



January 2012

Speakers Take the Podium!

Kelowna meeting Tuesday February 7

The next **Kelowna** meeting of the OC RASC will be held Tuesday **February 7th**, 7:30PM at the OC Kelowna Campus, KLO Road, Lab Building, when our speaker will be Richard Christie, Okanagan Centre member and Okanagan College Professor of Physics and Astronomy.

(Ed. Note: watch for an astrookanagan email for the Room Number)

Richard will give the presentation "Astronomical Adventures" which will describe his experiences using the fourty foot Green Bank radio telescope as part of a workshop group, and his tour of the highest telescope in the United States, the Mount Evan's telescope that is run by the University of Denver. Also on the agenda is our Constellation of the Month presentation which will be given by Okanagan Centre member Jean Davis.

Vernon meeting Wednesday January 25

Steve Mairs will present:

"Pulsar in the Sky with Diamonds - An Overview of what a Pulsar is and Why it's so Cool."

In this talk I will be unravelling some of the mysteries of one of the universe's most exciting and exotic objects - a pulsar. Beginning with their strange discovery in 1967, we will explore what scientists have uncovered about these fascinating stars in the last four decades and the exciting goals that contemporary astronomers are currently striving towards. Topics will include pulsar formation, gamma ray bursts, gravitational waves, and how a pulsar turned a planet into diamond.

Steven Mairs is currently in his senior year at The University of British Columbia - Okanagan Campus. He has been involved in astronomy research for three years, studying diverse topics ranging from infrared dark clouds to gravitational wave detection under three different professional astronomers. He is currently working towards describing, in full detail, how stars are born for his undergraduate honours thesis.

The meeting will be held at 7:15 pm **in the basement of the main building of the Okanagan Science Centre** on the east side of Polson Park just off Highway 6. **The entrance to the nicely appointed room is from the rear of the building.**

Penticton meeting Thursday February 9

Special Speakers at UBCO

Internationally renowned experts in radio astronomy will discuss the future of radio astronomy in a six-part series hosted at UBC's Okanagan campus over the next three months. They will explain the potential discoveries of new and planned radio telescopes as well as discuss recent results from radio astronomy. The first Invisible Universe speaker was **Erik Rosolowsky**, assistant professor of physics and astronomy in the Irving K. Barber School of Arts and Sciences, who gave an introduction to radio astronomy on January 11.

On January 25, the first visiting lecturer will be Doug Johnstone from the Herzberg Institute for Astrophysics in Victoria, BC. Johnstone will talk about the Atacama Large Millimetre Array telescope in South America.

Additional talks are scheduled for:

February 1 (Tim Robishaw, Magnetism in the Galaxy)

February 15 (Sean Dougherty, Radio Starlight)

February 29 (Roland Kothes, Supernovae Explosions)

March 21 (Russ Taylor, the Square Kilometre Array).

All presentations are from 3 to 4:30 p.m. in Library room LIB 317. Admission is free and open to everyone.

Observing Reports

Penhenge Winter Solstice: *A successful sunset at Munson Mountain*

by Dave Whalley

120 people made the effort to walk up to the Penhenge site, enjoying pleasant weather was kind with the sun shining.

I have loaded some pics to my Zenfolio page. All the pics are taken with me directly in line with the heel stone to the winter solstice stone, a young girl standing on the stone to lengthen the shadow all the way to the heelstone helped determine the accuracy of the location. If you zoom in on some of the pics, there is an interesting effect of the sun behind the person. By the time the sun was dipping behind the skyline, the sun was not strong enough to cast a shadow onto the ground as you can see in the pictures.

Sunset time for this location for winter solstice, Dec 21, 2011 was 15h 25m 45s (timed with my GPS).

Middleton Mountain Trek

by Jerry Thompson

On the afternoon of December 21st, Vernon RASC members Joel Wrinch, John Kerr, and Jerry Thompson made the climb to the top of the Coldstream Middleton Mountain Park Trail development to plant a Winter Solstice sunset marker stake. Because of the warm temperature, lack of snow cover and no wind, doing it was a proverbial "piece-of-cake!" The next step will be to draft an installation layout plan to present to Coldstream and Regional District planners, hopefully before June. Jerry favours a stone-alignment-marker system that will incorporate an Inukshuk design.



Name	ETU	IOL	Messier	ASNF	NGC	DSC	H400	H2500	DN	ARP	Caldw'l
total required	55	30	110	159	110	45	400	2500	38	100	109
Terry Adrian		28	108		27	1	29				
Zoli Boda			94								
Greg Dean	55	27	55		10						
Jim Failes			110		37						
Jim Fisher			110		15						
Dave Gamble			110	119	110	45	400	580			70
Stewart Hill			110		24						
John Karlsson			110								
James McRae			56		28						
Guy Mackie			110	93	110	45	400	1731		63	64
Daniel Martin			72		7						
Colleen O'Hare			45								
Grant Rice		30	105								
Ron Sherer			110		110		52				
Wendell Shuster			110		19	4	53			17	
Mikkel Steine			94		79	19	267				
Jim Tisdale			110		57						
Alan Whitman			110	159	110	45	400	928	38		109

* totals in **bold blue** recognize completion of the list

Messier/NGC/Challenge Certificate Requirements

The ETU list may be found on-line at <http://www.rasc.ca/eu>

The Okanagan Centre is a Local Certification Centre for the ETU list. Guy Mackie is the contact person.

Reference maps for the OC – Introductory Observing List (IOL) may be found on-line at:

<http://www.ocrasc.ca/introlist.pdf>

Reference Lists for Messier, NGC, Dark Nebula, DSC objects, and other objects may be found in the **2010 Observers Handbook** starting on page 306.

Reference maps for Messier, Finest NGC, Dark Nebula and DSC objects may be downloaded at:

<http://www.rasc.ca/observe.htm>

The H400 list may be found on-line at: <http://www.astroleague.org/al/obsclubs/herschel/hers400.html>

The ARP list may be found on-line at <http://www.astroleague.org/al/obsclubs/arpec/arpec.html>

The All Splendors, No Fuzzies list is on the ocrasc website under observing: <http://www.ocrasc.ca>

NOTE: member tallies towards various observing lists are available on the website at:

<http://www.ocrasc.ca/obclubtallies.html>

Radio Astronomy Begins in the Okanagan Centre *by Hugh Pett*

On January 5, 2012, I recorded signals from the Sun, and from a source that may have been in the Galactic Plane.

If you would like details on this work, and my hopes for the future, please send me an email (hipett@uniserve.com).

Outreach events by Colleen O'Hare

Upcoming Outreach Opportunities

Jan 18, Claro Centre, 201-1912 Enterprise Way, 16 students with Autism Spectrum Disorder or Fetal Alcohol Syndrome, We will be making a Pocket Solar System and a Sundial.

Feb 14, Cancer Rotary Lodge, presentation at 6:30 pm followed by telescope viewing at 7:15 pm

I have started an Outreach Calendar on our AstroOkanagan Google email discussion site. If you would like access to this, please let me know.

Glenrosa Middle School Science Fair, Judges Needed!

Do you have a background in **education, science, engineering, or technology?**

GMS is in need of volunteer **judges** the Grade 9 Science Fair!

Wednesday, January 25 10:00 am – 12:30 pm

You can choose projects to judge that are in your area of expertise or interest. There are over 200 students eager to share their work with you!

Please pass this on to anyone you feel may be interested.

Contact Colleen for more information.

NOVA and NOVA Jr

The planned NOVA/NOVA Jr sessions planned to start Jan 9 have been cancelled. We will try once again for Feb 20, 27, Mar 5 (only 3 classes for this session).

Each night will start with NOVA Jr running from 6-7 pm followed by NOVA from 7:15-9 pm. If the night is clear, there will be telescope viewing after 9 pm in the parking lot.

Winter Guide 2012

<http://www.districtofwestkelowna.ca/index.aspx?page=644>

Equipment Inventory

recent arrival: like new 4.5" Meade equatorial reflector model 4495C. This is an old telescope (.965" eps) but appears to be pretty much unused (assigned inventory value of \$100.)

Celestron 15x70 Binoculars for \$10.00 per month

Meade ETX 60AT for \$10.00 per month

4.5" Dobsonian for \$10.00 per month (2 telescopes are available)

6" Dobsonian for \$10.00 per month (2 telescopes are available)

8" Dobsonian for \$5.00 per **week** (2 telescopes are available)

10" Dobsonian for \$10.00 per **week**

1.25" Filter set (UHC, OIII, Hydrogen beta) for \$5.00 per week

40 mm Personal Solar Telescope for \$5.00 per week

Green laser pointer for \$10.00 per month

For more information about availability, please contact Guy Mackie at guym@shaw.ca

Library Inventory

for more information, and to borrow materials, please contact Colleen O'Hare, chohare@shaw.ca

- 3D Star Maps
A Brief History of Time by Stephen W Hawking
A Field Guide to the Stars and Planets by DH Menzel
Amateur Astronomers Handbook by JP Sidgwick
Amateur Telescope Making (books 1,2,3) by Alber Ingalis
An Easy Pocket Star Guide for Beginners by HR Kinston
An Introduction to Experimental Astronomy by Roger B Culver
Apollo (ten years since Tranquility base) by Richard Hallion, Tom Crouch
Astronomica by F Watson
Astronomical Photometry by AA Henden, RH Kaitchuck
Astronomy by Baker
Astronomy and Cosmology by Fred Hoyle
Astronomy for All Ages by P Harrington, E Pascuzzi
Astronomy Made Simple by MH Degani
Astronomy, From the Earth to the Universe by Jay Pasachoff
Astronomy: Structure of the Universe by AE Roy, D Clarke
Astrophysical Formulae by K Land, Soringer-Verlag
At the Edge of the Universe by A & H Wright
Atoms, Stars and Nebulae by Lawrence Aller
Big Bang by Simon Singh
Black Holes and Baby Universes by Stephen Hawking
Black Holes and the Universe by I Novikov
Build Your Own Telescope by Richard Berry
Celestial Objects for Common Telescopes (Vol 1,2) by Rev TW Webb
Comets by LL Wilkening
Comets Creators and Destroyers by DH Levy
Cosmic Discovery by Martin Harwit
Cosmic Rays by MW Friedlander
Cosmology +1 by Scientific American
Cosmos by Carl Sagan
Deep Sky Objects by Jack Newton
Evolution of Stars and Galaxies by Walter Baade
Exploration of the Universe by George Abell
Exploring the Earth and the Moon by Patrick Moore
Five Millennium Canon of Solar Eclipses by Fre Espenak and Jean Meeus
Galaxies by Harlow Shapley
Galaxies and the Universe by Allan and Mary Sandage and Jerome Kristian
Galaxies and the Universe by David Eicher
General Relativity by Robert M Wald
Handbook of Space Astronomy and Astrophysics by Martin Zombelk
How the Universe Works by H Couper and N Henbest
How to Make a Telescope by Texereau
In Quest of Quasars by Ben Bova
Introduction to Special Relativity by Wolfgang Rindler
Lunar Atlas by D Alter
Messier's Nebulae and Star Clusters by Kenneth Glynn Jones
Moon Missions by WF Mellberg
Moons and Planets, 2nd Ed by WK Hartmann
Nearby Galaxies Atlas by RB Tully and JR Fisher
New Guide to the Moon by Patrick Moore
Nightwatch by Terence Dickinson
Nightwatch by Terence Dickinson
Observing Variable Stars by David H Levy
Observing Visual Double Stars by Paul Couteau
Other Worlds by Paul Davies
Pale Blue Dot by Carl Sagan
Particle Physics in the Cosmos by Richard A Carrigan Jr
Practical Astronomy with Your Calculator by P Duffett-Smith
Pulsar Astronomy by AG Lyne and F Graham-Smith
Radio Astronomy for the Amateur by Dave Heiserman
Red Giants and White Dwarfs by Robert Jastrow
Revealing the Universe by Tucker and Tucker
Seeing the Sky by Fred Schaaf
Seeing the Solar System by Fred Schaaf
Skyways by ML Whitehorne
Skywatching by David H Levy
Space Time Structure by Erwin Schrodinger
Spaceport USA by NASA
Standard Book for Telescope Making by NE Howard
Stars and Planets by WS Kals
Stars and Planets by Daniel H Menzel, Jay M Pasachoff
Stars of the Southern Hemisphere by Rigby
Stellar Structure by S Chandrasekhar
Stellar Structure & Evolution by R Kippenhahn & A Weigbert et al
Stephen Hawking's Universe by John Bosough
The Astronomers by Donald Goldsmith
The Astronomers Sourcebook by Bob Gibson
The Backyard Astronomer's Guide by T Dickinson
The Big Bang Never Happened by Eric Lerner
The Cosmological Distance Ladder by Michael Rowan-Robinson

The Creation of Matter by Harald Frizsch
The Depths of the Universe by George Ellery Hale
The Extragalactic Distance Scale by Sidney van den Bergh
The Fundamentals of Stellar Astrophysics by GW Collins II
The Great Comet Crash by JR Spencer, J Mitton
The Great Unsolved Mysteries of Science by John Grant
The Guide to Amateur Astronomy by Jack Newton/Philip Teece
The Mathematical Theory of the Black Hole by S Chndrasekhar
The Meteorites of Alberta by Anthony J Whyte, RASC Edmonton
The Milky Way by Bart Bok & Priscella Bok
The New Astronomy and Space Science Reader by Brandt & Maran
The New Solar System by Beatty, O'Leary, and Chaikin
The Romance of Astronomy by FA Grondal
The Solar System by Scientific American
The Stars Belong to Everone by Helen Sawyer Hogg
The Universe at Your Fingertips by ASP
The Universe of Galaxies by readings from Scientific American
The Whole Shebang by Timothy Ferris
Theory of Neutron Star Magnetospheres by F Curtis Michel
Touring the Universe through Binocuars by Philip S Harrington
Unusual Telescopes by Peter L Manly
What's Out There
White Holes by John Gibbon
Whitney's Star Finder by CA Whitney

Planispheres

Stars in Your Sky by 40 deg N
Philips' Planisphere by 51.5 deg N
Philips Planisphere (leather and cardboard, fairly rugged)
Deep Map 600

DVDs

A Sidewalk Astronomer
Beyond the Solar System
Comet Collision
Death of a Star
Death Star
Einstein Revealed
Einstein's Beautiful Equation
Eyes on the Skies
Hawaiian Starlight
If We Had No Moon

Into the Universe with Stephen Hawkings
Merritt Astronomical Society 2008 Fall Star Quest (5 copies)
NASA - On the Shoulders of Giants, 25 years
NASA - 50 Years of Space Exploration
NASA - The Ultimate Space Experience
Runaway Universe
Savage Sun
The Day the Earth Nearly Died
The Elegant Universe
The Universe
Youth Library
A Look at Comets by R Spangenburg
Beakman's World
Children's Atlas of the Universe by Rand McNalley
Close Encounters by Elaine Scott
Death From Space by Isaac Asimov
Don't Know Much About Space by KC Davis
Earth by David Haugen
Earth and the Moon by R Miller
Earth's Place in Space by Roy A Gallant
Floating in Space by Franklyn Branley
Full Moon Rising by Joanne Taylor
Galileo's Treasure Box by Catherine Brighton
Introducing Stephen Hawking by JP McEvoy
Jupiter by Elaine Landau
Mars by D Haugen
Mercury by Isaac Asimov
On the Shuttle by B Bondar
Planets by Thomas R Watters
Plate Techtonics by L George
Pluto by Chris Hayhurst
Pluto by S Ring
Project Apollo by Diane and Paul Sipiara
Rescuing Einstein's Compass by S L Oppenheim
Rockets, Probes and Satellites by Isaac Asimov
Science Fair Projects by Janice VanCleave
Space by Dorling Kindersley
Space by I Whitelaw
Space Exploration by Carole Stott
Space Shuttle by Robin Kerrod
Space Shuttle by Chris Oxlade
Spacecraft by David Jefferis
Stars by H Zim
Stars and Planets by The Nature Company
Sun, Moon and Stars by S Turnbull
Super Science Fair Projects by Jill Smolinski
The Illustrated Dictionary of Space by M Pollard
The Kingfisher Young People's Book of Space by M Redfern
The Kingfisher Young People's Book of the Universe by D Lambert
The Moon by Seymour Simon
The Moon by C Bredeson

The Solar System by Chris Cooper
The Solar System, An A-Z Guide by Christina
Wilsdon
The Solar System and the Stars by World Almanac
Library
The Sun by N Walker
The Way the Universe Works by R Kerrod
Uranus: The Sideways Planet by Isaac Asimov
What is a Shooting Star? by Isaac Asimov
When the Sun Dies by Roy A Gallant

Will Black Holes Devour the Universe? by Melanie
Melton
Wonderful World of Space by A Fraknoi

Videos

Comet Hyakutake
Longitude

CDs

Gemini Observatory Virtual Tour

Basic Information

Elected Officers

President Colleen O'Hare	chohare@shaw.ca	250-763-3573
V.P. Penticton Ryan Ranson	ransom@okanagan.bc.ca	250-492-4305 (3273)
V.P. Kelowna Eimert Koops	eimert@hotmail.ca	250-215-9563
V.P. Vernon Jerry Thompson	jerryandjoyce@gmail.com	250-542-8603
Treasurer Zoli Boda	zoltan01@shaw.ca	250-769-5632
Secretary Penny Nile	picklepenny@hotmail.com	
Observatory Director Guy Mackie	guy.m@shaw.ca	250-469-3112
National Representative Richard Christie	rchristie@okanagan.bc.ca	

Directors

Andrew Bennett	sunnyokanagan@telus.net	250-768-2893
Jim Tisdale	jimbit@shaw.ca	250-763-4473
Wendell Shuster	wendell.shuster@gmail.com	
Frank Stariha	frasta@telus.net	250 765-7502
Raffaele Sachianca	esposito_raffaele@libero.it	250-542-1360
Librarian Colleen O'Hare	chohare@shaw.ca	250-763-3573
Past President Dave Gamble	trailspublishing@telus.net	250-494-8615

Council Appointments

Focus Editor Hugh Pett	hipett@uniserve.com	250-762-3858
Co-Webmaster Andrew Bennett	sunnyokanagan@telus.net	250-768-2893
Co-Webmaster Dave Gamble	trailspublishing@telus.net	250-494-8615
Membership Secretary Jim Tisdale	jimbit@shaw.ca	250-763-4473
RASC merchandise Frank Stariha	frasta@telus.net	250 765-7502

Outreach Coordinators

Vernon Raffaele Sachianca	esposito_raffaele@libero.it	250-542-1360
Kelowna Colleen O'Hare	chohare@shaw.ca	250-763-3573
Penticton Al Fishler	Al_Fishler@telus.net	250-492-2572

Meetings Schedule through June 2012

Meetings held in Kelowna on Tuesdays (First Tuesday of the month in 2011/12)
Okanagan College - Science building at Okanagan College KLO Road, Kelowna. [See map.](#)

February 7, 2012	7:30 at OC
March 6, 2012	7:30 at OC
***April 25, 2012	7:15 at OSC Vernon (Wednesday)
May 1, 2012	7:30 at OC
June 12, 2012	7:30 at OC

Meetings held in Penticton on Thursdays (First Thursday of the month in 2011/12)
Okanagan College – Penticton Campus. [See map.](#)

February 9, 2012	7:00 at OC
March 8, 2012	7:00 at OC
***April 25, 2012	7:15 at OSC Vernon (Wednesday)
May 3, 2012	7:00 at OC
June 7, 2012	7:00 at OC

Meetings held in Vernon on Wednesdays (Last Wednesday of the month)
OSC - Okanagan Science Centre , 2704 Hwy 6, Vernon [See map.](#)

January 25, 2012	7:15 at OSC
February 29, 2012	7:15 at OSC
March 28, 2012	7:15 at OSC
***April 25, 2012	7:15 at OSC Vernon (Wednesday)
May 30, 2012	7:15 at OSC
June 27, 2012	7:15 at OSC

* denotes a combined meeting between the Kelowna, Penticton and Vernon Chapters held at 7:15 at Okanagan College Kelowna

** denotes a combined meeting between the Kelowna, Penticton and Vernon Chapters held at 7:15 at Okanagan College Penticton

*** denotes a combined meeting between the Kelowna, Penticton and Vernon Chapters held at 7:15 at the Okanagan Science Centre in Vernon.