



CONSTELLATION

March 2007, No. 1



Telescope

This is the pipe that pierces the dam
that holds back the universe,

that takes off some of the pressure,
keeping the weight of the unknown

from breaking through
and washing us all down the valley.

Because of this small tube,
through which a cold light rushes

from the bottom of time,
the depth of the stars stays always
constant

and we are able to sleep, at least for
now, beneath the straining wall of
darkness.

Ted Kooser
Delights and Shadows
(U.S. Poet Laureate, 2004-2006)

Conference Update A Rare Triple Conjunction is Coming!



The Joint Meeting of MAPS, SEPA & GLPA October 9-13, 2007 Oglebay Resort & Conference Center Wheeling, West Virginia

The 2007 Conference is being called a Triple Conjunction: a combined conference including the Middle Atlantic Planetarium Society (MAPS), the Southeastern Planetarium Association (SEPA), and the Great Lakes Planetarium Association (GLPA). It is being hosted by Steve Mitch and the Benedum Planetarium at the beautiful Oglebay Resort and Conference Center in Wheeling, West Virginia.

- ◆ Preliminary conference information is now posted on the MAPS, GLPA and SEPA websites. The \$160 to \$180 registration costs mention on the websites is a working number and the final costs is subject to change.
- ◆ Susan Button is organizing a Portable Planetarium workshop as part of the conference. She is making arrangements for 4 portable domes, set up in two connecting rooms for lots of workshops and activities for portable domes.
- ◆ Conference registration materials will be electronically available mid to late May in order for those who are

(Continued on page 3)

Contents	
<i>Conference Update</i>	1
<i>Note from the President</i>	2
<i>Eclipse Canon Review</i>	4
<i>Digital Institute</i>	6
<i>Member News</i>	8

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A Note from the President

Teamwork

Once again, my planetarium brethren, we have worked together in selecting from a fine slate of candidates our latest representatives to the MAPS Executive Board! Our thanks to all of you who were able to return your ballots within the somewhat abbreviated time frame due to a glitch in our initial elections mailing.

We welcome to the team our new President-Elect, Steve Mitch; our returning Secretary, Sam Storch; and our new Treasurer, Keith Johnson. These three will officially take their positions at the end of the business meeting in October at Oglebay. In the meantime, please be aware that your Board is active all year long, considering ways to better serve the organization, and planning for the conference, which is our best means of bringing valuable ideas and products to each other.

However, running a close second is our renovated website, which Ted Williams continues to monitor and update to help make us seem a little closer electronically! Continue to check there on a regular basis.

Please share with the Board any ideas you have. We are a team within a team, and hope that we can continue to work with you to make our organization an exciting one to be a part of!

Patty

Patty Seaton,
President

TRIPLE CONJUNCTION UPDATE

(Continued from page 1)

with school systems can get it before school lets out. The registration forms as well as the paper, poster, workshop and vendor forms will be posted electronically as PDF files in order to print out.

- ◆ **IMPORTANT** - Room reservations for the conference hotel are now open. This information along with a toll free number is listed in the conference section of the websites. Delegates are responsible for making room reservations. When making reservations, please be sure to mention that you are with the Triple Conjunction Conference, Oct. 9-13. Please note that the cutoff date for guaranteed reservations at the conference hotel is Thursday, August 9, 2007.

Guest Speakers to Include:

- ◆ **David Levy**
- ◆ **Charles A. Wood, author of Sky and Telescope's "Exploring the Moon"**
- ◆ **Dr. Jim Kaler: Astronomy Update**
- ◆ **Dr. James Sweitzer**

A preliminary schedule has been posted on the MAPS website at: www.maps-planetarium.org

ROOM INFORMATION

A block of 185 rooms (all 89 standard rooms and 96 of the intermediate rooms) have been set aside for the conference. Room rates have been locked in for standard rooms at \$99.00 per night plus applicable taxes. Intermediate rooms are \$129.00 per night plus applicable taxes. 4-bedroom cottages are \$325 per night plus applicable taxes. Room check-in is 3:00pm, 4:00pm for cottages. For reservations, call 800-624-6988. When making reservations, please make sure to mention that you are with the "Triple Conjunction Conference".

Dues Reminder!

MAPS dues are very modest by most standards of professional organizations. Although modest, these funds are vital to the operation of the organization and in preparation for the annual conference. We know it is a popular and convenient time for members to renew their dues at the conference, but this year it will not be held until the fall to accommodate the special Triple Conjunction event.

Please don't wait until the conference to renew your dues. A second round of renewal notices have been sent out by the Treasurer. Please respond promptly to these! Thank you!



PUBLICATIONS COMMITTEE

At long last the Publications Committee is nearing completion of the Proceedings. A DVD disk will be mailed out to members shortly. These Proceedings will include 2005 and 2006 along with a few miscellaneous items from previous conferences.



Due to the recent difficulty in obtaining papers from conference delegates, keep in mind for the upcoming Triple Conjunction that all presenters will be required to turn in a paper before presenting at this conference.

FIVE MILLENIUM CANON OF SOLAR ECLIPSES

Book Review by Thomas Wm. Hamilton

I was delighted recently to see a new publication by a former student of mine. Fred Espenak has co-authored, with Jan Meeus, a new, and probably definitive, summary of all solar eclipses from 2000 BC to 3000 AD. It uses the most up-to-date information on the motions of the Moon, and covers partial, total, annular, and hybrid eclipses. Some of the old and new eclipses are quite interesting.

The book begins by giving a history of past attempts to cover solar eclipses, beginning with the famous "Kanon der Finsternisse" by Theodor von Oppolzer in 1887. The authors hope that the new work will be of use to astronomers, educators, planetariums, and others. I suspect the "others" will include science fiction writers, as I already plan a minor change in my time travel novel to reflect some of this information.

For each eclipse during the five thousand year period, the book gives type (partial, annular, total, or hybrid). There is a map, showing where on Earth the eclipse path tracks, both in partial phases and as either total or annular. Modern political boundaries are shown to help locate paths. The duration of the eclipse at maximum is given along with the Sun's elevation above the horizon, and which saros cycle the eclipse belongs to.

In the five thousand year period Earth experiences 11,898 solar eclipses, of which 4200 are partial (35.3%), 3956 annular (34.1%), 3173 total (26.6%), and just 589 hybrid (4%). I didn't count all those entries, the book provides the numbers.

I checked out the total eclipses I have seen, including two from the same saros (1963 and 1980), as well as a couple I saw as partial. Then I started looking up some historic eclipses. Or not so historic, because the first thing I looked for was solar eclipses in England in the Sixth Century. Those who have read Mark Twain's "Connecticut Yankee in King Arthur's Court" will remember that the Yankee avoids execution as a witch by making the duntimers think he was causing a solar eclipse he just happened to remember was due.

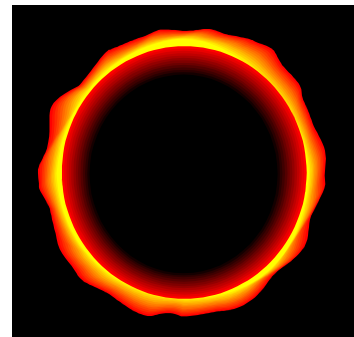
We do not have a good historical date for King Arthur, and a few skeptics suspect he may be just a legend, but assuming he lived, it was in the Sixth Century, probably the middle third. I checked for solar eclipses visible from England between 525 and 575 AD. There were 129 solar eclipses of all types during those fifty years, most of course only partial. The most common of the others were the 42 annular eclipses, followed by 32 total, and just four that were hybrid.

The partial eclipses I ignored, since they usually are not even noticed unless people are told of them. This left the hybrids, totals, and annular eclipses. I quickly disposed of the handful of hybrids. The first one, on September 22, 526, barely touched England as the start of a partial at sunrise. The others came nowhere near the British Isles.

The totals of course mostly missed England also. The closest seems to have been one in June of 540 whose path of totality passed just north of Scotland. And an annular a few years later passed to the south, over Gibraltar and the mouth of the Mediterranean.

So Mark Twain was faking it even bigger than his Yankee did, and King Arthur, if he lived, never got to see a solar eclipse. It's still a great story. Twain may have gotten the idea from Columbus, who used a real lunar eclipse to intimidate some Indians on his second voyage in 1494. Lunar eclipses are not covered in this book, but they are often separated by two weeks from a solar eclipse. I checked, and sure enough, there was a partial solar eclipse on August 30, 1494. It was visible from New Zealand and a small portion of Anarctica.

How about the assassination of Julius Caesar? As Shakespeare wrote, "No man attends the death of beggars, the heavens themselves blaze forth the death of kings." Caesar's March 15, 44 BC death was attended by a comet, but the nearest solar eclipse was an annular on April 18. It was not seen in Rome, just in what would someday become Brazil, Argentina, and Chile.



As further evidence that solar eclipses are really not associated with historic events, there was an annular eclipse seen off the coast of Antarctica on March 28, 1066, and another across northern Asia on September 22, neatly bracketing the Battle of Hastings in both time and space. And the final proof eclipses are not related to disasters, the closest one to my birth was a partial 51 days before, and just barely made the West Coast at sunset. Sufficient I would hope to disprove the ancient fear of impending doom from eclipses.

Three solar eclipses crossed what was becoming the United States during the Revolution. An annular on July 5, 1777 actually touched no part that was involved in the Revolution, cutting through then-Spanish owned southern Louisiana, and Florida, then British owned but not in the war. However, the total eclipse of June 24, 1778 gave well over five minutes of totality as it crossed Georgia, the Carolinas, and a bit of Virginia. The eclipse of October 27, 1780 gave Maine (then a part of Massachusetts) only two minutes of totality, in a path somewhat like that of 1973.

Among the quirks to be found, starting on Nov. 29, 298 BC and continuing through May 3, 295 BC there are six eclipses, which are total, annular, hybrid, hybrid, annular, and total. Six eclipses, including two of the rarest, none of the most common type. Regrettably, the two totals in that sequence only touched land in Antarctica, unknown to the human race then and for another 2000 years, and New Zealand, which probably was also still uninhabited at that time.

One could spend hours playing with this book to find other oddities, or to compile statistics on what percentage of eclipse paths totally miss land, or fall only in the polar regions. This year we have just two partials, in eastern Asia on March 19 and in southern South America and the Palmer Peninsula of Antarctica on September 11. Next year has an annular in Antarctica on February 7, and a total eclipse of 2 minutes 27 seconds duration crossing Greenland through Russia into China. 2009 and 2010 each has two eclipses that are each one annular and one total, but 2011 has four, all partials. Make your travel plans early!

This book is available from NASA Center for Aerospace Information, 7121 Standard Drive, Hanover, MD 21076, (301) 621-0390, report number TP-2006-214141.

MEMBER NEWS

HELMUT WIMMER & ERIK ZIMMERMANN

We sadly note the passing of two important MAPS members. At the end of January we lost Helmut K. Wimmer, Art Coordinator for the American Museum-Hayden Planetarium, and Dr. R. Erik Zimmerman, former Director of the Novins Planetarium.

An excellent obituary for Helmut Wimmer written by Ken Franklin is available on the MAPS website.

A memorial service for Erik Zimmermann will be conducted on Saturday afternoon, May 19th at Ocean County College in Tom's River, New Jersey. Dr. Zimmerman was the long time Director of the Novins Planetarium. Please contact Gloria Villalobos for information and location

Gloria Villalobos, (732) 255-0400 ext. 2111 or gvillalobos@ocean.edu

MARYLAND MEETING

Saturday, May 5
H.B. Owens Science Center

Patty Seaton is planning a mini-planetarium conference for the Maryland/Washington D.C. metropolitan area in May. More details will be available soon.

Patty Seaton
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pxts13@yahoo.com

Member News Continues on page 8 & 9!

Spitz Digital Institute

Dates are set for the 2007 Spitz Digital Institute in Chadds Ford, PA. This year's event will be held July 16-20, including beginner and advanced-user sessions. Pedro Bragança and Herb Koller from Starry Night/Imaginova Canada will participate again this year to present two days of intensive Starry Night instruction – with an emphasis on teaching, lesson development, and assessment using Starry Night High School and Middle School software.

Applications for participant papers and workshops will be mailed with this year's registration packet. The Learning Technologies Inc. Starlab Institute also happens in Chadds Ford on overlapping days.



Starry Night session at the 2006 Digital Institute

An Intern Program will be added to the Digital Institute this year. Interns are needed to help with organization and tasks throughout the Institute. Two enthusiastic individuals will be selected, who are new to the planetarium community, and want to learn about Starry Night/digital planetaria while they help out. No prior experience with Starry Night is required, though some planetarium familiarity and good computer skills are preferred. Interns must be able-bodied and willing to work long days, good with multi-tasking, and employ good communication skills. A car and driver's license will be a plus. Travel and lodging costs for interns, as well as some meals, will be the intern's responsibility to cover. Interns can attend all Institute sessions and events at no cost, and will be eligible for door prizes. Contact Joyce Towne to apply, or recommend an Intern.

Institute attendance is limited. If you do not receive a brochure via mail by the end of March, call Spitz at 610-459-5200, or access forms on www.spitzinc.com. Contact Learning Technologies Inc. for Starlab event information.

Submitted by Joyce Towne – 610-459-5200 x126

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 **KONICA MINOLTA**

NEWS FROM THE EDELMAN PLANETARIUM

Ric and Jean Edelman, whose original donation enabled the expanded and enhanced version of the Edelman Planetarium at Rowan University in Glassboro, NJ, have made a further contribution to astronomy education of the area's children. They have given \$54,000 to the Rowan Foundation to allow schools to attend the planetarium on field trips free of charge for the near future. Keith Johnson, the planetarium's director, says this will allow children to experience one of the planetarium's school programs who would otherwise find it difficult to do so.

The planetarium is currently closed for repairs (due to the reoccurrence of a roof leak), but plans to reopen to the public and the schools with a special ceremony on March 22, and the first public show will take place March 31. Johnson plans to present an expanded and revised version of "Images of the Infinite: The Hubble Space Telescope," a show originally created by the Adler Planetarium in Chicago.

Keith Johnson, Director
Edelman Planetarium
Rowan University, Glassboro NJ
johnsonk@rowan.edu
(856) 256-4389



SPRING GATHERING OF PAPA

(Philadelphia Area Planetarium Association)
North Penn Planetarium, North Penn High School
Tuesday, May 15, 2007

This local group of planetarium directors and educators invites anyone interested to attend our Spring Gathering at North Penn High School. Dan Zielinski is the director of this school facility that has a newly installed Spitz 1024 with ATM4 automation. Dan has



a few presentations that have been developed with high school students for the middle and primary levels. Please consider getting involved by presenting a 20 minute "paperless" paper. A few sentence synopsis sent to Dan will assist us in setting an agenda. Further information will be posted on the MAPS-L mailing list. You can e-mail Dan directly at zielindc@npenn.org.

Summer Courses for Teachers in Bar Harbor, Maine

The College of the Atlantic in Bar Harbor, Maine offers graduate credit, residential programs for teachers at all levels. Tuition, room and board are included in the fee.

July 1 - 6: Teaching from a Portable Planetarium for Earth, Space, and Natural Sciences offers instruction in the use of a portable planetarium, content and activities for planetarium use across the curriculum. This course is intended to serve those working in schools, science centers, museums, or colleges that have a planetarium and wish to enhance the expertise of their staff.

July 22-August 3: Introduction to Astronomy provides standards-based astronomy pedagogy and content, much of which is presented as hands-on activities that teachers can take straight to their classrooms. This course is intended for teachers at every level, from intermediate grades to those responsible for science methods instruction.

Contact: Ms Jean Sylvia, Associate Dir. of Summer Programs
 Phone: 1 800-597-9500 or jsylvia@coa.edu
<http://www.coa.edu/html/summercoursefacultybios.htm>

PIPS Meeting in Schenectady

This is WAY in advance, but mark your calendars. We are going to have a one day PIPS Meeting at the Suits-Bueche Planetarium at the Schenectady Museum.

Monday, July 23rd, 2007.

Tentative agenda:
 Show off our new GOTO Chronos.
 Planetarium show.
 Lessons in a Starlab.
 Classroom lessons in Astronomy.
 A tour through our collections areas.
 A guest speaker.
 And.... we will also have the infamous NASA lunar soil samples disk there for display.



Our museum has many brand new exhibits relating to the generation of power, alternative fuels, and a "Bridge of Fire", where up to five people can stand on at a time, and have their hair stand on end.

Also at that time, our new exhibit on the MRI Machine should be up and running. The MRI was invented by a team of Scientists led by the gentleman who gave most of the money for the renovation of our planetarium during the last few years.

So Mark it on your calendar; Monday, July 23rd. More info will follow.

Steven LJ Russo
 Planetarium Manager
 Suits-Bueche Planetarium
 Schenectady Museum
 Schenectady, NY 12308
 518-382-7890 X 253
www.schenectadymuseum.org



New Members:

- ◆ Terry McDonald, Roberson Museum & Science Center, Binghamton, NY
- ◆ Linda Powell, State Museum of PA, Harrisburg, PA
- ◆ Todd Ullery, York Learning Center Planetarium, New Freedom, PA

Recently Retired Members who have converted to Life Membership:

- ◆ Joseph D. Clinton, West Chester, PA
- ◆ David L. Duchon, Havre DeGrace, MD
- ◆ John F. Richardson, Richboro, PA
- ◆ Jeffrey L. Smith, Duncannon, PA
- ◆ Anthony Villano, Fair Lawn, NJ

In This Issue...



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