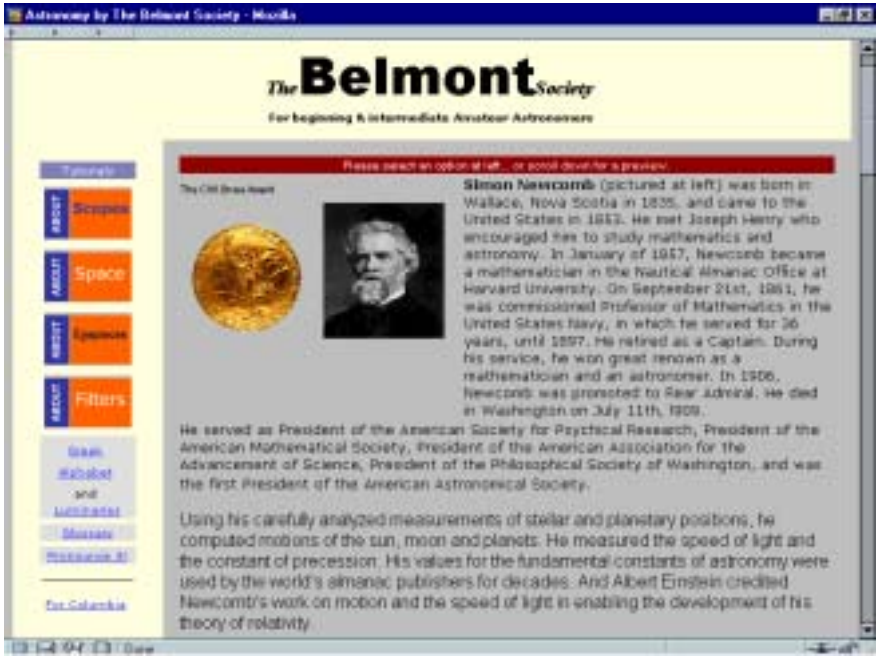
Web Page of the Month



Here's a terrific beginner's web site. This site covers everything from Earth-bound equipment to deep space

http://www.belmontnc.4dw.net/index.htm

Skynews

September 2003 Number 247

http://victoria.rasc.ca/

This MOnth

Member's night

Find out what every body's been up to this summer.

Cover

I thought you would like to see this. If you look carefully on the right hand side you can see a low house with a green roof. That's ours! Jack took the photo at around 8PM. We had had to leave then but were looking at all the action from the highway!

Hélène

Contact Us On-Line

Web Site: victoria.rasc.ca
Email Lists: rascvic-list@Victoria.rasc.ca
Skynews: http://victoria.rasc.ca/resources/email/skynews-list.htm
Victoria Council members:

president@victoria.rasc.ca
vp@victoria.rasc.ca
treasurer@victoria.rasc.ca
secretary@victoria.rasc.ca
librarian@victoria.rasc.ca
nationalrep@victoria.rasc.ca
newmembers@victoria.rasc.ca
web@victoria.rasc.ca

Cheers, Joe Carr, Webmaster, RASC Victoria Centre

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 Website: www.rasc.ca
Postal Mail: RASC, 136 Dupont Street, Toronto, ON, M5R 1V2, Canada

ROYAL ASTRONOMICAL SOCIETY OF CANADA VICTORIA CENTRE

RASC Victoria Council

President: Chris Gainor
1490 Thurlow Road
Victoria, BC V8S 1L9
380-6358
cgainor@islandnet.com

Vice President: Rich Willis
881-7523
richly@telus.net

Treasurer: Laura Roche
8581 Sentinel Place
Sidney, BC V8L 4Z8
656-2396
lroche@shaw.ca

Secretary and Recorder:
Robert Walker
rwalker@shaw.ca

Honourary President:
George Ball

Librarian & Telescopes:
Sid Sidhu
J.S._Sidhu@telus.net
Past President and
National Representative:
David Lee
479-5187
David_Lee@telus.net
Skynews Editor: Sandy Barta
Website Editor: Joe Carr
Email list: Joe Carr
web@victoria.rasc.ca

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

New Members Liason:
Sandy Barta

This Month

On ***CLEAR*** Fridays

Astronomy Cafe

At Sandy Barta's, 2949 Michelson Road, Sooke, BC
Call 642-0205 for more information or directions.
And you **WILL** need directions!

Newcomers are most welcome.

Come and enjoy!

Note:

The Café will no longer be every Friday night.

Please:

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

Sept 26

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

Oct 8

OctoberMeeting

University of Victoria, Room 060
Elliott Building

Star Party

Victoria RASC
September 20

Yes, We post important, timely, member-related news to our email list.

Online information about the RASCVic and Skynews email lists:
http://victoria.rasc.ca/resources/email/

Future Meetings

October 8

Dr. Elizabeth Griffin will talk about her project and include details of her current research.

Clear Sky Clock

Want to know all about the Clear Sky Clock?.

This sit also links to dark sky atlas, topo maps, etc.

http://cleardarksky.com/lp/FingalWLCONlp.html

President's Message

The summer of Mars has lived up to its promise, and then some. Although clouds marred the night of August 26, when Mars made its closest passage to Earth, the next night was magnificent.

Sid Sidhu should be congratulated for his initiative in organizing the Mars public viewing event at Cattle Point in Oak Bay. He deserves even more kudos for having the foresight to know that the evening of August 27 would be clear, unlike the night before. Sid, you've done it again!

When I arrived at the south parking lot at Cattle Point that evening, a large crowd was awaiting a telescope. I set up immediately, and people looked at Mars through my scope without a break for more than two hours.

I gave scores of people a brief glimpse of the Red Planet. Some people told me they waited more than an hour for their look, and most were incredibly grateful for the chance at even a short moment's glimpse of Mars.

Many other Victoria Centre members had their telescopes at the north parking lot of Cattle Point that evening too, and they report similar experiences. Those who arrived well in advance of nightfall to set up their scopes were greeted by crowds of people anxious to see our celestial neighbour.

When the crowds subsided and I was able to spend some time of my own at the eyepiece, I was impressed with the view of Mars' polar cap and some of its surface features. These features showed up better that night than they had even the weekend before. The seeing was excellent.

Out of the thousands of people who turned up at Cattle Point and on other nights at the DAO, I'm sure some will join our ranks. And many others read or heard about us in the media. RASCals from every part of Canada also took out their scopes for public events and reported similar levels of public interest.

All summer we had generally clear skies, and we were amply rewarded with many excellent looks at the Red Planet. The Mars observing season for me began at the highly successful Cowichan Valley Star Party in late July, and it will continue beyond our own Star Party the weekend of September 20.

If you haven't had a look, get out your scope or join a fellow member for a look at Mars. The Star Party will provide excellent opportunities to see Mars and many other objects. Remember, opportunities like this summer's Mars opposition come along only every few thousand years!

Chris Gainor

The deadline for the next issue of Skynews is

September 25 2003

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.

GA 2003

Report on 2003 General Assembly in Vancouver

The Vancouver Centre hosted a successful General Assembly on the July 1st holiday weekend that included celebrations of the 100th anniversary of the RASC's Royal designation.

More than a dozen Victoria Centre members crossed the Strait of Georgia to take part in the activities, which included a cruise around the Vancouver waterfront, a tour of the six-meter liquid mirror telescope in Maple Ridge, and an excellent lineup of talks on astronomy.

Prior to the GA, the council of the Victoria Centre gave its support to the World Spectra Heritage project of Victoria astronomers Frank Younger and Elizabeth Griffin. This project seeks to save threatened spectrograms that were recorded on glass plates in the decades before CCD imagers replaced them.

Griffin spoke to GA delegates at the end of the national annual general meeting, and National Council later supported Victoria Centre national council rep David Lee's motion to have the national historical committee look into supporting the project.

Attendees at the meeting got a solid dose of astronomy. During the cruise around Vancouver, David Levy spoke about the early influences that led him to become a well-known popularizer of astronomy. Hardy souls who stayed up past two that night were rewarded with a view of Mars through his telescope.

Eric Dunn and David Dodge gave hilarious and insightful talks about their lives in astronomy in the Vancouver area and on trips to chase eclipses, and Alan Dyer entertained participants in the GA banquet with scores of beautiful astrophotos. David Levy and Jack Newton also gave workshops on astrophotography and observing, and Jack and Alice Newton caught up with their many friends from Victoria.

Astronomer Gordon Walker, who now lives in Victoria, gave the Ruth Northcott Memorial Lecture on the subject of discoveries about the nature of the universe arising from astronomical spectra. Pal Virag came from the Island to give his excellent presentation on Canada in Space.

Another distinguished visitor from Victoria was B.C. Lieutenant-Governor Iona Campagnolo, whose talk highlighted the royal centenary celebration. While not an active astronomer, Campagnolo proved to the crowd that she has more than the average layperson's knowledge of what goes on in the skies. Her talk was followed by a historical lecture by former national president Peter Broughton, and a performance by Chinese dancers.

Some observing took place at the University of B.C. observatory, and on the last day of the GA, delegates went to Maple Ridge to inspect the Vancouver Centre's Canadian Amateur Research Observatory, which is used to search for novae, and UBC's six-meter liquid mirror telescope.

Next year's GA will take place in St. John's Newfoundland, but the 2005 GA will take place in B.C. when the Okanagan Centre hosts delegates in Kelowna.

Chris Gainor

ROYAL ASTRONOMICAL SOCIETY OF CANADA VICTORIA CENTRE

So the phone rings …

So the phone rings while I am sitting in the office, the voice on the other end says "Hi, this is Al Nagler, Judy and I are coming to Victoria next week, we would like to meet you and see your store."

Now, let's put this in perspective, we have many dealerships, some since the start of the company 8 years ago. We have met only one of these dealers (because they are in Vancouver and we have gone there). We have had TeleVue for 7 months and they are pretty much the furthest dealer away (in North America that is).

Needless to say, I really did not expect a personal visit from the CEO of TeleVue and his wife.

I met Al and Judy Nagler on Sunday the July 20th in Victoria. We had dinner together in Victoria and then headed up to the Center of the Universe for a tour.

With the much-appreciated help of some RASC members, as well as Scott and Julie at the center we were able to arrange a tour of the Plaskett Telescope for the Naglers.

I really did not know what to expect of Al and Judy. They turned out to be very down to earth and personable. They have a genuine and keen interest in amateur astronomy and after the tour of the 16" and Plaskett, and an impromptu talk about optics (of course), Al was most interested in the home built amateur telescopes (Guy Walton's in particular). He had no intensions of going anywhere until he had looked thru some home built scopes.

Al was delighted to have had a tour of the Plaskett and was especially happy to have been able to meet some local amateur astronomers.

By the end of the night Al and Judy were too tired to come up to our store for a visit, so we may see them again in the future.

Brian Robilliard
Island Eyepiece and Telescope

Snapshot

Chris Gainor

Special Public Lecture

Friday, October 31, 2003 - 7 PM

George Coyne will speak on: Ruminations on Evolution and Origins

It is arguably difficult to find a more divisive topic for discussion than that concerning the origins of the universe, and especially of life and of intelligence, and whether such origins can be understood without evoking a Creator God. Evolutionary naturalists would claim that, although our scientific knowledge of evolution is limited, the best explanation of the universe and all that it contains is through complexification in an expanding, evolving system in which both deterministic and chance processes play out their roles in a universe abundant with opportunities, 12 to 15 billion years old and containing approximately 1022 stars. What is one who is both a believing Christian and a scientist to make of all of this? I first offer some reflections on cosmic origins and then on the origins of life in the universe.

George Coyne, PhD in Astronomy from Georgetown University (Washington, DC), has been Director of the Vatican Observatory (Specola Vaticana), since 1978. His research interests have ranged from the study of the lunar surface to the birth of stars; and he pioneered a special technique, polarimetry, as a powerful tool in astronomical research. Currently he is studying cataclysmic variable stars, the interstellar dust in the Magellanic Clouds and the detection of protoplanetary disks. Parallel to his scientific research he has developed an interest in the history and philosophy of science and in the relationship between science and religion. Dr. Coyne is a member of the CSRS Advisory Council.

Centre for Innovative Teaching, Room 105

The speaker will give a 40 min. talk which will be followed by discussion. Students, faculty, and staff of UVic, as well as Friends of the Centre and members of the community, are invited to attend.

PLEASE NOTE: Dr. Coyne will also be giving a lecture at the HIA in the morning on Oct 31. Contact HIA for further information.

Tel: 721-6325, Fax: 721-6234 Web: www.csrs.uvic.ca Email: csrs@uvic.ca

On-line Resource

Mike Boschat wrote to the National RASC list:

Thought this might be interesting to some...

StarGazers Online (SGO) is a full featured, dynamic Web application, designed to provide all the resources for Web based Amateur Astronomy, all collected together in one professional web site. Membership is Free!

http://www.StarGazersOnline.com

ROYAL ASTRONOMICAL SOCIETY OF CANADA VICTORIA CENTRE

Centre of the Universe

I wish to thank all the RASCals who have supported so generously and effectively the public observing at the Centre of the Universe to date this season. Visitors from around the world regularly laud your freely shared enthusiasm and knowledge, which creates a memorable experience of their visit to Victoria and the Centre of the Universe. The (somewhat overwhelmingly) successful Mars Madness programmes in late August benefited enormously from your support. My colleagues and I look forward to seeing you during the Saturday nights remaining until we wrap up public observing on the 25th of October.

Some may have heard that our Centre has, sadly, been undergoing staff turnover. Scott Mair unexpectedly resigned in early July to manage the Craigflower Heritage School site for the Land Conservancy of B.C. Both Julie Bolduc-Duval and Kerri Ward are moving to other interesting ventures this month. The three of them contributed enormous vision, energy and hard work to launching the Centre. I will sorely miss them, and wish them every success in future. Kevin Farris, of our Central Administration group, is Acting Manager while we search for a new manager. (For those of you who have perused the HIA web pages since 1 January, Kevin was responsible for the extremely challenging task of revamping their outdated predecessors to meet the "Common Look and Feel" guidelines for all Federal Government web sites.)

Over the past two months Herzberg Institute managers, including our new Director General and myself, have been reviewing the lessons learned from the first two years of Centre operations, and consulting widely with external advisors. While we are certainly open to new ways of doing business in reaction to the experiences to date, the Herzberg Institute remains strongly committed to the Centre of the Universe as a primary vehicle for sharing with the public the wonder of astronomy and the many Canadian astronomy success stories. We have embarked on some staffing actions aimed at maintaining the excellent forward momentum established by the founding staff; as part of this, we hope to involve more students in future outreach efforts. (Anyone who might be interested in employment possibilities should monitor our web site, http://www.hia-iha.nrc-cnrc.gc.ca/posting_e.html, where current job postings are visible while the competitions are open for applications.) Once again, the support of members of the Victoria Centre of the RASC is a vital, and much appreciated, component of our efforts to increase astronomy awareness in Canada and, indeed, throughout the world. Thank you!

Jim Hesser

The Space Place

Monster Trucks on Mars

We all know what Mars rovers look like now: Robotic platforms, bristling with scientific instruments, trundling along on small metallic wheels. Planetary rovers of the future, however, might look a little different-like miniature monster trucks!

Enormous, inflatable tires can easily roll right over the rocks and rugged terrain of alien planets, just as they bound over old cars like as many speed bumps.

That's the idea behind a novel concept for robotic planetary rovers known as the "big wheels inflatable rover." Unlike rovers similar to the Sojourner robot that explored the surface of Mars in 1997 that depend on instructions sent from Earth or complex programmed intelligence to steer through rough terrain, this rover has three beach ball-like tires roughly five feet across that make it a true off-road vehicle.

"We sent this rover out to Death Valley, to a place called Mars Hill that has a general geological formation like Mars, and nothing could stop it," says Jack Jones, the mastermind of the inflatable rover concept at JPL. "It just kept going and going and going."

Lots of current research is devoted to developing advanced robotic intelligence that allows rovers to detect rocks in their path and maneuver around them. The alternative to such on-the-spot intelligence is tedium: Ground controllers on Earth working out the maneuvers by hand and waiting an hour or more for the instructions to travel to the distant planet.

A "big wheels" rover would need such computer intelligence to avoid very large boulders, but Jones asks, "Why worry about every little rock, pebble, and crack when you can just roll right over most of them?"

Jones imagines a scenario where multiple inflatable-wheel rovers could be sent out to explore the Martian terrain-easily and quickly traversing the rugged terrain. Samples gathered by the rovers could be returned to a central, stationary laboratory module for detailed analysis.

"The Martian surface is really very, very rough with a lot of rocks, and to be banging this laboratory equipment up and down over all of these rocks aboard

Continued on page 6

The Night Sky Continued

October 12 to 18

You may be in for a treat! Be on the look-out for this year's apparition of Comet 2P/Encke through late November. The comet will cruise through Triangulum, past M31 (between October21 and 28), and fly quickly below Cygnus and then above Aquila in November. Your sketch or image could be on our newsletter cover!

Check out the following web site for orbital elements and a sky chart:

http://www.aerith.net/comet/catalog/0002P/2003.html

There's lots of other information on this web site to help guide you to your favourite comet. This one's a must to see AND to use!

There are also two meteor showers to add sparkles to this comet's fireworks and the Milky Way's autumn icy glitter. The Orionids peak October 22th and the Leonids on November 18th

Don't forget to watch Saturn. Which way is it travelling against the star?

Got insomnia? Don't fret about it, watch for the Moon rising above Saturn in the middle of the night.

October 19 to 25

Get out before dawn on the 21st and 22nd and enjoy the sight of a thin crescent Moon near Jupiter.

The Orionids peak on October 22nd. There won't be many meteors, but you'll enjoy every one because the Moon won't be a problem. These dust motes left behind by Comet Halley reveal themselves as very fast streaks radiating from Orion.

Go out around supper time on the 26th and catch the Moon and Venus flirting.

October 26 to November 1

Have you been tracking Saturn's path across the stars? Keep watching. Notice anything?

Treat yourself and try some astrophotography—take a picture of the moon and Venus on the 26th. Find a nice foreground setting for these jewels.

November 2 to 8

See if you can spot Mars just above the Moon in the morning.

We get to enjoy another totally eclipsed Moonrise at sunset on the 9th. Here's your chance to take a stab at estimating the Moon's brightness. Is this one deeper than the last one? Check out page 140 of the RASC 2003 Observer's Guide and give your estimate a scientific edge.

The Night sky

We had a look for Uranus and Neptune on the last day of August during an observing session at Pearson College. Even though both planets were near opposition, we couldn't be certain that we captured them. Both planets were mere specks and the air was so unsteady that we couldn't tell that we were looking at planetary disks.

September 7 to 13

Drink in the downtown Milky Way while you still can. In a few short weeks we'll be looking out of our galaxy into its suburbs. Take your binoculars and see how many Messier and other objects you can identify—you might surprise yourself.

Cygnus is still overhead and the Andromeda Galaxy is climbing higher. The stretch of our galaxy that makes up Cygnus' contrail is another binocular delight. In fact, some of the star groupings here are best enjoyed in binoculars or can't even be seen in a telescope.

September 14 to 20

Saturn's baaaack ... and our Moon hovers 5° above him. Try to estimate the distance with your hand. Hold your hand out at arm's length, hold your little finger down with your thumb and make sure that you hold your remaining fingers upright and tightly together—the three finger span 5° in the sky.

September 21 to 27

The Earth's tilted posture brings another equinox on the 23rd. Now you won't have to stay up as late when you observe, but you'd better dress warmly.

Notice how the summer's constellations seem to hover in the sky. You're just viewing them earlier and earlier in the evening. At least you have the illusion that summer won't crystallize into winter.

Remember how you found the 'distance' between the Moon and Saturn? Use the same technique to find Mercury below the Moon on the 24th. You'll have to have insomnia and be prowling the dark at 3 or 4 in the morning.

September 28 to October 4

Venus graces Virgo's sheaf of wheat on the 3rd in the early evening.

You've probably noticed Jupiter in the dawn. It's still too low for a decent telescopic view, but you can still do your Jupiter Glad You're Back dance.

October 5 to 11

Even though we're leaving Mars behind in the Solar System dust, it's still an impressive sight. Plus, it's high in the sky earlier in the evening so you don't have to stay up half the night to enjoy a steady view.

Continued on page 10

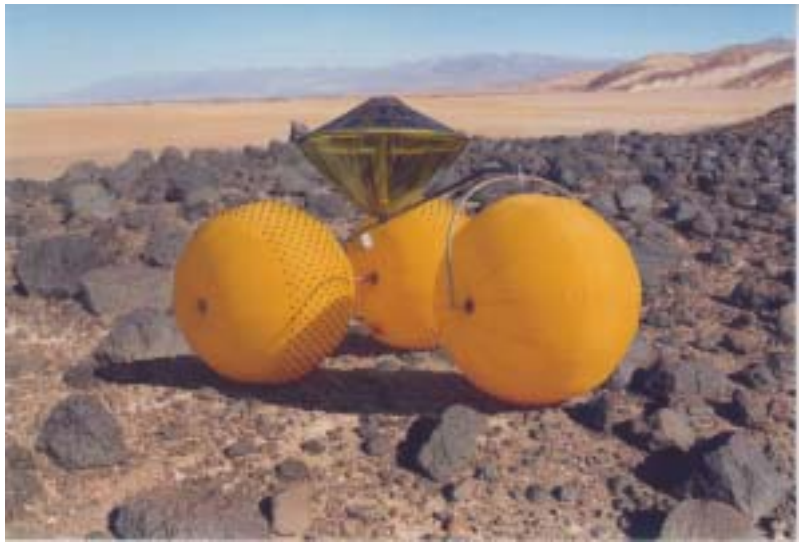
The Space Place Continued

the rovers doesn't make much sense," Jones says. "I suspect it might be better to leave it in a central location."

At the moment it's all very speculative; NASA currently has no definite plans to send inflatable rovers to Mars. But who knows; one day monster truck-like vehicles could be zipping over Mars' rough, red surface.

Kids can baffle their friends with a robot puzzle (including a "Big Wheels" rover) they make themselves at http://spaceplace.nasa.gov/robots/robot_puzzle.htm . For adults, find out more about NASA's inflatable rover program at http://www.jpl.nasa.gov/adv_tech/rovers/summary.htm .

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



The "Big Wheels" inflatable rover doesn't mind a few boulder-sized rocks, no matter what planet they're on!

by Patrick L. Barry and Dr. Tony Phillips

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

The Space Place

Careful Planning and Quick Improvisation Succeed in Space Biz

On December 18, 2001, ground controllers at JPL commanded NASA's Deep Space 1 (DS1) spacecraft to go to sleep. "It was a bittersweet moment," recalls Marc Rayman, the DS1 project manager. Everyone was exhausted, including Deep Space 1, which for three years had taken Rayman and his team on the ride of their lives.

DS1 blasted off atop a Delta rocket in 1998. Most spacecraft are built from tried-and-true technology-otherwise mission controllers won't let them off the ground. But Deep Space 1 was different. Its mission was to test 12 advanced technologies. Among them: an experimental ion engine, a solar array that focused sunlight for extra power, and an autopilot with artificial intelligence. "There was a good chance DS1 wouldn't work at all; there were so many untried systems," recalls Rayman.

Nevertheless, all 12 technologies worked; the mission was a big success.

Indeed, DS1 worked so well that in 1999 NASA approved an extended mission, which Rayman and colleagues had dreamed up long before DS1 left Earth-a visit to a comet. "We were thrilled," says Rayman.

And that's when disaster struck. DS1's orientation system failed. The spacecraft couldn't navigate!

What do you do when a spacecraft breaks and it is 200 million miles away? "Improvise," says Rayman.

Ironically, the device that broke, the 'Star Tracker,' was old technology. The DS1 team decided to use one of the 12 experimental devices—a miniature camera called MICAS—as a substitute. With Comet Borrelly receding fast, they reprogrammed the spacecraft and taught it to use MICAS for navigation, finishing barely in time to catch the comet. "It was a very close shave."

In September 2001, DS1 swooped past the furiously evaporating nucleus of Comet Borrelly. "We thought the spacecraft might be pulverized," Rayman recalls, but once again DS1 defied the odds. It captured the best-ever view of a comet's heart and emerged intact.

Continued on page 8

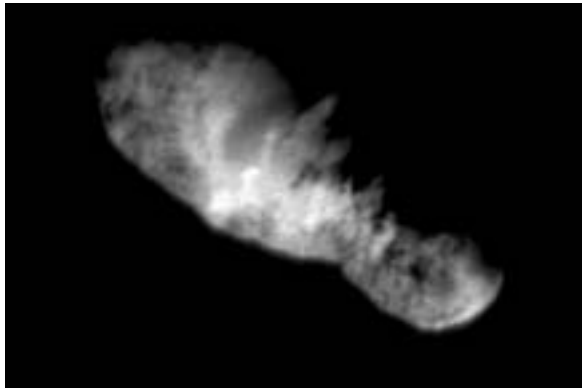
The Space Place Continued

By that time, DS1 had been operating three times longer than planned, and it had nearly exhausted its supply of thruster-gas used to keep solar arrays pointed toward the Sun. Controllers had no choice but to deactivate the spacecraft, which remains in orbit between Earth and Mars.

Rayman has moved on to a new project-Dawn, an ion-propelled spacecraft that will visit two enormous asteroids, Ceres and Vesta, in 2010 and 2014. "Dawn is based on technologies that DS1 pioneered," he says

Even asleep, DS1 continues to amaze.

Find out more about DS1 at http://nmp.jpl.nasa.gov/ds1. For kids, go to http://spaceplace.nasa.gov/ds1dots.htm to do an interactive dot-to-dot drawing of Deep Space 1.



This was the final image of the nucleus of comet Borrelly, taken just 160 seconds before Deep Space 1's closest approach to it. This image shows the 8-km (5-mile) long nucleus from about 3417 kilometers (over 2,000 miles) away

by Dr. Tony Phillips

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