

The Bulletin – The monthly publication of the Indiana Astronomical Society

July, 2009  
Volume 76, Issue 7  
www.iasindy.org



# The Bulletin

*2009 International Year of Astronomy*

**The July General Meeting, July 11 7:00 PM  
The Goethe Link Observatory**

**Optical Phenomena in the Sky  
Hans-Otto Meyer**

The atmosphere of our world is the stage for a breathtaking array of intriguing optical phenomena. I will take you on a tour through this beautiful terrestrial light show. Along the way, I will attempt to demonstrate how a few simple physical laws are often sufficient to understand seemingly complex occurrences.

This talk is a by-product of a lecture and lab course, which I developed in the years 2005 to 2007.

Hans-Otto Meyer received his Ph.D. from the University of Basel in 1970. Research associate at the University of Wisconsin, the Los Alamos National Lab, and the University of Washington in Seattle (1970 - 1974). Privatdozent, University of Basel (1977). Associate Professor Indiana University (1978), Professor (1983). Sabbatical at CERN (1985). Research in nuclear physics with an emphasis on polarization phenomena, neutron and neutrino physics. Currently a member of two collaborations devoted to the production of polarized antiprotons and to a measurement of the electric dipole moment of the neutron.

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## **IAS Calendar of Events for July**

July 11 - General Meeting at Link Observatory observing after words weather permitting  
July 14 – Board Meeting  
July 23-26 – Indiana Family Star Party at Camp Cullom  
July 18 – NAG at McCloud

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**New Astronomers Group Meeting  
McCloud Nature Park**

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Members Bill Conner and Doug Brown show “our” moon to visitors at the June NAG



Next NAG 7:30 pm – Saturday, July 18, 2009

The next monthly meeting of the Indiana Astronomical Society’s New Astronomers Group for 2009 will be held on **Saturday, July 18 at McCloud Nature Park starting at 7:30 pm.** Weather permitting there will be an observing session using IAS member’s telescopes and binoculars following the meeting.

### **THE NAG MEETING WILL BE HELD - RAIN OR SHINE.**

Topics for this month:

- Observing the Late July/Early August Evening sky
  - Reading a Star Chart
  - The Summer Pointer Stars
  - The Summer Triangle
  - Our Solar System
  - The Deep Sky – Sagittarius (The Tea Pot)
    - M8 – Lagoon Nebula
    - M17 – Omega Nebula
    - M20 – Trifid Nebula
    - M21 – Open Cluster
    - M22 – Globular Cluster

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- M23 – Open Cluster
  - M25 - Open Cluster
  - M55 – Globular Cluster
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- Celestial Fireworks – Meteor Showers
  - A Beginners Introduction to the Telescope
  - 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.

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### Indiana Family Star Party

July 23-26 is the annual Indiana family Star Party at Camp Cullom. It is sponsored by the Wabash Valley Astronomical Society, the Muncie Astronomical Society and the Indiana Astronomical Society. It is a good local party and I recommend all members to consider going there. The actual party starts on Friday but workers can show up Thursday and get another night of camping and observing. Go to <http://home.comcast.net/~jmmahony1/PGO/>. In addition, as usual, the IAS will be participating in the registration process on Friday and Saturday. Gerald Venne is leading this endeavor and needs members to volunteer for two hour stints at the registration desk. Call Gerald at 317-826-2680 or contact him at [gvenne@iquest.net](mailto:gvenne@iquest.net). It is a great way for our new astronomers to meet other astronomers and see how they set up and use their equipment.

*The Pres*

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### Link Update – Link to get a new look

The IAS has been notified that we have been granted a \$10,000 grant from the Indiana University Foundation to fund refurbishments of the Link Observatory! Tom Borlik has worked tirelessly to get funds to redo the downstairs floor, get new chairs for the auditorium, the kitchen and add a new bathroom. The next time you see Tom thank him for his work towards the Link.

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### Upcoming Star Parties

**Nebraska Star Party** – July 19-24, 2009- North Central Nebraska - This is a premier dark site and has fantastic observing. However, the weather is brutal. Temperatures can reach 105-110 degrees. However you can cool off in the shade of the tree. All activities will be at the Snake Creek Campground again this year. (I wonder why they call it Snake Creek). No activities will be at the resort. <http://www.nebraskastarparty.org/>

**EPOCH 2009** - The 21st Century Midwest Star Party July 21-26, 2009 **CANCELLED**

**Indiana Family Star Party** Camp Cullom, Frankfort, IN July 23-26, 2009  
<http://jmmahony.home.insightbb.com/pgo/starparty/>

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**Link Campout** August 14-16 observing session at the Link Observatory

**Black Forest Star Party** PA September 18-20, 2009

<http://www.bfsp.org/starparty/>

**Okie-Tex Star Party – September 12-20.** This is reported as one of the darkest sites in the US. It is a great deep sky event.

**Prairie Skies Star Party** – September 19-20 Kankakee, IL

**Astrofest** - Astrofest 2009 will be held September 25-26, 2009 at Vana's near Kankakee, Illinois. Join us for a weekend of solar observation, lectures, and workshops during the day and night observing through a variety of telescopes and binoculars. Vana's is a 20 acre field with plenty of camping space; there is no extra charge for parking or camping. To register click on [www.chicagoastro.org/node/33](http://www.chicagoastro.org/node/33). Note that you may register by mail, with check or money order, or by telephone with a credit/debit card. Currently, we do not have PayPal set up on our website; we hope to have that option available shortly.

If you have any questions, please contact Jim Cuca at [jamescuca@comcast.net](mailto:jamescuca@comcast.net).

**Heart of America Star Party MO** October 15-18, 2009

<http://www.hoasp.org/>

**Twin Lakes Star Party** – October 10-18, 2009

This is an excellent star party located in western Kentucky. One not to miss

If you know of events coming up let me know and I will get them in the Bulletin

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## ALCor Observations by Bill Conner

Do those Arabic star names have your tongue tied? Here is a guide from the Astronomical League that can help you untie the knot. This is AL's Astro Note #7 from their web site. Note that the syllable that is to be EM-pha-sized is in capital letters.

Pronunciation Guide for the Bright Navigation Stars

Name	Constellation	Phonetics
Acamar	Theta Eri	AY-kuh-mar
Achernar	Alpha Eri	AY-ker-nar
Acrux	Alpha Cru	AY-kruhks
Adhara	Epsilon Cma	ah-DAY-rah
Aldebaran	Alpha Tau	al-DEB-ah-ran
Alioth	Epsilon Uma	AL-ee-oth

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Alkaid	Eta Uma	al-KADE
Al Nair	Alpha Gru	al-NAYR
Alnilam	Epsilon Ori	al-NIGH-lam
Alphard	Alpha Hya	AL-fard
Alphecca	Alpha CrB	al-FECK-ah
Alpheratz	Alpha And	al-FEE-rahts
Altair	Alpha Aql	al-TAYR
Ankaa	Alpha Phe	AN-kuh
Antares	Alpha Sco	an-TAIR-eez
Arcturus	Alpha Boo	ark-TOO-rus
Atria	Alpha TrA	AT-ri-ah
Avoir	Epsilon Car	AY-vee-or
Bellatrix	Gamma Ori	BEL-a-trix
Betelgeuse	Alpha Ori	BET-el-jooz
Canopus	Alpha Car	kah-NO-pus
Capella	Alpha Aur	kah-PEL-ah
Deneb	Alpha Cyg	DEN-eb
Denebola	Beta Leo	de-NEB-oh-la
Diphda	Beta Cet	DIF-dah
Dubhe	Alpha UMa	DUB-ee
Elnath	Beta Tau	EL-nath
Eltanin	Gamma Dra	el-TAY-nin
Enif	Epsilon Peg	EEN-if
Fomalhaut	Alpha PsA	FO-mal-ought
Gacrux	Gamma Cru	GAY-krux
Gienah	Gamma Crv	JEE-nah
Hadar	Beta Cen	HAY-dar
Hamal	Alpha Ari	HAM-al
Kaus Australis	Epsilon Sgr	KOSS aus-TRAY-lis
Kochab	Beta Umi	KOE-kahb
Markab	Alpha Peg	MAR-kahb
Menkar	Alpha Cet	MEN-kahr
Menkent	Theta Cen	MEN-kent
Miaplacidus	Beta Car	MY-a-PLAS-i-dus
Mirfak	Alpha Per	MEER-fak
Nunki	Sigma Sgr	NUN-kee
Peacock	Alpha Pav	PEE-kok
Polaris	Alpha UMi	poe-LAHR-is

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Pollux	Beta Gem	POL-lucks
Procyon	Alpha CMi	PRO-see-on
Rasalhague	Alpha Oph	RAS-al-haig
Regulus	Alpha Leo	REG-you-lus
Rigel	Beta Ori	RYE-jel
Rigel Kent	Alpha Cen	RYE-jel KENT
Sabik	Eta Oph	SAY-bik
Schedar	Alpha Cas	SHED-ahr
Shaula	Lambda Sco	SHAW-la
Sirius	Alpha CMa	SEER-ee-us
Spica	Alpha Vir	SPY-kah
Suhail	Lambda Vel	soo-HALE
Vega	Alpha Lyr	VAY-gah
Zubenelgenube	Alpha Lib	zoo-BEN-al-je-NEW-bee

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### **The Board approves another weekend campout at the Link.**

The Board has designated August 14-16 as a weekend campout at the Link observatory. Plans are to have forums and help sessions for anyone who needs help with their equipment or observing skills.

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### **Link Activities for July:**

General Meeting July 11

### **McCloud Activities for July–**

NAG July 18

### **Observing Activities**

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 Gary Schoppenhorst 1 317 297-1405.

For those interested in going to McCloud to observe, please call the park naturalist, Haley Samuelson-Couchman, at the park office 765 676 5437 before 4PM on the day you want to go out. As an alternative you can e-mail Haley at [McCloudNP@HCParks.net](mailto:McCloudNP@HCParks.net) . She will give you permission to be there at night and cut off the lights.

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

## Membership Status

The following changes in membership took place in June:

Current Membership Total: 151

Renewals: 6

New student members:

Matthew Houppert, Martinsville

May New Members:

Walter Stepanski, Plainsfield

George Ostheimer, Martinsville

Robert T. McClure, Carmel

Inactive status:

Michael Coons, Indianapolis

David Cox, Danville

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## IAS Name Tags

When I was researching prices for a sign for one of IAS's telescopes, I noticed that the sign store had some rather attractive name plates, so I had two done using our logo - there are two sizes available - same price for each - the only variable is the method of attachment. It's \$5 for a pin-type badge or \$6 for a magnetized one. If I get at least ten orders, I'll proceed. Just send a check payable to TOM BORLIK. Sorry, this does NOT include mail order, but I could do that for \$2 additional if enough people complain! These badges are neat for star parties or other public events like presentations given at schools. And, no, they don't glow in the dark.

If interested, let me know by email, but I'll hold off ordering until I get ten orders. I would deliver them during our General Meetings - next month, starting at Goethe Link Observatory.

Tom Borlik

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## IAS LIBRARY:

The complete list can be found (<http://www.iasindy.org/memonly/iasfiles.php>, which is password protected). We have a new addition for the 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. The only problem is that you will have to have high speed internet to observe these video streams. 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 at 317 663-3289 or [greg@ultrasoundconsulting.net](mailto:greg@ultrasoundconsulting.net) .

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## IU Kirkwood Observatory

The Observatory has reopened for the summer. Please visit our schedule at

[http://www.astro.indiana.edu/kirk\\_sch.shtml](http://www.astro.indiana.edu/kirk_sch.shtml), for a list of dates and times. For updated weather conditions and closings, please call the Kirkwood Observatory Hotline at (812) 855-7736.

## SUMMER FILM SERIES CONTINUES IN JULY

Join us each Wednesday evening this summer for a special astronomy film series in celebration of the International Year of Astronomy. The series will run from 7:30-9:30 PM each Wednesday evening, rain or shine, prior to the weekly Kirkwood Observatory Open Night. We are offering an alternating program of classic feature films and recent, fun documentaries covering a wide range of astronomy and space themes. The schedule of films is available on the I-Universe website at [iya.astro.indiana.edu/film.html](http://iya.astro.indiana.edu/film.html). No charge for admission, and free popcorn will be provided!

The series continues on July 1 with a “Simpsons Futurama” double feature.

Films will be screened in Rm 119 of Swain Hall West on the IU Bloomington campus ([727 E. 3rd St](#)). Each film will start at 7:30 PM and end no later than 9:30 PM. Running times vary from approximately 1 to 2 hours. Consult the schedule to see the approximate running times for each feature.

Kirkwood Observatory will open at 10 PM following the film, weather permitting.

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](mailto: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](mailto:catyp@astro.indiana.edu).

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### Easy Listening:

Weekly pod casts are available at <http://www.astronomycast.com/> for those who love astronomy and want to learn, yet have no time (or desire) to do extra reading. They cover a variety of topics, and feature a different topic each week, so you can choose your flavor. The cast includes Fraser Cain, the publisher of Universe Today (<http://www.universetoday.com/>), and Dr. Pamela Gay, an assistant professor of physics at Southern Illinois University Edwardsville. You do not need an iPod or portable device to enjoy these.

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### Mentor Program

We are reinstating the mentor program, which will provide the new member with lots of information and help them assimilate into the Society. Thad Hatchett has volunteered to lead this program. We need your help. If you are interested in becoming a mentor please contact me at Jeff Patterson [KB9SRB@hotmail.com](mailto:KB9SRB@hotmail.com) or Thad Hatchett at [astronomynut@comcast.net](mailto:astronomynut@comcast.net). We will put your name on the list and assign a new person to you. Our goal is to retain people and make this hobby a lot more fun.

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### Do you have a question or need?

We are establishing 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](mailto: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



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for help on specific subjects.

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

Jeff Patterson ([KB9SRB@Hotmail.com](mailto:KB9SRB@Hotmail.com)) – Observatories design and construction

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### Public Outreach Programs

Gerald Venne is our Public Events Coordinator. He will be responsible for coordinating Public Events for the IAS. 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.

To schedule a public event contact Gerald Venne 1 317 826-2680 or Jeff Patterson at 1-317 882-8055.

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### 75<sup>th</sup> Anniversary Lapel Pins

If you did not receive your Anniversary pin last year, please contact Vicki Switzer. If you want another, you can buy one from Vicki for \$5. If you want a pin mailed to you, contact Vicki and send her a check for \$7 made out to the Indiana Astronomical Society. If you were a member last year and still want your original pin please send Vickie a check made out to the IAS for \$2.00

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### 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](mailto:KB9SRB@Hotmail.com)

**For Sale Astronomy trailer-** 6x12 KZ Cargo box trailer, I have used this trailer for about 4 years hauling my gear but needed a bigger one. It is in excellent shape and clean inside. \$2500 Jeff Patterson 317 506-0449 or [KB9SRB@Comcast.net](mailto:KB9SRB@Comcast.net)

**For Sale** Gibraltar Ash Tripod with Tele Pod Head and Eyepiece Caddy. Tripod is like new, you have to look hard to find a scratch on the wood  
All the items listed for \$400 OBO.

Dan Mitchell

309 531 8510

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**For Sale** – **Takahashi FS-128** F/8.1 apochromatic refractor, Serial No: 01065. Excellent condition! I am the original owner, purchased 3/20/2002. The OTA has an upgraded Takahashi 10-to-1 Micro Edge Focuser and comes with a custom Scopeguard case (silver). \$3200.

If interested, I also have the following FS-128 accessories (not included with the OTA);

TAK Tube Holder  
Takahashi 7x50 Finder Bracket  
BT-Tak Quick Release  
Takahashi 1.25" Diagonal  
Kendricks (P-6010-A, Baader) Solar Filter (photographic)  
Kendricks (6010, Baader) Solar Filter (visual)  
Takahashi 2" Compression Ring Adapter  
Takahashi 2" Threaded extension

Daniel Cervantes [muddy@bluemarble.net](mailto:muddy@bluemarble.net) or (812) 361-7746,

**For Sale** – Sony 21" Model G520 Graphics CRT. Excellent condition, manual, all cables, for \$15. Contact Fritz Kleinhans, [Starman@iupui.edu](mailto:Starman@iupui.edu) or 317-290-1689 (cell).

Free astrophotography film to good home (or bad). I have dozens of rolls of Kodacolor Royal Gold 400 (red sensitive version) and LE 400 (red sensitive) color negative film. This film has been in the freezer since about 2001 and has expiration dates of about 2002-2003. Contact Fritz Kleinhans, [Starman@iupui.edu](mailto:Starman@iupui.edu) or 317-290-1689 (cell).

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## Onions and Orchids

A bouquet of orchids to Tom Borlik for his application and chasing down a grant for the Link Observatory

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## The 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. John Molt 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.

John Molt ([1stargazer@indy.rr.com](mailto:1stargazer@indy.rr.com)) or (317) 989-1875

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## List Server Online - Don't be left in the cold - Sign up!

This service is our main communication tool. The list server is accessible only by IAS members. Being a member does **not** mean you are automatically entered into the "Members Only" section. If you are a new member, please go to the "Members Only" section and fill out an application.

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The Webmaster will set you up and notify you that you can get into the system. Make sure we have your correct e-mail and you will have access for late updates to events and functions. Unless you opt out for the List server, you will automatically have access to it when you are approved for the “members only” section.

Note: The list server is for use of Society business. It can only be used according to the rules as outlined previously. Basically it is used to communicate astronomical information to the general Society that would be unique. Please do not send out information from websites that we all generally subscribe to. Also please note: Do not add the list server address to your general address lists. Our problems have generally come from this when a member sends out mail to all their addressees. Members abusing the service will be eliminated from the service.

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### Board Meeting – Board Meeting July 14, 2008

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 Brian P. Murphy on his cell phone 716-8124 or Jeff Patterson 317 506-0325.

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### General Meeting Dates 2009

	<b>NAG</b>	<b>General</b>	<b>Board</b>
January		17-Jan	19-Jan
February		14-Feb	17-Feb
March		14-Mar	17-Mar
April		18-Apr	21-Apr
May	2-May 30- May	16-May	19-May
June	27-Jun	13-Jun	16-Jun
July	18-Jul	11-Jul	14-Jul
August	22-Aug	8-Aug	11-Aug
September	26-Sep	12-Sep	15-Sep
October		10-Oct	13-Oct
November		7-Nov	10-Nov
December		19-Dec	

### Goethe Link Observatory Observatory Address

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



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**Observatory 's 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: Gary Schoppenhorst (317)297-1405. DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.*

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## **Bulletin Stats**

### **Accessing the Bulletin**

The current bulletin can be found on the website [www.iasindy.org](http://www.iasindy.org)

### **Bulletin - Bulletin deadline on the 20th of every month**

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](mailto:KB9SRB@hotmail.com)

*Membership information*

Contact any IAS officer or the Treasurer John Shepherd (317) 862-3442 or Vicki Switzer

[vswitzer42@verizon.net](mailto:vswitzer42@verizon.net) 1 812-835-2251

### *Link Observatory*

Latitude: 39 degrees, 33 minutes north

Longitude: 86 degrees, 24 minutes west

Phone: (317) 831-0668

IAS Internet address

<http://www.iasindy.org>

### **Executive Officers**

President: Jeff Patterson (317) 300-0449

Vice-President and Program Director: Doug Brown (317) 872-4050

Secretary: Betsy Brown 1-317-872-4050

Treasurer: John Shepherd (317) 862-3442

### **Board of Directors**

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Gary Schoppenhorst (2009)  
Gerald Venne (2009)  
Tom Borlik (2010)  
John Switzer (2010)

Ron Burgess (2010)  
Greg McCauley (2011)  
John Molt (2011)

**Public Event Coordinator**

Gerald Venne [gvenne@iquest.net](mailto:gvenne@iquest.net) 1 317 826-2680

**Library Committee Coordinator**

Greg McCauley [greg@ultrasoundconsulting.net](mailto:greg@ultrasoundconsulting.net)

**Astronomical League Coordinator**

Bill Conner [wmtconner@att.net](mailto:wmtconner@att.net) 1-812 828-0449

**Membership Coordinator**

Vicki Switzer [vschwitzer42@verizon.net](mailto:vschwitzer42@verizon.net) 1 812-835-2251

**July Calendar, 2009**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7 Full Moon ○	8	9	10	11 General Meeting at Link
12	13 3rd QTR ☾	14 Board Meeting	15	16	17	18 NAG at McCloud
19	20	21 New Moon ●	22	23 IFSP	24 IFSP	25 IFSP
26 IFSP	27	28 1 <sup>st</sup> QTR ☾	29	30	31	

## Membership Application to the IAS

### Benefits:

- Use of the Goethe Link Observatory
- Formal monthly programs with guest speakers
- Local and regional astronomical functions
- Discounted Astronomy publications
- New Moon observing activities
- Access to IAS member experts and problem solving
- The Bulletin monthly newsletter
- Membership in the Astronomical League
- Free admission to the Holcomb planetarium
- Star party events and observing sessions

Please mark whether this is a new or renewal application

New

Renewal

Note: Magazine subscription renewals forms and payment must be submitted to the Treasurer in order to maintain publisher's club discount.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Telephone: ( ) \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

How do you want to receive the IAS monthly newsletter?

Downloadable from Website  Hard Copy\*

\* Please note that hard copy costs the Society about \$1.50 per issue. Please consider this when selecting mode of receiving the newsletter.

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Annual Regular Membership (\$30.00)	
Annual Student Membership (\$10.00)	
Astronomy Magazine Renewal (\$34.00)	
Sky and Telescope Magazine (\$33.00) (New Subscription)	
Total Enclosed	

Make checks payable to: The Indiana Astronomical Society, Inc

Please complete Member Profile and include with the application

Mail Application to:

Vicki Switzer Membership Coordinator  
2115 N. Private Rd 50 E  
Centerpoint, IN 47840

#### Member Profile

Spouses Name: \_\_\_\_\_

Children's names and ages: \_\_\_\_\_

\_\_\_\_\_  
Note: Profile information is not a requirement for membership to the Society.