

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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Volume 40

May 2011

Number 5

From the Director

There is not much to say, so I will say very little.

There hasn't been very much activity since the weather has been so bad. We opened the observatory on April 1st and it seems that April fool's joke is running all month long. We have had to cancel the first five public observing nights this season. We hope that the next public observing night on May 6th will turn out to be clear. Nonetheless, we will persevere; we've got to catch a break sometime.

At our last meeting, I appointed Rex Parker to lead a task force to decide the best use of our new donated Gemini G-11 mount. This process will take some time, I'm sure. The results will hopefully be something that we can all participate in.

Some upcoming dates to remember:

May 7th - Super Science Day at the State Museum and Planetarium complex in Trenton. We need volunteers to staff a table with exhibits and information and to set up some solar/terrestrial scopes for outside if it is clear. We will be inside if it is raining because this is a rain or shine event. Please contact David Letcher if you can participate.

May 10th - AAAP Club Meeting. Ken Kremer had to cancel his talk, but we have found a substitute for the lecture. See the Program Chair's report for more information.

June 4th - AAAP Annual Picnic. Location and time will be announced. We need some help to set this up. Please contact me if interested.

As I indicated above, our next meeting will be May 10th at 8 PM in Peyton Hall.

See you all there!

Ludy D'Angelo, Director AAAP

The deadline for the June issue is:

Friday, June 3, 2011

Send your submissions to:

editors@princetonastronomy.com

From the Program Chair

We were scheduled to have AAAP member Dr. Ken Kremer speak on May 10th, but he had to cancel very recently due to commitments at the Kennedy Space Center, where he has a press pass. Hopefully, he can be rescheduled for sometime this fall.

Instead, Princeton Astrophysical Sciences graduate student Khee-Gan Lee will present a talk entitled: "Quasars and the Lyman-alpha Forest: A Look into the Cosmic Boom Town," at the upcoming May 10 meeting in Peyton Hall.



May 2011 Guest Speaker, Graduate Student "KG"

“KG,” as he is known, grew up in Malaysia, and was an undergraduate at University College, London, UK, where he earned a degree in physics and space science. He arrived in Princeton in 2006 to work on his doctorate, which he expects to finish this fall. Next, KG will be going to a post-doctoral research position at the Max Planck Institute for Astronomy in Heidelberg, Germany.

Regarding the evening's presentation, KG writes “Quasars are among the most distant objects in the universe, visible in large numbers at an era when the universe was only a tenth of its current age. Powered by supermassive black holes in the middle of galaxies, these objects shine like beacons across the universe. Along its multi-billion parsec journey, quasar light gets absorbed by neutral hydrogen along its path. This absorption pattern is called the Lyman-alpha forest. It provides a unique probe of matter distribution in the universe. I will introduce the concept of quasars via a historical narrative of their discovery in the 1960s all the way through to the Sloan Digital Sky Survey in the present day. I will then explain the astrophysics of the Lyman-alpha forest, and give a flavor for the insights they give into the universe.”

There will be a pre-meeting dinner for our speaker at 6 PM before the 8 PM meeting. Please email me by no later than noon on Tuesday, May 10th for a reservation. I will respond by 1 pm with the dinner location.

To round out our current season, we will have our traditional presentation by former AAAP Director Bill Murray in the New Jersey State Planetarium in Trenton on June 14th.

At this time I would like to express my sincere thanks to John Giles, Ira Polans, Director Ludy D'Angelo and Webmaster John Miller for their support in arranging speakers for this past year. I would also like to thank Mike Wright for his excellent work in preparing news releases for the local media. To assist our incoming Program Chair, several other possible speakers have been arranged for the 2011-2012 club year.

John Church, Program Chair

Membership and Business Meeting Minutes, April 12, 2011

Director Ludy D'Angelo took notes in absence of the Secretary.

The meeting of the AAAP started at 8 PM in Peyton Hall.

The lecture by Dr. Michael Molnar entitled “The Star of Bethlehem” was well attended.

After the break, the business meeting commenced. The nomination Chair, Bill Murray, presented the slate of candidates for the next AAAP Board. They are:

- Director: Ludovico D'Angelo
- Assistant Director: Jeff Bernardis
- Secretary: Larry Kane
- Treasurer: Michael Mitrano
- Program Chair: Ken Levy

The slate of candidates will be voted on at the AAAP meeting in May.

The Director appointed Rex Parker to lead a task force to determine best use of the donated Losmandy Mount, and possible observatory changes to accommodate its use.

Outreach chair, David Letcher, reported on past and upcoming events. There is the Hopewell Valley “Come out and Play” event, and the NJ State Planetarium Super Science Day coming up. He has asked for volunteers for those events.

Program Chair, John Church, reported that the May 10th speaker would be Ken Kremer, and the June meeting will be held at the State Planetarium where Member Bill Murray will give a presentation to the club.

There was no Treasurer's report, other than what was reported in Sidereal Times.

The meeting ended at approximately 10:15 PM

Ludy D'Angelo, Director AAAP

Treasurers Report

May 10, 2011

With two months remaining in our fiscal year, membership has increased to 86. Outreach contributions have continued during this busy outreach season, bringing total revenue for the year to date to about \$5,900. Routine expenses remain modest, and the AAAP's surplus for the year-to-date is about \$2,600. On a cumulative basis, our surplus exceeds \$21,000.

Michael Mitrano, Treasurer

From the Outreach Chair

The skies couldn't have been much clearer than on Thursday, April 14 at the Stuart Country Day School Star Party. Thanks go to Brian Van Liew, Jeff Bernardis, Gene Ramsey, new members Hamilton Potter and daughter Olivia, and me for a very successful event. The Moon was near full, but we were able to see the Orion Nebula, Saturn, and a few other objects. We all had a very nice time with a nice group of very enthusiastic young women.

The State Museum and Planetarium in Trenton is sponsoring the Super Science Saturday on May 7. It would be nice to have a few telescopes there for viewing the Sun. Maybe we'll see some sunspots this time! In the words of their web site: “Don't forget. Bring the entire family for a day of hands-on learning and fun. Explore the many fields of science with more than 20 exhibitors representing astronomy to zoology and everything in between. Encounter new worlds beyond our galaxy in the Planetarium.”

David Letcher, Outreach Chair

Interested in keyholder training?

Contact:

**Gene Ramsey (609-306-4297) or
Larry Kane (609-273-1456)**

I Am the Cosmos Exhibition

The New Jersey State Museum is proud to present the exhibition, *I Am the Cosmos*, on view through May 29, 2011. The exhibition, organized by scholar and independent curator Sara Lynn Henry, explores new cosmic art for our era.

In the late 1990s and early 2000s, a new mode of art appeared showing astral, spiral, spherical and constellated forms set into deep space. The dynamics of these forms are suggestive of cosmic processes. A large cohort of artists has resonated with recent discoveries concerning the stars, galaxies, deep space, the Big Bang, dark matter and energy. The stunning photographs from the Hubble Telescope (beginning 1994) and from space probes have made the actualities of deep space phenomena more real for all of us. Images from electron microscopes and high-speed particle collisions have opened up new scientific and visual domains. For some artists, recent discoveries have affected directions they were already undertaking; for others it has opened up whole new terrains.

Unlike earlier 20th century precedents, these 21st century artists plunge us directly into the vastness of time and space. Images are more tangible, astronomically and microscopically informed. Outer-space references multiply, suggesting abstracted star fields, nebulae, comets and cosmic webs of macro and micro phenomena. Spheres expand and explode. Fiery clouds of luminous, roiling atmospheres give birth to metaphoric stars. Galaxies spin and points of light congregate in fathomless dark spaces. Movements are elliptical, spiral and curved, rather than the more static idealized diagonals and perfect circles of the earlier art.

Artists included in the exhibition are David Ambrose, Alice Aycock, C Bangs, Paul Brach, Amy Cheng, Kwang-Young Chun, Russell Crotty, David Hardy, Carter Hodgkin, Ellen Levy, Robert Longo, David Mann, Matthew Ritchie, Dorothea Rockburne, Todd Siler, Barbara Takenaga, John Torreano, Sarah Walker and Marlene Tseng Yu. The exhibition is enhanced by antiquarian objects used by astronomers and by source material from NASA/Hubble Space Telescope.

The exhibition was funded, in part, by the Friends of the New Jersey State Museum through the Lucille M. Paris Fund.

Snippets

A galactic rose highlights Hubble's 21st anniversary

The image you can see on this site is really impressive showing a group of interacting galaxies called Arp 273. Arp 273 lies in the constellation Andromeda and is roughly 300 million light-years away from Earth. The image shows a tenuous tidal bridge of material between the two galaxies that are separated by tens of thousands of light-years from each other.

<http://esciencenews.com/articles/2011/04/20/a.galactic.rose.highlights.hubbles.21st.anniversary>

Credit eScience News

Breakthrough study confirms cause of short gamma-ray bursts

A new supercomputer simulation shows the collision of two neutron stars can naturally produce the magnetic structures thought to power the high-speed particle jets associated with short gamma-ray bursts (GRBs). The study provides the most detailed glimpse of the forces driving some of the universe's most energetic explosions. The state-of-the-art simulation ran for nearly seven weeks on the Damiana computer cluster at the Albert Einstein Institute (AEI) in Potsdam, Germany. It traces events that unfold over 35 milliseconds -- about three times faster than the blink of an eye.

The full article and associated graphic may be viewed at –

<http://esciencenews.com/articles/2011/04/07/breakthrough.study.confirms.cause.short.gamma.ray.bursts>

Credit eScience News

Alpha Magnetic Spectrometer – 02 (AMS-02)

The last flight of shuttle Endeavor will carry the Alpha Magnetic to be attached to the International Space Station (ISS), AMS-02 and will pioneer a new frontier in particle physics research.

The Alpha Magnetic Spectrometer (AMS-02) is a state-of-the-art particle physics detector constructed, tested and operated by an international team composed of 60 institutes from 16 countries and organized under United States Department of Energy (DOE) sponsorship. The AMS-02 will use the unique environment of space to advance knowledge of the universe and lead to the understanding of the universe's origin by searching for antimatter, dark matter and measuring cosmic rays.

The full article may be found at –

http://www.nasa.gov/mission_pages/station/research/experiments/AMS-02.html

Credit NASA

Snippets compiled by Bryan Hubbard

FOCUS
the Newsletter of
United Astronomy Clubs of NJ
Winter (March) issue available here:

(CTRL + Click to Follow Link)

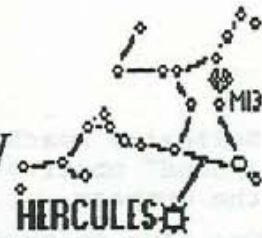
[http://www.uacnj.org/focus/Focus%202011-N2%20\(March\).pdf](http://www.uacnj.org/focus/Focus%202011-N2%20(March).pdf)

Twenty Years Ago in Sidereal Times



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AMATEUR ASTRONOMERS
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PRINCETON



Treasurer:
Ron Mittelstaedt
Secretary:
Richard Sivel
Program Director:
Victor Belanger

MAY 1991

NOMINATIONS FOR '91-'92 OFFICERS

As I indicated at our April meeting, our Nominating Committee chose this list of prospective '91-'92 club officers:

Director:	Greg Mauro
Assistant Director:	Chip Yuill
Treasurer:	Ron Mittelstaedt
Program Chairman:	Vic Belanger
Secretary:	Dick Sivel

Elections for new officers will take place at the business portion of our May meeting, so be sure to attend to vote on our new AAAP officers!

-JWHS

GREETINGS TO AAAP FROM FLORIDA!

For starters, well-deserved KUDOS to the leadership and membership of AAAP! OUTSTANDING communications, program activities, observatory work, broad participation, meetings, High marks on it all! It is obvious that a lot of top-flight amateur astronomy is getting done, and that there is laudable cohesiveness and enthusiasm making pleasurable experiences of it all. Keep SIDEREAL TIMES just the way it is, which is GREAT! And here's to keep AAAP STRONG.

But enough with the pats on the back. What I want to tell you about is how my "dream" worked out---a plan to make it easy and convenient to carry the practice of amateur astronomy through the retirement years. (As some of you will recall, my first telescope came along when I retired.)

Another thing that got started then was the design of my "dream house" to be built on the west coast of Florida. Ground was broken in fall of 1989, and by now we call

2

Belleaire Beach home. In a sense, the house is a "wrap-around" observatory, with observable sky at all points of the compass.

One plus is that we had to "build up" to the coastal construction code, so the first-floor level is over ten feet up, at the roof level of nearby older ranch-style houses, affording better than average horizons all around. Then, as we're on a barrier reef, just a block-and-a-half wide, with three miles of bay water to the East and the Gulf to the West, our skies are as dark as one could hope for within suburban environs. And the clincher is, surprisingly, that the seeing is good to excellent on more nights than one would reasonably expect, especially in the pre-dawn hours.

The design, basically, is two shed forms side-by-side, with one shed set back eight feet. This shape gave us ample opportunity to attach deck, and we ended up with deck on three-and-one-half sides, of varying widths, but wide enough for the C-8 to be rolled from the North sky to the East, South, and West sky and vice-versa. There are decks open to Zenith to all points and decks under roof to the East and West. The largest area for observing looks to the South, Southwest, and West, which is where the best sky is.

Though there has not been enough time to put it to an adequate test, my view at the moment is that my little wrap-around observatory could not possibly have turned out better! Good seeing to all!

BELLEAIRE BEACH, FLORIDA
9 APRIL, 1991

WES WALTON

FROM THE TREASURER

The Treasury balance stands at \$1,341.94, of which \$504.00 represents receipts for the N.J. Starquest. No large bills are seen for the near future.

Lonny Bunsis, an astronomy artist, will be submitting samples of ideas we dreamed up for the T-shirts to be sold at the N.J. Starquest. The design will not have a date, so the same shirts will be sold for many years. Hope to have them completed in time.

-Ron Mittlestaedt

3

NOT NECESSARILY AAAP NEWS

In the beginning of April I took a vacation to Arizona. While visiting my parents and brother, who live outside of Phoenix, I was able to borrow my parents' van and take a trip to the Northeast and North central parts of the state. Though my wife and two kids' interests were the terrestrial sights, I was also searching for those dark Arizona skies.

After touring the Painted Desert we headed for Winslow to spend the night before taking in the Giant Meteor Crater. At the local Winslow truck stop I asked a security guard if there were any dark sites outside of town where I could take some sky pictures without being harassed about trespassing. At first he thought I wanted to take pictures of the sunset, which is very popular among tourists. He was a bit puzzled when I told him that I wanted to take pictures of constellations in a dark sky. He stated that he never heard of anyone doing that, but "each their own".

The security guard pointed me up the road from the truck stop and go about ten miles; there, you'll see the town landfill. I thought this would be a fine place in that the mounds would block what light came in from the town.

I headed off for the landfill at about 9:00 P.M., and it took me about 15 minutes to get there. The landfill was the city dump, meaning not filled with rotting garbage; rather things like old mattresses, building materials, etc., but a lot of the ground was clear. From the town the road had a slight incline and I could see an approaching car for miles--- but only two passed.

Before my eyes adjusted to the dark, I was surprised to be able to see stars all the way to the horizon. I could make out many constellations, but as my eyes grew more dark-adapted, the dimmer stars filled in the blanks inside these clusters. After about a half-hour of sky gazing the constellations were being washed at by the dimmer stars seen only in the East with binoculars.

My 10x50 binoculars revealed objects that I could never see with my telescope in the East. There were many naked-eye objects also---the Orion Nebula and the Beehive Cluster, to name a few.

I set up my tripod, and had my camera ready. I found out a lot about the F-ratios of my camera lens on that night. I used my 50mm f/1.8 lens to shoot many of the constellations, loaded with JWHs' hypered 400 Kodachrome film. As I wrote in a previous Times, I was using the short-exposure, unguided

Amateur Astronomers Association of Princeton - Simpson Observatory

AAAP

Directions:
From Interstate 95, take Route 29 north. Follow signs to the park.

The Observatory is open to the public every clear Friday 8 to 11 PM from April to October.

Enter the park via the Phillips Farm Day Use Area on Route 579, not the main park entrance. Drive past the soccer fields on the right to the soccer parking lot and look for a dirt road on left. Drive down the dirt road. Turn right on to the backtop road and follow it to the observatory, which is on the right after the first bend.

Parking is permitted along one side of the paved road in front of the observatory. Keep vehicle wheels off the grass.

Members and guests must be accompanied by a Keyholder except on public nights.

Observatory phone: 609-737-2575

Park police: 609-737-0623

GPS:
Lat: 40° 18' 51" or 40.314°
Long: -74° 51' 42" or -74.862°

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