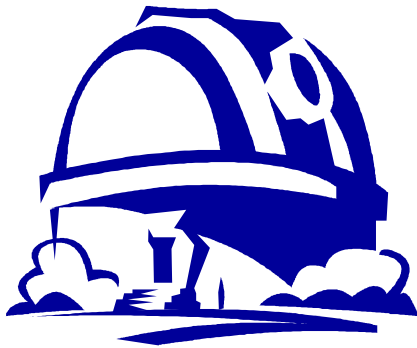




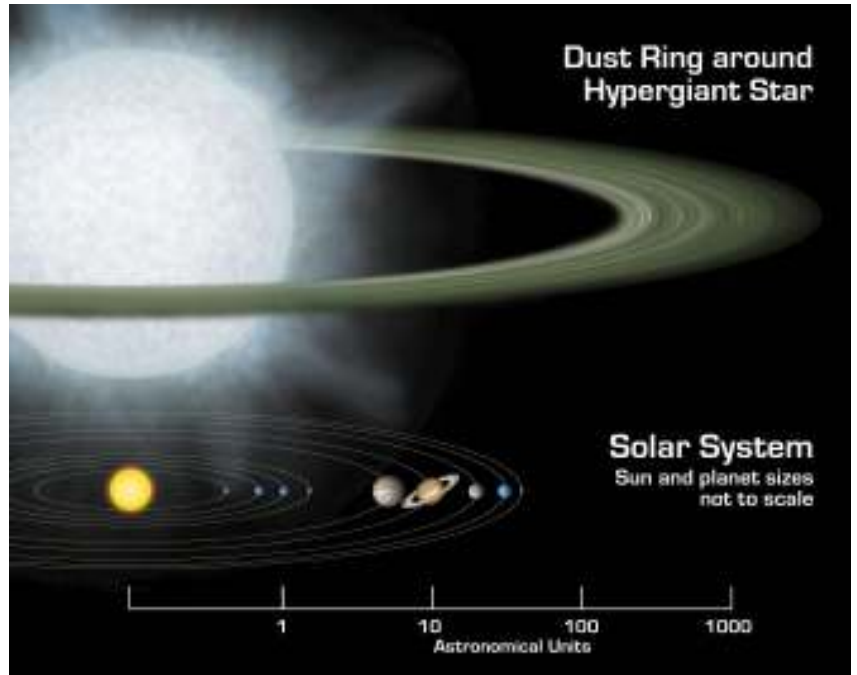
# CONSTELLATION

March 2006, No. 1



*“Astronomy is one of the sublimest fields of human investigation. The mind that grasps its facts and principles receives something of the enlargement and grandeur belonging to the science itself. It is a quickener of devotion.”*

*-- Horace Mann*



Artist's rendering compares size of a hypothetical hypergiant star and its surrounding dusty disk to that of our solar system.

## Planets in Strange Places

By Trudy E. Bell

Red star, blue star, big star, small star—planets may form around virtually any type or size of star throughout the universe, not just around mid-sized middle-aged yellow stars like the Sun. That's the surprising implication of two recent discoveries from the 0.85-meter-diameter Spitzer Space Telescope, which is exploring the universe from orbit at infrared wavelengths blocked by the Earth's atmosphere.

At one extreme are two blazing, blue “hypergiant” stars 180,000 light-years away in the Large Magellanic Cloud, one of the two companion galaxies to our Milky Way. The stars, called R 66 and R 126, are respectively 30 and 70 times the mass of the Sun, “about as massive

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## Old MAPS

In the last issue I sent out a challenge for our membership to do some oral history regarding MAPS and the planetarium field in general. What I really hope to capture is the essence of us -- the people who make all this magic and education happen. Well, like so many good ideas, work gets in the way of projects like this and so far no interviews have arrived at my doorstep. I don't give up easily, so the challenge remains.

I did receive some interest in oral history interviews soon after the last issue came out. Tom Hamilton contacted me offering himself as a source of many tales, ripe for the picking. If any of you are interested in interviewing Tom, please contact him and set up a time. He's a character with opinions, history, and many various experiences within our field of expertise -- all the things that make for a fascinating conversation. I also received an e-mail from Stephanie Parello at the Hayden in New York. She was inquiring about the availability of the interviews that I've already done. Are they on the web? Currently, they are not available on the web, but are stored here in the archives. It would be quite easy to make them available as mp3 files if there is an interest in that. Of course permission must also be granted by the interviewees to have audio files made available in that fashion. Please feel free to drop me an e-mail and tell me your thoughts.

The history of MAPS seems to periodically capture the attention of our membership. There was a flourish of renewed interest during the last week of February. The MAPS-L mailing list suddenly began to generate wonderful lists of such things as the past winners of the MAPS Distinguished Service Award, MAPS board members, and MAPS conference information. Thanks goes to Steve Russo, Lee Ann Hennig, and Kevin Conod for compiling this information and putting it on the web.

The archives actually has nearly all this information in a database which I will try to get onto the web this spring. We have pretty good information regarding conference sites, officers, speakers, and some award winners right back to the start of the organization. Again, if anyone is interested in something special, please feel free to contact me. Unfortunately, I'm like the rest of you out there who can't seem to find the time to interview your colleagues and friends, I find it all too easy to put off publishing this stuff on the web because of everyday work.

Let's make a deal. I'll keep pushing all of you to interview your favorite planetarian. You send me your e-mails and give me a hard time about getting the Old MAPS information published on the website. If we bug each other enough, maybe -- hopefully -- we'll get these jobs done and our organization will be the better for it!

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## MAPS UPDATE

Gloria A. Villalobos  
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After making plans for so long, it was exciting to finally see the first registration form arrive in the mail; just the first of many to come.

This year's conference is right around the corner and we're hard at work pulling everything together for the event. Registration packets have been mailed out and registration is due April 7th. Also, in order to ensure the conference rate of \$79/night, be sure to make your hotel reservations by April 16<sup>th</sup>. I'll be posting the latest updates for the conference, as well as registration materials, travel information and other useful information on [www.ocean.edu/campus/planetarium/MAPS2006.htm](http://www.ocean.edu/campus/planetarium/MAPS2006.htm). You can also click the MAPS Conference 2006 link on our homepage [www.ocean.edu/planet.htm](http://www.ocean.edu/planet.htm). There have been from people wanting to set up pre-conference activities, so I encourage you to visit the website for any new opportunities. If you have any questions, please don't hesitate to contact me at [gvillalobos@ocean.edu](mailto:gvillalobos@ocean.edu) or (732) 255-0400 ext. 2111.

The Novins Planetarium staff, the Conference Planning Committee and I are all looking forward to seeing everyone in Toms River this May!

### Preliminary Schedule 2006 MAPS Conference

**May 17-20, 2006**  
**Robert J. Novins Planetarium**  
**Toms River, NJ**

#### Wednesday, May 17

##### Opening Reception

6:00 PM	Dome Tour/Reception
7:00 PM	Welcome (Conference Host & College President)
7:15 PM	<i>Galileo</i>
8:30 PM	<i>Astrovisualizations</i> - Dr. Frank Summers, Space Telescope Science Institute
9:30 PM	Music under the dome with Mark Jenkins

#### Thursday, May 18

8:30 AM	Paper & Demo Session I
10:00 AM	Break
10:15 AM	Paper & Demo Session II
11:45 AM	Buffet Lunch
	<i>Astronomy Update</i> – Dr. Jim Kaler
1:15 PM	Bus to Planetarium
1:45 PM	Group Photo at Planetarium
2:00 PM	Workshops
3:00 PM	Break

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3:15 PM *Voice Acting* – Bob Greene  
 4:15 PM Break  
 4:30 PM Paper & Demo Session III  
 6:00 PM Dinner  
 7:30 PM Paper & Demo Session IV  
 9:30 PM Bus to hotel  
 10:00 PM Taurus Session

**Friday, May 19**

8:30 AM Paper & Demo Session V  
 9:45 AM Break  
 10:00 AM Paper & Demo Session VI  
 11:00 AM Break/Free time for Vendor Hall  
 12:00 PM Busses leave for Princeton Plasma Physics Lab  
 Lunch on Bus  
 4:30 PM Busses return from PPPL  
 5:00 PM MAPS Business Meeting  
 6:30 PM Banquet  
 Margaret Noble Address Speaker: Steve Savage  
 10 PM Taurus Session

**Saturday, May 20**

8:30 AM Paper & Demo Session VII  
 9:45 AM Break  
 10:00 AM Paper & Demo Session VIII  
 11:30 AM – 12:30 PM Closing remarks & Door Prizes

**Post-Conference Activities**

2:30 PM Tour of InfoAge Science and History Center  
 7:00 PM Public Concert – Mark Jenkins

***Important Conference Deadlines***

Registration April 7  
 Hotel Reservations April 16

***Conference Hotel***

Quality Inn Toms River (\$79/night)  
 815 Route 37, Toms River, NJ 08755  
 732-341-2400  
 www.qualityinntr.com

***Highlights***

Astrovisualizations - Dr. Frank Summers  
 Astronomy Update - Dr. Jim Kaler  
 Tour Princeton Plasma Physics Lab  
 Noble Address - Steve Savage

## SHOOT YOUR MOUTH OFF At MAPS

- ◆ **Purpose:** Share by demonstrating various styles of star presentation narrative delivery.
- ◆ **Who:** You, the astronomy educator, planetarium operator, director, teacher, or console operator.
- ◆ **How:** You will take the Microphone for 10 minutes under the dome, with a pointer. We will cluster people in groups of 4. After your 10 minutes, pass the Microphone to the next presenter who will continue with the night sky talk. A continuous presentation can be developed with the night sky as the common backdrop.



**Register:** Contact Ted Williams at TWilliams@methacton.org or 610-489-5000 EXT 30208 to get your name on our list. We can meet at the conference to group individuals, or you can team up in advance as you notify us.

## COME TO PAPA

by Stephanie L. Parello  
Hayden Planetarium  
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On Saturday, March 11, more than a dozen planetarium folk met in Warminster PA for the inaugural meeting of the Philadelphia Area Planetarium Association (PAPA). Don Knapp played host under his 40-foot dome of the Henry W. Ray Special Experience Room at Everett A. McDonald Elementary School.

PAPA is an informal group of planetarians in the Philadelphia area (or at least a reasonable driving distance away). There are no dues. . . no constitution. . . no officers — just some occasional meetings to share a common interest in planetariums and astronomy.



*In attendance were (left to right):*

*(top) Bob & Lisa Summerfield – Astronomy 2 Go; Steve Berr – Learning Technologies, Inc.*

*(middle) Don Knapp (host) – Centennial School District; Derrick Pitts – Fels Planetarium / Franklin Institute; Mike Smith – North Museum & Planetarium; Lancaster PA, Mike Mountjoy – Fels Planetarium / Mallon Planetarium*

*(bottom) Laura Misajet – Seiler / Zeiss, Inc.; Joyce Towne – Spitz, Inc.; Keith Johnson – Rowen University, Glassboro NJ; Ted Williams (co-host) – Methacton School District; Ruth List (co-host) – Ridley School District; Stephanie Parello – Hayden Planetarium, New York NY*

*(not pictured) Gloria Villalobos – Novins Planetarium, Toms River NJ*

The day opened with informal mingling over beverages and donuts (courtesy of Spitz, Inc. and Bowen Technovation respectively). Also, on display for our nostalgic pleasure, there were a number of home-made SFX projectors that had been sitting on storage shelves for the past 20 years.

Moving into a slightly more formal phase, Don launched us into arguably one of the best Color & Light Demonstrations we've ever seen — including a brilliant use of filtered overhead projectors to show how to add and subtract light. If you get a chance, ask Don for details — and maybe we can even convince him to do his demo at the upcoming MAPS Conference for the benefit of all.

Joyce Towne, of Spitz, Inc., highlighted the new middle- and high- school Starry Night Teacher Guides. Laura Misajet, of Seiler / Zeiss, Inc., demonstrated the crisp projection of the ZKP4 to many oohs and ahhs. I presented my perfectly peculiar paper on Producing Positively Professional Presentations. Perhaps you'll pay perception to this program at another potential opportunity.

Ted Williams, of Mallon Planetarium and the Rittenhouse Astronomical Society, showcased the Rittenhouse's new website, emphasizing that we're all in this together by setting up links to the many other area astronomy and space researches. Check out the site at [rittenhouseastronomicalsociety.org](http://rittenhouseastronomicalsociety.org).

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## Planets in Strange Places

*(Continued from page 1)*

as stars can get,” said Joel Kastner, professor of imaging science at the Rochester Institute of Technology in New York. R 126 is so luminous that if it were placed 10 parsecs (32.6 light-years) away—a distance at which the Sun would be one of the dimmest stars visible in the sky—the hypergiant would be as bright as the full moon, “definitely a daytime object,” Kastner remarked.

Such hot stars have fierce solar winds, so Kastner and his team are mystified why any dust in the neighborhood hasn’t long since been blown away. But there it is: an unmistakable spectral signature that both hypergiants are surrounded by mammoth disks of what might be planet-forming dust and even sand.



*The Spitzer Space Telescope*

At the other extreme is a tiny brown dwarf star called Cha 110913-773444, relatively nearby (500 light-years) in the Milky Way. One of the smallest brown dwarfs known, it has less than 1 percent the mass of the Sun. It’s not even massive enough to kindle thermonuclear reactions for fusing hydrogen into helium. Yet this miniature “failed star,” as brown dwarfs are often called, is also surrounded by a flat disk of dust that may eventually clump into planets. (Note: This brown dwarf discovery was made by a group led by Kevin Luhman of Pennsylvania State University.)

Although actual planets have not been detected (in part because of the stars’ great distances), the spectra of the hypergiants show that their dust is composed of forsterite, olivine, aromatic hydrocarbons, and other geological substances found on Earth.

These newfound disks represent “extremes of the environments in which planets might form,” Kastner said. “Not what you’d expect if you think our solar system is the rule.”

Hypergiants and dwarfs? The Milky Way could be crowded with worlds circling every kind of star imaginable—very strange, indeed.

Keep up with the latest findings from the Spitzer at [www.spitzer.caltech.edu](http://www.spitzer.caltech.edu). For kids, the Infrared Photo Album at The Space Place ([spaceplace.nasa.gov/en/kids/sirtf1/sirtf\\_action.shtml](http://spaceplace.nasa.gov/en/kids/sirtf1/sirtf_action.shtml)) introduces the electromagnetic spectrum and compares the appearance of common scenes in visible versus infrared light.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



## The Digistar Users Group Is Coming to Utah

The Digistar Users Group recently voted to hold their annual meeting in Salt Lake City, Utah. Evans & Sutherland will host the three-day meeting during which Digistar users will share and demonstrate new programs, discuss upcoming features, and review customer service and support.

Along with DUG activities, E&S will be providing free hardware and software training seminars for all Digistar owners and introductory seminars on the Digistar product line.

Please plan to join us in Salt Lake City on September 27-29. We invite you to stay and take advantage of all that Utah has to offer, including a wide variety of outdoor activities and scenic adventures.

Space is limited, so visit the DUG website today to register for the meeting and reserve your spot in our training classes.

<http://www.digistardomes.org>



©2005 Evans & Sutherland Computer Corporation.

## NASA Year in Review Week

The Suits-Bueche Planetarium at the Schenectady Museum kicked off it's "NASA Year in Review Week", with a visit by NASA Space Suit Engineer Amy Ross, and the unveiling of the new Hubble Space Telescope photo of the Orion Nebula.

Amy Ross came to the Museum with an EVA Space suit and the various components that are worn with the suit. During her 12 years with NASA, she has worked on the Space Shuttle Suits, the Russian Space Suits, and the Shuttle Escape Suit. She is currently part of the team that is designing space suits that may be worn by astronauts when they go to Mars.

In December of 1998, her father Jerry Ross, wore a newly designed pair of Gloves by Amy, as he made seven space walks to assemble the Russian Zarya Module to the American Unity Module on the ISS.

Along with her lecture about Space Suit Design, Amy unveiled the Orion Nebula Photo at the entrance to the Suits-Bueche Planetarium.



Left to Right: Amy Ross, "Edgar" the Space Suit, Megan EN Dominguez, and Steven LJ Russo.



Left to Right: Megan EN Dominguez, Planetarium Educator; Amy Ross, NASA Spacesuit Engineer; Steven LJ Russo, Planetarium

The "NASA Year In Review Week" at the Schenectady Museum had a week of kids activities devoted to Space Exploration and Astronomy, including a 10 minute PowerPoint developed by the Planetarium staff highlighting NASA's 2005 space exploration highlights.

Steven LJ Russo  
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[russo@schenectadymuseum.org](mailto:russo@schenectadymuseum.org)

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## NEW SPACE PLACE IN NJ

The Lenape Valley HS Planetarium has been invited and has accepted to become a member of the NASA 'New Millenium' **Space Place** program. Run out of JPL in Pasadena, **Space Places** receive free educational materials for distribution to their visitors, as well as free bulletin board materials to be displayed. The only commitment on the facility is to send a photo to JPL featuring visitors gathered around the display board. There is a web site as well as a SPACE PLACE television program on NASA TV that complements the supplied educational materials.

John Scala  
Planetarium Director  
Stanhope NJ  
[jscala@lvhs.org](mailto:jscala@lvhs.org)

## COME TO PAPA

*(Continued from page 5)*

Steve Berr, of Learning Technologies, Inc., gave a demonstration of the still new Video Starlab Projector in his 10-foot inflatable dome.

Don brought it back home with the wonderful starfield of his Spitz STP. An interesting facility, the planetarium was actually designed to be all-purpose for "Special Experiences" — the star projector is on a lift and can be completely hidden under the floor, it has no permanent seating and the chairs are generally placed on risers in a uni-lateral direction. For more details on this unique place, check out [www.centennialsd.org/Community/SER/index.html](http://www.centennialsd.org/Community/SER/index.html)

Greater informality took over then while we sat around in general conversation. MAPS President-Elect Gloria Villalobos told us about some of the plans for the next MAPS Conference that she will host at Novins Planetarium — including the return of "Shoot Your Mouth Off" initiated at last year's conference — Ted reminded us that this session offers a great chance for us to share our individual styles and knowledge, and steal — uhhh...I mean appropriate the great lines, jokes, stories, etc. of others.

Bob Summerfield, of Astronomy 2 Go fame, lamented the closing of Cheltenham Planetarium, a place close to his heart from his high school days.

Derrick Pitts, of the Fels Planetarium, reported that the observatory of the Franklin Institute is undergoing major renovation and will be re-opening this fall; Fels is helping to build a consortium of planetariums and vendors to share the cost and toil of producing full-dome shows; and due to the movement to full-dome, Fels is cleaning house and will be making their old artwork available to the planetarium community. Contact Derrick for details.

The PAPA meeting concluded with plans to meet up again during the MAPS Conference.

*Don Knapp notes: In addition to the participants above, six additional planetariums expressed interest in joining the new association. These included planetariums located in the Hatboro-Horsham School District, Kutztown University, Colonial School District, Upper Dublin School District, West Chester University, and North Penn School District. Future meeting sites will rotate between each of the various planetariums in the area.*

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## PLUTO SYSTEM ORRERY

by Thomas Wm. Hamilton  
HOSS Planetarium

The discovery of two more moons around Pluto, plus the launch of the first spacecraft to that planet, and the recent 75th anniversary of its discovery, puts Pluto high on the list of likely current topics for Planetariums. One special effect is likely to be available in almost all planetariums, an orrery. However, an ordinary Solar System orrery can do duty for a lot more purposes, as I have long argued. Pluto is a fine example.



If one uses the orrery Sun for the planet Pluto, then the following planets can stand in reasonably well for the moons: Venus for Charon, Mars for P1, and Jupiter for P2. The greatest discrepancy in relative periods is with Mars, and it is not too bad.

A word of caution in discussing Pluto's system: I have seen some comment that the relationships among the periods of Pluto's moons suggests that their origin is in being blasted off the planet. Color studies make this theory unlikely, and we should remember that the four Galilean moons of Jupiter have similar periodicity relationships in their orbits, but no one would ever suggest their origin was in being blasted off Jupiter!

My "Mars orrery" is to put a red gel over the orrery Sun, and use Mercury and Earth for Phobos and Deimos. Periods in both cases are 4:1, so they are a good representation.



## NEW MEMBERS

The following have joined our merry band of planetarians. Please extend a warm welcome to the following new and returning members.

- ◆ Gregory Anderson  
Cosmic Adventures  
Frederick, MD
- ◆ Troy Knudsen  
Fair Lawn Planetarium  
Fair Lawn, NJ
- ◆ Karen Vanlandingham  
West Chester University  
West Chester, PA
- ◆ Bruce Zeller  
Bethel, CT
- ◆ Michael A. Marks  
The Sky Connection  
Dedham, MA
- ◆ Gengras Planetarium  
Science Center of Connecticut  
West Hartford, CT
- ◆ Scott C. Jackson  
Mt. Cuba Astronomical Observatory  
Wilmington, DE

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Constellation  
c/o Kevin Conod  
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