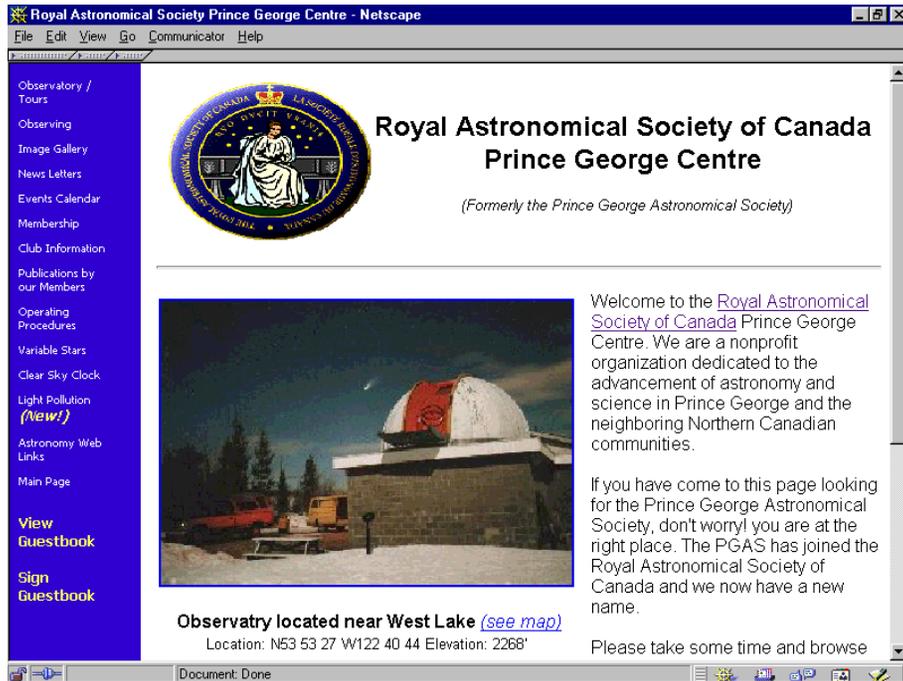


*WEB PAGE OF THE Month*



<http://www.vts.bc.ca/pgrasc/index.html>

Learn more about our club

The PGAS meets on the last Wednesday of the month from September to November and January to May at the Observatory from 7:30 to 9:30 PM. A special meeting is held on the last Wednesday of August in the Fort George Park Band Shell at 7:30 PM. Topics of discussion include astronomy viewing tips, constellations, star charts, photography and much more (oh ya don't forget the coffee and hot chocolate!). The meetings are informal and VISITORS ARE WELCOME.

The interests of our members define the club's astronomical activities. They include such things as: Evening Observing, Astronomy Workshops, CCD Astrophotography, 35mm Astrophotography, Observatory Tours, Solar Viewing, Supernovae Search, Telescope Making, Public Presentations, Astronomy Education, Near Earth Asteroid Observations, Astronomy Videos, Slide Shows, Software Development, Image Processing, Messier Hunts, Variable star Photometry, fund raising, and building the Observatory.

# Skynews



December 2002

Number 240

<http://victoria.tc.ca/~rasc/>

*This Month*

**December 11, 2002**

**Dr. Richard K. Herd  
METEORITES: MESSENGERS FROM SPACE**

Dr. Richard Herd is Curator, National Collections, at the Geological Survey of Canada (GSC). He is head of the Curatorial Services Unit, Applied Geochemistry and Mineralogy Subdivision, Mineral Resources Division. GSC is part of the Earth Sciences Sector of Natural Resources Canada (NRCan).

Dr. Herd participates in the GSC's public outreach program to popularize geology and to help educate the public in the importance of science and the role of GSC in the development of Canadian science and technology. He assists in the development of the program and in the development and editing of GSC's public information materials: posters, pamphlets and brochures. He gives numerous public talks to students and others, of all ages, introducing them to rocks, minerals and meteorites, their uses, importance, significance and how to identify them.

In this popular illustrated lecture, Dr. Herd emphasizes that meteorites are rocks from space that can be studied like Earth rocks to discover their origins and what they can tell us about the origin of our solar system and our universe. Recent technological advances have shown us stars, and perhaps even planetary systems, forming as ours did. We can relate primitive meteorites not only to the observed formation processes, but also to precursor materials; others have their origins from the surfaces of specific planets or other smaller bodies. Knowing where meteorites come from and what they can tell us about their sources help us plan for space exploration over the next decades. Dr. Herd reviews the history of the National Meteorite Collection and concludes with a narrative of how his interest in meteorites has grown.

***Address Change? Information Incorrect?***

Telephone: (416) 924-7973 (toll-free at (888) 924-RASC in Canada)

Fax: (416) 924-2911

E-Mail: [rasc@rasc.ca](mailto:rasc@rasc.ca) Website: [www.rasc.ca](http://www.rasc.ca)

Postal Mail: RASC, 136 Dupont Street, Toronto, ON, M5R 1V2, Canada

**RASC Victoria Council**

**This Month**

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Treasurer: Laura Roche  
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Secretary and Recorder:  
Robert Walker  
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Honourary President:  
George Ball

Librarian & Telescopes:  
Sid Sidhu  
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479-5187  
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Skynews Editor: Sandy Barta  
Website Editor: David Lee  
Email list: Joe Carr

Members at Large:  
Bill Almond, Sandy Barta,  
Li-Ann Dorrance, Jim Hesser,  
Ed Maxfield, Frank Ogonoski,  
Blair Pellait, Bruno  
Quenneville, Colin Scarfe

New Members Liason:  
Sandy Barta

Every  
**CLEAR**  
Friday

**Astronomy Cafe**

At Sandy Barta's, 2949 Michelson Road,  
Sooke, BC  
Call 642-0205 for more information or  
directions.

And you **WILL** need directions!

The Astronomy Café is an astronomical  
conflab and if it's clear (and we are willing  
to give up our comfy chairs) we observe  
under an unbelievably dark sky.

Newcomers are most welcome.

Come and enjoy!

**Please:**

**Call or check our website to find out  
if it's likely to be clear.**

Dec  
27

**New Observer's Group**

**At Sid Sidhu's:**

1642 Davies Road (off Millstream Lake  
Road) at 8:00 PM.

Call 391-0540 for more information or  
directions

**January Meeting**

University of Victoria, Room 060  
Elliott Building  
Topic: TBA

**Astronomy Day  
Saturday May 10, 2003  
at the Royal BC Museum**

Online information about the RASCvic and  
Skynews email lists:

<http://www.rasc.joetourist.net/>

*Ray Villard*

Ray Villard, Public Information Manager of the Space Telescope Science Institute at Johns Hopkins University, will speak on the latest results from the Hubble Space Telescope

<http://www.stsci.edu/stsci/>

**Monday, January 13, 2003**

**7:00 p.m.**

**Community Gospel Chapel**

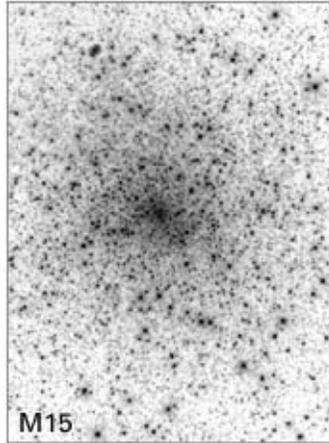
**147 Vesuvius Bay Road  
Salt Spring Island B.C.**

**Presented by Artspring**

**Tickets from Artspring Box Office  
or call 537-2102**

*Cheers Chris*

Image Credits for M15: NASA and The Hubble Heritage Team (STScI/AURA)



**Island Eyepiece and Telescope**



**Vancouver Island's  
source for astronomy**

*Orion, Antares, William Optics, Skywatcher  
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Thousand Oaks, Sirius Optics, Focus Knobs  
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**Email: [sales@islandeyepiece.com](mailto:sales@islandeyepiece.com)**

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**We Ship World Wide**

*President's Message*

This past summer my wife Audrey and I visited Edmonton and had the pleasure of dinner with Franklin Loehde, a longtime member of the RASC whose many services to the society include a stint as national president.

Our visit with Franklin brought back many wonderful memories of my youth, when I joined the Edmonton Centre and was taken under the wing of Franklin and other members, notably the late Dave Bruner, who took me through the process of grinding a mirror and building a six-inch Newtonian telescope.

I found out that Franklin passed up an opportunity to work at the DAO, but our loss was the gain of his hometown of Edmonton, where as an educator he has helped many young people learn about astronomy. He helped lead the way to the realization of the Queen Elizabeth Planetarium and the Edmonton Space Sciences Centre, which has evolved into the even bigger and better Odysium.

Fortunately, we in Victoria have our own counterparts to Franklin Loehde, and at our banquet in November, we were able to honour one of them. Sid Sidhu, our librarian, Astronomy Day coordinator, and organizer of countless astronomical events in local schools, was given the second annual Newton-Ball Award.

I'm sure that among the many young people who get their first glimpse of lunar craters, the rings of Saturn, or a galaxy thanks to people like Sid and Franklin are the astronomers, space explorers and RASC members of the future.

When Sid calls in advance of next year's Astronomy Day and springtime school observing, I hope everyone remembers how they felt when they first came to love astronomy. Few things we can do in life are more important than opening the eyes of new generations to the wonders of space.

*Chris Gainor*



The deadline for the next issue of Skynews is

**December 27 2002**

**ATTENTION READERS!**

Get your Skynews early and in colour. Tell Laura, our Treasurer, that you get Skynews on line and we won't mail you a copy.

*Annual Meeting Minutes*

**November 16, 2002 at the Gorge Vale Golf Club**

**Welcome:** David welcomed everyone at 8:00 p.m., thanked everyone responsible for the dinner and asked for a show of appreciation for the hard work that made this enjoyable evening possible.

**President's Report:** David thanked and gave the President's Report. He reviewed his two years as President and acknowledged the very important contributions made by volunteers.

**Treasurer's Report:** Lauri read the Annual Treasurer's Report that she will send in to the National Office. Lauri will place another calendar order and can take Sky & Tel orders—see her after the meeting.

Sandy read the **Secretary's Annual Report** outlining our busy past year.

Sid graciously accepted the **Newton-Ball Award** for this year. David read the lengthy list of all Sid's done for the Society. Thanks so much, Sid!

**Election:** Sandy presented the nominees for the new Council. As no further nominees came forward, we elected the following members by acclamation:

President	Chris Gainor
Vice President	Rich Willis
Treasurer	Lauri Roche
Secretary/Recorder	Robert Walker
Past Pres./National Representative	David Lee
Honourary President	George Ball
Members at Large:	Bill Almond, Sandy Barta, Li-Ann Dorrance, Jim Hesser, Ed Maxfield, Frank Ogonoski, Blair Pellait, Bruno Quenneville, Colin Scarfe
Librarian/telescopes	Sid Sidhu
Newsletter editor	Sandy Barta
Web page editor	David Lee
Email list	Joe Carr
New members liaison	Sandy Barta

Next on the agenda: the all-important **door prize draw**. Books, calendars, and other astronomy-related goodies went to lucky prizewinners. We knew that all was orderly in the universe (well, the Solar System at least) when last year's pencil winner won a pencil sharpener.

We ended the evening with a lively and enlightening talk by J.J. Kavelaars.

*Alex Schmidt for the Recorder*

*The Night Sky Continued*

**February 9 - February 15**

The Moon passes near Saturn on the 11th and then lies near Jupiter in the sky on the 15th.

Enough dreaming about the summer. We can still enjoy the winter sky, can't we? Here again, binoculars will serve you well in your quest for the Messier Certificate. M35 is just at Castor's foot and is easy to see with binoculars. Auriga holds three large, bright clusters that are easy to see with binoculars. You should be able to spot these with just your eyes under a dark sky. You can even see that greatest of objects, M42 (the Orion Nebula) with just your eyes from an urban back yard. Check out star colours—star colour and brightness are among the most important information there is for professional astronomers. Compare Betelgeuse, Rigel, Aldebaran and Capella. It's easy to see that these bright stars are very different in colour. Look up the distances to each of these beauties and find out which class each belongs to. Look up information on some of the fainter stars around these bright giants; some might even be much closer than the brighter stars. See how easy it is to do serious observing on the cheap?

**February 16 - February 22**

Your eagle eyes and sharp observing skills will serve you well as you stalk Mercury and Neptune near each other in the morning sky on the 20<sup>th</sup>.

Now let's pay attention to Gemini. You've already spotted M35 in your binoculars—not too shabby considering that this cluster is 2800 light years away and the same size as the Beehive cluster, M44. Castor ( $\alpha$  Gem) looks like any ordinary bright star. However, it's really six stars. You should be able to 'see' two stars with a telescope. Gemini even hosts a Cepheid variable that should be easy to observe with out aid— $\xi$  Gem varies from magnitude 3.6 to 4.2 over 10 and a bit days. Easy observing.

Gemini was a popular hunting ground for sky-watchers. Uranus was captured in 1782 just below M35 and Pluto was bagged near  $\delta$  Gem in 1930.

Don't forget M67 below Cancer. You can also capture this open cluster that lies 2500 light-years away with just binoculars. M67 is even smaller than M44 and M35 at only 13 light years across.

**February 23 - March 2**

A midnight Quarter Moon cruises past Mars on the 24th and the waning crescent lies below Venus on the 27th. The Moon grasps the teapot's handle on the 26th—tea anyone?

## *The Night sky Continued*

from us. The crab's carapace is one of those sights that gets lost in a telescope. It's a great way to introduce the observing experience to a novice observer. Look Ma, no telescope!

### **January 19 - January 25**

On the 19<sup>th</sup>, the engorged Moon hovers over Jupiter.

Don't forget to keep watching Jupiter's moons eclipsing each other and casting shadows on the great planet's face. We're looking at the Jovian lunar disk nearly edge on so there are scads of marvels to observe.

Start checking the West for the Zodiacal light. We've got a couple of weeks so find an open western horizon and get out there every clear evening.

### **January 26 - February 1**

Mars still isn't much to look at in even a large aperture telescope because it's still far away from our little planet. Hang tough! We're coming into a great Mars season.

You'll catch a crescent Moon near Mars on the 27<sup>th</sup> and near Venus the next morning. Add the Moon to the sketch you started at the beginning of the month. Note that Mars lies close to his rival, Antares in Scorpius—check out the colours! While you're in the neighbourhood, check on  $\delta$  Scorpius and try to estimate this star's brightness. Has it faded or become brighter?

Can you catch a glimpse of Mercury? The crescent moon is to the right and up from Mercury on the 29<sup>th</sup>. Mercury will be difficult to spot during this apparition because we won't see it rise very high out the dawn's murk.

### **February 2 - February 8**

Venus sails through the summer Milky Way. You'll have a challenging, but magical view of elegant planet against the most rewarding part of our galaxy. Get up early, challenge yourself, and capture Venus near the Trifid Nebula on the 5<sup>th</sup> and the Omega Nebula on the 8<sup>th</sup>.

The Sagittarius-Scorpius region is another binocular delight. You can start your Messier Certificate in this area with binoculars—or even your eyes! Some of the objects are easy to spot without optical aid when you are at a dark site. Maybe you seasoned observers might want to leave the telescope in its case.

January was Saturn's month. February is Jupiter's month. This month, Jupiter stands high in the sky at midnight and presents the largest disk for this year.

On the 3<sup>rd</sup> Mercury stands as high as it will get in the sky during this apparition.

*Continued on page 12*

## *Steve MacLean visits the Centre of the Universe*

Canadian Astronaut Steve MacLean came to the Centre of the Universe Nov. 15 and gave a most interesting and unusual talk about the astronomical aspects of flying in space.

The shuttle allows astronauts to look at celestial objects without the atmosphere in the way, and it also flies through displays of the Aurora Borealis and Australis, MacLean told RASC members and other guests in his well-illustrated presentation.

Many of MacLean's slides showed atmospheric phenomena such as bands in the atmosphere, sunsets, and lightning. He explained how he was able to observe zodiacal light from an orbital vantage point.

MacLean, a laser physicist, has been an astronaut since 1983, and in 1992 he made his first flight into space aboard the shuttle Columbia on the STS-52 mission. He is now training for his second mission, STS-115, which is due to take place next May. During this flight to the International Space Station, MacLean will undertake two space walks and operate Canadarm2.

MacLean has also worked as a capsule communicator in mission control in Houston on a number of missions, including the most recent Hubble Telescope servicing mission. His talk included many glimpses into the world of spaceflight controllers.

*Cheers Chris*

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## *Yes, some people still observe the Moon*

The American Lunar Society sponsors a competition for the best amateur image of a specific lunar feature. The winner is selected by members of the American Lunar Society and is featured on:

<http://www.astroimaging.com/ALSimage.htm>

September was the inaugural month for this competition, with Clavius being the target.

My entry is at the bottom of the page, as an 'honourable mention'.

*Roger Hill  
Hamilton Centre, Canada*



*The Space Place*



***Enlightened by the Darkness***

On the clearest of nights, I may see a dozen stars from my suburban backyard near Los Angeles. Unfortunately, my studies of space and astronomy have been confined to books and the pictures taken by others. Seldom have I experienced for myself a truly dark, clear, moonless sky.

One of those rare times was a summer camping trip in Bryce Canyon, Utah. I lay on my sleeping bag in an open area away from trees. I saw millions of stars (so it seemed) and the cloud of the Milky Way streaking across the sky. Nothing of planet Earth was in my view. It was then I glimpsed my true situation in the universe, a speck of dust clinging to a tiny stone hurtling through the darkness of a cold, infinite universe. I was awestruck by the beauty of the stars and the darkness—and terrified!

In the light of day and a more "down-to-Earth" state of mind, I wondered: With around 100 billion galaxies out there, why is it still so dark out there?

Until the 20th century, astronomers thought the universe was infinite. They were perplexed though, because in an infinite universe, no matter where you look in the night sky, you should see a star. Stars should overlap each other and the sky should be blazing with light and hot as the sun. This problem became known as "Olber's Paradox."

Astronomers now realize that the universe is not infinite. A finite universe—that is, a universe of limited size—even one with trillions of stars, just wouldn't have enough stars to light up all of space.

Although a finite universe is enough to explain the darkness, the expansion of the universe also contributes. As light travels from a distant galaxy to us, the space through which the light is traveling is expanding. Therefore, the amount of energy reaching us dwindles all the time, thus causing the color of the radiation to be "redshifted." (The wavelength is stretched out due to cosmic expansion.) The more distant the galaxy, the more redshifted the light. The largest redshift astronomers have measured comes from radiation that was emitted when the Universe was only 300,000 years old. This radiation has taken over 12 billion

*Continued on page 6*

*Meteor Observations*

I'm a station operator of a Sandia All-sky Bolide Detection Camera at Courtenay on Vancouver Island. We would appreciate reports of any bright fireballs, brighter than -4.0 magnitude that occur over British Columbia. Please include your location, the time of the event, and whether it was moving from "left-to-right" or "right-to-left". This information is required so it can be determined if we have observers on both sides of the track, above and below the end point of the visible path. Please email me as soon as possible with this information so the video tapes can be checked for the fireball. If you wait too long the tapes will be re-used and the info will be lost.

Thank you for your help.

*Ed Majden  
epmajden@shaw.ca  
MIAC Associate*

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*The Night Sky*

***January 5 - January 11***

Venus begins to slide down into the sunrise, although you might not notice her motion until the beginning of February. Make a sketch of the view you have of the eastern horizon from your home. Now, plot Venus' location every clear morning. What kind of a shape does a line connecting the dots make? Can you explain the shape? Remember that we are on a tilted planet travelling around a star and Venus moves as well. Don't forget to include Mars in your sketch.

It's not too late to grab a peek at Saturn passing in front of the Crab Nebula. Don't forget to pay attention to Saturn's moons against this spectacular backdrop. Who knows? This might be your first attempt to sketch some celestial action—your friends and family will have solid proof that you are daft.

***January 12 - January 18***

The nearly full Moon and glowing Saturn make a beautiful pair in the sky on the 15<sup>th</sup>.

The spring sky climbs every higher in the east after the Sun sets. By morning, the summer sky catches our eye. It's getting warmer, really. Anyway, put away your telescope for a clear evening and cruise the eastern sky with binoculars—or maybe your eyes caught a faint cloud of stars. Can a cluster be that bright? You're looking at M44, the Beehive Cluster (or Praesepe to the Greeks). This is an "open" cluster only 30 light years across, but it's only 550 light years away

*Continued on page 11*

*For Sale*

George Ball wants to lessen the weight on his shelves by offering his Sky & Tel magazines to the best bidder.

The Sky and Telescope back issues are in mint condition; complete from 1955 to 2001. A great chance to fill in your empty library shelves. A reasonable offer will not be refused.

Phone: 250-384-1770

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*Wanted*

The Victoria Centre library needs the 2001-May issue of Sky & Tel and the 2001-March issue of Astronomy. Let me know if you wish to donate these magazines to complete these sets.

Thanks, Sid

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*New National Web site Feature*

Dave Lane has made available back issues of the RASC Journal online:

<http://www.rasc.ca/journal/backissues.html>

Note: The most recent six issues are not available on-line. They are only available in print form to subscribers and Society members.

February 1998 - June 2001 are available in adobe acrobat (PDF format). Be warned... they are large (1-20 mb in size)

Also: Membership statistics are now on the RASC website

Every year our National Treasurer makes membership statistic available at the National General Assembly. It occurred to him that the entire membership might be interested in these statistics. In the "Members Only" area, two screens down, you will see the new "National Membership Stats" heading, with three PDF files containing all sorts of membership data as of 2002 August 31. He intends to update this information every month or so.

One of the pieces of information that you may find interesting is the Centre membership numbers going back to 1960 (see the "Centre Stats2" file).

Michael Watson, National Treasurer would be interested in any comments that members may have.

*Kevin Kell, RASC National Webmaster*

[webmaster@rasc.ca](mailto:webmaster@rasc.ca)

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*The Space Place Continued*

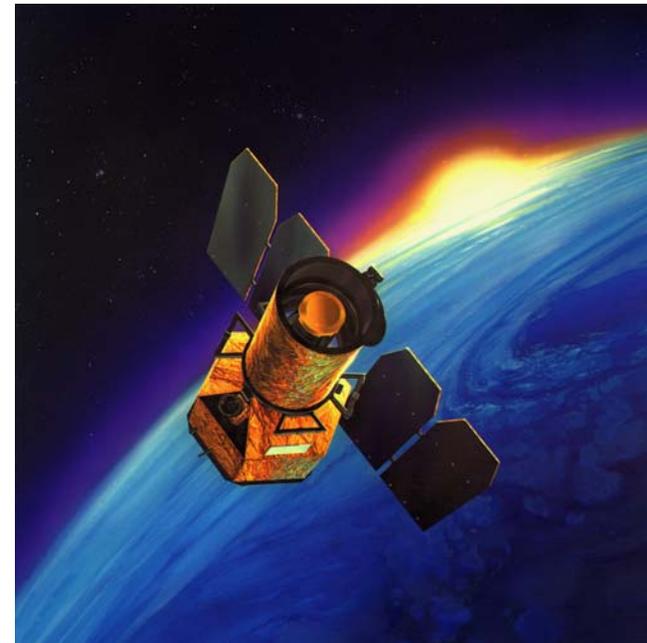
years to reach us and although it began as infrared radiation, it is now seen as the microwave background radiation.

GALEX (Galaxy Evolution Explorer) is a NASA space telescope that will survey the universe, including galaxies with redshifts that indicate their light has been traveling for up to 10 billion years (or 80% of the history of the universe). Read about GALEX at [www.galex.caltech.edu/](http://www.galex.caltech.edu/) . For budding astronomers, print out The Space Place New Millennium Program calendar at [spaceplace.nasa.gov/calendar.htm](http://spaceplace.nasa.gov/calendar.htm) to identify great sky watching opportunities.

*By Diane K. Fisher*

Diane K. Fisher is the developer and writer for The Space Place web site.

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



The GALEX (Galaxy Evolution Explorer) mission will do a broad survey of galaxies in various stages of evolution and identify interesting objects for further study by the Hubble Space Telescope.

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*The Cover*

***The Double Cluster by Joe Carr***

2002.11.29 11:09pm  
NGC869 & NGC884—The Double Cluster  
Location: Sandy Barta's place, Astronomy Cafe  
Camera: 57 sec, f/2.6, 8mm, ISO 400, Noise Reduction ON  
Scope: LX-90, f/10, a-focal, 40mm eyepiece  
Image: retouched, cropped image of original 2272x1704 jpg  
Both clusters are in the field of view this time, and my focus skills are improving!

<http://joecarr.ca/astro/astrophoto.htm>

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***Astronomy Day 2003***

Hi everyone,

Today I got the word "GO" for the IAD on May 10th, 2003 at the Royal British Columbia Museum. It means that now we had better start planning for it. I need some keen individuals on the planning committee. So with this notice, I am soliciting volunteers. If you don't volunteer on your own then you will be told to do so. Please bring your ideas to make next year's IAD the BEST.

We'll need lots of volunteers for the day again and Sandy's agreed to track you down! Here are just **some** of the activities we'll need volunteers for:

- active telescope display—different scopes and binoculars
- solar viewing
- solar system display
- displays inside

*Cheers. Sid*

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***NASA Kids' Club***

Tell a kid you know about NASA Kids Club—they collect virtual trading cards, trade them online, have their own e-mail account, and participate in great learning activities for extra club points. Go to

<http://kids.msfc.nasa.gov/Club/Login/SignUp.asp?sng>

for more info.

Home page: <http://science.nasa.gov/>

*Mars*

Greetings Centres and RASCAL's list.

Here is information on a Mars mailing list from Ron Baalke. I thought some of you and your Centres might be interested.

Clear skies, Bonnie

Bonnie Bird, Executive Secretary, Royal Astronomical Society of Canada

You are subscribed to one of my mailing lists, and there is a Mars mailing list I also manage that you might be interested in. You can receive the latest status on the two spacecraft we currently have in orbit around Mars (Mars Global Surveyor and Mars Odyssey), as well as the latest science findings on Mars.

Additional information about the Mars missions is available online at:

<http://mars.jpl.nasa.gov/>

You can receive the latest news about Mars via email by subscribing to the Mars mailing list. Send email to [majordomo@www.jpl.nasa.gov](mailto:majordomo@www.jpl.nasa.gov) and include the following text in the body of the message:

subscribe mars

You can leave the subject field blank. You will receive an automatic confirmation message and a welcome message.



