

the Webfooted Astronomer

Seattle Astronomical Society • November 2003

November Meeting

Speaker: Ken Croswell

Magnificent Mars

Wednesday, November 19

7:30 p.m.

(arrive early for best seating)

Physics-Astronomy Building
Room A102

University of Washington
Seattle

Come early at 7 p.m. for coffee
and snacks and to visit with
your fellow members!

Nov. Meeting:

Ken Croswell and *Magnificent Mars*

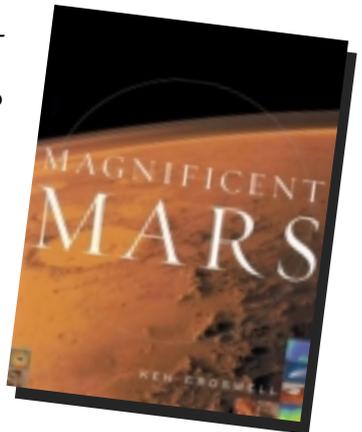
The SAS speaker for November is renowned author Ken Croswell. Ken earned his Ph.D in Astronomy from Harvard University and lives in Berkeley, California. Ken will be presenting his talk on “Magnificent Mars.” The planet Mars has long offered the prospect of another living world in the solar system.

With an armada of spacecraft scrutinizing the red planet as never before, Ken will show us the best color images of Mars and describe

the planet from pole to pole. We’ll explore Martian geology, the Martian atmosphere, Martian volcanoes, and Martian water, all organized around the four great elements of Mars: Earth, Air, Fire and Water.

Along the way we’ll see nearly every image from his new book, *Magnificent Mars*, including volcanoes over twice as tall as Mount Everest, canyons that could stretch from Ohio to California, and floods of water far greater than any known on Earth. Billions of years ago, on a world warmer and wetter, Mars may have given rise to life whose fossils await discovery today.

Don’t miss this spectacular presentation by internationally recognized speaker Ken Croswell. Bring a friend along for an “out of this world” experience!



Seattle Astronomical Society

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From the President's Desk...

by Stephen Van Rompaey

This month we will have the pleasure of Ken Crosswell, astronomer and author, speaking at our November meeting about "Marvelous Mars." As with our Mars madness star parties this summer, we are expecting a sizeable crowd. Representatives from the UW Bookstore will be present and they will be selling copies of Crosswell's books. As of the day I'm writing this article, the UW Bookstore's events webpage continues to display incorrect information about this event. In particular, they say that the talk is at 7 p.m. rather than our normal starting time of 7:30 p.m. I spoke with the person at the bookstore who publicizes events and learned that they didn't attempt to contact anyone at the SAS before preparing their publicity material. To make matters worse, they already printed and distributed flyers on campus with the earlier time. So, even if we can get this information corrected soon, it is likely that we will have a large group of non-members arriving at the auditorium anticipating a 7 p.m. talk. Given these circumstances, I recommend that you make an effort to arrive earlier than usual in order to find seating. On the bright side, we will have an opportunity to publicize the SAS while people are waiting for the talk to begin.

**...I recommend that
you make an effort
to arrive earlier than
usual [to the
November meeting]
in order to find
seating.**

The SAS Bylaws require that we hold our annual elections of club officers during the November meeting. At this time, we have the following nominees for the 2004 board:

SAS Chair:	Mary Ingersoll
President:	Stephen Van Rompaey
VP Programs:	Rick Libsack
VP Education:	Mike Langley
VP Membership:	Janice Edwards
Secretary:	Thomas Vaughan
Treasurer:	Jim Peterson

If you are interested in being nominated for one of these positions, please

continued on page 4

President's Message: continued from page 3

contact me as soon as possible. Individuals may only be nominated if they have given their permission.

Looking ahead to the Awards Banquet in January, I would like to announce that Ron Wodaski will be our speaker. Ron Wodaski is an experienced CCD

astrophotographer and author of the book "The New CCD Astronomy." Ron is a local astronomer who holds CCD imaging camps at New Mexico Skies and operates a remote amateur telescope at the

New Mexico site. You can find additional information about Ron at his website: <http://www.newastro.com/wodaski/>.



Just a reminder that when you mail in your checks for the banquet, be sure they are made out to "Kathy Steyaert" and not the SAS. While this is not how it's been done in the past, we determined that this would be the most convenient way for Kathy to facilitate the banquet for the SAS.

The last time the SAS raised its dues was in January 1995, and we feel that it's necessary to raise our Individual/Family membership dues from \$25 to \$30 per year.

Finally, I must announce that the board has decided that annual membership dues for the SAS must be increased. The primary motivation for this was the increase in the Astronomical League's annual dues from \$3.50 to \$5.00, but the board has also noticed that we have been just covering our expenses this past year. The club's primary expenses are copying membership and informational brochures about the SAS and producing the monthly newsletter. The last

time the SAS raised its dues was in January 1995, and we feel that it's necessary to raise our Individual/Family membership dues from \$25 to \$30 per year. Student membership dues will be kept at \$10 annually. The SAS Bylaws require that increases in club dues must be voted on by the club's members. So, I plan to hold the vote on increasing our dues at the December meeting, and this increase will go into effect starting on January 1, 2004.

Telescope for Sale

Celestron Super 8 with equatorial wedge, heavy tripod, 8x50 finder scope, 22 mm, 17 mm, 10 mm, 7 mm oculars, etc. Excellent condition.



Contact Joe Fillo at (360) 275-5648
PO Box 2073, Belfair, WA 98528

MarsFest '04 at Museum of Flight

The Museum of Flight Seattle takes pride in presenting MarsFest '04 to celebrate the arrival on Mars, the Red Planet, of the British-built Beagle 2 lander and of JPL/NASA's two Robotic Geologists "Spirit" and "Opportunity."

The European Space Agency's (ESA) Mars Express is due to arrive in orbit around the red planet in December 2003, and its British built Beagle 2 lander will be making a touchdown on the plains of Isidis Planitia (11 N, 269 W) sometime on Earth's Christmas Day. <http://www.beagle2.com/project/index.htm>.

The NASA/JPL Spirit Rover, the size of a golf cart will be touching down thousands of kilometers away in Gusev Crater (2 S, 355 E) about two weeks later on January 3/4 and then its twin Opportunity will land on January 24/25, twenty-one days later and almost 180 degrees around Mars at Terra Meridiani (15 S, 176 E). All will be searching for water and possible signs of life. <http://mars.jpl.nasa.gov/mer/>.

The festivities at the Museum will begin at 10 a.m. and go all day. Featured events will include a live feed from NASA as things happen and a panel discussion in the afternoon with a panel of local Mars experts spearheaded by Doctor Ron Hobbs a NASA/JPL Solar System Ambassador. It should be an "out of this world" experience with a party atmosphere, so bring the whole family.



This event is being brought to you in cooperation with the National Space Society, Seattle Chapter (NSS Seattle), Mars Society, Puget Sound and the Planetary Society.

Watch the Museum of Flight web site for details as they are posted: www.museumofflight.org.

Hurricane Team Work

by Dr. Tony Phillips

On a gray breezy day last month thousands of people got in their cars and reluctantly left home. U.S. east coast highways were thick with traffic. Schools were closed. Businesses shut down.

Perfect!

When powerful Hurricane Isabel arrived some 38 hours later nearly everyone in the storm's path had fled to safety.

Days later Vice Admiral Lautenbacher, in a briefing to President Bush, praised the National Atmospheric and Oceanic Administration (NOAA): "Without NOAA's excellent track forecasts, hurricane Isabel's toll on lives and property would have been even more devastating. This is NOAA's first year of providing 5-day forecasts-and the 5-day forecast for Isabel was as good as our 2-day forecasts have been over the last decade."

Many people in NOAA played a role. A team of pilots, for instance, flew Gulfstream-IV High Altitude Surveillance jets right up to the approaching hurricane, logging 25,000 miles in the days before landfall. Their jets deployed devices called dropsondes—little weather stations that fall toward the sea, measuring pressure, humidity, temperature and wind velocity as they plummet. The data were radioed back to the aircraft and transmitted to forecasters on shore.

While two Gulfstream-IV crews flew night and day around the storm, a NOAA satellite named GOES-EAST monitored Isabel from above. (GOES is short for Geostationary Operational Environmental Satellite.)

From an orbit 22,300 miles above the Atlantic Ocean, GOES-EAST had a unique view. "It could see the entire hurricane at once," says Ron Gird of NOAA. "Scientists used infrared spectrometers onboard the satellite to estimate the height of the storm clouds, their temperature and water content. GOES can also measure the temperature of the ocean surface—the source of power for hurricanes."

Constant streams of data from GOES and the Gulfstream aircraft were fed to supercomputers at NOAA's Environmental Modeling Center in

Maryland where sophisticated programs, developed over the years by meteorologists and programmers, calculated the storm's most likely path.

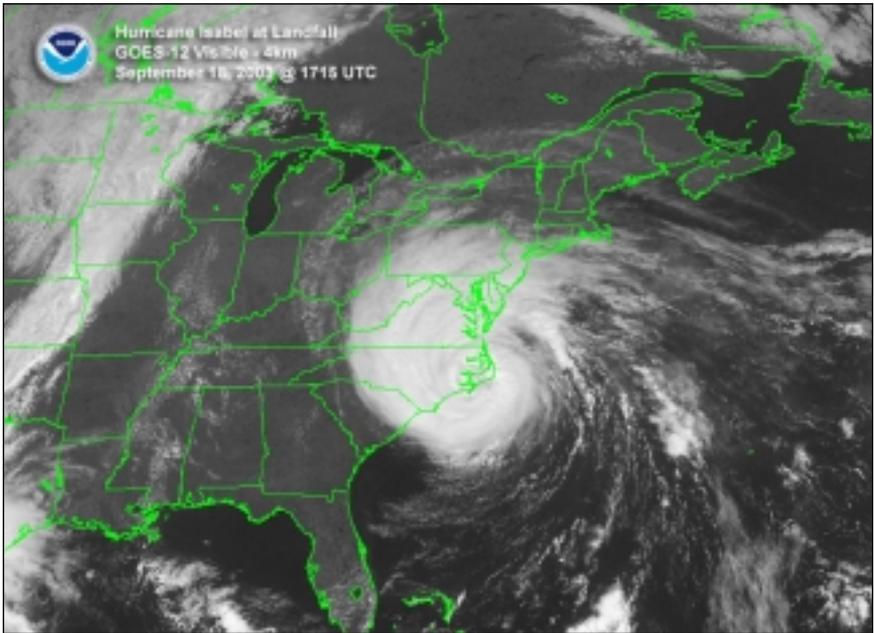
Supercomputers. Satellites. Jet airplanes. Scientists. Programmers. Pilots. It took a big team using a lot of tools to predict where Isabel would go—accurately and with time to spare.

Says Vice Admiral Lautenbacher: "I hope everyone at NOAA shares the pride of being part of a team effort that so effectively warned the public of impending danger and enabled citizens to take action to protect themselves and their loved ones."

Well done, indeed.

To learn more about the GOES, see www.oso.noaa.gov/goes/. For kids, the SciJinks Weather Laboratory at scijinks.nasa.gov has lots of fun activities and fascinating facts about the wild world of weather.

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



GOES-East satellite image of hurricane Isabel as it makes landfall on September 18, 2003 at 1715 UTC.



November 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						 1 Orientation Meeting; Green Lake & Paramount Park Star Parties
2	3	4	5 UW Public Viewing Night 7 p.m.	6 UW Astronomy Colloquium: Mordecai-Mark Mac Low 4 p.m.	7	8 Amateur Telescope Makers SIG Meeting 6:30 p.m.
 9 Astrophotography/Imaging SIG Meeting 2 p.m.	10	11	12	13 UW Astronomy Colloquium: Leon Koopmans STScI 4 p.m.	14	15
16 	17	18	19 Monthly SAS Meeting UW Room A102 7:30 UW Public Viewing Night 7 p.m.	20 UW Astronomy Colloquium: TBA, 4 p.m.	21	22 Tiger Mountain Star Party 7:00 p.m.
 23	24 SAS Board Meeting 7 p.m.	25	26	27 UW Astronomy Colloquium: TBA, 4 p.m.	28	29 Green Lake & Paramount Park Star Parties
 30						



December 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 UW Public Viewing Night 7 p.m.	4 UW Astronomy Colloquium: Harvey Richer, UBC 4 p.m.	5	6 Amateur Telescope Makers SIG Meeting 6:30 p.m.
7		8	9	10	11	12
14	15		16	17 Monthly SAS Meeting UW Room A102 7:30	18	19
21	22 SAS Board Meeting 7 p.m.		23	24	25	26
28	29		30	31		27 Green Lake, Paramount Park, and Earthworks Park* Star Parties

* Watch www.seattleastro.org for more information (including address and directions) about the **new star parties at Earthworks Park** in the south end!



October Minutes Webcam Imaging

by Thomas Vaughan

Speaker: Tom Gwilym

Announcements

The meeting began with these announcements.

- ★ Sky and Telescope subscriptions will increase to \$33/year starting in 2004.
- ★ Club elections will be held at the November meeting.
- ★ Send 2004 Banquet reservations and checks to Kathy Steyaert.
- ★ The Banquet speaker will be Ron Wodaski.
- ★ Burley Packwood was awarded the Lunar Club Certificate. Congratulations, Burley!

Talk: Webcam Imaging

Tom Gwilym is a local amateur astronomer who has been imaging using webcams for several years. This talk was both a history of his experiences, and advice for other amateur astronomers who are thinking of getting into imaging.

Tom said he himself started out with a small scope (Tasco 60mm), but was able to get respectable images. He recommended one of these popular web cams:

- ★ Philips Vesta Pro
- ★ ToUcam Pro
- ★ Quickcam Pro 3000 or 4000

Tom also had some great images and movies of the International Space station. He was able to resolve solar panels, modules, Soyuz modules, and the space shuttle.

You also need an adapter to mount the camera to the telescope. This can be accomplished using an old 35mm film canister, or you can buy special “Steve Mogg” adapters online.

Tom himself started with a modified Vesta Pro camera. He added a peltier cooler, and tweaked the electronics a bit to allow for longer exposures. He also bought another telescope, a Meade ETX90EC.

Most of the talk was a progression of images and even short movies, from Tom’s cameras. These are just a few of the objects Tom was able to image successfully:

- ★ Orion Nebula (M42/M43)
- ★ Crab Nebula (M1)
- ★ Sunflower Galaxy (M63)
- ★ Triffid Nebula (M20)
- ★ Eagle Nebula and Open Cluster (M16)
- ★ Globular cluster M13

Tom also had some great images and movies of the International Space station. He was able to resolve solar panels, modules, Soyuz modules, and the space shuttle. The movies showed the station rotating as it passed overhead — all from a webcam in a relatively dark spot in Renton!

Tom also had some fantastic planetary and deep-space images from other webcam imagers around the world, including the “Hong Kong master” (someone on a rooftop in Hong Kong) and the “French master” (an amateur astronomer in Paris).

Tom highly recommended the Yahoo group QCUIAG — QuickCam and Unconventional Imaging Astronomy Group: <http://groups.yahoo.com/group/QCUIAG/>

Further information can be found on Tom's web page: <http://www.geocities.com/tegwilym2/astrophotos/>

New SPACE Exhibit Premieres This Month at Pacific Science Center

Seattle's Pacific Science Center will be presenting the national premiere of *SPACE: A Journey to Our Future* on November 22. The exhibit, which will run through May 9, 2004, is created to ignite people's desire for discovery, sparking imaginations and inspiring new generations of explorers to dream of the possibilities that lie ahead.

This extraordinary exhibit, which will tour major Science Centers around the country over four years, gives audiences an opportunity to experience our past explorations and future destiny in space. Visitors to the exhibit are reminded that only through dreaming and exploration can we truly begin to live as inhabitants of this universe in which we find ourselves adrift. SPACE reintroduces audiences to generations of dreamers and thinkers who have at times risked their lives to give us all a better understanding of who we are and how we fit into the universe

around us. Most importantly, we will meet today's explorers who continue to understand more about our planet and how to protect it and are on the forefront of the search for answers to our questions about the beginning of our universe and what life exists out there. The exhibit reminds each visitor that it is these unknown questions of our existence that make us all the same, inexorably tied together on this fragile, blue planet. And, through this exhibit, we realize once again that it is a moral imperative for us as the human race and as a planet to continue the search for the answers.



SPACE uses immersive scenic elements, the most advanced interactive exhibits and state-of-the-art projection and audio technology to bring this epic story to life. Along with many other exhibits, you will have the opportunity to experience SPACE firsthand:

- ★ Touch the Moon and Mars. Visitors can touch actual rocks from the lunar surface and the red planet.
- ★ Mars Base Camp. Would-be explorers can "fly" a motion-simulated mission aboard a Mars Orbiting Space Station to a re-created base

camp on the Martian surface.

- ★ **Lunar Module Ride.** Exhibit-goers can "ride" a re-creation of the first manned spacecraft to land on the Moon, controlling the craft through the final 30 seconds of its historic journey.
- ★ **Saturn V Launch.** Reenactment of a Saturn V rocket launch re-creates some of the excitement surrounding countdown to one of the most remarkable engineering feats of all time-sending man to the moon.
- ★ **Explore the International Space Station.** This interactive area within a re-created ISS examines NASA studies in areas such as robonauts, deep space probes, next-generation telescopes, living in space and space tourism.

The exhibit is divided into four main areas:

Dare To Dream. Through the centuries countless dreamers who dared to find the answers to our very existence have shaped humankind's knowledge of our place in the universe. This exhibit pays tribute to those dreamers and their amazing achievements and will start us on our own journey of discovery.

A Dream Come True. To this day we are still awed by the image of the Earth as seen from the Moon during the Apollo program. For the first time we saw our fragile place in the universe and we could not help but be changed forever. This exhibit will remind us of that remarkable achievement and introduce us to people who made that dream come true.

Living the Dream. This series of exhibits will open our eyes to the wonders of discovery that are taking place right now, all around us. Today, all over the world, people and organizations are creating and envisioning new tools and ideas that are helping us unlock many secrets to the Universe and that will propel us into our future adventures in Space. These people, and we as a planet, are truly living the dream!

Dream Of Tomorrow. The final portion of the exhibit will open our eyes to the wonders that our future holds, and introduce us to today's dreamers who-like those before them-dare to imagine what secrets the Cosmos holds. Our journey into that future has many destinations and we will become true inhabitants of the universe if we continue to dream of tomorrow.

For more information, see www.pacsci.org or www.spaceevent.com.

SAS Logo Shirts Now Available!

Don't be caught in the dark without one!

Shirts are available in most sizes and colors. White logo will be printed on dark shirts, black logo on light shirts.



Styles available:

- A** t-shirt short sleeve \$12.00*
 - B** t-shirt long sleeve \$15.00*
 - C** sweatshirt hooded w/front pocket \$20.00*
 - D** sweatshirt no hood, no pocket \$18.00*
 - E** golf shirt short sleeve \$17.00*
- * add \$2 each for shirt sizes XXL and larger**

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Payment must be included with your order.			subtotal	_____
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* Your order can be mailed to you by Priority Mail.

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These are the local charges:
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3 shirts and over OR if your zip code is outside the local area, please contact Mary Ingersoll

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The Seattle Astronomical Society

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<input type="checkbox"/> Full-Time Student Membership (copy of student ID required)	\$10.00
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<input type="checkbox"/> 1 year of Sky and Telescope Magazine (optional)	\$33.00
<input type="checkbox"/> 1 year of Astronomy Magazine (optional)	\$30.00
<input type="checkbox"/> Donation (optional)	\$ _____

Total amount enclosed: \$ _____

New SAS Member SAS Member Renewal Gift Membership

Name _____

Address _____

Phone _____

E-mail address (optional) _____

Please print above information clearly.

Important: If you move, please send a change of address card to the above address.

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