

July, 2005
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The Bulletin

**The July General Meeting, July 9, 7:00 PM Goethe Link
Observatory**

"Progress toward 30-meters, and Beyond"

Dr. Caty Pilachowski

The decade of the 1990's saw the construction of more than a dozen telescopes that dwarf the 200" behemoth at Palomar, telescopes with apertures more than twice its size. With these new telescopes, astronomers have discovered the acceleration of the Universe and have revealed the presence of more than 150 new planets circling other stars. These new instruments have also given us a peek into stellar nurseries where stars - and planets - are born. Now astronomers are planning even larger telescopes that will allow us to see almost to the beginning of time and space, and to witness the formation of the first stars and galaxies after the Big Bang. These telescopes, with apertures of 20 or 30 meters, will challenge not only our technology, but our imaginations.

Professor Catherine A. Pilachowski holds the Daniel Kirkwood Chair in Astronomy at Indiana University Bloomington and incoming Chair of the Astronomy Department. Prior to coming to Indiana University in 2001, she served as a member of the tenured scientific staff at the National Optical Astronomy Observatory in Tucson, Arizona, for 22 years. While at NOAO, she served as Project Scientist for the design and construction of the 3.5-meter WIYN Telescope, a telescope at which the IUB Astronomy Department owns a 17% share. Pilachowski received a B.S. in Physics from Harvey Mudd College in California, and a M.S. and Ph.D. from the University of Hawaii, where she observed at the Mauna Kea Observatory on the Big Island of Hawaii. She investigates the evolution of stars and the chemical history of the Milky Way Galaxy from studies of chemical composition of stars and star clusters. In addition to her astronomical research, Pilachowski has been active in the areas of astronomical instrumentation, large telescope design and construction, and electronic publications. She has served on numerous national and international boards and committees. She recently served as President of the American Astronomical Society, and has served more than 20 years as a Lecturer in the Society's popular Harlow Shapley Public Lecture Program.

Patoka Lake Star Party July 2 at the Beach

This is great program and a good dark site for observing afterwards. There is no camping at the site but I have slept in the truck with no problems from the reservoir folks. If you tell them you are coming for the party and participating there is no fee. We will have 3 programs to present at the Newton-Stewart Nature center starting at 1pm and running through 4pm. We plan to do a Constellations tour after the skies get dark. If you want to help please bring your green lasers. Observing on the beach will begin around 8 or so. Many of us go eat lunch at one of the restaurants in town after the afternoon programs. If you want to join us, meet us at the nature center around 3:30-3:45. We will also do solar observing at the nature center during the afternoon programs. I hope to see you all there.

Apollo Rendevous Report

Marion Hakes reports that Apollo was very interesting. Both Christopher and he won door prizes at Apollo. Christopher has a camping flashlight with two free tickets back to the museum, and Marion won a Starry Night Pro Plus

Cassiopeia A: Dead but not quiet

By Michael Schirber, SPACE.com

An echo has been detected around a star that died 325 years ago. The reverberation-emanating out in light, not sound waves-implies that the stellar remnant let out a burst of energy some 50 years ago.

The dead star in question is Cassiopeia A, whose explosion or supernova was witnessed by Tycho Brahe in 1572. Situated 10,000 light years away, astronomers believe a dense neutron star is all that is left of the original star.

This neutron star remnant was thought to be resting in peace, that is, until this recent discovery of a light echo in infrared images taken by NASA's Spitzer Space Telescope.

"We had thought the stellar remains inside Cassiopeia A were just fading away," said Oliver Krause of the University of Arizona. "Spitzer came along and showed us this exploded star, one of the most intensively studied objects in the sky, is still undergoing death throes before heading to its final grave."

The evidence for this postmortem activity first came in a Spitzer test image that showed glowing dust features around the dead star. Later observations found that the tangled features had moved outward-apparently at the speed of light.

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In actuality, the dust hadn't moved, but instead the light waves that were exciting the dust had spread out further. This light echo is the largest one ever observed and the first to be seen around a long-dead star.

By tracing the echo's light waves backwards, the researchers inferred that some sort of bang occurred on the neutron star back in 1953.

This recent activity may mean that Cassiopeia A is an exotic type of neutron star, called a magnetar. These strange objects have surfaces that rupture and quake, letting loose tremendous amounts of high-energy gamma rays.

"Magnetars are very rare and hard to study, especially if they are no longer associated with their place of origin," said George Rieke of the University of Arizona. "If we have indeed uncovered one, then it will be just about the only one for which we know what kind of star it came from and when."

Further observations with Spitzer may reveal more about Cassiopeia A's life after death. Rieke and Krause were two of the authors on a paper describing the observations in this week's issue of the journal *Science*.

"We had no idea that Spitzer would ever see light echoes," Rieke said. "Sometimes you just trip over the biggest discoveries."

New Astronomer's Group McCloud Nature Center 7:00 pm – July 8

THE NAG MEETING WILL BE HELD, RAIN OR SHINE.

The next monthly meeting of the IAS New Astronomers Group for 2005 will be held on July 8 at McCloud Nature Center starting at 7:00 pm, just prior to the McCloud Friday Night Observing session.

Topics for this month:

- What's up in the June evening sky
- The Lunar 100 – observing our closest neighbor
- 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.

By John Switzer

McCloud Public Night and Observing Session – July 8

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The McCloud Public night and observing session will be held at McCloud Nature Park beginning about 8PM. This is a fun monthly event and is our New Moon Meeting as well. Come on out and show others "our stars". After the public leaves, you can observe the rest of the night. This event will be canceled in case of inclement weather.

Board Votes to Increase Family Membership Dues

.After several years of spending more than we receive, the Board voted to increase family membership dues to \$25 beginning July 1, 2005. There may be some anticipated expenses to improve our situation at McCloud and we would like to have funds to make improvements at Link as well as possibly purchasing some more "loaner" scopes.. We have done an evaluation of membership costs at other societies in the area and we were the lowest and still are below the average of \$32 for a family membership. If you have any questions please contact me and I will explain in more detail.

The Pres

John Gibbs Passes

We have received word that long time member John Gibbs has passed away. We have no further information concerning his death. Those of us who used to frequent the Link virtually every weekend remember John as the quiet guy who would sit on the old couch on the observing deck and occasionally get up to see an object.

Our prayers and concerns go out to his relatives.

The Pres

Observer's Corner

I thought you might be interested in this observing report. Gary Meyers is a friend of mine who lives in Arizona. He observes using a Starsplitter 30" Dobsonian using a ServoCat guidance system. It shows what one can do with good sky and big equipment.

"Had the opportunity to open up last night. It was a pretty good night. Conditions early on were good for seeing but later deteriorated. Used a 9mm @ 377x most of the night (13 arcmin field) Objects consistently placed by the CAT using Megastar and Astroplanner. Transparency seemed pretty good all night. Closed down at about 1. Looked at 27 objects - picked off 14 Arp galaxies some nice - a good share not much to look at. All with low SB (I guess this is one thing that makes them an Arp). They are big and dim - defying their listed mag by the low SB. Then got one out of 2 Abell PN's. 46 was seen, 42 maybe but if so it was really tough. Anyone have this one logged? HGC84 (all 6 members 3 of which were 17.2), caught PAL7 but could not pull anything out for 15 or 10. Ended the night with a super view of 17 (one of my all time favorites as it is SO bright, big, and detailed), M16 (pillars easily seen), 20, 8, and finally B86 (great object - next to N6520). Was up to 581x on Hickson 84!"

g.
Desert Coyote Observatory

Upcoming Star Parties and Registrations

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Patoka Lake Star Gaze on the Beach - July 2nd. Right now the schedule will be similar to last year. We will have 3 programs to present at the Newton-Stewart Nature center starting at 1pm and running through 4pm. We plan to do a Constellations tour after the skies get dark. If you want to help please bring your green lasers. Observing on the beach will begin around 8 or so. Many of us go eat lunch at one of the restaurants in town after the afternoon programs. If you want to join us, meet us at the nature center around 3:30-3:45. We will also do solar observing at the nature center during the afternoon programs. I hope to see you all there.

Sirius Stargazing Party - July 8 – 11 Wolverine, Michigan. If you have any members who may be interested in coming you can visit the website at www.siriusstargazers.com

Nebraska Star Party - The 12th Annual Nebraska Star Party will be held the week of July 31st to August 5th, 2005 at Merritt Reservoir, 27 miles south of Valentine, Nebraska. This is an excellent dark sky party. It is approximately 900 miles from Indianapolis. <http://www.nebraskastarparty.org/>. Bill Conner and I will be going to this one. We would enjoy the company.

Indiana Family Star Party - August 5-7 Held at Prairie Grass Observatories

Astrofest - September 8-11 – Kankakee, Il. This is a good four day party and has a great flea market. It is located at a new location (new last year) called Vana's Farms. It is about the same distance out of Kankakee as the old site but in a different direction. Registrations are due before August so register now.

McCloud Under the Skies - September 2-5 McCloud Nature Preserve This is the IAS' own party and is open to the McCloud public as well.

Prairie Skies Star Party - September 29 through October 02, 2005. Kankakee, Illinois
www.prairieskies.org

Twin Lakes Star Party – October 1-9, 2005 Pennyryle State Park, Kentucky,
<http://www.wkaa.net/article.php?articleid=56&cat=SE&ret=index.php> This is an outstanding dark site as well.

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

Local School Events and Star Parties

Gerald Venne has accepted the position of Public Program Chairman. He will be responsible for coordinating Public Events for the IAS. Thanks Gerald.

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

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

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publish non-commercial ads at no charge. The ad will stay in the Bulletin for 4 months and then 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) 882-8055
E-Mail: JMPSR@Iquest.net

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. Contact John Molt at Istar-gazer@earthlink.net.

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.

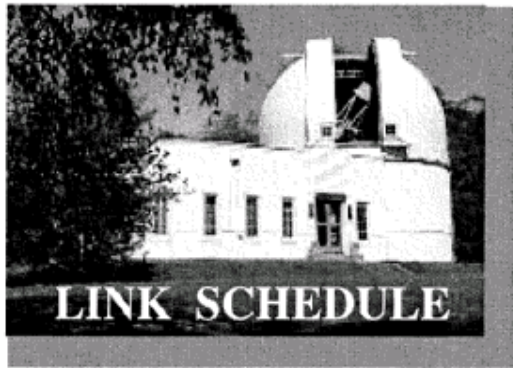
Note: The list server is for use of Society business. It can only be used according to the rules as outlined previously. Members abusing the service will be eliminated from the service.

July Board Meeting – July 14, 2005 - 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 assistance, please contact Brian P. Murphy, IAS Vice-President on his cell phone 716-8124.

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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.*

Designated Link Observatory Key Holders

Jeff Patterson: 882-8055
Tom Borlik: 849-4113
Gary Schoppenhorst: 297-1405

Brian Murphy: 841-8511
Dave Williams: 769-7430
Gerald Venne: 826-2680

Link Activities for July:

Observing sessions - July 9 and July 23
Observer's Meeting – July 23
Link Training – July 23

General Meeting July 9

McCloud Activities for July:

New Moon Group – July 8
New Astronomer's Group (NAG) – July 8

Bulletin Stats

Accessing the Bulletin

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

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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

JMPSR@Iquest.net

Membership information

Contact any IAS officer or the membership chairman

Larry Phillips

9413 South PR Black Hawk Hills Dr.

Edinburgh, In 46124

llpastro@lightbound.com

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: Larry Phillips (317) 729-2447

Treasurer: John Shepherd (317) 862-3442

Board of Directors

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Gerald Venne (2006)

Thad Hatchett (2007)

Doug Brown (2007)

Bill Conner (2007)

Marion Hakes (2005)

John Molt (2005)

Public Event Chairman

Gerald Venne gvenne@iquest.net 1 317 826-2680

Library Committee Chairman

Ed Otto ecottol@comcast.net

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July Calendar, 2005						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 Patoka Lake Star Party
3	4	5	6 New Moon	7	8 McCloud> New Moon Event NAG	9 General Meeting General Observing
10	11	12	13	14 Board Meeting 7:00 First Qtr Moon	15	16
17	18	19	20	21 Full Moon	22	23 General Observing Observer's Mtg Link Training
24	25	26	27 Last Qtr Moon	28	29	30
31						

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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)	
Astronomy Magazine Renewal (\$29.00)	
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

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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.