Nova Notes

The Newsletter of the Halifax Centre of the Royal Astronomical Society of Canada

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In this issue:

Happy, smiling faces from Nova East 2007.
Despite the rain, a great time was had by all (see reviews in this edition)

From the editor *Quinn Smith*

As I write this editorial, the Union of Nova Scotia Municipalities has just announce a new study to examine the energy efficient street lighting. A major concern of the RASC is the increasing amount of light pollution, and much work has been done to promote good lighting. Several Centres (including Halifax) have LPA (Light Pollution Abatement) committees (http://halifax.rasc.ca/lightpollution.html)

Over the years LPA has been a difficult sell—after all it costs money to change lighting, what about security? And after all it's only a bunch of weird star gazers who are complaining. But not anymore. Environmental and financial concerns have brought efficient lighting into the mainstream. Finally we have a platform, where our input and concerns can carry some weight.

During Nova East, LPA Committee Chair Paul Heath gave an excellent talk on light pollution and his power point presentation can be found on the new Light Pollution Abatement page on our web site. This is a topic who's time has come. I encourage all members to get involved. Learn about the options - talk to your neighbors about light pollution, talk to the hardware stores so they will stock "light friendly" fixtures, and talk to your politicians. (at all levels).

For the first time we have a real opportunity to reduce light pollution. Lets get on with it!

Meeting Announcements

Meetings begin at 8:00 p.m.

Meetings are held every third Friday of the month, except for the months of July and August.

Meetings take place in room 176, Loyola Building (#3 on map) at Saint Mary's University.

All members—but especially new ones—are invited to come to the meetings 20 – 30 minutes early to participate in our new informal "Meet and Greet". It's a chance to ask questions about astronomy, the RASC, memberships, or to just say hello.

Executive meetings begin at 7:00 p.m., and members are welcome to attend.

Next Meeting Dates:

Please note that the December meeting date is the 14th and not the 21st.

October 19, 2007 - Speakers night
Our regular meeting with a guest speaker. This month Dr. Marcin Sawicki will discuss the formation of galaxies.

November 16, 2007 - Regular meeting
Our regular meeting with either a guest speaker, or short talks from Centre members.

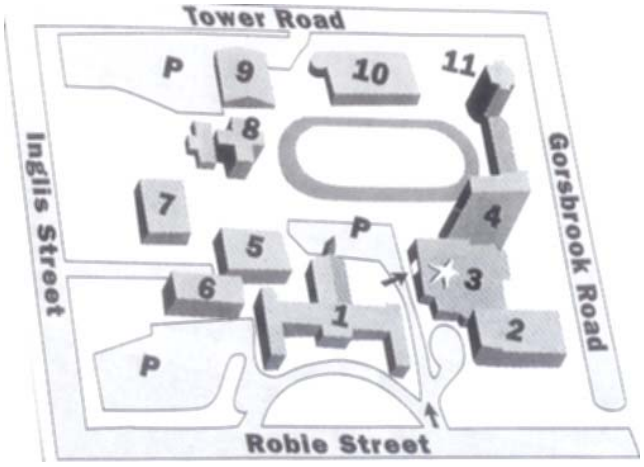
December 14, 2007 - Regular meeting
Our regular meeting with either a guest speaker, or short talks from Centre members.

[The content of all meetings is subject to change]

Meeting Location:

1. McNally
2. Sobey Building
3. **Loyola Academic Complex**
4. Loyola Residence
5. Patrick Power Library
6. Science Building
7. Burke Building
8. Bookstore
9. Alumni Arena
10. The Tower
11. Rice

P Parking



Halifax RASC Executive, 2007:

Honorary President	Dr. Roy Bishop	902 542 3992
President	Paul Evans	902 827 5977
1st vice-president	Gary Weber	
2nd vice-president	Alex LeCreux	404-5480
Secretary	Wes Howie	835-3966
Treasurer	Pat Kelly	798-3329
Nova Notes Editor	Quinn Smith	852 3894
National Rep.	Pat Kelly	798-3329
Librarian	Gilles Arsenault	864 6654
Observing Chairman	Tony McGrath	463-4018
Councilor	Paul Heath	457 0610
Councilor	Jim Dorey	464-8781
Councilor	— ? —	

Mary Lou - Asteroid Queen

Acknowledgement from the editor

It is indeed an honor when one's dedication and contribution to astronomy is recognized by one peers. This is exactly what happened to our own Mary Lou Whitehorne who, last June, was recognized by having a minor planet named after her.

Mary-Lou has been an integral member of the RASC since 1985 and is extremely active in promoting Astronomy education in schools. She has devoted much of her life to educating young people in the basics of astronomy. Her original and interesting approach has led to a surge of interest in astronomy among young people throughout Canada.

She has served both on the Halifax executive and the National executive, and is currently second vice-president of the Royal Astronomical Society of Canada. She has held most if not all positions the Halifax Centre executive at one time or another, and in 1993 organized and chaired the General Assembly in Halifax.

She was a speaker at the Halifax planetarium for many years and organized speakers for schools, scouting and public tours. She was a driving force in getting a star lab planetarium in Nova Scotia. She trained teachers through workshops how to use the portable star lab planetarium. It now has over 10,000 students go through it annual.

She has received many awards for education. The ASP astronomical Society of the pacific gave her the La Crumbes Award, details on the ASP website. She also has received the Chant medal from the RASC for her work on type Be Stars.

Beside her volunteer work on council, she is an avid observer and has received the Messier and NGC certificates. She was always at Beaverbank on any clear night in the late 80's and early 90's. She was always willing to share views and, more importantly, take the time to look thorough and confirm views through others telescopes (youth members especially).

Now, about that asteroid….. The minor planet in question was # 144907 which is now officially known as (144907) Whitehorne = 2004 YS3

We are very lucky to have the only known close-up view of the minor planet, which is being published, exclusively, in Nova Notes. (Blair MacDonald has asked me to point out that he had nothing to do with the "processing" of this astro photograph)

Mary-Lou and Clint relaxing on her very own minor planet (144907) Whitehorne = 2004 YS3

HALIFAX CENTRE

Nova Notes The Newsletter of the Halifax Centre of the RASC

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Newsletter editor: Quinn Smith

Nova Notes is published bi-monthly in February, April, June, August, October and December. The opinions expressed herein are not necessarily those of the Halifax Centre. Articles on any aspect of Astronomy will be considered for publication.

Deadline for the next edition is November 20th 2007.

If you are a member who downloads the latest issue of Nova Notes from our website, then you may be interested in taking your name off of the mailing list for the printed version. If so, please E mail me at the above address, with the subject line "Remove from mailing list", and you will no longer be mailed a paper copy.

Monthly Meeting Report
September 21st 2007
Quinn Smith

The September meeting was brought to order (if such a thing is possible) by our illustrious leader Paul Evens.
Paul greeted the membership, especially new members and guests, and gave a short introduction outlining the benefits of membership to the Halifax Centre. Of the 25 persons present at the meeting there were three new members / guests.

Business was dispatched with quickly. Pat stated the Center's finances were healthy, and that financials would be dealt with in greater detail at a later meeting. Alex displayed the 2008 calendars that were now available for sale ($15) as well as showing ball caps, toques and a thermos all having the RASC logo. Quinn showed a $1 red LED rear bicycle light he had found in a dollar store in Bayers Lake shopping park (Super Store) side).

Paul thanked everyone who organized and participated in the Nova East Star Party held last month (see article in this edition). He thanked the Nova East committee and in particular John Jarvo and Daryl Dewolfe. John and Daryl replied, asking for volunteers for the next Nova East Committee (their request is printed in an open letter in this edition).

Paul mentioned some of the observing programs and certificates that are available from the RASC. He briefly described them and encouraged all members to get involved in these observing programs.

Explore the Universe Certificate - A challenging program for the new astronomer covering all major astronomical objects including constellations, bright stars, the Moon, Deep Sky Objects, and Double Stars. Suitable for both binoculars and telescopes.
Messier Certificate - Take a stroll through astronomical history as you follow Charles Messier's 18th century journey through the northern skies. His famous list of 110 "not comets" includes some of the most spectacular objects in the northern hemisphere.
Finest NGC Certificate - A somewhat more challenging list for the experienced observer, developed by Sky News Magazine Associate Editor Alan Dyer. The Finest NGC list includes a further 110 objects, mainly from the New General Catalogue.
Isabel Williamson Lunar Certificate - The RASC's lunar observing certificate program. It includes a comprehensive list of the best features visible on the surface of the Moon and detailed observing notes and explanations that will guide you through a complete tour of the amazing surface of our nearest neighbour in space.

Find more information at www.rasc.ca and follow the links observing to certificate programs

Paul then introduced three members who gave short talks on the following topics:

Air and Space museum (Washington) - Blair McDonald
Blair McDonald is an avid astro-photographer and a regular contributor to Nova Notes. During a recent trip to Washington he had the opportunity to visit the Air and Space museum. Having only a few hours to spare (the recommendation is 4-5 hours) Blair let his camera do the walking.
He showed and described machines of flight, from the Wright Flyer (the restored original!) through the Mercury, Gemini and Apollo programs to the actual (un-flown) Apollo 18 Lunar Lander. Blair pointed out that for the most part the exhibits in the museum are actual craft (or unused backups).
Blair followed his review of the museum with a few of his recent astro shots including M13, M31 and the North American nebulae. Blair finished his talk by explaining that if you allow 5 hours to catch a plane, and get up at 4am. for a 9am. flight, you will find yourself sitting at the departure gate 75 minutes after your wakeup call!

Above: Mercury capsule

Below: Voyager

Astronomy Stamps - Pat Kelly

In order to celebrate the upcoming International Year of Astronomy (2009) several countries have issued commemorative "astronomy" stamps. When you see the Australian stamps you will see why "Astronomy" is in quotation marks.

Pat showed examples of stamps from four countries.

New Zealand has issued five stamps depicting views of the southern skies. Each stamp includes a southern constellation and an observatory either in New Zealand or associated with New Zealand.

The UK has issued six stamps featuring the Caldwell Objects. Pat pointed out the UK stamps do not have their country of origin on them, only a silhouette of the Queen. This dates back from the introduction of postage stamps, when the UK was the only country issuing them—hence no need for a country of origin.

Next Pat showed some beautiful stamps from Ireland. Ireland has issued two double stamps featuring a Saturn / Uranus pair and a Jupiter / Neptune pair.

Finally Pat showed the Australian stamps. Australia has issues twelve stamps showing the signs of the zodiac as caricatures as well as describing the traits if that "sign". Astronomy - astrology …….. close enough!

More details of these stamps (and how to obtain them) can be found at: (www.) nzpost.co.nz, royalmail.com, irishstamps.ie, aupost.com.au

"How I stopped by Pluto on the way to Philadelphia" or "The restroom at the edge of the Solar System" - Gilles Arsenault

This summer Gilles Arsenault was driving from Halifax to Philadelphia when he happened to bump into Pluto. Well, maybe not actually Pluto, but almost.

Gilles and his family stopped at a rest area on I 95 in Main. It was here that they happened upon the following plaque:

The plaque reads as follows:

"You are part of Northern Maine's Aroostook County's 40 mile long scale model of the Solar System. At this scale, one mile along US route 1 equals the distance from the Earth to the Sun, known as an "astronomical unit". The Sun is located at the Northern Maine Museum of Science in Folsom Hall on the campus of the University of Maine in Presque Isle. Pluto can be seen at the Houlton Information Center, just north of the Interstate 95 interchange. The remaining eight planets—Mercury, Venus the Earth and Moon, Mars, Jupiter with four moons, Saturn with Titan, Uranus, Neptune and Pluto—are visible at locations along Route 1. All planets are built as three dimensional models."

"This model was developed as a community project in 2000-2003 for all to enjoy and learn about our Solar System. It is presently the world's largest scale model of the Solar System."

For more information go to:
http://www.umpi.maine.edu/info/nmms/solar/

Talking of finding things, Gilles (who is our librarian) showed 4 new books he had purchased for the library.

- Patterns in the Sky - Ken Hewitt-White
- Binocular Highlights - Gary Seronik
- Celestial Sampler - Sue French
- Stargazer - Fred Watson

After the three excellent talks, Paul thanked the presenters an gave the closing remarks. Pop and munchies were served and the members socialized and told lies about limiting magnitudes (it was THAT dark ……..)

2007 Nova East Review

Daryl Dewolfe

It was not the driest Nova East but it still was a fine event.

Our Special Guest Speaker, Catherine O'Connell-Cooper, from the Planetary & Space Science Centre, was great! She gave a very interesting & wide ranging talk on our Moon to start the week-end theme.

After the Astronomers' Breakfast on Saturday, Paul Heath & Chris Beckett began their presentations (Light Pollution Issues & Astronomy and the Weather)

The afternoon talks saw the return to the lunar theme. Presenters John Jarvo, David Chapman, & Roger Vail spoke on a variety of lunar topics.
(Isobel Williamson Lunar Observing Program, Observing the Lunar X, a Primer on Lunar Photography)

This was followed by the evenings Door Prize Draw. Thanks to Chris Beckett for this and to RASC Halifax President Paul Evans for his help.

Larry Bogan finished the evening with a presentation on building an observatory.

Observing began around midnight under clear skies. At least some attendees were still going at dawn.

Sunday began with the Bannock Bakers hard at work, followed by a Flotsam & Jetsam Sale, & solar observing.
(I know of one attendee who bought a 10inch telescope at this Sale)

Five groups of campers stayed on for observing Sunday night. Conditions were very good under mag 6.4 skies with frequent meteors +2 to -3 including a vivid green one!

To try & thanks all the people who helped or offered to help over the week end would be too lengthy for this review. We hope you know who you are. Your support is important!

We would like to express our appreciation, however, to the following;

- -Smiley's Provincial Park Staff. Their help is invaluable to Nova East each year.
- The Planetary & Space Science Centre, Fredericton, New Brunswick
- Our Door Prize sponsor; Naturewatch, Charlottetown, P.E.I.
- Our Nova East Field hands, William Place, Ian Anderson, & Catherine MacDonald.
- Mark Bonang from Massachusetts for the Nova East 2007 group photo

On a personal note:
When I looked out over the camping field area on Saturday & saw all the campsites still occupied, in spite of the days rain, and saw the talks well attended, I felt personally rewarded. Rain or shine (preferably shine) people come to Nova East. It must truly mean much more than just an astronomical week-end away from home. The fellowship and commitment of attendees at Nova East stands out above all other star parties I have ever attended. On that Saturday, I felt very privileged to have been a part of organizing this one.

Thank-you everyone for coming, & for your kind comments about Nova East 2007 on the RASC List.

See you August, 29, 30, 31, in 2008

Regards,
Daryl Dewolfe
John Jarvo
Dave Parsons
Ron Mills
Chris Beckett
Irene Moore
Nova East 2007 Committee

Request For Help - NE 2008

Daryl DeWolfe / John Jarvo

Nova East Star Party planning usually begins in the late fall, before Christmas. The Nova East 2008 Committee is 90% complete. However, it needs one more person.

The Program Section is a 2-person job. There is only 1 person currently in that role for NE2008. This is an excellent opportunity for a member with some familiarity with Nova East to have direct input into the next Star Party. It does require some organizational skills, some creativity, energy, and an ability to pre-plan.

You work with a fellow Program organizer& are backed by a very experienced Committee & mentored by the previous years Program organizers.

Here is a great chance to give something back to an event which has nearly an 80% return attendee rate.
This position MUST be filled immediately for Nova East 2008 to go ahead.

Please give it serious thought. Nova East is OUR Star Party!

Contact;
Daryl Dewolfe at qscope@hotmail.com
or
John Jarvo at jbjarvo@gmail.com

Images from Nova East - thanks to John Liddard

Set-up on Friday afternoon

Gathering rain clouds—sign of things to come!

Scopes come in all sizes, from the large ……..

to the small……...

Rain or no rain—attendees listening to one of the talks

The scopes wait

Dave Chapman poking fun at the Moon

The morning after—a little solar observing

Light Pollution Abatement

A press release from the Union of Nova Scotia Municipalities

NS Municipalities Looking for Ways to Address Costs and Environmental Impacts of Street Lighting

Halifax, NS, September 24th, 2007 – Nova Scotia's municipalities are hoping to shed some light on ways to cut costs and help the environment.

A new study, announced today by the Union of Nova Scotia Municipalities (UNSM), will examine energy efficient street lighting practices and technology. The study is funded by Conserve Nova Scotia, Halifax Regional Municipality, Nova Scotia Power, and the UNSM.

Street lights are a significant expenditure and a major source of greenhouse gas emissions for municipalities across the province. Minister of Energy and responsible for Conserve Nova Scotia, Bill Dooks, says the study will help municipalities effectively plan for street lighting requirements. "This study will help municipal governments establish standards for street lighting, save money, and cut emissions."

The town of Springhill is one municipality grappling with the issue. John Kelly, Director of Engineering and Public Works for Springhill says at least 35% of Springhill's total energy budget is due to street lighting costs. "We're concerned that so many of our tax dollars go towards this one component of our operations," said Mr. Kelly. "Plus, we estimate the energy use of our street lights contribute to several hundred tonnes of carbon dioxide emissions every year. We are looking to find ways to reduce both the costs and the resulting greenhouse gas emissions of street lights."

In HRM, the figures are staggering – over $4 million dollars per year and over 20,000 tonnes of CO2 annually. "Better practices that can effectively and efficiently light our streets and roads, with less environmental impact, fits well with our Climate SMART program to address climate change, and our commitment to being a healthy, sustainable and vibrant municipality," said Mayor Peter Kelly.

The issue is not unique to Nova Scotia's towns and cities. "In some of our smaller, rural municipalities, street lighting represents the single largest energy expense – over 75% in some cases," said Russell Walker, president of the UNSM. "We felt it was important to provide options for all of our municipalities related to this topic. We are hearing how municipalities across Canada are starting to switch to more efficient street-lighting technologies, or are reducing wattages of lights to conserve energy, or are using dimming controls. We want to see what might work here."

There are approximately 135,000 street lights in NS owned by Nova Scotia Power, and HRM owns an additional 13,000 of their own street lights. "We all care about conservation and energy efficiency, so it's important to examine every opportunity," says Alan Richardson, general manager of customer service for Nova Scotia Power. "That includes everything from new technology to how we deliver basic services like street lighting."

The Smart Street Lighting Strategies project will include a review of street-lighting standards, current technologies, and common practices in use across the province, and efficient best practices, industry standards and technologies in other jurisdictions. Some of the key issues that may accelerate or impede the adoption of efficient street-lighting practices, standards and technologies in NS will also be identified. The report is expected in November.

The Union of Nova Scotia Municipalities (UNSM) is a not-for-profit organization mandated to represent the Provincial interests of municipal governments across Nova Scotia (NS). UNSM's total membership is 440 elected officials representing all 55 municipalities.

For more information, contact:

Peggy Crawford, Municipal Sustainability Coordinator
Union of Nova Scotia Municipalities
902-424-3846
crawfopl@gov.ns.ca

John Muir
Conserve Nova Scotia
902-424-6260
muirja@gov.ns.ca

Mayor Peter Kelly
Halifax Regional Municipality
902-490-4010

If you want to find out more about light pollution, and what you can do to help, visit out web site at http://halifax.rasc.ca and follow the link to the Light Pollution Abatement page.

The Halifax Centre's LPA committee is chaired by LPA Committee Chair: Paul Heath and he can be reached at pheath@eastlink.ca

There also an excellent article on good lighting entitled "The Dark Side" in the August 20 issue of The New Yorker. It is on line at:
http://www.newyorker.com/reporting/2007/08/20/070820fa_fact_owen?currentPage=1

Harvest Moon

An interesting exchange between "Space weather" and Roy Bishop

On 26-Sep-07, at 12:58 a.m., Space-Weather.com wrote:

There's a full Moon tonight (Wed., Sept. 26) and it has a special name--the "Harvest Moon," the full Moon closest to the autumnal equinox.
In the days before electric lights, farmers relied on moonlight to help them gather ripening autumn crops. The bright Harvest Moon allowed their work to continue late into the night.
Now, post-Edison, we appreciate the Harvest Moon more for its beauty than its utility. Moonrise happens tonight at sunset; look east and enjoy the view!

Roy Bishop replied:
Dear Sirs,

The description of the Harvest Moon omits the very feature that makes the Harvest Moon special for observers in mid-northern latitudes.
The special feature is due to the shallow angle of the ecliptic to the horizon in the eastern evening sky near the time of the autumn equinox. Consequently, since the Moon orbits eastward approximately along the ecliptic, the time of the rise of the full (or nearly full) Moon on successive evenings occurs with only a small delay (typically 20 to 30 minutes, rather than the average delay in moonrise of 50 minutes). Thus in September farmers not only have a full Moon, but a Moon that is present in the early evening sky for several nights in succession. That is why, of all the full moons throughout the year, the "Harvest Moon" is special.

Moreover, within a few years of 2006, the 5-degree tilt of the lunar orbit to the ecliptic enhances this unusually short delay in successive moonrises. Last year the ascending node of the lunar orbit passed the equinox in Pisces, which is why the Moon currently has been reaching extreme declinations near +/- 29 degrees. By 2015 the 18.6-year retrograde wobble of the plane of the lunar orbit will cause the Harvest Moon phenomenon to reach a minimum (a longer delay in successive moonrises at mid-northern latitudes, yet still much less than the 50-minute average).

I fear that in this "post-Edison" world we are losing touch with the sky.

Sincerely, Roy Bishop

Astro photo of the month: A beautiful shot of the Horse Head Nebulae by Blair MacDonald

GoTo Guy Meets Monster Dob

Pat d'Entremont

September 14th, 2007

It was the second opportunity in as many weeks that I had of getting out to St. Croix Observatory, something I had not been doing much of late. So I found myself bemoaning the fact that I couldn't try out my new astrophotography equipment, due to the aforementioned deep-frying incident. (For those not on the RASC list, therefore not in the know, I ran 112 volts through the ground of my computer and on to my telescope's Autostar handbox, thus ensuring its instant untimely death by electrocution.)

So I figured *what the heck*, why not do some old-fashioned observing. Surely someone would be at SCO with the 17" Dobsonian. And someone was – me!

Now, except for a couple of years with my Sears 4.5" Newtonian, all my observations had hitherto been with a computerized scope, so getting behind the wheel of *Old Tancock* was something I did with a lot of trepidation. Manually slewing a telescope that size was something I had never before attempted to do. Fortunately for me, Tony McGrath was there that evening, and he set things up and gave me instructions on how to proceed.

In fact it was a lot easier than I had expected. We had the Telrad set up and aligned, as well as it's regular finder, and I had brought Wil Tirion's *Bright Star Atlas* with me, so off I went.

It being my first time, I stuck to the easy stuff, all Messier objects. I easily found the Whirlpool Galaxy at the end of the Dipper's handle, the Pinwheel Galaxy by forming a triangle with the end stars of the handle, and M81 and M82 by hopping the bowl's diagonally opposite stars and onto an equal distance beyond. I also found the Ring Nebula at the bottom of the Eraser, M13 a third of the way down the lower side of the Keystone, the Andromeda Galaxy by just looking, and the Lagoon and Trifid Nebulae by following the steam up the Teapot.

I can see how people can get hooked on this and want to go on to finding fainter objects by hopping fainter stars. It was a lot of fun, and with that much aperture the views were great. The only difficulty I had was finding the Dumbbell Nebula. I think I took a wrong turn at Albireo and Tony had to rescue me.

But I did discover another great thing about star hopping: you find things you weren't necessarily looking for. Somewhere near Sagitta, I wound up on a faint fuzzy. (Inspiration for song lyrics, perhaps? "Somewhere near Sagitta, Lord I let 'er slip away.") I was about to declare it "Comet McGrath-d'Entremont", when Tony took a peek and informed me that it was in fact a globular cluster.

It may have been M71, but I'm not sure. By then either the sky was softening up or my eyes were getting tired, so I never did try to positively identify the mysterious object. I just packed up and headed for home, satisfied that I had – once again – learned something new from this ever fascinating hobby.

Membership Survey

Paul Evans

Dear Halifax Centre Members

You will find enclosed with this issue of Nova Notes a membership survey. This survey was prepared by the Halifax Centre Council in order to gather feedback from you the membership.

The survey asks for comments to be written in. This format was selected instead of multiple choice so as to not restrict the feedback. Please consider that questions as a guideline. We want to hear your feedback in order to help us in our role as the Centre's Executive Council. Please feel free to use additional sheets of paper.

We have included a stamp with the survey. We consider if very important for feedback to be submitted so please take a few minutes and give us your thoughts.

A copy of the survey is also available online at http://halifax.rasc.ca/

We would appreciate surveys being mailed by the end of October 2007. Please mail surveys to:

Halifax Centre, RASC
PO Box 31011
Halifax, Nova Scotia
B3K 5T9

In closing, I would like to emphasis that entire membership of the Halifax Centre is made up of volunteers. If you have ideas, and you want to help get things done then please get involved!

Thank you,

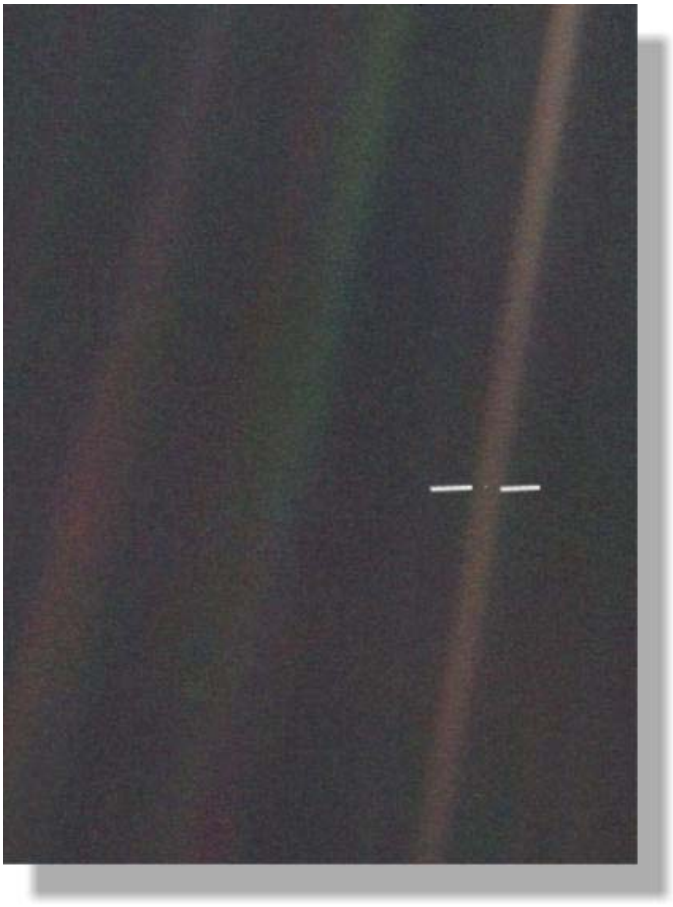
Paul Evans on behalf of the Halifax Centre Council
President, Halifax Centre of the Royal Astronomical

Cosmic Debris

Odds & sods from the world of Astronomy, and Cosmology

I'm not sure exactly where this article came from originally, but it later appeared in Carl Sagan's book "Pale Blue Dot: A Vision of the Human Future in Space" by (Random House, 1994). With all the current posturing between nations, this article rings so true (editor).

This photograph was taken by Voyager 1 in 1990 as it sailed away from Earth, more than 4 billion miles in the distance. Having completed it primary mission, Voyager at that time was on its way out of the Solar System, on a trajectory of approximately 32 degrees above the plane of the Solar System. Ground Control issued a command for the distant space craft to turn around and, looking back, take photos of each of the planets it had visited. From Voyager's vast distance, the Earth was captured as a infinitesimal point of light (between the two white tick marks), actually smaller than a single pixel of the photo. The image was taken with a narrow angle camera lens, with the Sun quite close to the field of view. Quite by accident, the Earth was captured in one of the scattered light rays caused by taking the image at an angle so close to the Sun. Dr. Carl Sagan was quite moved by this image of our tiny world. Here is an excerpt from the late Dr. Sagan's talk:



"We succeeded in taking that picture [from deep space], and, if you look at it, you see a dot. That's here. That's home. That's us. On it, everyone you ever heard of, every human being who ever lived, lived out their lives. The aggregate of all our joys and sufferings, thousands of confident religions, ideologies and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilizations, every king and peasant, every young couple in love, every hopeful child, every mother and father, every inventor and explorer, every teacher of morals, every corrupt politician, every superstar, every supreme leader, every saint and sinner in the history of our species, lived there on a mote of dust, suspended in a sunbeam.

The earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by all those generals and emperors so that in glory and in triumph they could become the momentary masters of a fraction of a dot. Think of the endless cruelties visited by the inhabitants of one corner of the dot on scarcely distinguishable inhabitants of some other corner of the dot. How frequent their misunderstandings, how eager they are to kill one another, how fervent their hatreds. Our posturing, our imagined self-importance, the delusion that we have some privileged position in the universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity -- in all this vastness -- there is no hint that help will come from elsewhere to save us from ourselves. It is up to us.

It's been said that astronomy is a humbling, and I might add, a character-building experience. To my mind, there is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world. To me, it underscores our responsibility to deal more kindly and compassionately with one another and to preserve and cherish that pale blue dot, the only home we've ever known."

From the editor:

Short articles for "Cosmic Debris" are welcome (encouraged I should say).

They can be book reviews, items of interest, equipment reviews, web sites, or just general rambling related to Astronomy / Cosmology.

If articles are taken from an existing publication, please give a reference to such.

St. Croix Observatory

Observing Chair: Tony McGrath 463-4018

Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, NS. The site has grown over the last few years to include a roll-off roof observatory with electrical outlets, a warm-room and washroom facilities. Enjoy dark pristine skies far away from city lights, and the company of like minded observers searching out those faint "fuzzies" in the night.

Members' Night:

Every weekend closest to the new Moon there is a Members' Night at St. Croix. The purpose of members' night is to attract members from the Centre to share an evening of observing with other members. It's also a great night for beginners to try out different scopes and see the sky under dark conditions. For more information or transportation arrangements, please contact the Observing Chair.

Future dates for Members' Nights:

12th October 2007
9th November 2007
7th December 2007

These dates are all Fridays. If this is a meeting night, or cloudy, the alternate date will be the following Saturday.

Directions from Halifax:

1) Take Hwy 102 (the Bi-Hi) to Exit 4 (Sackville).
2. Take Hwy 101 to Exit 4 (St. Croix).
3. At the end of the off ramp, turn left.
4. Drive about 1.5 km until you cross the St. Croix River Bridge. You'll see a power dam on your left.
5. Drive about 0.2 km past the bridge and take the first left (Salmon Hole Dam Road).
6. Drive about 1 km until the pavement ends.
7. Drive another 1 km on the dirt road to the site.
8. You will recognize the site by the 3 small white buildings on the left.

Become a St. Croix Key Holder:

For a modest key fee, members in good standing for more than a year who have been briefed on observatory can gain access to the St.Croix facility. For more information on becoming a key holder, contact the Observing Chair.

Rules for using the SCO equipment:

There are several pieces of astronomical equipment that are available for members (and guests) to use, including a 17.5" dob and a magnificent pair of tripod mounted 100mm binoculars.

If you are unfamiliar with the use of these pieces of equipment, please ask for assistance—any knowledgably member would be more than willing to help you out. Please share the equipment with other members, and treat the equipment, the facilities and the site with respect. …… Enjoy