

Monthly Publication of the Indiana Astronomical Society

June, 2004
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The Bulletin

June General Meeting - June 12 7:00PM at the Goethe Link Observatory

Comets around Other Stars Dr. Caty Pilachowski

abstract: Comets are a familiar sight in our own Solar System, but comets have been detected around other stars, as well. The detection and study of comets in extra-solar planetary systems provide insight into the formation of planets and the early evolution of solar systems. How are these comets detected and what can we learn about them? Observations of stars in young clusters at WIYN and at the Cerro Tololo Observatory may provide some answers.

Come and bring your friends as well. Caty is an excellent and enjoyable speaker.

Professor Catherine A. Pilachowski investigates the evolution of stars and the chemical history of the Milky Way Galaxy from studies of chemical composition of stars and star clusters. As stars evolve, chemical elements are synthesized by nuclear processes in the stars' interiors. These newly created elements appear in the stars' outer layers, where we can observe them. Changes in the surface composition of stars help us to understand what's going on inside the star, and to understand the process of stellar evolution. Professor Pilachowski also uses her data on the compositions of stars to explore the chemical history of the Milky Way Galaxy. Since its formation 14 billion years ago, the Galaxy has been gradually enriched in the abundance of chemical elements as these elements have been produced in stars. Studies of the abundances of the chemical elements in the oldest stars can reveal the nature of the first generation of stars formed in the Galaxy, and the compositions of old stars can also tell us about the history of the Galaxy.

Professor Pilachowski holds the Kirkwood Chair in Astronomy at Indiana University Bloomington. She served for more than 20 years on the scientific staff of the National Optical Astronomy

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Observatory in Tucson. 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.

In addition to her astronomical research, Professor Pilachowski has been active in the areas of light pollution, astronomical instrumentation, large telescope design and construction, and electronic publications. She has served on numerous national and international boards and committees, and received the Arthur Adel Award for Scientific Achievement from Northern Arizona University in 1997. She has recently been elected to serve as the 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.

Since coming to Bloomington last year, Professor Pilachowski has been actively developing astronomy courses. During the spring 2002 semester, graduate students in her Stellar Atmospheres course learned about the physical processes that affect the light from stars, and about how to interpret the complex spectra of stars to measure and understand the properties of the stars themselves.

During the Fall 2004 semester she will be teaching an innovative freshman seminar on "New Stars in Galaxy Andromeda!" Students will work with digital images of the Andromeda Galaxy obtained with a 36" telescope at Kitt Peak in Arizona to discover novae, white dwarf stars whose surfaces ignite in a nuclear explosion, in a nearby galaxy very much like our own Milky Way. The brightness of the novae will be measured from observational data as the new stars gradually fade back to invisibility. Participating in original astronomical research, students will formulate plans for their measurements and analysis, carry out their research, and write up and present their results to their peers. Students may also have the opportunity to participate in taking the observations via remote observing on the Arizona telescope. The course will include an in-depth study of the evolution of stars to allow students to understand and interpret their results. Professor Pilachowski has received an Active Learning Grant from Instructional Support Services in the Office of Academic Affairs to develop materials for the course.

Professor Pilachowski received a B.S. in Physics from Harvey Mudd College in California, and her M.S. and Ph.D. from the University of Hawaii, where she observed at the Mauna Kea Observatory on the Big Island of Hawaii.

Venus Transits the Sun

Article by John May

The Transit of Venus for IAS Members

June 8th, 2004 will host a celestial event of historical scientific importance. A planet will silhouette itself against the face of the Sun. Known as the Venus transit, this event last occurred in 1882, so no one alive today has yet ever witnessed this occurrence. Through parallax measurements, 19th Century astronomers were confident to define accurate distances to all the other known planets of the Solar System. Sadly, the Venus transit of 1882 disappointed astronomers because of the "black drop" effect. Being unable to obtain accurate data, calculating distances would continue to remain a challenge. But a hundred years earlier, observers of the June 5th, 1761 transit saw for the first time evidence that Venus has an atmosphere. This year while watching the 2004 transit, be sure to observe a white ring or halo surrounding Venus indicating its atmospheric presence; and wait for the

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“black drop” effect when the planet approaches the limb of the Sun. The entire 2004 event will take about five hours. Our location will see only an hour and eight minutes worth.

Those who have the Observer’s Handbook 2004, published by The Royal Astronomical Society of Canada, may want to check out page 188 for further references.

The Sun will rise at 5:17 in the morning of June 8th and two minutes later, Venus will rise into view already on the Sun’s surface at 5:19 a.m., riding as though hitch hiking at the southern portion of the Sun. Contact III will begin at 6:06 a.m., give or take 7 minutes or so. Contact IV, the last contact, will occur at 6:25 a.m. Be sure to observe both Contacts III and IV since they will reveal the “black drop” effect. The effect happens when the leading edge of Venus starts to enter the inside of the Sun’s limb and again when the planet’s trailing edge egresses the Sun’s outside limb, ending the last contact until 2012. It is necessary to be mindful of “solar viewing safety” regarding June’s observation. During the early morning hours, the Earth’s atmosphere will be fresh, clear and very steady. If possible you may use the commercially manufactured Sunspotter Telescope, do your own Sun projection using a pinhole in a shoe box or viewing through the inexpensive solar glasses – like the ones you would use to observe solar eclipses. Highly recommended is the solar filter placed over the objective lens of a refractor telescope or over the top opening where light begins to enter the reflector telescope. It is very important that although it is a sunrise event and close to the horizon make sure that an appropriate solar filter is in place. Treat the event as if it were a Solar Eclipse. Eyes can be damaged if proper safety procedures are ignored. Be sure to research your location when finding a clear eastern horizon. The azimuth will be 60 degrees from due North to East – between NE and ENE. Observation on June 8th will definitely be a challenge especially for telescopes that require polar alignment for accurate tracking and astrophotography. Whatever site you pre-select, make sure that arrival time is prior to the astronomical twilight, which begins at about 4:45 a.m. Get setup, align your ‘scope and wait patiently with a cup of coffee. Look for Aldebaran, the red star located in the Zodiacal constellation of Taurus, the Bull, because when it rises above the eastern horizon (ENE / EAST), it will announce the soon arriving Sun. The visual magnitude of this star is -0.8. For the Latitude of plus 39 degrees, the Venus transit is already in progress, start looking for that halo indicating Venus’s atmospheric presence. Although the planet is backlit by the Sun, the halo should continue to be visible in spite of any glare. Then as the planet approaches Contact III, prepare to capture or observe the “black drop” effect. This drop at the edge is not clean, but bleeds unevenly causing the edge collision to be distorted. As an observing example, place your index finger as close to your thumb without touching and it will visually appear that there is contact, when in actuality there is none, this is the simple explanation of the effect you will be seeing. This is what took the 19th Century astronomers by complete surprise as the planet began (ingress) and ended (egress) its transit. Today, there is no scientific significance other than just to witness a rare transit of Venus. The next occurrence will be June 5th and 6th, 2012. Only the ingress will be visible in North America with Venus entering the northern part of the Sun. The 2012 transit will last over six hours instead of the five hours in 2004. After that, the next transit will be December 11th, 2117 and December 8th, 2125. Frame your pictures and record those observations for your heirs.

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There will be two sites that the IAS will use to observe this event:

North

Northview Christian Life Church
5535 E. 131st St.
Carmel, IN 46033
846-2884

It is located on the south side of 131st St. - 1.7 miles east of Keystone Ave (Highway 431). 131st St. is about 4 miles north of I-465.

The church is at the SW corner 131st St & Hazel Dell Parkway and overlooks the White River Valley. The only entrance is on 131st St.

We will setup on the lawn NE of the main building - there is a paved drive leading to the area and there are lights over the drive.

South:

The Columbus Local Group has moved the intended observing site for the transit of Venus. Petersville Park, our normal observing site, proves risky for the lower portion of the sun where the actual transit will take place (tree line). We will be meeting to observe instead North of the Columbus Municipal Airport. Directions are, from 65 South take the first Columbus exit at Taylorsville on 31 South. At the second stoplight turn left. Head due East until you cross abridge. The third road to the right will be 100 E. Turn right. You'll be heading directly at the airfield and a small cemetery. We'll be lined up along this road at the South end.

All are welcome. There are better observing sites out there and I encourage you to seek one out early. If, however, you wish to come join us, please do. Allow 40 minutes from 465 on the South side of Indy.

Come join us and see a real wonder. If you don not have a solar filter we will share.

Member Brochure Cover Contest

The IAS has in the past provided a starter kit for its new members. Included in this kit was a brochure introducing the Society and provided a basic outline on astronomy. Over the years since 1988, the information describing the Society has changed and the much needed update seemed necessary. The Society wants to get back into the practice of distributing the "Starter Kit" to new members. Therefore, IAS astronomers and their family members are invited to participate and create an illustration to replace the old "new member brochure" cover, as shown with this article. A suggested theme of the cover illustration could be about Hoosier Astronomy, but this particular theme is not a requirement. Obviously the theme should be about astronomy. Members can submit more than one entry. To prevent any biased selection, outside judges will be selected from the art community and their names will be announced later. Keep your artwork as creative as possible - something different is needed.

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Please submit your original entries to: IAS COVER CONTEST, 3820 E. WILSON DRIVE, MOORESVILLE, IN 46158

Questions and other inquiries please contact: J. Philip May at 317-831-8387 or e-mail: motordrive@msn.com

Contest Rules:

- 1. The brochure with its cover will be a 8.5" x 11" vertical publication. The illustration should be proportional in order to take up the entire vertical space.**
- 2. It would be best to create a black/white line drawing with no middle tones.**
- 3. The IAS logo can be inserted into the illustration as long as it is not larger than 1/4 of the entire vertical cover page. The logo is not a requirement. What is a requirement is that you do include the entire wording: The Indiana Astronomical Society, Inc. printed on the cover somewhere and is readable.**
- 4. The illustration will be credited to the artist each time it is published. Your name can be included within the illustration to guarantee your creditation. Please do not copyright your artwork as the material will be used for other IAS purposes, such as: flyers, announcements, tri-folds and the monthly newsletter. These are a few of the possible samples of continuing usage. The IAS will copyright the entire publication in order to protect the text and artwork.**
- 5. The size of the final image should be submitted no smaller than on a 5" x 7" format and no larger than on a 11" x 14" format - keeping in mind that the final image size will be printed on a full 8.5" x 11" format.**
- 6. Remember the drawing should be an original piece of art created by the IAS artist. Do not copy other works - this may cause copyright infringement and an embarrassment to the IAS. Stay away from brand name products. Generic illustrations are best. Do not use recognizable people, they may not be around in years to come.**
- 7. Do not include any image illustration that depicts the Goethe Link Observatory. This site is owned and operated by IU; the Astronomy Department does not want to advertise this site as if it was an IAS facility.**
- 8. More than one entry is allowed to be submitted - no limitation. Once the original artwork is submitted, they immediately become the property of the Indiana Astronomical Society, Inc. It may be necessary to copy your submission(s) for personal record purposes.**
- 9 Deadline: September 30th, 2004**
- 10. The winner will receive an IAS T-shirt and a year's free membership in the IAS.**
- 11. The winner will be announced first at the Link Hog Roast, October 9th, 2004 at the Goethe Link Observatory during the 7pm General Meeting. The winner will also be announced on the IAS website and in the November, 2004 issue of the BULLETIN.**

Upcoming Star Parties and Registrations

Apollo Rendezvous - June 11-12 Dayton Ohio

Please keep checking back for the registration forms and for additional activities and speakers as plans are being made. Send an email to: rendezvous@mvas.org with your name and mailing address, to have a registration flyer sent when it becomes available.

Green Bank Star Quest - July 8-11 in W. Virginia caacwy.org or KVAS.org

Indiana Family Star Party - August 13-15 WVAS has set the date for the annual star party at Prairie Grass Observatories. The IAS will be asked to help out again this year. I need a volunteer to run the IAS part as I will be out the month of August. More to come later.

Patoka Lake - July 10, 2004 It is time once again for the Annual "Stars on the Beach" Program at Patoka Lake. The time schedule will be the same as last year. There will be programs at the Newton-Stewart Nature Center During the day. These will be at 1pm, 2pm, and 3pm. There will also be some solar scopes at the nature center from 1-4 pm. If there are enough solar telescopes, additional people will be stationed at the beach to show more people the sun. Around 4:30pm the Evansville Society will leave the nature center and head to town for lunch. Anyone interested should meet at the nature center between 4-4:30pm. Between 6-8 pm people can bring their scopes down to the beach and set up for the night time activities. An addition to the schedule this year will be a Constellation Tour. They will need for volunteers with green laser pointers and a good knowledge of constellations to help point them out to the crowds as we play the Constellation tour tape from the Astronomical Society of the Pacific. Evansville would love to have as many people from as many clubs as possible to come and help out. The crowds usually clear out by 10:30pm, and this gives astronomers a chance to observe together with reasonably dark skies. This is a reasonably dark site and presents a good opportunity to observe the summer objects. Hopefully we can have a good IAS turnout.

Astrofest - Kankakee, Il. - September 16, 17, 18 - This is a very good three day event with about a thousand astronomers. Beware, early registration is required. Walk-ins will be charged \$100/day per person. Get information off the Chicago Astronomical Society website. Astrofest will be at a new site this year. Registration is about July.

Prairie Skies Star Party (Old Astrofest Site) - September 9 -12, 2004-The Amateur Astronomy Events and Conventions Association (AAECA) will sponsor the Prairie Skies Star Party at Camp Shaw-Waw-Nas-See, near Kankakee IL, September 9 -12, 2004. Our brochure containing details of the event will be available shortly. Individuals familiar with Camp Shaw-Waw-Nas-See, and interested in attending Prairie Skies, should forward their name and mailing address (via e-mail or by phone) to the contact listed below as soon as possible. If you would like more immediate information concerning this event, do not hesitate to contact me.

The Prairie Skies committee looks forward to your attendance.

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AAECA - Who are we? The Amateur Astronomy Events and Conventions Association was formed (just as the name implies) to sponsor amateur astronomy events and conventions. Our immediate purpose is to continue the tradition of holding an annual star party at Camp Shaw-Waw-Nas-See. The Prairie Skies committee is comprised of individuals who were associated with star parties at Camp Shaw-Waw-Nas-See in the past, some for more than 20 years. We look forward to preserving the familiar atmosphere and experience that attendees have come to expect at Camp Shaw-Waw-Nas-See.

John Weber

Prairie Skies Star Party

prairieskies@ameritech.net

708 481-7970

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

Jeff

TSP

Article by Jeff Patterson

On Thursday Bill Conner, Chris Dietz and me headed to Texas to experience the Texas Star Party; purported to be held under jet black skies in the mountains of West Texas. Chris has been there several times but this was Bill's and my first time. After two tough days of driving we arrived Saturday evening at the State Park just down the road from the Prude Ranch where the party is held each year. The park is very pretty set in the Davis Mountains of West Texas. There are many animals and birds and we were impressed with the numbers of "wild" mule deer. They would come up and eat out of your hands. We settled in to look for the Comet but found a thunderstorm instead. We had traveled for 1400 miles to sit out the night in the motor home listening to a gully washer. Now this is country that gets probably 4-6 inches of rain a year. The curse of Indiana we thought. This would be a good place to go for dark sky observing. Sunday broke clear as a bell and we ran over to the Prude to register and set up. The Prude Ranch is an old guest ranch set in the high desert. There is camping, bunkhouses and RV sites. You can ride horses, swim in the pool or take tours during the day. There is a neat old fort at Ft. Davis and you can explore the Big Bend country which is about 100 miles away. Close by Texas standards. One can cook or eat the meals at the Ranch. They are excellent and there is an abundance of salads and meat with a good variety. Generally there is tons of sand and dust but this year has been wet (by their standards) and there was minimal dust. I had never seen people anchor telescopes to the ground but I guess the area is notorious for blowing scopes over. The hill sides were actually pretty green. There are three fields for observing. The upper field is the darkest and is for the extreme observers. There were three 36" dobs on the upper field. This is an observer's party. There were about 650 people registered. Everything is dead quiet until about noon and events don't begin until after 1 PM. There are many published observing lists with pins given out when the lists are observed. Chris was in a bunkhouse near the middle field so Bill and I dropped him off and went to the RV park to set up. He immediately hooked up with a guy from Chicago that we had met at the WSP. They had observed together at the WSP. Rick had a 20" Obsession. That is the thing I like about star parties in that you meet friends and develop relationships with people from all over. Bill and I met a fellow from Seattle interested in imaging and we worked together all week. There was a French teacher from Northern Ontario who was very interesting and was dedicated to binocular observing. There are hook-ups in the lower field. So if you have an RV you can rest with running water and air conditioning during the day. It got dark about 9PM and we started to work. I have never been in a site that I continually lost my equipment. If you did not have a red light, you could never find your ladder, table, or even your scope if you

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walked away. I began looking for the comet with the 150mm binoculars. It was fantastic. It filled the field from one side to the other. Interesting that by the end of the week it was perceptibly fainter. My favorite object that I continually came back to was M-51. Remember the object we can see two knots of light sometimes. Well at the TSP one can see the spirals and the dark lanes in both galaxies at about 80x. I had only seen such detail in images. This went on for 4 days straight. Start observing about 9pm finishing by 4-5 am! Bill finishes his darks and flats by 7 am, Thank God about dinner time on Thursday, a thunderstorm rolled in and we got a good night's sleep. Friday and Saturday were good again. Every day was clear with puffy clouds that went away by evening. The Milky Way was so bright that one could notice that the sky brightened up as it rose. There are southern objects but they are lower than the WSP. Omega Centauri was still gorgeous however. . The Hamburger galaxy looked like a quarter pounder with its huge dark lane. Tuesday we took a tour up to McDonald's Observatory about twelve miles up the road and had a tech tour. They have three major scopes, the 82" Otto Struve built in the early thirties, the 107" and the new state of the art 362" Hobby-Eberly. The old Struve looked just like the Link except bigger. The pier was arched concrete just like ours and the tube looked like the link as a Newtonian. That must have been the state of the art in the 1930's. One can reserve time on the 82"and 107" for observing parties. Only 15 people are allowed each month so reservations must be made months ahead of time.

The week passed quickly and we rolled out on Sunday. We were met by clouds in Illinois and haven't seen a star since. Oh for next year. I guarantee that I am going to put in for it. Attendance is by draw with applications being made in January. Hopefully more of us can attend next year. The party will be week of May 1 next year.

Chris Dietz with one of the 36's on the upper field.



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A shot of the upper field. Everything is double wrapped to hold out the dust.



Public Events

Article by Jeff Patterson

One of more fun opportunities as a member of the IAS is to go to various public events and share our hobby with the public. More and more schools are asking for our help to participate in their astronomy events. We need you!! You don't have to be an expert; just willing to take time and show someone the wonders of the heavens. If you have interest, please contact Bill Conner or me.

New Members - Welcome to the IAS

Fred D Hanson Bloomington, IN
Robert T. McClure Carmel, IN
David Warnick Martinsville, IN
Rodney F Porro Evansville, IN
William Kennedy Indianapolis, IN
Paul A. Zeller Indianapolis, IN
Donald I. Craig, Jr Indianapolis, IN
Eric Allen Edmond, OK
(Does anyone know how we got a member in Edmond, OK??)

Find these members and make them welcome.

Observer's Corner

Article by Jeff Patterson

Although all comets are spectacular, Comet Neat was good but not great when compared to Hale-Bopp or Hyakutaki. It did have a good tail in big binoculars. I looked at it for 4 nights

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straight and one could tell it was fading fast. It is still exciting to see a fleeting visitor from outer space.

McCloud Nature Park - A Dark Site for Observing

McCloud Park Observing For June 18, 2004 at 8:00 PM - weather permitting

McCloud Nature Park is located in Hendricks County. It is 230 acres of Nature!!! The interpretive naturalist has requested that we come out for new moon and show the sky to the public.

It's only 30 miles from the intersection of I-465 and I-74 Off of SR-75. Curious? Come and join us on New Moon Friday.

Call, or e-mail Mike Wolford for further information. 317 445-2173 e-mail: mwolford@ccrtc.com

New Astronomers Group "Moon Phases"

This Months Program will be held June 26 at 7PM at the Link. Note if weather is bad call John May to confirm the program will be presented.

Article submitted by J. Philip May

The New Astronomers Group (NAG) is a program designed to teach the novice amateur astronomer and even for those experienced astronomers who may want a refresher course in the basics of astronomy. The NAG meets in the early evening of the 4th Saturday of every month at the Goethe Link Observatory. The classes start at 7pm in the Link auditorium. During the winter months, if the snow is deep and/or the temperatures have dropped considerably below freezing, the event will be canceled. To confirm program schedules please contact J. Philip May, the NAG program coordinator, at motordrive@msn.com or 317-831-8387. If any IAS member or new IAS member has a suggestion for a meeting topic, please contact Mr. May. Also, experienced IAS members are encouraged to participate as an instructor for any choice of the following NAG programs - please volunteer your time and expertise. This should be a fun event as well as being instructive for the novice astronomer.

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.

To place an ad contact:

Bulletin Editor

Jeff Patterson

1780 S. Morgantown Rd.

Greenwood, IN 46143

317 882-8055

e-Mail: JMPSR@Iquest.net

For Sale: A special opportunity!! The Oakley Observatory at Rose-Hulman is upgrading some of our equipment. This summer we anticipate getting two new Paramount ME mounts to replace two Paramount GT1100 mounts. I would like to offer the old mounts for sale to members of the IAS. I

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am asking \$5000 per mount. Each mount is in perfect working condition, I am only replacing them because of some of the advanced features available on the ME. The mounts will come with the original documentation and software and appropriate weights to handle a C-14. The software consists of TheSky, CCDSoft, Orchestrate, and TPoint. The mounts are still in use and can be viewed by any interested persons by contacting me directly (Richard.p.ditteon@rose-hulman.edu). You can also see the mounts at our website <http://www.rose-hulman.edu/Users/groups/Observatory/Newequipment.htm> The mounts I'm selling are under the Clark and Maksutov telescopes.

For Sale: Criterion RV-6 f/8.1 six inch Newtonian with equatorial mount. Includes original eyepieces, telestar, as well additional motor drive. \$375 or will also consider trade for a equal price GOTO telescope. Marion Hakes at vhorani@yahoo.com.

For Sale: Two heavy-duty, surveyors' tripods. One is very heavy-duty wood and in fair shape cosmetically, but in functional condition. The other is aluminum, new in the box. Price: \$60 each. They make great replacement tripods for commercial mounts on shaky, undersized legs Brian Murphy, bmurphy@monumentcompanies.com

For Sale: Celestron C-5 with tripod, astromaster(installed), power pack/inverter, cases, filter, eyepieces, and lots more. \$1500 Call: Paul at 317 888-1605

For Sale: Orion 120st refractor with mount and tripod, dual axis drive. Less than a year old. Contact: Jerry Vessels at jvessels@iquest.net

For Sale **Price Reduced:** 5" f5 refractor, Jaegers Objective. Orion Skyview Deluxe EQ with Accutrack SVD DC Motor Drive (New) 17mm and 12.5mm Plossl eyepieces plus Barlow 3X \$600.00 (OBO) Jerry Barnett (317) 888-8945

For sale: Starlight Express MX7C one-shot color CCD camera, STAR2000 self-guider, and AstroArt software. \$1300. srussell@iquest.net

For Sale: Meade LX200 Schmidt-Cassegrain (non GPS), 10" f/6.3. Equatorial Superwedge, Custom Steel Pedestal, Pictor CCD, and many lenses. Sell whole Package for \$5,482, or portions. Contact: Mike Smith, 317-823-8171 for further details."

Loaner Scope Program

Did you know you can borrow a scope 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 scope 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 to loan. Contact John Molt at johnmolt@iquest.net

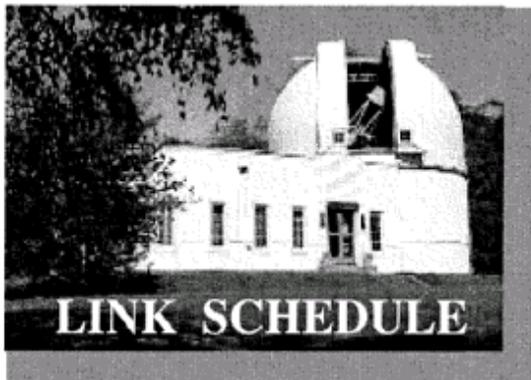
List Server Now Online - Don't be left in the cold - Sign up!

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 e-mail and you 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.

June Board Meeting - June 17, 2004 - 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.



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.

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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: J. Philip May (317)831-8387. 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
J. Philip May: 831-8387
Tom Borlik: 849-4113

Gary Schoppenhorst: 297-1405
Brian Murphy: 841-8511
Dave Williams: 769-7430

Link Activities for May:

General Meeting - June 12
Observer's Meeting - June 26
New Moon Group - June 19

Link Training - June 26
New Astronomers - June 26

Bulletin Stats

Accessing the Bulletin

The current bulletin can be found on the website www.iasindy.org in the "Upcoming Events" section.

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: Dave Timmerman 317844-9431

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Board of Directors

Gary Schoppenhorst (2006)
 Gerald Venne (2006)
 Thad Hatchett (2004)
 Doug Brown (2004)

Bill Conner (2004)
 Marion Hakes (2005)
 John Molt (2005)

June Calendar, 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3 Full Moon	4	5
6	7	8 Venus Transit 5:17 AM	9 Last Qtr Moon	10	11	12 Gen. Mtg 7:00PM
13	14	15	16	17 Board Meeting 7:00 New Moon	18 McCloud	19 New Moon GP
20	21	22	23	24	25 First Qtr Moon	26 NAG Meeting Observer's Mtg Link Training General Observing
27	28	29	30			

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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 (\$20.00)	
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: Dave Timmerman, Treasurer
786 Woodview North Drive
Carmel, IN 46032

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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 articles for new members and may be used by the society to match people with similar interests.