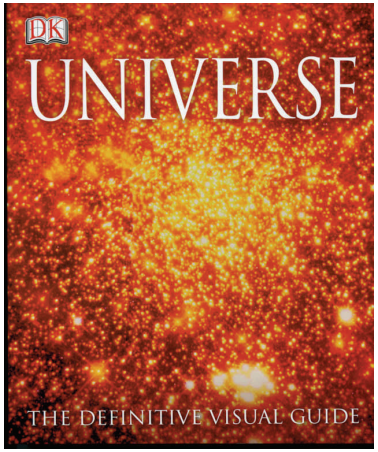
Book Review by Art Rae



Title: Universe, The Definitive Visual Guide
Author: Martin Rees
Other: 519 pages published by DK Books 2008

One sometimes finds information in strange places. This holds true for astronomy-based topics: in books, in COSTCO!

I was wandering past the book section the other day and in the stack of fiction a star cluster caught my eye. It was the cover of an astronomy reference book called, appropriately, "UNIVERSE, THE DEFINITIVE VISUAL GUIDE". This one-inch thick 8x10 soft cover book is exactly what it's cover calls itself. It is source of contemporary information on the universe from our moons, planets, solar system out to the reaches of galaxies from the beginning of them to the predicted end. This is a book for neophytes in the hobby as well current students and users in the science. This is a book I would recommend as a present to a young person or someone already in the astronomy hobby. It has areas of interest for both.

The thing that really caught my eye, sorry if there is a pun there, was the vast array of visuals explaining all the theory the book lays out. Colour charts, photographs and descriptors cram the pages. It's like the editors wanted to get the most information into those 519 pages.

The book is divided into twelve sections, has a seven page glossary and fifteen page index. The Introduction section, twenty percent of the whole book, defines what is the universe, the beginning and end of it and the view from Earth. This includes celestial mechanics, planetary motion, lights in the sky and the visual study of astronomy through naked-eye, binocular and telescope. Exploring Space covers from ancient astronomy to space-age research.

Throughout the book the various section include tabs to lead to further definitions of subjects that need to be used in the topic at hand. These tabs may lead forward or backward through the volume. For example in the Types of Galaxy section tabs lead back to definitions of celestial object types, radiation and gravity and forward to pre-define galaxy evolution and galaxy clusters.

The section on the Night Sky, all 180 pages, shows the sky first by displaying the constellations one at a time with highlights of interesting objects in each then leading to monthly charts that in two-page wide layouts on black background present both north and south latitude views.

There is not much I would criticize about the book except some of the photos are a bit small for my aging eyes and some of the magnificent images separating the sections aren't described nor identified. That would have been helpful. Otherwise the book is a delightfully overwhelming collage of astronomy information.

All in all this will be a nice addition to my library and could fit well in hands of a new person just finding astronomy and the night sky or an old one being amazed at the many illustrations, imagery and stories this book tells.

Aurora

February 2012 — The Royal Astronomical Society of Canada - Windsor Centre — Volume 37, No. 5

Flyer

Next Meeting

Tuesday, March 20, 2012
7:30 p.m.
at
Ojibway Park Nature Centre
5200 Matchette Road

Speaker: TBA

Topic: *"TBD"*

Upcoming Events

ISS Passes: A couple of nice passes of the International Space Station. On **February 26**, look in the NNE at 7:46 p.m. for the –3.0 magnitude ISS at 44 degrees altitude. The pass at 7:28 p.m. on **February 28** is even better. Again look in the NNE but 81 degrees high for the –3.6 mag ISS.

March 5: Although **Mars** reaches opposition on March 3 it will be closest to Earth on March 5. At sunset look for **Mercury** at greatest elongation East as well as **Jupiter and Venus** to the upper left of Mercury. This grouping should make a good photo opportunity.

Daylight Savings Time: Begins Sunday **March 11th** at 2:00 a.m. - set your clocks ahead 1 hour.

Spring Equinox: Tuesday **March 20** at 1:14 a.m. EDT.

Monthly Meeting Minutes
January 17, 2012

The Royal Astronomical Society of Canada - Windsor Centre, Ojibway Park Nature Centre.

Windsor Centre **President Paul Pratt** chaired the Meeting. Paul called the Meeting to order at 7:36 p.m. and welcomed members and guests to the Ojibway Nature Centre.

Paul made a few short announcements including:

- Windsor Centre Council Meeting will take place on Monday, February 13 at 7:30 p.m. at Steve Mastellotto's house
- Dan Taylor, LPA Director request to sign letter on Essex County Roadway lighting policy
- Hallam Observatory Open House will be January 28th
- Point Pelee Dark Sky Nights next events will be January 27th, February 24th and March 24th.

President Paul invited Dan Taylor to discuss the letter Dan is sending to the County of Essex in regard to deviation from LPA lighting standards and asking the members for signature endorsements.

President Paul introduced our guest speaker for the night, Dr. Patricia Hanlan from Michigan. Ms. Hanlan is a graduate of the University of Western Ontario with a Masters and PHD in astronomy from the University of Michigan.

Main Talk - Elliptical Galaxies and X-Rays, Dr. Patricia Hanlan: Dr. Hanlan discussed the concept to studying elliptical galaxies from two approaches: the simple case or the complex case. Why the simple approach? It should be understandable, do-able. Elliptical galaxies look simple unlike other galaxies that look complicated with star forming regions. At first the study of hydrogen in galaxies appears as a simple atomic element to analyze in visible spectra but then does not when examined on the 21cm radio band. In stellar example of globular clusters, old and round, RR Lyrae stars could be explained but not blue stragglers. But these blue stragglers were few in number and thus could fit the simple case of possible study. Blue stragglers were unexplained for a long time, remnants of stellar collisions. They happen in globular clusters because globular clusters are so dense, seen there but don't belong there. Modern computer simulations have been able to better model the theory of their creation.

Elliptical galaxies are like globular clusters, simple in optical light, not simple in other wavelengths. A simple one is NGC3377, the "Bohr Model" of ellipticals. Seen in x-rays galaxies like this are hot, bright (10-20M °K). They are merger remnants. Black holes are seen easier in elliptical galaxies. Modern space observatories have improved the study of ellipticals including Uhura, Einstein (1978-81), Rosat (1990-1999) and Chandra (1999-present). X-ray astronomers measure not by light but by particle energy. Diffuse x-rays tell us there is hot gas in the galaxy and it is from the first ancient burst of star formations/super novae. X-rays tell us the dark matter distribution is not stellar distribution and x-rays show collision history and interaction of jets. Examples are NGC1132 an elliptical in a dark matter halo, NGC4261 whose gas shows a remnant of galaxy collision, NGC4374 (M84) an optical elliptical where we see a classic black hole jet in it's center. So questions remain. From Chandra images hot gas is in elliptical galaxies and different shapes are shown in x-ray rather than optical captures. So are all ellipticals merger remnants? Is there a relationship between galactic clusters and supermassive black holes per Burkert & Tremaine (2010)?

In the end nothing's simple. Simple things look easy but there is better chance of seeing something interesting on the fringes of data.

President Paul thanked the speaker on behalf of the Windsor Centre RASC.

Break - 50:50 draw winner was Pierre Boulos who donated it back to the Centre.

Director of Observing Report, Juliana Grigorescu: Juliana polled the audience for any observing done the previous month. Responses included solar viewing in daytime and one fortunate member who viewed the night sky on a trip to South America.

The Director pointed to the skymap for January and notable southern constellations to "take time to look away from the center of the Milky Way galaxy".

Upcoming events include Jupiter transit on January 4, "something to see". Quadrantid meteor shower peak on January 4th. Although the sun is low in the sky at this time of year it is active as sunspots peak this year. The Moon is near Venus (7°) on January 25th, near Mars February 9th and Jupiter on February 27. Planets in view this next month include Mercury, Venus and Jupiter. A January 22nd has a lineup of Saturn, Mars and Spica. Uranus is observable in binoculars and Mars will continue to brighten and enlarge. Deep sky objects of note include the Auriga open clusters and in Canis Major near Sirius - M41. Comet Garradd is still visible at mag 7 in Hercules and on February 3rd passes M92. In space news the Grail space duo will orbit the Moon in February.

President Paul thanked Juliana for her presentation and thanked the audience for attending.

Next meeting will be on February 21, 2012 at the Ojibway Nature Centre.

The Meeting was adjourned at 9:40 p.m..

Reported by Arthur Rae, RASC Windsor Centre Secretary.