

December 2004

Special points of interest:

- New board members elected
- 2005 Awards Banquet
- Hungry Galaxy caught in the act!

December Meeting:

Wednesday, December 15th.

Speaker: “Kristine Washburn”

Topic: “Planetarium Visit”

Take a break from the holidays at the December 15 SAS meeting. Kristine Washburn, a graduate student at the UW will lead a show for us in the University planetarium.

We will meet in the regular meeting room (UW Physics-Astronomy Bldg, Room A102) at 7:30 for club announcements and then will head upstairs to the planetarium. I would like to encourage everyone to bring family members as this should be an appropriate event for all ages. People may want to bring sleeping bags or pillows to lie on. Kristine does a very lively and entertaining show so this will be a lot of fun. The last time she did a show for us she was very open to questions and suggestions from the audience so think of what you might like to see!



Meeting Information

Speaker: Kristine Washburn

Wednesday, December 15
7:30 p.m.

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!*



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Seattle Astronomical Society

Address

PO Box 31746

Seattle, WA 98103-1746

SAS Info Line: 206-523-ASTR

Web Page:

<http://seattleastro.org>

WebfootWeb: webftweb@scn.org

E-mail: information@seattleastro.org

Board & Committees

President: Stephen Van Rompaey,

425-564-8619,

president@seattleastro.org

Board Chairperson: Mary Ingersoll,

206-246-0977,

chair@seattleastro.org

First VP-Programs: Open,

programs@seattleastro.org

Second VP-Education: Mike Langley,

425-241-8094,

education@seattleastro.org

Third VP-Membership: Janice Edwards,

membership@seattleastro.org

Fourth VP-Publicity: Mark deRegt,

publicity@seattleastro.org

Treasurer: Jim Peterson,

206-524-6015,

treasurer@seattleastro.org

Secretary: Thomas Vaughan,

425-445-5371,

secretary@seattleastro.org

Astronomical League: Bob Suryan,

206-789-0599,

alcor@seattleastro.org

Webmaster: Paul Rodman,

425-889-8273,

webmaster@seattleastro.org

Club Telescopes & Equipment: Thomas Vaughan,

425-445-5371,

equipment@seattleastro.org

Special Interest Groups

Dark Sky Northwest: Bruce Weertman,

bruce@weertman.com

Telescope Makers: Peter Hirtle,

206-363-0897,

atm@seattleastro.org

Astrophotography: Keith Allred,

425-821-5820,

astrophoto@seattleastro.org

Vive La Lune (Moon): Pat Lewis,

206-524-2006,

lunar@seattleastro.org

Sidewalk Astronomers: Paul Ham,

206-522-7410,

paulham@webtv.net

Webfooted Astronomer

Editor: Saurabh Saxena

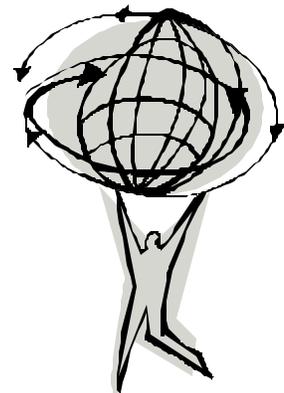
Co-editor: Rose Millican

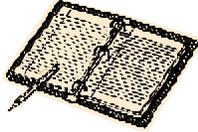
editor@seattleastro.org

Circulation Managers: Pat Lewis & Joanne Green,

206-524-2006,

circulation@seattleastro.org





From the President's Desk...

By Stephen Van Rompaey

Well, once again we have held a successful election of new board members. I want to thank Thomas Vaughn, Rod Ash, Scott Cameron, Janice Edwards, Bruce Kelley, and Burley Packwood, for their willingness to volunteer their time to keep the SAS alive and well. I must point out, however, that we are still missing a volunteer to serve as club Secretary. The Secretary attends and records the minutes for the monthly club and board meeting. The previous Secretary, Tom Vaughn, reported that it took about an hour a month to prepare the minutes. As a non-profit organization we must keep accurate records of our activities and it is essential for the club that this position be filled. Someone, please volunteer.

The SAS Youth Astronomers group held its second meeting in November and we had a good showing. This group is organized by Karl Schroeder and Margaret Stoermer and I want to thank both of them for getting a youth group started for the club. The current effort is oriented toward the 5-6th grade level, but activities will be expanded if older children become involved. The club will meet next at the Shoreline Public Library on Saturday, December 18th, from 11:00am – 12:30pm. In addition to a scintillating learning experience and astronomy related games, snacks will be served. If you have any questions, please feel free to contact Karl (206.362.7605) or Margaret (206.361.8174).

Yes, we are having our awards banquet. It will be held at **Rock Salt on Latitude 47° Restaurant**, the same venue we used last year. The price per person is \$31.00, and includes the standard entrée choices of salmon, prime rib, and vegetarian lasagna. This year's speaker will be Professor Toby Smith, who will present a talk titled "Uncovering Titan - Latest Cassini Results". As you may know, the Huygens Probe will land on the

**We are having our awards
banquet at Rock Salt on
Latitude 47° on January 15th.
Professor Toby Smith will
discuss the latest results from
the Cassini mission to Saturn.**

surface of Titan on January 14th and Professor Smith will discuss the latest results from the Cassini mission to Saturn.

At the last Board meeting the draft Dark Sky Site proposal was reviewed and will be made available on the SAS website. We will place a link on the homepage for easy navigation. We want to give all club members an opportunity to review the proposal and provide feedback to the Dark Sky Site committee through the end of December. Contact information will be listed on the proposal webpage.

Finally, Professor Julie Lutz, of the UW Astronomy Department, is organizing a public lecture on campus for Saturn and the Cassini mission for January 18th or 19th. She has asked the SAS if some club members would be available to bring telescopes to the fountain area (south of Red Square) for Saturn viewing. Once Professor Lutz settles on a date I will ask for volunteers. I don't expect that we will have the throngs we experienced during Mars Madness of 2003, but we could still see a respectable crowd.☺

Member Notice



If you did not receive an email notice that this newsletter (December) is now available on the website, perhaps the club does not have a correct email address for you or your membership has expired. To update your email address, send an email to **announce@seattleastro.org**. Be sure to also include your name in the body of the message, so we can match your email address to you. If your membership has expired, download the membership form from **<http://seattleastro.org/membership.html>** and send it with your check to:

Seattle Astronomical Society
P.O. Box 31746
Seattle, WA 98103

2005 Awards Banquet

Speaker: Professor Toby Smith, "Uncovering Titan: Latest Cassini Results"



- When:** January 15 , 2004
- Time:** 6:00-6:30 p.m. — No host bar
6:30 p.m. — Dinner served promptly
- Where:** Rock Salt on Latitude 47° Restaurant & Catering
1232 Westlake Ave North
Seattle, WA 98109
- Cost:** \$31.00 per person
- Entrees:** Roasted King Salmon
Prime Rib
Vegetarian Lasagna
- Your entree will come with:** Caesar Salad
Baked Potato
Bread & butter
Coffee or Tea
Dessert

Reserve Your Spot Today!

Send your entrée choice and a check for \$31 per person (made out to SAS) to:

Seattle Astronomical Society
ATTN: Banquet
P.O. Box 31746
Seattle, WA 98103



Galactic Surprise



This article was written by Patrick L. Barry and Dr. Tony Phillips.

Open an old astronomy textbook. The basic sketch you'll find there of galaxy formation is fairly simple: a vast cloud of diffuse hydrogen and helium gas condenses under gravity, and dense spots in the cloud collapse to form stars. Voila! A galaxy.

But real galaxies are much more complex than that. A galaxy is a swirling "soup" of billions of stars and roaming black holes, scattered clouds of gas and dust, random flashes of star birth and exploding supernovas, and an unseen and mysterious substance called "dark matter." Over time, all these ingredients mix and interact—pulling and compressing and colliding—and somehow that interplay leads to the galaxies we see today. No wonder it's such a hard problem to solve!

Just over one year into its three-year mission, GALEX is already shedding some new light on the problem.

"Some of the discoveries GALEX has made will change our understanding of how galaxies develop and when, where, and why stars form in galaxies," says Peter Friedman, a researcher at Caltech and Project Scientist for GALEX.

This small space telescope, called the Galaxy Evolution Explorer (GALEX for short), makes its discoveries by taking pictures of millions of galaxies scattered over the whole sky. Some of these galaxies are close by (at least by astronomical standards of "close"), while others are as much as 10 billion light-years away. Because light takes time to travel through space, we see these distant galaxies as they appeared billions of years ago. Comparing young galaxies from the distant past with older, modern galaxies will teach scientists about how galaxies change over time.

Looking at these pictures, scientists were surprised to find many newborn stars in the outer parts of old, mature galaxies. Scientists had assumed that as a galaxy ages, the clouds of gas needed to form new stars in these outer reaches either got used up or

blown away. Finding so many new stars in these regions of old galaxies (such as Centaurus A, Messier 101, and Messier 81) shows that, apparently, they were wrong.

Friedman says that astronomers don't know yet how to explain these new findings. Rethinking and improving theories to explain unexpected discoveries has always been the way science makes progress—and GALEX is certainly making progress.

One thing is certain: It's time to re-write some old textbooks.

For more information, see <http://www.galex.caltech.edu/> . Kids can do a galaxy art project and learn more about galaxies and GALEX at <http://spaceplace.nasa.gov/en/kids/galex/art.shtml>. ☐



M81 is 10 million light years away. The image on the left was made from GALEX data and shows UV light from hot, new stars. These star forming regions are not detectable in the visible light image on the right (McGraw-Hill Observatory, Kitt Peak, Arizona, Greg Bothum, Univ. of Oregon.).



December 2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	1	2	3	4
☾ 5	6	7	8	9	10	11 Tiger Mountain/Poo Poo Point Star Party (members only!)
● 12	13	14	15 Monthly SAS Meeting UW Room A102 7:30 pm	16	17	☾ 18 Green Lake and Paramount Park Star Parties Paramount Park Star Party 7:00PM
19	20 SAS Board Meeting 7:00 pm	21 Winter Solstice	22	23	24	25 Huygens probe separates from Cassini
○ 26	27	28	29	30	31	1



January 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	 3	4	5	6	7	8 Tiger Mountain/Poo Poo Point Star Party (members only!)
9	 10	11	12	13	14 Huygens descends into Titan's atmosphere (Descent begins 5 am)	15 Awards Banquet 6:00 pm
16	 17	18	19 Monthly SAS Meeting UW Room A102 7:30 pm	20	21	22
23	24	 25	26	27	28	29
30	31	1	2	3	4	5

SAS November 2004 Club Meeting Minutes

Announcements:

The meeting began with these announcements:

Mark your calendars: the SAS Awards Banquet is January 15th, at the Rock Salt (the same location as last year). Time is 6-10pm. Cost is \$31.00. There will be an announcement with the full menu and mailing address.

Officer nominations and elections were held! The slate was approved by the members at the meeting:

Board Chair Stephen Van Rompaey

President Thomas Vaughan

VP Programs Bruce Kelley

VP Education Burley Packwood

VP Membership Janice Edwards

VP Publicity Rod Ash

Treasurer Scott Cameron

Secretary <none>

Are you receiving an email alert sent out when the Newsletter is published? If not, please contact the Treasurer with your email address.

The club has a Youth Astronomy program, which has begun to meet regularly. If you have any young astronomers who may be interested, please contact Karl Schroeder for information.

Speaker: Karl Schroeder:

A Peripatetic and Didactic Discussion of Astronomy Pedagogy

Karl Schroeder is a long-time member of the SAS and public lecturer on Astronomy, lately he has taken a position as a faculty member at Trinity Lutheran College. Karl

shared his perspectives as someone who has taken the leap from amateur to professional astronomy.

Karl gave a brief history of his own fascination with astronomy. He has been a club member for over 10 years, and was always involved (sometimes accidentally) with outreach. As he gave talks, and was asked many questions by participants over the years, he has continually educated himself.

He has also participated for many years in Project Astro, an outreach program where amateur astronomers work with a local teacher to bring Astronomy to local classrooms. Karl works with 5th - 6th graders, which he claims is the best age to work with, because "the kids aren't afraid to ask questions." At first, most students are interested in over-publicized esoterica like black holes and relativity, but eventually he is able to illustrate the simple wonders of astronomy such as the scale of the solar system. Karl also described some appetizing experiments simulating the Earth's tectonic plates using graham crackers and frosting.

Karl has a lot of experience beyond 5th and 6th graders, however. He lectured for Elder Hostel, a program where retirees travel and participate in various educational workshops. Karl has hosted a few astronomy workshops at White Pass for Elder Hostel, and he said that group asked some of the most difficult and penetrating questions. He has also hosted astronomy workshops for local teachers.

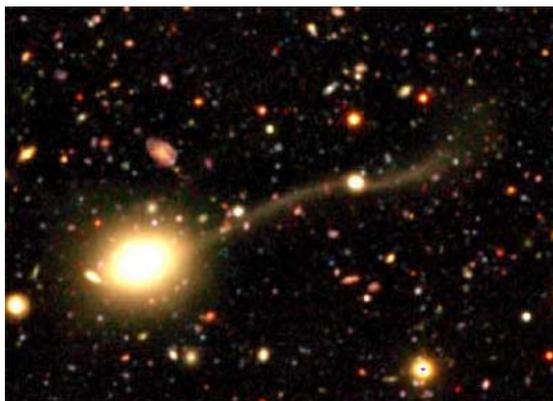
Lately, Karl completed his Master's degree online at Swinburne University (<http://www.swin.edu.au/>). This took several years, and was a lot of work, but Karl recommended it as a worthwhile experience. With that, he was able to look for a position teaching astronomy professionally.

He has been with Trinity Lutheran College for the past several months. It has been challenging at times, since many of his students do not have a strong background in math or science, but the thrill of teaching astronomy is still there.

Space Bits

It's a Galaxy Eat Galaxy Universe

Japanese researchers using the Subaru Telescope have found a large galaxy caught in the act of consuming a smaller companion galaxy. It's a messy eater; there's a wispy trail of stars over 500,000 light-years long, which is the longest astronomers have ever seen. Examples of this kind of galactic destruction are hard to find because the consumed are usually dim dwarf galaxies. We have only indirect evidence of digested galaxies in our own Milky Way, like groups of stars traveling in an unusual trajectory.



Link: http://www.universetoday.com/am/publish/galaxy_eat_galaxy.html?19112004 ☒

Space Tourism Legislation Makes Comeback

The US House of Representatives approved legislation on November 20th that would make regulations easier for companies looking to provide rides on private spacecraft. The vote for HR 5382 passed 269-120, which allows it to now go on for Senate approval, and finally to be signed by the President. This bill would streamline space tourism, allowing passengers to fly at their own risk, instead of forcing operators to take on excessive risk and insurance.



Photo Courtesy—Space Adventures
Artist's conception showing space flight.

Link: <http://msnbc.msn.com/id/6540267/> ☒

Swift Launches to Search for Cosmic Explosions

After several days of delays, NASA's Swift observatory was finally launched Saturday at 1716 UTC (12:16 pm EST) atop a Boeing Delta II rocket. Swift's job will be to scan the heavens for elusive Gamma Ray Bursts (GRBs), which astronomers think could be the birth cries of new black holes. GRBs are short-lived, lasting only seconds - a few

minutes at most. Swift can locate an explosion, and turn the entire spacecraft in about a minute to focus sensitive instruments on the fading afterglow. If everything works as planned, the spacecraft should be able to find more than 100 of these explosions every year.

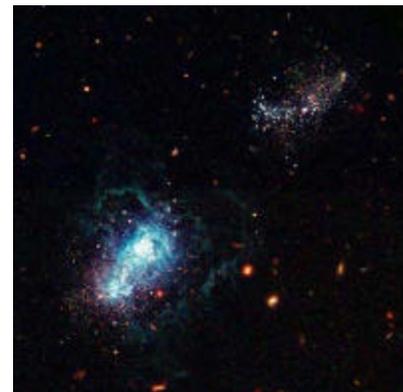
Link: http://www.universetoday.com/am/publish/swift_launches.html?20112004 ☒



Hubble Uncovers a Baby Galaxy in a Grown-Up Universe

The Hubble Space Telescope has helped astronomers discover the youngest known galaxy in the Universe. This baby galaxy, located 45 million light-years away seems to be only 500 million years old (our own Milky Way galaxy, like many galaxies in the Universe is 12 billion years old). Its interstellar gas is "nearly pristine", comprised mainly of hydrogen and helium, with only a sprinkling of the heavier elements associated with older galaxies. This discovery gives astronomers an opportunity to understand how galaxies first formed.

Link: <http://hubblesite.org/newscenter/newsdesk/archive/releases/2004/35/text/> ☒



Credit: NASA, ESA, Y. Izotov (Main Astronomical Observatory, Kyiv, UA) and T. Thuan (University of Virginia)

Some Stellar Facts

Sedna is the largest object discovered in the solar system since Clyde Tombaugh spotted Pluto in 1930. It's also the coldest, with its highest temperature a frigid -400°F . Eight billion miles from the Sun (that's three times farther away from the Sun than Pluto), Sedna is the most distant object in the solar system.

The solstice is either of the two times a year when the Sun is at its greatest distance from the celestial equator—the great circle on the celestial sphere that is on the same plane as the earth's equator.

We promise you the sun, moon and 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 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.



We're on the Web!
www.seattleastro.org

The Seattle Astronomical Society

PO Box 31746

Seattle, WA 98103-1746

SAS hotline: (206)-523-ASTR

E-mail: information@seattleastro.org



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|--------------------------|---|---------|
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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 |
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Address _____

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E-mail address (optional) _____

Please do not include my information in the SAS membership directory.

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SEATTLE ASTRONOMICAL SOCIETY

PO BOX 31746

SEATTLE, WA 98103-1746

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