

SKYNEWS



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By Daniel Posey

At the recent AGM, Dan received
*The Award of Excellence in
Astrophotography* for this image

NEXT MEETING

Wednesday Jan 9th 2016
At 7:30 PM
Room A104
Bob Wright Centre
University of Victoria
3800 Finnerty Road

www.victoria.rasc.ca

On the Cover

The Whirlpool: M51
by *Daniel Posey*

This image consists of three hours and forty minutes of five minute exposures taken by a Canon 6D at ISO 1600 through a Meade 14" SCT at f10, and one hour and fifty-five minutes of five minute exposures through a QSI 583c at -20 with the same telescope. It totals out at five hours and 35 minutes of exposure. Everything is calibrated with flats darks and bias frames, and was stacked/processed in Pixinsight.

Presidents Report

by *Sherry Buttner*

Happy Winter Solstice! This year, Solstice occurs at 8:48pm PST; the days begin getting longer, and -so-slowly, warmer. I love the clear winter night for observing and imaging, but the cold really gets to me lately. The joys of getting old! Oh well...the winter sky is worth it!

I thought the Annual General Meeting was a lot of fun. Congratulations to all the award winners! A heartfelt thank-you to the outgoing Council members; you did an outstanding job for us! And a warm welcome to the incoming and incumbent Council members. I know you will do a great job, and thank you for serving.

Our Council for 2015-16 is:

President – Sherry Buttner

First Vice President – Michel Michaud

Second Vice President – Chris Purse

Secretary – Leslie Welsh

Treasurer – Bruce Lane

Past President – Nelson Walker

National Representative – Lauri Roche

Librarian – Michel Michaud

Telescopes and School Programs – Sid Sidhu

Public Outreach – (vacant)

Skynews Editor – Reg Dunkley

Light Abatement Chair – Dave Robinson

Membership Chair – Chris Purse

Webmaster – Joe Carr

Observing Chair – Michel Michaud, Jim Stilburn (co-chairs)

Systems Administrator – Matt Watson

Technical Committee Chair – Matt Watson

Historian – Bill Almond

DAO/NRC Liaison – Jim Hesser, James DiFrancesco

University of Victoria Liaison – Alex Schmid

Member(s) at Large – David Lee

Our next general meeting, Wednesday

December 9, features Dr. Alan Batten and his presentation “When did modern

astronomy begin?” Dr. Batten’s presentations should not be missed!

Other upcoming activities for your astronomical pleasure:

-Next UVic observing session:

Friday December 11 at 7:30pm. Note all Victoria Centre members are welcome.

-VCO: every Saturday evening (open to those on the Active Observers list only)

Weather permitting, of course (and we sure deserve some good weather!).

Just a reminder to use extreme caution while driving on Observatory Hill. We’re

now into the season of black ice and slippery conditions, so take care.

Dress warmly, and see you out there.

Sherry.

Cattle Point observing in Victoria’s own Urban Dark Sky Park:

<http://victoria.rasc.ca/events/rascals-cattle-point/>

January 15th, 2016 at 6:00 pm

February 5th at 6:30 pm

March 4th at 7:00 pm

December Meeting Speaker

Dr. Alan Batten, DAO astronomer (1959-91); RASC President (1976-78); JRASC Editor (1980-88)

“When did Modern Astronomy Begin?”

We usually think of the seventeenth century as the time when modern astronomy, and indeed modern science, began, but if we look at what was known by astronomers at the beginning of the nineteenth century and compare it with what they knew by the end of that century, a case can be made that that was the period in which astronomy became truly “modern”.

Bio: Alan was at the Dominion Astrophysical Observatory for over 50 years. He has been President of the Victoria Centre of the RASC, National President, and Honorary President, as well as Editor of the Journal. Alan has been a Vice-President of the International Astronomical Union and is a Fellow of the Royal Society of Canada. His field of research is close binary stars. In retirement, Alan spent about a decade visiting astronomers in developing countries, on behalf of the International Astronomical Union and now publishes on the history of astronomy. <http://www.rasc.ca/alan-batten>

Scheduled Speakers 2016

Jan 13: Azadeh Fattahi, What dwarfs teach us about the galaxy formation.

Feb 10: Sebastien Lavoie, How to Build a Universe.

Mar 8: James DiFrancesco, Topic TBA

Apr 13: Dr. Helen Kirk, Watching the birth of stars with the James Clerk Maxwell Telescope and Herschel Space Observatory.

**ASTRONOMY
CAFÉ**



Fairfield Community Centre

1330 Fairfield Rd. Victoria,

7:30pm - 11pm

Contact: Chris Purse for further details
vp2@victoria.rasc.ca New comers are especially encouraged.



Email Lists

Observer / CU Volunteers / Members

Contact Joe Carr to subscribe



New Observers Group

Hosted by Sid Sidhu - 1642 Davies Road, Highlands. Call 250.391-0540 for information and directions.



2015 Newton Ball Award Recipient Malcolm Scrimger

discusses the Wonders of the Universe
with *Royalty*

The *Newton Ball Award* recognizes the achievements of Centre members who have given exemplary service to the Centre's objectives and its membership

Awards Presented at 2015 RASC Victoria Centre AGM

On Sunday evening, November 22nd, the *Moon Under Water* was abuzz as members of the Victoria Centre sampled the brew pub product and enjoyed dinner and dessert. This was followed by a most enthusiastic presentation by UVIC PhD student Steve Mairs who described how molecular clouds of stardust gradually collapse and give rebirth to new stars. He referred to this as *stellar recycling*.

Then, after the formal business section of the AGM concluded, the following **RASC Victoria Centre Awards** were presented:

Awards Of Excellence :

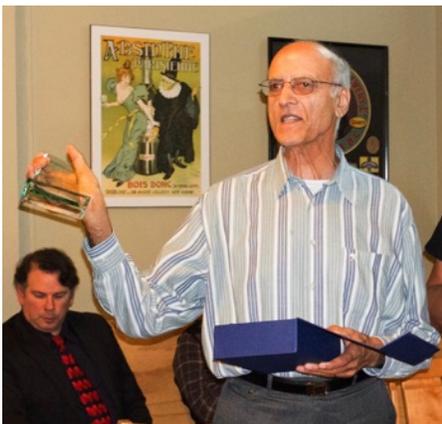
Sid Sidhu : For his lifelong dedication to Public Outreach in Victoria

Lauri Roche : For her Leadership and Dedication in Public Outreach at the D.A.O. 2015.

Dan Posey : Award of Excellence in Astrophotography, for capturing Messier 51.

Ernie Pfannenschmidt Award for Amateur Telescope Making to:

Miles Waite : For his Outstanding Achievement in Designing and the Building of a Custom 14" Truss Dob c/w innovative portability features.



**Sid Sidhu (Left) and
Lauri Roach (Right)
With Their
Awards of Excellence**

Awards Of Appreciation for Public Outreach at the D.A.O. 2015 for outstanding support and engagement:

Ben Dorman : in the role of " Plasket - Dome Interpreter " .

Sid Sidhu : in the role of " Administration and Telescope - Public Viewing " .

Dan Posey : in the role of " Plasket - Volunteer Operator " .

Aaron Bannister : in the role of " CU Planetarium Interpreter " .

David Lee : in the role of " Public Speaker and Program Facilitator " .

Sherry Buttner : in the role of " Person in Charge " and operations at the CU 16" Telescope " .

Ken Mallory : in the role of " Telescope - Public Viewing " .

Roy Watson : in the role of " Telescope - Public Viewing " .

Chuck Filtness : in the role of " Telescope - Public Viewing " .

Prem Chianani : in the role of " Volunteer at Large - Multitasking " .

When presenting the above awards, Lori Roche also expressed her sincere appreciation to all of the other volunteers who contributed to D. A. O. Outreach 2015.

The RASC Observing Certificate for Deep Sky Challenge Objects was presented to **Nelson Walker**.



Venus Probe Gets a Second Chance

by *Reg Dunkley*

It is not often that a space probe gets a second chance after a major malfunction. Due to the tenacity and ingenuity of engineers and scientists at the Japan Aerospace Exploration Agency however, the Japanese Venus probe Akatsuki (Dawn) may get a new lease on life. Launched in May 2010, Akatsuki was supposed to enter orbit around Venus on December 7th 2010. The main rocket engine that performed this maneuver suddenly shut down early and the probe continued to drift in an elliptical orbit around the Sun.

Fortunately detailed data from the space probe sub systems was obtained. Analysis suggests that an improper mixture of oxidant and hydrazine propellant caused the main engine to overheat and cause a portion of ceramic rocket nozzle to crack and break off. This put the probe into a sudden spin which was detected by sensors and triggered the engine to shutdown prematurely. With it's main engine unuseable, Akatsuki still had attitude thrusters at its disposal. These thrusters also use hydrazine but as a monopropellant which generates less force. They were used to tweak Akatsuki's path so that after 5 years it is once again in position for orbital insertion around Venus. They have dumped the remaining oxidant to lighten the load and will direct the remaining hydrazine propellant through the attitude thrusters. They have calculated that the thrusters may be able to generate just enough force to allow Akatsuki to limp into Venusian orbit on December 7th 2015. If they are successful it will be a remarkable achievement.

Since Venus is our nearest neighbour in the Solar System and nearly the same size as Earth it is not surprising that in the early years of space exploration Venus was a popular target. From 1967 to 1994 there were 18 successful missions to Venus where probes either went into orbit or landed on the planet. The world they found was not appealing. In the

upper levels, Venus was shrouded by clouds of sulphuric acid. With a surface pressure that is 92 times that of Earth and temperatures approaching 460 degrees C it is not surprising that enthusiasm for Venus waned and attention shifted to cooler worlds such as Mars.

During the last 20 years, 11 missions have either successfully orbited or landed on Mars while only one mission, the European Space Agency "Venus Express" went into orbit around Venus. The Venus Express was very successful and remained in a 24 hour polar orbit from April 2006 to December 2014. This greatly exceeded it's planned life of 500 days. The primary purpose of that mission was to make long term atmospheric measurements of Venus which will improve our understanding of the dynamics of the Venusian weather system. This understanding is particularly important because, with a composition that is 96% carbon dioxide and an associated runaway green house effect underway Venus offers a cautionary tale to Earthlings as they conduct an uncontrolled experiment with their only atmosphere.

At present there is no other Venus probe in development. So this makes the fate of Akatsuki particularly important. There is concern that temperatures aboard the spacecraft often rose well above design specifications when closest to the Sun. But if things do go well the infrared and ultraviolet cameras aboard Akatsuki will add new windows into the Venusian atmosphere and further our understanding of our nearest neighbour. Let us hope the Japan Aerospace Exploration Agency enjoys better luck this time around.



RASC Victoria Centre Council 2015 / 2016

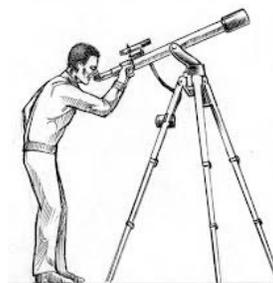
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Website Content	Joe Carr	web@victoria.rasc.ca
NRC Liaison	Dr. James Hesser	
NRC Liaison	James di Francesco	
UVic Liaison	Alex Schmid	
Member at Large	David Lee	

Online Resources

Magazines

[SkyNews](#) Our National RASC Newsletter
[Sky & Telescope](#) Magazine
[Astronomy](#) Magazine
[Astronomy Now](#) Astronomy in the UK
[Amateur Astronomy](#) Magazine
[Astrophotography](#) Magazine

Borrowing Telescopes



The centre has telescopes for new and seasoned observers that members can use. Contact Sid Sidhu from the email list above.