ORBIT

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From The President

Les Nagy

"Is critical thinking dead? I keep asking myself this every time I have the happy opportunity to share astronomy with children, big and small.

Over the past two years I have introduced astronomy to at least 4,000 people. Out of that 4,000 people, over half have been children ranging from 9 to 17, and the rest adults. Out of the adults, I would hazard to guess that maybe 1/4 of them actually believe that there is a good chance that the moon missions were faked. If the children have even heard about man visiting the moon, then half of them believe the TV show that says we faked it. I am really quite disheartened that such a state exists in our totally connected society.

One would think that with more easily available information that people would start to develop mechanisms to weed out bad information, but it seems it isn't so. More information seems to mean that most people shut down from overload. As amateur astronomers we seem to have a bigger role than ever in helping to show the way, so to speak. We need to show that science is about thinking things out and working out ways to prove or disprove "facts". Once people start to see that what you tell them is to be questioned, and you have reasonable answers, they start to get more interested in going further.

I for one am looking forward to this coming spring, summer and fall. It will be a good time to share astronomy and help spread some critical thinking at our observatory and during public events.

INSIDE THIS ISSUE

1	From the President
1	From the Editor
2	Centre Information
3	Centre Hospitality
4	Jupiter Will Make April a TGIF Month
7	Lunar Pictures - Rick Cudmore

From The Editor

Ev Rilett

LEO – Regulus, “The Little King” or sometimes called COR LEONIS, “The Lion’s Heart”.

Regulus is almost exclusively associated with Royalty. According to R. H. Allen the star was known in Arabia as *Malikiyy*, “The Kingly One”, in ancient Greece it was “The Star of the King”. Pliny calls it *Regia “The Royal One”.* In ancient Babylonia it was *Sharru* or “The King”. To even more ancient Akkadians of Mesopotamia it represented *Amil-gal-ur*, a legendary “King of the Celestial Sphere” who ruled before the Great Flood. The Latin *Cor Leonis* is the equivalent of the later Arabian *Al Kalb al Asad*, “The Heart of the Royal Lion”. Tycho called the star *Basiliscus*, from the Roman title *Basilica Stella*. The modern name *Regulus* is given by Copernicus but seems to have no connection with the famous Roman general Regulus.

Regulus was regarded by the ancient Persians as one of the four “Royal Stars” of Heaven, the other three being Aldebaran, Fomalhaut and Antares.

> *“Most Scorching is the chariot of the sun*
> *. . . when he begins to travel with the Lion.*
> *Turbulent north winds then fall on the wide sea*
> *With all their weight; no time is that*
> *For oar-sped barques; broad ships be then my choice;*
> *O helmsman! Keep the stern before the wind!”*

SCHEDULE OF EVENTS

Hamilton Steam Museum located at **106 Parkwood Crescent, Hamilton, ON L8V 4Z7**, *hosts our General Meeting on the 1st Thursday of each month at 8:00 pm.*
APRIL
6 - General Meeting – Speaker - Dr Doug Welch
13 – Board Meeting – place TBA
May
4 – General Meeting – Speaker TBA
11 – Board Meeting – place TBA

THE HAMILTON CENTRE OBSERVATORY:

From Highway 6 North of Hamilton.

Take Concession 7 East eastbound, cross Centre Road.
Continue on 7E, keep going past railroad tracks, to near end.
Observatory driveway is on the right just before the stop sign.

From Mississauga or Milton.

Britannia Road past Highway 25, Guelph Line, Cedar Springs Road to End. South 1 Block on Milborough Townline to Concession 7 East.
Our gate is on the south side of the last lot (south west).
The observatory phone number is (905) 689-0266.

YOUR BOARD OF DIRECTORS

President - Les Nagy - 905 388 1011 – president (at)hamiltonrasc(dot)ca
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LIST SERVERS

Check out our newest addition of communications. We have a **new website** found at http://www.hamiltonrasc.ca/new . Also, we have a new forum linked from the new homepage including an interactive calendar which members can contribute to, found at the following: http://www.hamiltonrasc.ca/forums
Les Nagy will be making improvements to their appearance and function as the weeks go on.

There are two list servers available for members to receive and contribute with informative conversation. Our local centre list. Get in touch with Mark Kaye (see Board of Directors List) and he will sign you up.

There is also the national list. Members must go the national web page to sign up for. http://www.rasc.ca/computer/rasclist.htm

PUBLIC EDUCATION

Public Education is very important at the Observatory. Among other events, our Centre is involved with Girl Guides, Scouts, and other groups interested in a guided tour of the night sky. We generally give a brief discussion, a slide show or other visuals, and then a tour outside with two or three different scopes. This gives the guests a chance to decide for themselves which type of telescope they like best.

It is wonderful to see the look on a child's face the first time they look through a telescope. Also, if you know of a group that may be interested in an evening under the stars call for a booking.

Call a board member to find out more. Your help is always welcome.

MONTHLY SWAP MEET

Feel free to bring in any astronomical items you no longer need in your collection. It might be just what someone else is looking for. A table will be set up each month for items to be swapped that evening. So, clear out that closet space and make room for some new, slightly used astro ware.

DO YOU WANT A LOCK FOR THE OBSERVATORY

- If you are a Key Holder please make sure you get your new key from John Williamson.
- If you are interested in becoming a key holder, you must be a member in good standing for one year, sign a release form and take a short Observatory Security Training evening.
- Please forward any questions you may have to Board Members.

Centre Hospitality

Rick Cudmore

I was in Thunder Bay on Tuesday, March 14 and had to spend three nights for business. Upon returning to the hotel from dining out, I noticed a familiar sign posted on an easel in the lobby, indicating the room was booked for a meeting. I ventured in and discovered the Thunder Bay centre was having their monthly meeting at the hotel due to the college strike. As luck would have it upon wandering, the first person I met was the president, Ted Bronson. I introduced myself and informed him I was a member of the Hamilton centre and he asked if I would like to attend. He was quite pleased to meet someone from the Hamilton centre and made me quite welcome. I had missed our March meeting, so I thought this would be a good opportunity to catch up. It was better than sitting in my room flipping through TV channels and catching up on emails.

The meeting started at 7:30 pm to what I thought was an almost full house. There were about 35 people in attendance and I thought Ted said their membership was 55 plus.

The guest speaker was Dr. Steven Kissin from Lakehead University and his presentation was "Meteorite Composition and Impact Sites". I found it quite interesting as it was something I knew very little about. He had some samples of meteorites for display. Very cool! I talked to a few of the members during the coffee break and they knew people in the Halifax centre and about the supernova discoveries. Ted had brought a large container of homemade cookies which were devoured, a possible inducement for the good turn out. I have been to meetings in three centres now and notice the members sure like their goodies!

After the break Ted talked about the two upcoming eclipses and his planned trip to Turkey. Other topics were the updates from committee chairs and National representative, observer's corner, a gadgets section, a planned astronomy day and the events for the next meeting.

It was by luck that I stayed at the same hotel as this was a very good experience to visit another centre.

Observing Opportunities – April / 06

Ken Lemke

By the time you read this, the big event for April will be over, and I hope you had a chance to observe the Lunar occultation of the Pleiades through intermittent breaks in the clouds. While I was disappointed in not seeing any of the occultations (due to the timely arrival of clouds), the sight of the crescent Moon with earthshine nestled in the Pleiades was stunning. After the main events were over, the clouds pretty much cleared out and the transparency of the sky at the Observatory was outstanding. The Beehive (M44) was an easy naked eye object for me. In fact M35 was a faint mist that I was able to discern naked eye – normally, my eyes need the aid of my trusty binoculars. Maybe this was a prelude for a great observing season ahead. With observing in mind, here's some of April's opportunities:

On April 6, the Moon will be just above Saturn with M44 (Beehive) to the left of Saturn.

Saturn is well placed for observing on any clear night. Note the position of Saturn's visible satellites (moons) and observe how the change over the course of a few nights. The April issue (page 56) of Sky and Telescope has a good chart to help identify Saturn's satellites.

On the evening of April 17, Mars will be about ¾ of a degree north of M35 in the constellation Gemini. While Mars will only be about 5" in size and a magnitude of 1.5, this should be a nice view in a small telescope.

For early risers, a waning crescent moon will be just below Venus on the morning of April 24.

April 27 – New Moon.

A thin waxing crescent moon will be 4 degrees below the Pleiades early in the evening. I'm going to try for this as I've never seen a one day old crescent moon.

With the arrival of warmer weather, Jupiter is just entering its prime observing season, however during April you'll have to wait until late into the evening for decent observing. Jupiter is a most fascinating planet (at least for me) as its four major moons are constantly changing position.

Cont'd pg 5

Jupiter Will Make April a TGIF Month

Stephen Kinsella

Ever since I received my first pair of binoculars, Jupiter has been my favourite planet to observe. When my wife gave me my first telescope as a gift, my fascination with this planet exploded. There was a lot more to see than just the placement of the moons; Jupiter in even a small telescope offers views of the Great Red Spot (GRS), dark blemishes and transits of the moons and their shadows.

The last week of March offered the most sequential nights of observing I have had since the fall. I managed to observe four nights in a row that week and only exhaustion kept me from setting up for the fifth. On that Wednesday morning I turned my attention to Jupiter and to my chagrin there was a double shadow transit in progress and I had been caught totally unaware.

Quickly I reached for my Observer's Handbook, which like my book of field notes rarely is far from my side while observing. I looked at the table of Jupiter's satellites and sure enough, it was listed and Io would start to transit soon. The seeing that night was above average although the transparency was poor. Ganymede's shadow was big and dark and dominated the north polar area. Io's shadow was smaller and dimmer and seemed to be straddling the north equatorial band and the white stripe to the north. Io itself later crossed the planet's face along the same line. It was quite a nice view from the eyepiece.

The next day I resolved this would not happen again and so I marked all the satellite transits of Jupiter that I could reasonably expect to observe for the month of April on a calendar. I also enjoy looking for the GRS and so I went to the Sky and Telescope magazine's web site and found a list of GRS transits for the year and also marked them on the calendar for the month.

When I had finished I noticed a pattern for Friday mornings in April. Every Friday morning in the month of April, Io, preceded by its shadow will be transiting the face of Jupiter. Just as significant, the GRS will either transit or at least be prominent in all of these transits. This will offer many opportunities for imaging or sketching at the eyepiece. In addition, you will be able to watch these events catch up and pass the GRS from the opposite hemisphere. A table of the TGIF events are below:

Date (2006)	Start (EDT)	Event	End (EDT)
April 6	22:15	Io Shadow	April 7; 0:25
	22:54	Io Transit	April 7; 1:01
	1:13	GRS mid-transit	
April 14	0:09	Io Shadow	2:19
	0:38	Io Transit	2:46
	1:58	GRS mid-transit	
April 21	2:03	Io Shadow	4:12
	2:23	Io Transit	4:30
	2:43	GRS mid-transit	
April 28	3:28	GRS mid-transit	
	3:57	Io Shadow	6:06
	4:06	Io Transit	6:14

Table 1 TGIF transits for Io[1] and GRS[2]

I used Starry Night to confirm these events and thought that the morning of the 14th would be the most impressive with the added bonus of being on a statutory holiday (Good Friday). The down side is that this is the night of the full moon which will be only a little more than 15° away. On the up side, the full moon will almost certainly guarantee a clear night, if the past few months are any indication!

On this night, Io's shadow will be aligned with the eastern edge of the GRS at the start of transit and start to outpace it. By 1:58 when the GRS will be in the middle, Io's shadow should be opposite the western edge of the GRS with Io catching up to the middle. The two graphics below illustrate the changing positions while transiting.

Cont'd pg 5

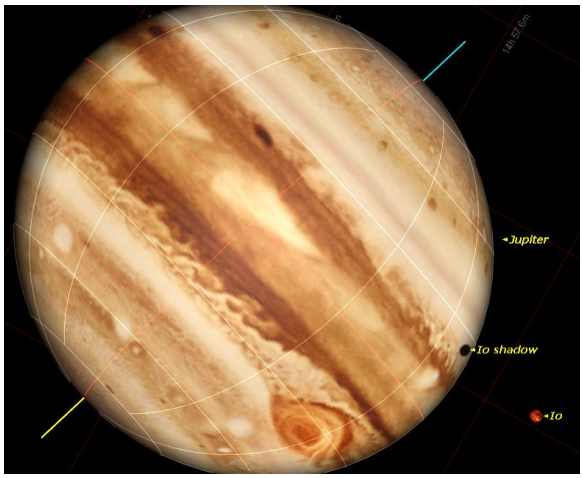

Figure 2: April 14 0:12 EDT. Placement of Io's Shadow and the GRS a few minutes after shadow ingress. Notice Io's shadow is in line with eastern edge of GRS and Io fast approaching in the same plane. [3] Images corrected for view with odd number of reflections (Cassegrain with diagonal)

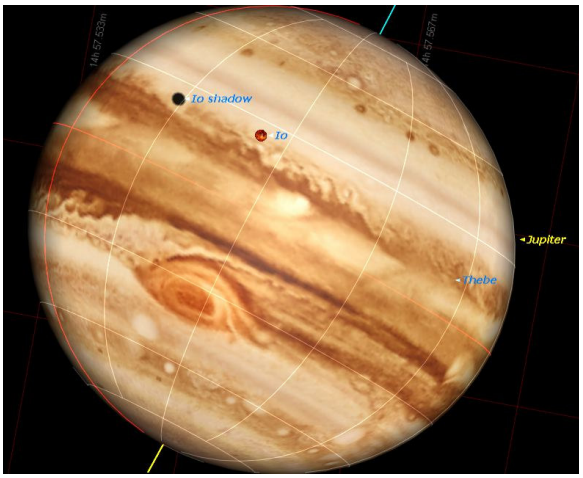

Figure 1: April 14, 1:58 EDT. Positions of Io and its shadow during GRS transit. Notice that the shadow has completely paced the red spot and Io is near the middle[3]

A careful examination of Table 1 will show that the first of these events takes place shortly after the official end of our monthly meeting. So, if near the end of the meeting you see some grey old fool eyeing the door, I am not trying to be rude, I have an appointment that won't wait for me! And TGIF? Why that stands for:

Transits, **G**RS, **I**o & **F**ridays What else?

Credits

1. "Phenomena of the Galilean Satellites," Observer's Handbook 2006, RASC, Edited by Rajiv Gupta, 2005, pp. 199-205
2. "Transit Times of Jupiter's Great Red Spot," Alan M. Mac Robert and Adrian R. Ashford, ©2006 Sky Publishing Corp, http://skyandtelescope.com/observing/objects/planets/article_107_2.asp

Images created with Starry Night Pro Plus v.5.8.2, ©2006 Imaginova Inc.

The planet rotates so quickly you can see surface detail changes in the course of one evening. Then there is the Giant Red Spot and now we have Red Spot Junior. While not as prevalent as last year, there are still opportunities to observe transits of Jupiter's moons across the face of the Planet. For more details on the various phenomena of Jupiter, see the April issue of Sky and Telescope (pages 55 – 57).

Enjoy the Night Sky

Just For Fun

Why is the largest crater on Mars' satellite Phobos named Stickney?

What is the Black Drop, and when is it seen?

What is the Lunar regolith?

Name (a) the largest asteroid, (b) the brightest asteroid, (c) the asteroid which moves mainly between the orbits of Saturn and Uranus, (d) the asteroid which passed the Earth in 1937 at a distance less than twice that of the Moon, (e) the only two asteroids known to pass closer in to the Sun than the orbit of Mercury.

Photos by Rick Cudmore

I used a Canon A75, 1/250 speed, and hand held the camera to a TV 13mm T6 eyepiece on my 8" Dob. No processing was done. I took the pictures about 10:00 pm, March 7.