities and document events to the outside world. A single Facebook post from a young woman that said "People, I'm going to Tahrir Square" has been credited as a key moment in the revolution. In just a little over 7 years, Facebook is believed to have over 600 million users on a global basis. And last year, the IAS Board of Directors authorized an official Facebook group site for the Society.

What can the Society do with our Facebook Group? The IAS Facebook (IASFB) Group is another channel for the Society to do what we already do- share our passion and excitement about astronomy with each other and those curious about astronomy. It's been a few months now since the site was established so a review of what's happened there so far might be interesting.

- At the end of March, there are 67 Friends of IASFB. Not all of these individuals are Society members and there are no restrictions on joining the group. Some Friends are

from out of state (New York) and at least 2 Friends joined the Society as members after “finding” us via IASFB.

- It’s very easy to upload pictures to the IASFB. Several Friends have shared their astrophotography on the IASFB group page. I’d love to see someone post some pictures from their smartphone while at a star party. Most smartphones can use the Facebook for Mobile app.
- Short text with or without website links are easy to upload. For example, a member uploaded his favorite astronomical puns and riddles, as well as an announcement about the GLOBE at Night 2011 event to quantify light pollution. I post up links to articles that I run across from Sky and Telescope or Astronomy magazine that I think might be of interest. Anybody can do it.
- Event notifications- I’m creating Group Events for all of our public meetings and sessions such as the Monthly meeting and the New Astronomer’s Group.
- Friends are asking each other for advice and information on upcoming star parties and good locations to observe near Indianapolis.

You may be asking how do I sign up and how much does it cost me or the IAS? Here’s a short list of questions and answers.

- How do I get to the IASFB? First, you need a Facebook account of your own if you don’t have one. Log onto www.facebook.com and follow the directions for creating an account. You will need to have a valid email address. Once you have your account, you have a lot of control over what information is there and who can see it. You can change the Privacy settings so that only people that you Confirm as Friends see anything other than very basic information (your name) or you can set it up so that anyone with a Facebook account can see almost everything that you have posted. The FB rules tend to evolve and change so all the ins and outs can’t be discussed here. However, my own profile is set fairly restrictively so that you see very little of my profile information unless I Confirm you as a Friend. After your page is established, use the search function for Indiana Astronomical Society and Join the Group.
- How much does a Facebook account cost? Nothing- Facebook accounts for both individuals and Groups like IASFB are free. You “pay” by the advertising that appears on the right hand side of the pages.
- Why should we have the IASFB, the IAS site (ias.indy.org), and the IAS Yahoo group? I think of these as ways to reach different audiences or customers. The IASFB Group is open to anyone with a Facebook account and allows all to interact in nearly realtime. There are tools like discussion groups that we’re just starting to use. The newly redesigned website is a more permanent and static resource and has lots of cool widgets, mini-applications, and links. Finally, the IAS Yahoo Group is a closed space just for members and allows us to share and communicate more privately.

Please join our Group of 67 (and growing) IASFB friends! Feel free to contact me if you have any questions about IAS and Facebook. I welcome any ideas about how we can use this and other social media tools to share our passion and interest in astronomy. Jeff Clemens, IAS Social Media Coordinator

NAG

New Astronomer's Group Meeting McCloud Nature Park Saturday May 7 7:30 PM

It's spring again and time to look at the sky and see the wonders of our Indiana skies. Have you ever looked up and wondered what that bright "star" was gleaming in the sky? Have you heard that an event was going to happen in a specific constellation, but you did not know how to find it?

The Indiana Astronomical Society and Hendricks County Parks Department will begin another year of monthly New Astronomer's Group meetings by hosting an evening of learning about our spring sky and then, weather permitting, actual observation of some of the April night sky objects. We will be meeting on Saturday May 7, at McCloud Nature Park starting at 7:30 pm. This first event may be cold so prepare for the temperatures. If it is clear, we will be observing.

THE NAG MEETING WILL BE HELD - RAIN OR SHINE.

Discussion topics for this month:

Learning the May Night Sky

- learn to recognize the Spring Constellations
- find Saturn
- learn to use a Star Wheel
- find Deep Sky Objects
- Question and answer session

The purpose and intent of the NAG is to introduce new astronomers to observing the night sky. All types of observing will be discussed including naked eye, binocular, and telescope.

If the weather cooperates, following the meeting, IAS members will have telescopes set up and attendees will have an opportunity to view some of the night sky objects discussed during the meeting. If you have binoculars or a telescope, please bring them.

The night sky can be an intimidating place. With a little help everyone can enjoy the celestial beauty that we have all taken for granted our whole lives. From the constellations to the deep sky; with the naked eye or with a telescope, there is something for everyone to enjoy.

We look forward to seeing you on the 7th.

Observing Activities

Link Campouts

The dates of the Link campouts have been set;

June 24-June 26 (same weekend as General Meeting)

Moonrise 2:05 AM June 25

Moonrise 2:35 AM June 26

August 26 - 28 Moonrise 5:22 AM Aug 27

Moonrise 6:35 AM Aug 28

Activities for April:

Link Observatory

McCloud Activities–

NAG –. See you May 7.

Prairie Grass Observatory Activities–

Prairie Grass Observatory Campout April 29-30

We are able to go to the Link, Prairie Grass Observatories, and McCloud Nature Park at non scheduled times if they do not conflict with reserved activities:

For those interested in going to The Link Observatories for observing call John Shepherd at 1 317-862-3442.

For those interested in going to McCloud to observe, please call the park office 765 676 5437 before 4PM on the day you want to go out. They will give you permission to be there at night and make arrangements to cut off the lights.

For those interested in going to Prairie Grass Observatory for observing call Hoppe at 1-765-296-2753.

Other Observing Activities

The Kirkwood Observatory Solar Telescope is open on the "First Saturday" of each month from 1-3 PM. Viewers may even be able to see a solar prominence or two weather permitting. Updated weather conditions and closings will be posted at the Kirkwood Observatory Hotline at (812) 855-7736, and at the Observatory webpage, <http://www.astro.indiana.edu/kirkwood.shtml>.

Monthly openings of the solar telescope are planned for the first Saturday of each monthly during our 2010 observing season. And if you want to follow the Sun in between our monthly Solar Telescope openings, the website www.spaceweather.com provides daily updates.

IU Kirkwood Observatory

Kirkwood Observatory on the IU campus will be open each Wednesday evening through the summer, weather permitting! Join us for a night of observing the night sky with the Kirkwood 12" refractor. Please visit our schedule at <http://www.astro.indiana.edu/kirkwood.shtml>, for a list of dates and times. For updated weather conditions and closings, please call the Kirkwood Observatory Hotline at (812) 855-7736.

The IU Astronomy Department has an electronic bulletin to let people know about local astronomy activities and events. If you would like to subscribe, send an email to astdept@indiana.edu and we'll put you on the distribution list. Information about activities and events to be included in the e-bulletin should be sent to catyp@astro.indiana.edu.

STARGAZER #554 for Apr. 8, 2011

Maria Mitchell - Trail-blazer

My daughter, Karen, recently asked if I was familiar with Maria Mitchell, America's first woman astronomer. I'd heard of her, yet confessed knowing little about her – but Karen's question stirred my curiosity.

After some research, I found she was a trail-blazer, and not just in astronomy. And she seemed to be someone I wish I had known – which is not the case with all famous people I've read about. Too many, while admirable for their discoveries or other contributions, have been described as arrogant, inconsiderate, unfriendly, self-centered, or in some other manner not pleasant to be around. But not so with Maria (pronounced Ma-RYE-ah) Mitchell. She seemed pretty cool.

Born August 1, 1818, in Nantucket, Massachusetts, Maria was one of 10 children of Quaker parents, and a distant cousin to Benjamin Franklin. Owing to her forward-thinking parents, her upbringing was ahead of its time. She was taught to value education, and was instilled with the idea that men and women, being intellectual equals, should receive the same quality of education. She learned the importance of personal independence and responsibility, for women as well as for men. And although obviously bright, she modestly exclaimed, "I was born of only ordinary capacity, but of extraordinary persistency."

Her father, an educator and later a banker, was also an amateur astronomer. With his telescope, he made observations and star measurements for the U.S. Coast Guard and taught Maria to assist him in his work. At age 12, she helped him make solar eclipse calculations, and by 14, was making navigational calculations for whaling sailors. (So much for women not being good in math!)

While still a student, she worked as a teaching assistant, and at age 17, opened her own school for a year. At 18, she became the first librarian of the Nantucket Atheneum, and continued her astronomy studies and observations.

In 1847, at the age of 29, she discovered a comet (which came to be known as "Miss Mitchell's Comet"), becoming only the second woman to do so. (The first was English astronomer Caroline Herschel, sister of William Herschel, discoverer of the planet Uranus in 1781.)



*Maria Mitchell, first woman American astronomer
(painting by H. Dasell, 1851)*

Her discovery brought her acclaim in the U.S as well as Europe, and she became the first woman elected to the American Academy of Arts and Sciences, the Association for the Advancement of Science, and the American Philosophical Society. While still a librarian, she began calculating astronomical tables for the U.S. Nautical Almanac Office and traveling to scientific meetings.

At age 38 she ended her librarian career to travel in the U.S. and Europe, first as chaperone for the daughter of a wealthy family, then on her own, and later yet with the Nathaniel Hawthorne family.

In 1865 at age 47, she became professor of astronomy at the new Vassar College in Poughkeepsie, NY. As director of the college's observatory which housed a 12-inch telescope, then the third largest in the U.S., her astronomical studies focused on sunspots and surface features of Jupiter and Saturn.

She was an activist against slavery and for women's rights. In 1873 she attended the first meeting of the Women's Congress in Seneca Falls, NY, with the likes of Susan B. Anthony, Elizabeth Cady Stanton, and other suffragists, and helped found the American Association for the Advancement of Women, serving as its president for two years.

In 1843, when still in her 20s, her questioning nature had gotten her expelled by the Quakers whereupon she began attending the Unitarian church. She saw no conflict between religion and science: "Scientific investigations, pushed on and on, will reveal new ways in which God works, and bring us deeper revelations of the wholly unknown...If (the Bible and science) seem to be (in conflict), it is because you do not understand one or the other."

Her remarkable life ended June 28, 1889, at the age of 70. Having never married, she left no children, but was survived by a cadre of friends and admirers who, in 1902, founded the Maria Mitchell Foundation. In 1994 she was elected to the National Women's Hall of Fame.

Two other Maria Mitchell quotes offer insight into her thinking. The first: “We especially need imagination in science. It is not all mathematics, nor all logic, but it is somewhat beauty and poetry.” And the second: “We have a hunger of the mind. We ask for all of the knowledge around us and the more we get, the more we desire.” She's a kindred spirit I'd like to have known.

Stargazer appears every other week in the *Waco Tribune-Herald* and other newspapers. Paul Derrick is an amateur astronomer who lives in Waco. Write him at 918 N. 30th St., Waco, TX 76707, call at (254) 723-6346, or e-mail at paulderrickwaco@aol.com.

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**** See the Stargazer Web site at <http://www.stargazerpaul.com>. ****

NASA Space Place

Cosmic Recount

by Dr. Tony Phillips

News flash: The Census Bureau has found a way to save time and money. Just count the biggest people. For every NBA star like Shaquille O’Neal or Yao Ming, there are about a million ordinary citizens far below the rim. So count the Shaqs, multiply by a million, and the census is done.

Could the Bureau really get away with a scheme like that? Not likely. Yet this is just what astronomers have been doing for decades.

Astronomers are census-takers, too. They often have to estimate the number and type of stars in a distant galaxy. The problem is, when you look into the distant reaches of the cosmos, the only stars you can see are the biggest and brightest. There’s no alternative. To figure out the total population, you count the supermassive Shaqs and multiply by some correction factor to estimate the number of little guys.

The correction factor astronomers use comes from a function called the “IMF”—short for “initial mass function.” The initial mass function tells us the relative number of stars of different masses. For example, for every 20-solar-mass giant born in an interstellar cloud, there ought to be about 100 ordinary sun-like stars. This kind of ratio allows astronomers to conduct a census of all stars even when they can see only the behemoths.

Now for the *real* news flash: The initial mass function astronomers have been using for years might be wrong.

NASA’s Galaxy Evolution Explorer, an ultraviolet space telescope dedicated to the study of galaxies, has found proof that small stars are more numerous than previously believed.

“Some of the standard assumptions that we’ve had—that the brightest stars tell you about the whole population—don’t seem to work, at least not in a constant way,” says Gerhard R. Meurer

who led the study as a research scientist at Johns Hopkins University, Baltimore, Md. (Meurer is now at the University of Western Australia.)

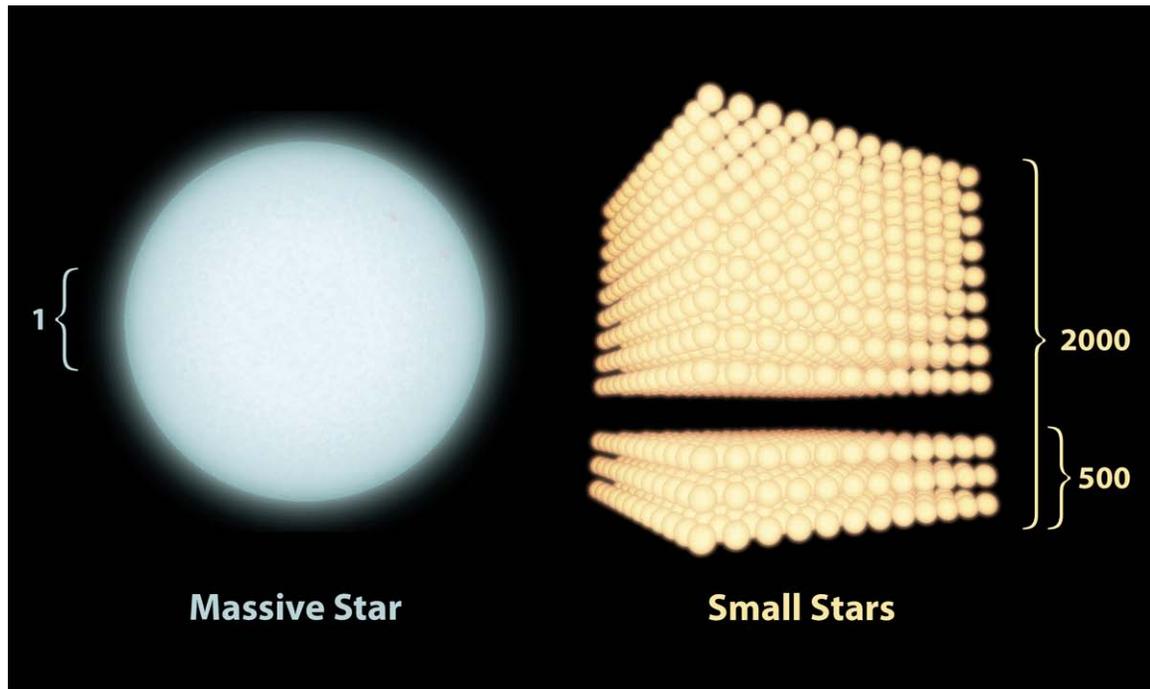
Meurer says that the discrepancy could be as high as a factor of four. In other words, the total mass of small stars in some galaxies could be four times greater than astronomers thought. Take that, Shaq!

The study relied on data from Galaxy Evolution Explorer to sense UV radiation from the smaller stars in distant galaxies, and data from telescopes at the Cerro Tololo Inter-American Observatory to sense the “H-alpha” (red light) signature of larger stars. Results apply mainly to galaxies where stars are newly forming, cautions Meurer.

“I think this is one of the more important results to come out of the Galaxy Evolution Explorer mission,” he says. Indeed, astronomers might never count stars the same way again.

Find out about some of the other important discoveries of the Galaxy Evolution Explorer at <http://www.galex.caltech.edu/>. For an easy-to-understand answer for kids to “How many solar systems are in our galaxy?” go to The Space Place at: <http://tiny.cc/I2KMa>

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



Astronomers have recently found that some galaxies have as many as 2000 small stars for every 1 massive star. They used to think all galaxies had only about 500 small stars for every 1 massive star.

Membership Status

The following changes in membership took place in February:

Total Membership: 157

Renewals: 5

New student members:

New Members:

Mike Newberg – Indianapolis

Siva Chittalallu

Renewing from inactive status

Mark Bradbury - Greenwood

Inactive status:

Michael Blackburn - Indianapolis

Loren Lawhorn - Indianapolis

IAS LIBRARY:

There is now a link on our website page for our new Multi-Media Library. Greg has built this library of a multitude of videos that are on the web. We think it will be a great addition to our library for both novices and experienced observers. Greg has many more sources to go through so the library will continue to grow. If you have comments or questions about the library please contact Greg McCauley. (Contact Greg via the webpage iasindy.org under the contact us section

Do you have a question or need?

We have established a list of members who would be willing to receive calls for help on specific objects. If you have a specific skill and would be willing to help others please contact Jeff Patterson KB9SRB@hotmail.com.

Based upon the responses we received to your intro question recently, perhaps we should add a section to the bulletin naming those members who would be willing to receive calls for help on specific subjects.

William Conner (wmtconner@att.net) - for CCD imaging and film photography.

Jeff Patterson (Contact Jeff via the webpage iasindy.org under the contact us section) –
Observatory design and construction

Eric Allen (ericandroberta@sbcglobal.net) - Telescope making and mirror grinding

Brian Murphy (bmurphy@monumentcompanies.com) - "telescope construction and collimation".

Public Outreach Programs – If you want to schedule a program at the Link Observatory or at you site, please contact the following people:

Gerald Venne is our Public Events Coordinator. He will be responsible for coordinating Public Events for the IAS. To schedule a public event contact Gerald Venne (Contact Gerald via the webpage iasindy.org under the contact us section).

He needs your help. Let Gerald know if you would like to show the public our sky. We need people to help at Link and elsewhere. It is actually a lot of fun.

If you would like to schedule the Goethe Link Observatory, please contact

John Shepherd. Contact John via the webpage iasindy.org under the contact us section)

Astro Ads

Are you changing or upgrading your equipment? Do you have or are you looking for astronomical materials and equipment? The Indiana Astronomical Society as a service to its members, will publish non-commercial ads at no charge. The ad will stay in the Bulletin for 4 months and may be renewed at the owner's request.

To place an ad, contact:

Bulletin Editor
Jeff Patterson
1780 S. Morgantown Rd.
Greenwood, IN 46143
(317) 300-0449
E-Mail: KB9SRB@Hotmail.com

For Sale: MEADE 8" F/4.5 NEWTONIAN

Includes German Equatorial Mount with three counterweights, felt-lined mounting rings, RA and Dec slow motion controls, accessory tray and 6x30 finder scope. Eyepieces include 25mm MA and 9mm Ortho. All instruction manuals are included.

Additional Accessories:

- * Quartz RA motor drive incl battery pack
- * Polar alignment viewfinder
- * 12.5mm illuminated reticle eyepiece
- * Meade 60mm guidescope with mounting rings and 1.25" diagonal
- * 1.25" camera adapter
- * Meade 2x Barlow
- * Piggyback camera bracket

Aluminized mirror has been cleaned and collimated. Optics are excellent, like new.

Telescope is in very good condition. A complete package for wide-field astrophotography and deep sky observation.

Asking \$500.00 – Call Bill at 892-2036 or e-mail at bwilhite@tds.net.

For Sale

Celestron Celestar 8" with tripod mount, Dec. motor & hand controller, & instruction manual.

Also included in the package...

Counter balance weight system, Celestron 25mm SMA 1-1/4 eyepiece, Orion Dew Zapper 20w 12v, 8" glare shroud, Full scope astrosystem's weather cover, Antares right angle finder scope, Celestron Star Diagonal 1-1/4" , Stellavue Red-dot unity finder, Celestron (Pelican style) Hard Case for scope. \$750.

Contact Thad Hatchett at astronomynut@comcast.net or give me a call at home at 812-375-0192.

For Sale:

2 eyepieces for sale:
3mm Televue Radian
7mm Pentax SMC
Both for \$300

Jim Zdobyak
zobe1@aol.com

Equipment Loan Program

The Loan Program has been helpful to those new to the hobby and others in need of observing equipment. We consider offers of equipment you may not have need for any longer.

Did you know you could borrow a scope or piece of astronomy equipment from the Society and take it for a test drive? The Society has a program where members who are trying to determine what kind of equipment to buy can borrow one of the Society's scopes for a month or two and see how they like it. Philip Dimpelfeld is the chairman of the program and can arrange for your pickup and training on the use of the particular instrument. This is a great way to see what telescope you want to purchase. We have several scopes, eyepieces and binoculars to loan. Philip Dimpelfeld **Contact via the webpage iasindy.org under the contact us section**

Board Meeting –April 26, 2011

The IAS Board Meeting is being held at 430 Massachusetts Avenue in downtown Indianapolis. The building is at the point of convergence of Mass. Ave., Vermont and Alabama Streets. There is a Starbucks located in the frontage of the building. The coffee shop stays open late into the evening. Try to park as close to Starbucks as possible, preferably in a metered space. On-street parking is free after 5pm. Handicapped parking is directly in front of Starbucks entrance. The entrance to the building is to the left of Starbucks around on the side. We meet in the basement. Ride the elevator (around the corner to your left) to the basement. Turn right as you exit the elevator and go through the first door on your right. This is the conference/meeting room. If you need further assistance, please contact Jeff Patterson via the webpage iasindy.org under the contact us section

2011 Calendar of Meetings

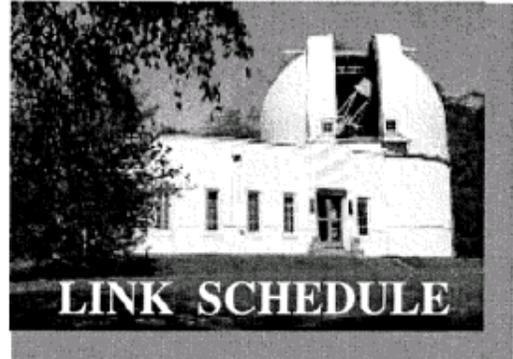
	NAG	General	Board
January		22-Jan	25-Jan
February		19-Feb	22-Feb
March		26-Mar	29-Mar
April	9-Apr	23-Apr	26-Apr
May	7-May	21-May	24-May
June	11-Jun	25-Jun	28-Jun
July	9-Jul	23-Jul	26-Jul
August	6-Aug	20-Aug	23-Aug
September	3-Sep	17-Sep	20-Sep
October		22-Oct	25-Oct
November		19-Nov	22-Nov
December		17-Dec	

Goethe Link Observatory

Observatory Address

**Goethe Link Observatory
8403 N. Observatory Lane
Martinsville, IN 46151**

Latitude: 39 degrees, 33 minutes north
Longitude: 86 degrees, 24 minutes west
Phone: (317) 831-0668



This schedule is being published to assure proper access to the Link Observatory for programs that are designed as observational, general education, astronomy conferences, or amateur research projects. Training programs are tentatively scheduled for Saturday evenings only. Although other requests can over-ride these sessions. It is the purpose of this listing to prevent activity conflicts.

If you need to acquire use of the 36-inch telescope: remember two important IAS guidelines: 1) *There has to be two or more IAS members present.....*2) *contact the Observatory Manager: John Shepherd* **Contact via the webpage iasindy.org under the contact us section.** **DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.**

IAS News & Views Stats

Accessing the IAS News & Views

The current bulletin can be found on the website www.iasindy.org

IAS News & Views

The monthly newsletter welcomes articles of local astronomical interest information and want ads:

Please submit to
The Indiana Astronomical Society, Inc
Jeff Patterson, editor
1780 S. Morgantown Rd
Greenwood, IN 46143
Phone: (317) 300-0449
KB9SRB@hotmail.com

Membership information Contact via the webpage iasindy.org under the contact us section

Contact any IAS officer or the Treasurer John Shepherd or Vicki Switzer

Observatory Manager

John Shepherd **Contact via the webpage iasindy.org under the contact us section**

Public Event Coordinator

Gerald Venne **Contact via the webpage iasindy.org under the contact us section**

Equipment Loan Program Coordinator

Philip Dimpelfeld Contact Phil at philip.dimpelfeld@comcast.net

Membership Coordinator

Vicki Switzer Contact Vicki via the webpage iasindy.org under the contact us section

April Calendar, 2011

For a more detailed Calendar of Events see the webpage www.iasindy.org

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3 New Moon ●	4	5	6	7	8	9 NAG
10	11 1 st QTR ☾	12	13	14	15	16
17 Full Moon ○	18	19	20	21	22	23 General Meeting
24 3rd QTR ☾	25	26 Board Meeting	27	28	29	30