



# the Webfooted Astronomer

News from the Seattle Astronomical Society

January 2009

## Dava Sobel to keynote annual SAS banquet Jan. 11

Author Dava Sobel will be the keynote speaker at the annual banquet of the Seattle Astronomical Society. The banquet will be held Sunday, Jan. 11, 2009 at 5:30 p.m. at the Rock Salt Restaurant, 1232 Westlake Avenue North in Seattle.

Sobel, a former *New York Times* science reporter, is the author of *Longitude* (Walker 1995 and 2005, Penguin 1996), *Galileo's Daughter* (Walker 1999, Penguin 2000) and *The Planets* (Viking 2005, Penguin 2006). In her thirty years as a science journalist she has written for many magazines, including *Audubon*, *Discover*, *Life* and *The New Yorker*; served as a contributing editor to *Harvard Magazine* and *Omni*; and co-authored five books, including *Is Anyone Out There?* with astronomer Frank Drake.

Sobel received the 2001 Individual Public Service Award from the National Science Board "for fostering awareness of science and technology among broad segments of the general public." Also in 2001, the Boston Museum of Science gave her its prestigious Bradford Washburn Award for her "outstanding contribution toward public understanding of science, appreciation of its fascination, and the vital role it plays in all our lives." In October 2004, in London, Sobel received the Harrison Medal from the Worshipful Company of Clockmakers, in recognition of her contribution to increasing awareness of the science of horology by the general public, through her writing and lecturing. In 2008 the Astronomical Society of the Pacific gave her its Klumpke-Roberts Award for "increasing the public understanding and appreciation of astronomy."

From January through March 2006, Sobel served as the Robert Vare Nonfiction Writer in Residence at the University of Chicago, where she taught a seminar in science writing while pursuing research on her new project—a stage play about sixteenth-century astronomer Nicolaus Copernicus, called *And the Sun Stood Still*. Her play was commissioned by Manhattan Theatre Club through the Alfred P. Sloan Initiative, and is also supported by a Fellowship from the John Simon Guggenheim Memorial Foundation.

### NEXT MEETING

Jan. 11, 2009 — 5:30 p.m.  
Rock Salt Restaurant  
1232 Westlake Ave. N.  
Seattle

### Annual SAS Banquet

The annual banquet replaces the regular monthly meeting for January.

Cost is \$35 per person.

Register on-line or print a form from the SAS Web site:

[www.seattleastro.org/  
banquetform.shtml](http://www.seattleastro.org/banquetform.shtml)

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# SAS Calendar

**January 10 — Full Moon**

**January 11 — 5:30 p.m.**

Seattle Astronomical Society Banquet  
Guest speaker: Author Dava Sobel. Details on page 1.

**January 18 — 2 p.m.**

Astrophotography/imaging SIG meeting  
Contact: [astrophoto@seattleastro.org](mailto:astrophoto@seattleastro.org)

**January 23**

Venus 1.4 degrees north of Uranus

**January 24 — 6 p.m.**

Tiger Mountain Star Party (members only)

**January 26 — New Moon**

**January 31 — 7 p.m.**

Seattle Astronomical Society Star Parties

- ◆ Green Lake, Seattle
- ◆ Paramount Park, Shoreline

**February 2 — First quarter Moon**

**February 9 — Full Moon**

**February 18 — 7:30 p.m.**

Seattle Astronomical Society Meeting  
Topic TBA

## SAS officers

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# SAS Gallery



*Maxine Nagel snagged the above photo of the conjunction of the Moon, Jupiter, and Venus with a point-and-shoot camera in Sun City West, Arizona around 6 p.m. November 30, 2008. Burley Packwood caught the scene at left December 1, 2008 from his back yard in Green Valley, Arizona with a tripod-mounted Nikon D300. Thank goodness folks are traveling to Arizona to verify for us Seattle-bound sufferers that the universe is still there for observing.*

# 400 years of stargazing

by Ron Hobbs

This New Year marks 400 years of the use of the telescope as an instrument of astronomical investigation. As we all know, the Tuscan polymath Galileo Galilei first heard of the instrument, improved on it and began looking at the sky with it in 1609. NASA, the United States and, indeed, almost all of the nations of the world are beginning a year-long celebration of this breakthrough technology and the view of our universe that it has given us. The United Nations has declared 2009 to be the International Year of Astronomy, the aim of which is “to stimulate worldwide interest, especially among young people, in astronomy and science.” This global effort, initiated by the International Astronomical Union and UNESCO, is designed “to help the citizens of the world rediscover their place in the Universe through the day- and night-time sky, and thereby engage a personal sense of wonder and discovery.” More information about IYA2009 can be found at one the following three websites:

International: [www.astronomy2009.org](http://www.astronomy2009.org)  
U.S.: [astronomy2009.us](http://astronomy2009.us)  
NASA: [astronomy2009.nasa.gov/](http://astronomy2009.nasa.gov/)

In the middle of February, NASA will be unveiling an image constructed from data from three of the “Great Observatories” to help celebrate Galileo’s 445th birthday. The Museum of Flight has been chosen to receive one of the prints for permanent display. Galileo’s birthday is February 15, so be sure to listen for details on this new astronomical image around that time. Dr. Don Brownlee will speak about the Stardust mission on Saturday, Jan. 24 at the museum. This month marks the fifth anniversary of the collection of dust samples from Comet 81P/Wild 2 (Jan. 2, 2004), as well as the third anniversary of the

delivery of the samples back to Earth (Jan. 15, 2006). Incidentally, the Stardust Sample Return Capsule was placed on display in the National Air and Space Museum’s Milestones of Flight Gallery on NASA’s 50<sup>th</sup> birthday, Oct 1, 2008. Dr. Brownlee will tell about how these samples, the first from beyond the Moon, have revolutionized our understanding of the formation of the Solar System.

Galileo gets most of the credit for providing observational evidence for the Copernican heliocentric theory. However, Johannes Kepler published the first two of his Laws of Planetary Motion in 1609 and this simplified model did much to prove the notion that we live in a “Solar System.” On March 5, NASA plans to launch a new telescope named for this other great progenitor of the scientific enterprise. The Kepler spacecraft has the Schmidt telescope with a 0.95-meter aperture and a 12-degree diameter field of view. The instrument will be pointed at a single field of over 100,000 stars near Cygnus for almost four years, and is very likely to discover the first Earth-sized planet orbiting in its star’s habitable zone. ([kepler.nasa.gov/](http://kepler.nasa.gov/)) It will be a fitting tribute to the other great astronomer of the 17th Century.

January also marks five years of roving the Martian surface by Spirit and Opportunity. The rovers have been cooling their wheels for the past couple of weeks; Mars passed through solar conjunction on the fifth of December. The Martian autumnal equinox was on Dec. 26, and as the rovers head into their fourth Martian summer, I am expecting several record-breaking single sol drives this coming year for Opportunity. It was beginning to look like we were going to have three rovers on Mars in 2010, but that is not to be. The launch of Mars Science Laboratory has now been delayed until 2011.

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## Sobel to keynote SAS banquet Jan. 11

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*Longitude* went through twenty-nine hardcover printings before being re-issued in October 2005 in a special tenth-anniversary edition with a foreword by astronaut Neil Armstrong. Soon after its original publication in 1995, the book was translated into two dozen languages and became a national and international bestseller. It won several literary prizes, including the Harold D. Vursell Memorial Award from the American Academy of Arts and Letters and "Book of the Year" in England. Together with William J. H. Andrewes, who introduced her to the subject of longitude, Sobel co-authored *The Illustrated Longitude* (Walker 1998 and 2003).

Lecture engagements have taken Sobel to speak at The Smithsonian Institution, The Explorers' Club, NASA's Goddard Space Flight Center, The Folger Shakespeare Library, The New York Public Library, The Hayden Planetarium, and The Royal Geographical Society (London). She has been a frequent guest on National Public Radio programs, including "All Things Considered," "Fresh Air," "The Connection" with Christopher Lydon, and "The Diane Rheem Show." Her

TV appearances include C-SPAN's "Booknotes" and "TODAY" on NBC.

A 1964 graduate of the Bronx High School of Science, Sobel attended Antioch College and the City College of New York before receiving her bachelor of arts degree from the State University of New York at Binghamton in 1969. She holds honorary doctor of letters degrees from the University of Bath, in England, and Middlebury College, Vermont, both awarded in 2002.

A play based on *Galileo's Daughter*, written by Timberlake Wertenbaker and directed by Sir Peter Hall, premiered in Bath, England, in July 2004. In October 2005, a play by Arnold Wesker, based on *Longitude*, directed by Fiona Laird, enjoyed a successful limited engagement at the Greenwich Theatre near London.

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*Dava Sobel. Photo by Paul Schneck.*

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## 400 years of stargazing

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The Rover anniversary is meaningful to me in my outreach activities. While I became a Solar System Ambassador in 2001, I became most active on the day that Opportunity landed on Meridiani Planum, Jan. 24, 2004. I participated in Marsfest at the Museum of Flight, the first of many outreach activities I performed that year and since. I am looking forward to the International Year of Astronomy being a banner year for inspirational outreach.

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*Ron Hobbs is the Public Programs Assistant for The Museum of Flight and a Solar System Ambassador for NASA's Jet Propulsion Laboratory. For more information on the SSA program see [www2.jpl.nasa.gov/ambassador](http://www2.jpl.nasa.gov/ambassador)*

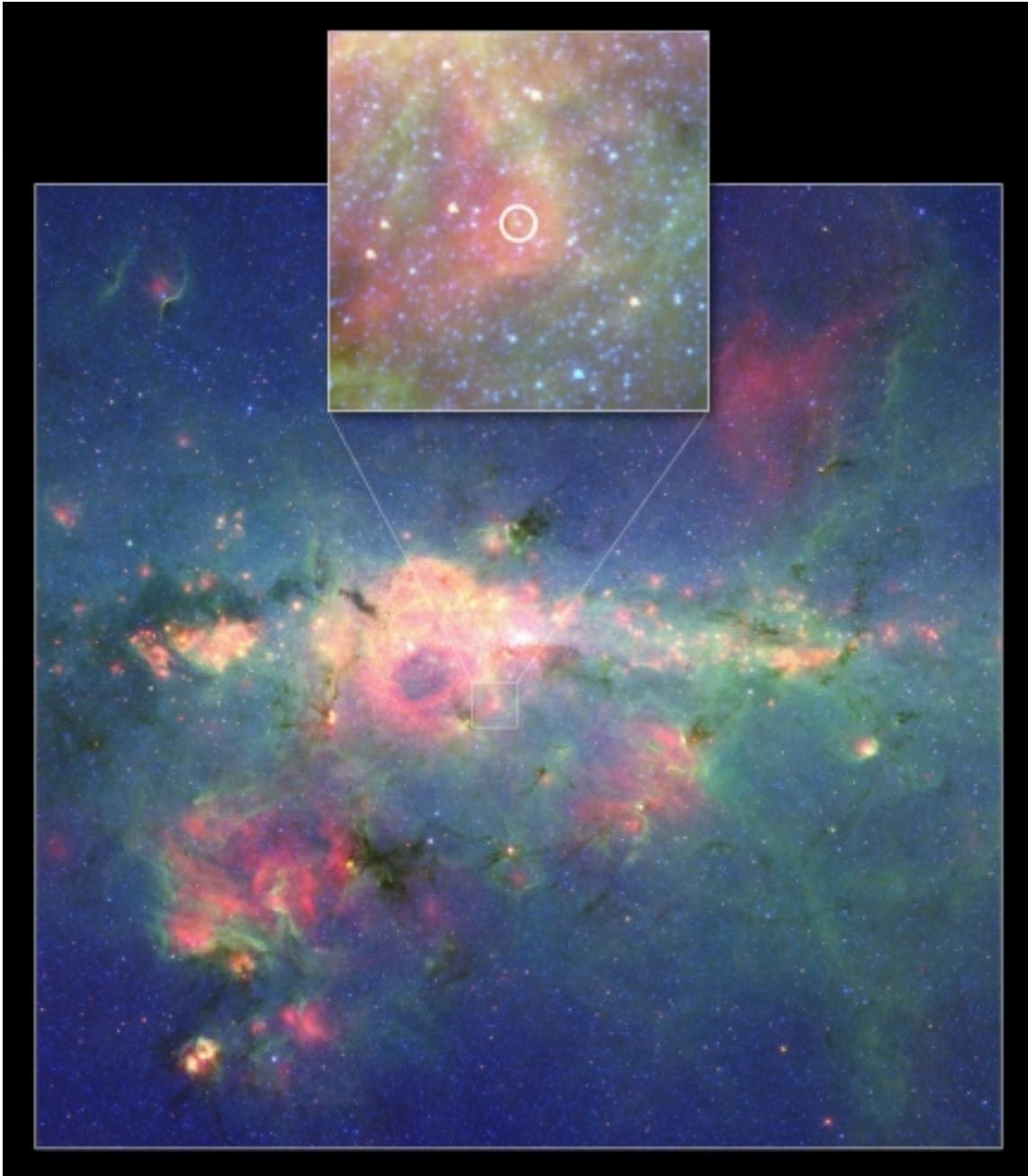
# Superstar hide and seek



by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleash-



*The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.*

ing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

Earlier this year, they found one.

“It’s called the Peony nebula star,” says Lidia Oskinova of Potsdam University in Germany. “It shines like 3.2 million suns and weighs in at about 90 solar masses.”

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova’s team set the record straight using NASA’s Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.

“Using data from Spitzer, along with infrared observations from the ESO’s New Technology Telescope in Chile, we calculated the Peony star’s true luminosity,” she explains. “In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns.”

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

“There’s no threat to Earth,” she believes. “Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don’t appear to be any supermassive stars within a thousand light years of our planet.”

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now that might be hard to hide.

Find out the latest news on discoveries using the Spitzer at [www.spitzer.caltech.edu](http://www.spitzer.caltech.edu). Kids (of all ages) can read about “Lucy’s Planet Hunt” using the Spitzer Space Telescope at [spaceplace.nasa.gov/en/kids/spitzer/lucy](http://spaceplace.nasa.gov/en/kids/spitzer/lucy). ★

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

### **We promise you the Sun, the Moon, and the stars...and we deliver!**

The Seattle Astronomical Society is an organization created and sustained by people who share a common interest in the observational, educational, and social aspects of amateur astronomy.

Established in 1948, the SAS is a diverse collection of over 200 individuals. A variety of programs and activities is presented by the SAS throughout the year. Monthly meetings feature speakers on a wide range of topics, from the Hubble Space Telescope to electronic imaging to personal observing experiences. The club holds public observing “star parties” at Green Lake and Paramount Park every month, dark sky observing parties outside Seattle, plus such activities as meteor watches, public telescope and astronomy displays, National Astronomy Day, and an annual Awards Banquet.



**The Webfooted Astronomer**  
 Seattle Astronomical Society  
 PO BOX 31746  
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RETURN SERVICE REQUESTED

**NEXT MEETING**  
**Jan. 11, 2009**

SAS annual banquet  
 with guest speaker  
 Dava Sobel.

Details, page 1



**Seattle Astronomical Society Membership**

Join or renew on-line at <http://www.seattleastro.org/membernew.shtml> or mail this form and your check to the address below. For family memberships, please include the names of persons you want to appear in the membership directory. For renewals, please include magazine subscription customer number.

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