

The Bulletin – The monthly publication of the Indiana Astronomical Society

July, 2006  
Volume 73, Issue 7  
www.iasindy.org



# The Bulletin

## The July General Meeting, July 8, 7:00 PM Goethe Link Observatory

### An American Boy Donald Hughes

One evening in the fall of 1947, a ten-year old named Don Hughes came to Link Observatory on a school field trip. There he discovered the Universe.

Dr. Goethe Link himself gave Don and his Park School classmates their first view of the heavens with the 36-inch reflector--complete with elevator ride up to the then-Newtonian eyepiece. The object they saw was the Double Double in Lyra.

55 years later, Hughes reenacted on film that memorable experience, along with others from his boyhood, in a movie called "An American Boy." The 30-minute film will be the centerpiece of the IAS monthly meeting at Link on July 8.

Born and raised in Indianapolis, Hughes has been a filmmaker since age 14. After college and military service he followed that career path to Nashville Tennessee. There he worked as Director of Special Projects and Senior Producer for UCom Productions. He made a variety of movies for many different audiences over 35 years. They include historical documentaries ("Andrew Jackson"), theatrical short subjects (Columbia Pictures' "Hello Up There"), music videos (Jennifer Warnes, "Up the Elevator") and national television spots (Julie Harris, "First Steps").

Two years ago he moved back to the Indianapolis area. "An American Boy" is the third project of his own production company, Wildwood Pictures. The film had its world premiere at the Sidewalk Moving Picture Festival in Birmingham, Alabama last fall.

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## Second New Astronomer's Group Meeting at McCloud

New Astronomers Group Meeting  
McCloud Nature Center  
7:30 pm – July 28, 2006

A second meeting of the Indiana Astronomical Society's New Astronomers Group for 2006 will be held on Friday July 28 at McCloud Nature Center starting at 7:30 pm, just prior to the monthly McCloud Friday Night Observing session.

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

Topics for this month:

- Observing the August evening sky
  - Reading a Star Chart
  - The Summer Pointer Stars and 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
  - M23 – Open Cluster
  - M25 - Open Cluster
  - M55 – Globular Cluster
- 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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### **McCloud**

Paul Miner of the McCloud Park Board has requested that we observe the posted **15mph speed limit** on the property road going into the park. As the summer goes on there will be significant dust issues and there is a lot of wildlife and driving slow may save the life of one of their animals.

In addition, if you have only a small amount of equipment, the park is asking that we **not park on the grass unless necessary**. If possible, deliver your equipment to the site and then pull onto the gravel to park. Let's minimize the damage to the grass.

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## McCloud New Moon Events

We have added an additional observing night each month at McCloud. We will be meeting on the Friday closest to the new moon. There will be no NAG type presentation but the public is also invited. Come out and enjoy our dark site. These are the dates for McCloud New Moon Under the Skies:

### McCloud New Moon Schedules

NAG*	McCloud New Moon
	June 23
June 30	
July 28	July 21
Sept 1	Aug 25
Sept 29	Sept 22

- Already scheduled

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## 2006 McCloud Schedule

The New Astronomers Group held from April thru September is designed with the beginning amateur astronomer in mind. Meetings start at 7:00 pm on the Friday closest to the 1st Quarter Moon (see schedule below). Emphasis is on actual observing to help beginners find their way around the night sky and, in particular, how to find those faint but interesting objects such as planets, galaxies and nebulae of all kinds. In addition to discussing the night sky for the current month, a selected topic of interest to the beginning astronomer will be covered. The currently scheduled selected topics for 2006 are:

### \*June 30 The Beginners Year around Observing Planner The Messier List

July 21 McCloud New moon

### \*July 28 Celestial Fireworks Meteor Showers

August 25 McCloud New Moon

August 25-27 – MUTS

### \*September 1 Autumns Finest Double Stars

September 23 McCloud New Moon

### \*September 29 To Be Determined

\* Denotes NAG meetings

All NAG sessions are taught by experienced IAS members. If weather conditions permit, observing through IAS members telescopes and binoculars will be available for attendees following the meeting. As this is first quarter time the moon will set early and members can do

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deep sky observing the remainder of the night.

*John Switzer*

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### **It is time for MUTS!!**

It is time for our annual MUTS (McCloud Under the Stars event. The date has been set for August 25-27 beginning with the McCloud New Moon event. There will be opportunities for solar observing on Saturday and two nights of observing. The park will allow us to camp in a designated area from Friday night to Sunday noon. Please note that there is limited space and will be designated for tents and small campers. There is low clearance and grass entrance that will eliminate large RVs. Park rules will govern; so no campfires will be allowed.

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### **Eyepieces**

Do you have an old eyepiece laying around that you never use anymore? The Society is in need of eyepieces for our loaner scopes. If you have something to donate, please contact John Molt [1stargazer@indy.rr.com](mailto:1stargazer@indy.rr.com).

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### **Logo Clothing**

We still have IAS logo hats, t shirts, polo shirts, sweat shirts and insulated jackets. Please contact Gerald Venne at the next general meeting.

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### **Field Trip to Morgan/Monroe**

Dr. Caty Pilachowski and Dr. Kent Honeycutt have invited the IAS to tour their observatory facility in Morgan Monroe State Forest on October 14<sup>th</sup> as a continuation of Caty's program **FHiRE**. Plans are for us to meet at the Link Observatory for the annual Hog Roast at 5:00 PM and then caravan to the observatory site for the tour and hopefully to see the telescopes in operation.

There will be no general meeting speaker for October. If you like you can stay at Link and observe if the weather permits.

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### **Do you want to get started in imaging?**

A former member of our club has donated a CCD camera to the IAS. It is not well suited for use in conjunction with the Link telescope and the Board wants to sell it and use the proceeds for a more suitable system to be used at Link. [We are offering the camera to our members for \\$800](#) prior to listing it on Astromart at a higher price. It is a Starlight Xpress MX7C One Shot color CCD camera with Star 2000 guiding adapter and software. Also includes AstroArt 2.0, a Parallel Cable booster, ST4 type guider cable, camera control software, and A/C power adapter. It is **not** the current USB version. Used a few times and the owner stated it worked fine. The following websites will provide you with more information:

<http://www.starlight-xpress.co.uk/products.htm>

<http://www.msb-astroart.com/>

Contact Brian Murphy 636-4514 weekdays if you are interested.

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## Observer's Corner

### Constellation Highlight: Serpens Caput and Libra

-- Sandy Wolford

When searching out interesting deep sky objects, most directions for locating them will refer to a position relative to an “easily identifiable” bright star or group of stars. Of course, one person’s idea of “easily identifiable” may not be as easy as your own! The first item anyone interested in astronomy should buy or borrow is a planisphere which gives a wide view of the entire night sky and identifies constellations as well as a star atlas which shows the major stars to at least magnitude 6 along with brighter deep sky objects. You will probably acquire more detailed atlases or computer charting programs later, but your first “beginner” atlases are still handy to keep around. My personal favorites are David Levy’s Guide to the Stars planisphere (dew proof and easy to read), Orion’s Deep Map 600 (plots the best objects on a plastic folding chart), Tirion’s Bright Star Atlas 2000 (an inexpensive yet comprehensive mag 6 atlas whose 8 x 11 format fits easily into my notebook). These “road maps” to the sky will help you learn the major constellations and, in turn, allow you to go on and identify the fainter constellations and stars which will be your signposts to finding interesting objects in the night sky.

In practice, I’ve found it easier to concentrate on just a few constellations at a time when doing deep sky searches. Much of the first night is often spent reacquainting myself with the major stars in a constellation and from there locating the less bright stars shown on the charts. When I wander the area later or on a second night, the star patterns are much more familiar and locating objects goes much faster. Even after much experience observing, this “constellation review” proves very helpful when navigating through the skies.

The two constellations highlighted this month are each fun to explore and are well placed for observing in late June and July. Although overshadowed by the Milky Way’s riches in nearby Scorpius and Sagittarius, Libra and Serpens Caput both hold many small galaxies and each features a unique globular cluster as well as some easy double stars.

Occupying the dim space between Virgo and Scorpius, Libra, “the scale”, has the distinction of being the only of the 12 traditional zodiac constellations NOT depicting a living creature. Libra is also a relatively recent addition to the zodiac dating from approximately the reign of Julius Caesar. In his *Almagest* of 150 AD, Ptolemy assigned its stars to the claws of Scorpius. This origin is evident today in the names of Libra’s two brightest stars, Zuben Elschamali and Zuben Elgenubi, which are Arabic for “north claw” and “south claw”, respectively -- a lot of fun to say but difficult to work into normal conversation. Libra also illustrates that the alpha star in a constellation is NOT always brighter than the beta star. The major stars of Libra form a large diamond shape just west of the head of the scorpion. Clockwise from the top and circumstantially in order of brightness, they are:  $\beta$  (beta) Lib -- the “northern claw”,  $\alpha$  (alpha) Lib -- the “southern claw” forming the corner to the west,  $\sigma$  (sigma) Lib to the south and  $\gamma$  (gamma) Lib at the corner to the east. Alpha (AKA 8 and 9) Lib is a wide double star easily separated into its two components with 8 x 50 binoculars.

Lying above Libra, Serpens has the unique characteristic of being the only constellation broken into two separate sections. Separated by the constellation Ophiuchus (the “serpent bearer”, of course), the western half forms the head of the snake (Serpens Caput) while the eastern half forms the tail of the snake (Serpens Cauda). To locate Serpens Caput, I find it easiest to start at the

three star line-up forming the head of Scorpius. Follow the line formed by these upward to land on the easy naked eye double of  $\delta$  (delta) and  $\epsilon$  (epsilon) Oph. This pair forms the SW corner of Ophiuchus but also marks the SE boundary of Serpens Caput. From that point, with the aid of a simple star map, you can trace out a meandering line of stars heading generally north which ends in a triangle of fairly bright mag 4 stars –  $\beta$  (beta),  $\gamma$  (gamma), and  $\kappa$  (kappa) --- forming the serpent's head. Delta (13) Ser, midway along the serpent's front half, about  $6^\circ$  NW of bright  $\alpha$  (alpha) Ser, is a pretty double star even for small telescopes. Use at least 100x to separate its components (I see them as yellowish and bluish).

Look about  $10^\circ$  N of  $\beta$  Lib (about 2 field-of-view "hops" in most binoculars or magnifying finder scopes) to find the premier deep sky object in this area: NGC 5904, AKA Messier 5. Older descriptions place this cluster in Libra but it fell into Serpens when the official I.A.U. constellation boundaries were adopted in 1930. 13 billion years old and containing over half a million suns, M5 is a large bright globular cluster easily visible in my 7x50 binoculars as a small "fuzz ball" in the sky. Similar to the famous globular M13 in Hercules, a 3-inch telescope shows a bright glowing core wrapped inside a fainter halo of nebulosity. My 8-in resolves the stars in the outer half with a granular texture across the middle; larger telescopes under dark skies will resolve stars sprinkled completely across the face of M5. A 5th mag star (5 Ser) lies just off the SW edge of M5. At 100x, this reveals itself as a nice double star with a tiny 10th mag secondary tucked 11" away to the NE.

Libra's most unusual object, NGC 5897, is also a globular cluster but difficult to observe because of its low surface brightness. Look for it lying  $1^\circ$  SE of  $\iota$  (iota) Lib in the middle of the diamond. Although NGC 5897 has a total magnitude of 8.6, this light is spread out over an area almost half the size of the full moon, making it difficult for telescopes smaller than 6 inches. In my 8-in SCT, it appears as a large, very dim, irregularly round diffuse glow. Even though NGC 5897 is not one of the most impressive globulars, the challenge here lies in simply finding it.

The brightest galaxy in the area is NGC 5921 located in Serpens approximately  $3^\circ$  NNE of M5. In a telescope of at least 6 inches, NGC 5921 appears as a small roundish glow with a brighter center. NGC 6118, another medium bright galaxy in Serpens, can be found  $2^\circ$  NE of  $\delta$  (delta) Oph, about  $\frac{1}{4}^\circ$  SW of an unnamed mag 6 star. My 8-in shows it to be a large, faint, irregularly round galaxy with no major central condensation noted. A faint dusting of foreground stars makes it almost resemble a globular cluster.

Libra contains many small groups of galaxies but most of them are of magnitude 12 or fainter and are difficult for telescopes of less than 10 inches. Those of you with larger telescopes might enjoy the challenge of searching for the following on a moonless night from a dark sky site. NGC 5812 is a tiny round galaxy located  $1^\circ$  N of  $\delta$  (delta) Lib. NGC 5861 is a slightly elongated galaxy found just over  $2^\circ$  SW of  $\beta$  (beta) Lib. NGC 5878 is a faint edge-on galaxy located  $2^\circ$  NW of  $\omicron$  (omicron) Lib.

Serpens also has its share of faint galaxies. Although requiring dark skies and at least an 8-inch telescope, NGC 6070 is a nice edge-on galaxy found 3 degrees W of  $\sigma$  (sigma) Ser. NGC 5970 is a faint oval gal located midway between  $\chi$  (chi) Ser and  $\delta$  (delta) Ser.

[Note for those of you working on various observing projects: NGC 5904 is on the Messier list and the AL Urban Club list. NGC 5897 and 6118 are on the Herschel 400 list. Delta Ser and alpha Lib are on the AL Double Star Club list. NGC 5812, 5861, 5878, 5970, and 6070 are on the AL Herschel II Club list.]

<u>OBJECT</u>	<u>CON</u>	<u>TYP</u>	<u>RA</u>	<u>DEC</u>	<u>MAG</u>	<u>SIZE/SEP</u>
NGC 5812	Lib	Gal	15h 01m	-07° 27'	12.2	2.1' x 1.8'
NGC 5861	Lib	Gal	15h 19m	-11° 19'	12.3	3.0' x 1.6'
NGC 5878	Lib	Gal	15h 14m	-14° 16'	12.4	3.5' x 1.4'
Alpha (8,9)	Lib	DS	14h 51m	-16° 02'	2.8/5.2	31"
NGC 5897	Lib	GC	15h 17m	-21° 01'	8.9	12.6'
5	Ser	DS	15h 19m	-01° 46'	5.1/10.1	11.3"
NGC 5904 (M5)	Ser	GC	15h 19m	-02° 05'	5.8	17.4'
NGC 5921	Ser	Gal	15h 22m	05° 04'	10.8	4.9' x 4.2'
Delta (13)	Ser	DS	15h 35m	10° 32'	4.2/5.2	4.4"
NGC 5970	Ser	Gal	15h 38m	12° 11'	12.2	2.9' x 1.9'
NGC 6070	Ser	Gal	16h 10m	00° 43'	12.5	2.5' x 1.3'
NGC 6118	Ser	Gal	16h 22m	-02° 17'	12.3	4.7' x 2.3'

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## Communication

I have been looking at the way that we communicate within the Society. As of July, we had 151 members. Of those, 138 (91%) have e-mail. Of those that have email, 110 (80%) are registered to be on the list serve. This is our main method of communicating. All announcements and updates are done by the list serve. This is a system that is used only for IAS business, is strictly regulated and does not generate a center for spam. If you have access to email I urge you to contact Gary Schoppenhorst [schoppy@mw.net](mailto:schoppy@mw.net) to be added to the List server.

*The Pres*

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## Mentor Program

The Board has been studying retention of members. Of the 50 or so members that do not renew their membership each year over half are first year members. So we want to do some things to reduce that exodus. 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@sbcglobal.net](mailto:astronomynut@sbcglobal.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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## Upcoming Star Parties and Registrations

**Nebraska Star Party** North Central Nebraska Jul 23-28 - 950 miles 18 hour drive  
<http://www.nebraskastarparty.org/>

**McCloud Under The Stars (MUTS)** August 25-27

**Black Forest Star Party PA** Aug 25-27 600 miles 11 hour drive <http://www.bfsp.org/starparty/>



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**Indiana Family Star Party** – Camp Cullum near Frankfort August 18-20 – 50 miles  
<http://jmmahony.home.insightbb.com/pgo/starparty/>

**Okie-Tex Star Party** Western Oklahoma September 16th - September 24th , 2006  
<http://www.okie-tex.com>

**Illinois Dark Skies** IL Sep 21-23 225 miles 5 hour drive <http://www.sas-sky.org/main.htm>

**Astrofest** Sept 21-24 Kankakee , IL 4 hour drive <http://www.chicagoastro.org/> In the past this has been a premier party with lots of vendors. Lately they have had some organizational problems and last year many vendors did not come.

**Prairie Skies Star Party** Kankakee, IL Sep 28-30 175 miles 4 hour drive  
<http://www.prairieskies.org/>

**Twin Lakes Star Party** KY Oct 14-21 225 miles 5 hour drive <http://www.wkaa.net/>

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

Thanks to Mike Wolford for this information.

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## **Indiana Family Star Party**

The Indiana Family Star Party is scheduled for August 18-20 beginning at 2 PM on the 18<sup>th</sup>. This is a fun party in which we partner with our neighbors the WVAS and hold a star party at Camp Cullum near Frankfort. The IAS has agreed to run the registration booth for the event again this year. We have done this in the past and really helps the WVAS out. Again we need volunteers. If you would like to help, contact Gerald Venne, 1 317 826-2680, [gvenne@iquest.net](mailto:gvenne@iquest.net).

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## **Local School Events and Star Parties**

Gerald Venne is our Public Program Chairman. 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.

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

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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.

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**To place an ad contact:**

Bulletin Editor

Jeff Patterson

1780 S. Morgantown Rd.

Greenwood, IN 46143

(317) 882-8055

E-Mail: KB9SRB@Hotmail.com

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## **Loaner Equipment Program**

Did you know you can 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 317-844-1799)

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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 in the "Members Only" section of the site and is accessible only by IAS members. Make sure we have your correct e-mail and you will have access for late updates to events and functions.

Note: The list server is for use of Society business. It can only be used according to the rules as outlined previously. Members abusing the service will be eliminated from the service.

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## **Board Meeting – July 13, 2006 - 7:00 PM**

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 main entrance to the building is to the right of Starbucks, but it will be locked. To get into the building, walk around the building to the left as you are facing Starbucks. You will cross Starbucks outdoor patio seating area and you will come to the double door entry into the building (this is the south building façade). These doors will be unlocked. Enter the lobby and ride the elevator (to your right) 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

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## **Goethe Link Observatory Observatory Address**



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

**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.*

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

General Meeting – July 8  
Observer's Meeting – July 22  
Link Training – July 22  
New Moon – July 22

### **McCloud Activities for June/July:**

Beginners Astronomy - June 30 and July 28  
Public observing - July 28  
New Moon – July 21

### **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 Prairie Grass Observatories for observing call Hoppe at 1-765-296-2753.

For those interested in going to McCloud to observe, please call Paul Miner at the park office 765 676 5490 before 5PM on the day you want to go out. As a last resort you can reach him on his cell phone at 317-371-8222 before 5 pm.

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### **Bulletin Stats**

All personal and professional opinions presented herein do not, in any way, represent the opinion or policy of JPL or NASA.

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### **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) 882-8055

[KB9SRB@hotmail.com](mailto:KB9SRB@hotmail.com)

### **Membership information**

Contact any IAS officer or the Treasurer

John Shepherd (317) 862-3442

### **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) 882-8055

Vice-President and Program Director: Brian Murphy (317) 841-8511

Secretary: Betsy Brown 1-317-872-4050

Treasurer: John Shepherd (317) 862-3442

### **Board of Directors**

Gary Schoppenhorst (2006)

Gerald Venne (2006)

Thad Hatchett (2007)

Doug Brown (2007)

Bill Conner (2007)

Marion Hakes (2008)

John Molt (2008)

### **Public Event Chairman**

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

### **Library Committee Chairman**

Ed Otto [ecotto1@comcast.net](mailto:ecotto1@comcast.net)

### July Calendar, 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					<b>30</b> NAG McCloud Park	<b>1</b>
2	3  <b>First Qtr Moon</b>	4 Independence Day	5	6	7	8  General Meeting Link
9	10  <b>Full Moon</b>	11	12	13  Board Meeting	14	<b>15</b>
16	17  <b>Last Qtr Moon</b>	18	19	<b>20</b>	<b>21</b> New Moon Meeting at McCloud	<b>22</b> New Moon Meeting at Link Observers Meeting at Link
<b>23</b>	<b>24</b>  New Moon	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b> NAG at McCloud	<b>29</b>
<b>30</b>	<b>31</b>					

## 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
- 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.

Annual Regular Membership (\$25.00)	
Annual Student Membership (\$10.00)	

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Astronomy Magazine Renewal (\$34.00)	
Sky and Telescope Magazine (\$33.00)	
Total Enclosed	

Make checks payable to: The Indiana Astronomical Society, Inc

Please complete Member Profile and include with the application

Mail Application to: John Shepherd, Treasurer

4609 Callahan St.

Indianapolis, IN 46239

### Member Profile

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

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

Education: \_\_\_\_\_

Occupation: \_\_\_\_\_

How many years associated with Astronomy? \_\_\_\_\_

Special astronomical interests or projects: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

-

Equipment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What can the Society do for you? \_\_\_\_\_

\_\_\_\_\_

What can you do for the Society? \_\_\_\_\_

\_\_\_\_\_

Note: Profile information is not a requirement for membership to the Society. This information is entered into the IAS database and is not given nor sold for solicitation purposes. It does provide for a brief welcoming article for new members and may be used by the society to match people with similar interests.