

BULLETIN

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A Multi-Media Event

"Our Galaxy, Neptune's Flyby and Light Pollution" General Meeting Topic

IAS Secretary, Clark Harbourt, will present three slide shows for this evening's General Meeting. Clark has done all of the post production work on each of these programs and has professionally provided the narration and musical selection for the sound track to each of these shows. The color photography is striking. It will be an informative and entertaining experience for everyone as Clark guides us into the realm of our Universe. His most recently completed slide production will delve into the most hated of astronomer's hearts: **light pollution**. This particular production will share with us the awareness and corrective techniques of man's endeavor to light up the night sky. Many persons who claim this is of no importance have never gone out of town to see what they are missing. Everyone has a right to the stars!

And remember, a door prize will be offered to the lucky name drawn at the conclusion of Saturday night's main presentation. Member Ed Heiny was our first door prize winner at our last month's General Meeting. YOU COULD BE OUR NEXT WINNER !!

GENERAL MEETING

Dec 14, Sat, 8:15pm

This month the IAS General Meeting will be held at the Holcomb Observatory on campus of Butler University. The Annual Elections will be conducted immediately following the business meeting.

The Holcomb Planetarium will be providing three Saturday programs beginning at 4pm, 7pm and 8:30pm. These programs are recommended for ages 8 and above, and children under 8 are not admitted to the 8:30 p.m. show. Members interested in attending any of these programs will enjoy an hour-long tour consisting of a slide presentation, star show, and an

audio-driven laser light show with visits to the clock room and telescope dome. Also, during Saturday afternoon, the sun will be observed through the special mylar solar filter on the 6-inch refractor telescope mounted on the 38-inch Cassegrain optical system. During the evening hours, Indiana's largest telescope will be open for star gazing. Any member who has not yet visited the Holcomb Observatory's "lobby and staircase" will be in for a pleasant color tour through the solar system and the stars beyond, because all of the twenty original black/white photographs have been replaced with new updated color astro images. The cost is \$2 per adult and 1\$ for students, children and senior citizens. However, as a Society benefit members and their immediate families are admitted free at any time and to any event at the Holcomb Observatory and Planetarium

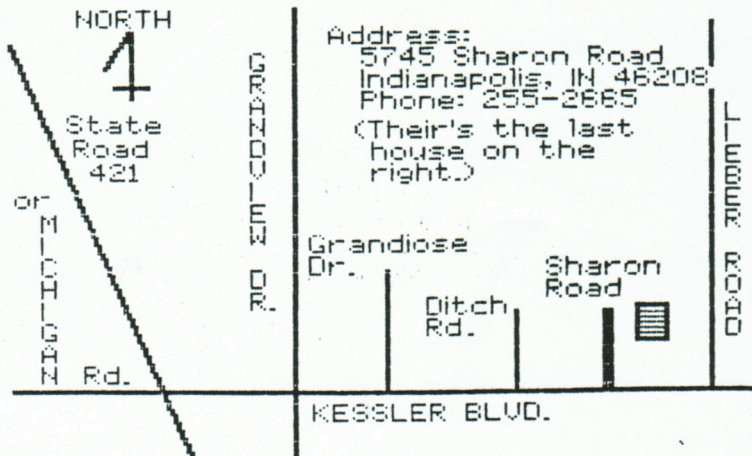
upon showing your IAS membership card.

Our meeting will begin at 8:15 p.m. in the lecture room of the observatory. On street parking and the church lot will be available. Hopefully we'll have clear skies and after the meeting we can take advantage of the 38-inch Cassegrain telescope for viewing.

Those members who may want to have dinner before the general meeting may do so by gathering at 6:00 p.m. in the lobby of Laughner's Cafeteria, located next to Frank's Nursery and Service Merchandise on the northside of West 38th Street. Our guest speakers are dined at Laughner's at the same time. So, it would be nice for our members to take advantage of the opportunity to meet informally with our guests prior to any of our formal presentations.

TECHNICAL MEETING . . Friday, December 20th

Norm and Suzann Schoppenhorst will be the Society's Host and hostess for this Holiday Season's Technical Meeting. The meeting will get underway at 8 p.m. Norm and Suzy live on the northwest side of Indy, near State Road 421 and Kessler Blvd. Please refer to the map for specific directions. If you need assistance please call them at 255-2665. Look for the "BLUE LIGHT." The Shoppenhorsts are encouraging members to bring their telescopes if the skies are clear and, if not, bring your astrophotos for a kind of "Show & Tell" session. Norm will provide a projector and screen. Need help or like to share your astronomical experiences, now is the time.



ASTRONOMY CAMP

by John Brand

(Editor's Note: Our New Member John Brand flew to the University of Arizona and spent three days at their Astronomy Camp during October 4th thru to the 6th. And here is John's account:)

The Arizona Alumni Association sponsors an "ASTRONOMY CAMP" for teens in June and for adults in September, October and April. Astronomers from the University of Arizona's Steward Observatory and Pima Community College offer lectures on topics ranging from the Solar System to Cosmology.

The University of Arizona is located at Tucson. The city itself is in a plain or valley in southern Arizona and surrounded by 8,000 to 9,000 feet mountains. With the clear dry air, this makes an ideal location for telescopes. The university has a big astronomy department with about forty professional staff members. With Kitt Peak being nearby, NASA and the university have the advantage of several big telescopes on the nearby mountains. We visited two of these mountain sites and were able to access several telescopes.

The University of Arizona also has one of the world's biggest facilities for making and handling large telescope mirrors. Our group toured the mirror lab which was quite impressive. An on site big furnace uses a rotating mold that roughly shapes the mirror in a parabolic curve. They use special glass made in Japan for their optical needs. After the initial heating and melting steps, a slow and gradual cooling process begins, then afterwards, it is

ground to a perfect shape using high-tech methodology.

The trip to Mt. Lemmon was most interesting. It's a little more than an hour's drive from Tucson. This road is a miracle of engineering. The whole region seems to be nothing but rocks; covered with the saguaro cactus at the lower levels with pine and aspen at higher altitudes.

The camp was directed by Dr. Don McCarthy and assisted by three astronomy graduate students. Needless to say, the mountain tops are definitely COLD. The planned observing hours are until midnight when a substantial "snack" was served. But for some of us reluctant astronomers, the telescopes remained open until sunrise. Our group was encouraged to operate the 60-inch and 40-inch telescopes ourselves and to conduct more challenging observations. And most of us did take the advantage of these all-night programs and stayed up most of Friday and Saturday nights. We even had the opportunity to take pictures through the 16" Schmidt. I was able to capture two images through this very large "camera:" a 45-minute and a 60-minute exposures of Andromeda and another spiral galaxy. Tracking was very good, although I felt that I needed more practice. We also used CCD's which convert the optical image to a computer image on disk, then display them on a PC monitor. They plan to send me a disk since I have a home computer with VGA.

The camp tuition is a very reasonable \$275 (it seems that they probably lose money on these programs) and includes lodging, meals, transportation in Tucson and all materials. Depending on air fare you can expect to pay about \$325. Overall the trip took

six hours each way with flight changes at Denver going and Houston coming back.

There was so much to "see and do" that I felt disappointed that I didn't learn all what I wanted to learn - and the one project that I did so want to know: 'was how to acquire the technique in easily locating difficult objects,' but they made finding objects so easy - simply because they operate their big telescopes with computers. I was treated to a fantastic view of the Pleiades (seven sisters) with their 10x70 binoculars situated on a sturdy tripod. The whole area was filled with stars other than the six or seven stars visible without these glasses.

Even though it was a small group of ten people attending the camp, the feeling of "one-on-one" with the staff was very rewarding and informative. I was the only Hoosier there along with two Californians. The rest of the guests were from the Tucson area. The overnight accommodations on the mountain top were very comfortable. The buildings appeared to be barrack style, probably built by either the army or NASA. It was a very pleasant experience and I was able to come back with quality photographs that I had proudly taken through their telescopes.

To receive more information about these camps, contact:

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or call Toll Free:

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