



Highlights:

I: ASX 7th Annual Expanding Canada's Frontiers Symposium – January 29, 2010

II: Help Support ASX

III: The Sky This Month

IV: Other Astro/Space Related Events

V: International Space News

Dear Astronomy and Space Enthusiasts,

Last month we held our first "Faces of Space" Lecture of the year, and are pleased to announce that it was a great success! Hilke Schlichting of the Canadian Institute for Theoretical Astrophysics gave a very intriguing talk about detecting planets at the far reaches of our solar system.

We are also pleased to announce our speaker lineup and date for our 7th Annual Expanding Canada's Frontiers Symposium, set to be held on January 29, 2010. Please check below for more information about our Symposium.

Clear Skies,
ASX

I. ASX 7th Annual Expanding Canada's Frontiers Symposium

Featuring:

Prof. Peter Schultz (Brown), co-investigator of NASA's LCROSS, discussing his analysis of this mission and finding water on the Moon
Prof. Sara Seager (MIT), discussing the latest detections and theory of exoplanet properties

Dr. Firouz Naderi (NASA JPL), discussing perspectives on future robotic exploration

Dr. Narendra Bhandari (ISRO), discussing Chandrayaan-1 results and India's vision for space

DATE & TIME: Friday, January 29, 2010, 6:30 PM

LOCATION: Convocation Hall, University of Toronto

ADMISSION: Students: **FREE** from eventbrite:

<http://asx2010symposium.eventbrite.com>

General Public: \$20 from UofT TIX: <http://uoftix.ca/view.php?id=579>

Phone #: (416) 978.8849

ABSTRACT: The search for life on worlds other than our own, both on far away exoplanets as well as on nearby Mars and our own Moon, is one of the greatest scientific endeavors of human history, which has been enjoying some stunning breakthroughs in recent months, none more astonishing than the very recent discovery of water on the Moon!

With these breakthroughs in mind, ASX is pleased to present a truly inspiring cast of speakers who are at the forefront of this field. Please come out on the 29th to hear these speakers talk about their latest work and accomplishments as well as their perspectives on the search for life and space exploration.

If you did not receive this e-newsletter directly, and would like to hear about future ASX news and events, please email space.society@utoronto.ca with subject line "Newsletter Signup". We also invite you to join our Facebook group: <http://www.facebook.com/group.php?gid=2226718345>



II. Help Support ASX

One of the greatest things that ASX offers is providing FREE events to students (and most events free to the public) thanks to our generous sponsors. Here are several ways you can help support your favorite space organization:

1. Support ASX via sponsorship or in-kind donation, or by referring us to someone who is interested in sponsoring ASX and in turn reach out to our members and audience.

2. Become a volunteer for the upcoming Symposium.

Our Annual Symposium is U of T's largest annual student-run event. It is a truly inspiring event where we bring prominent speakers in the fields of space exploration and astronomy to speak before a large student and professional audience. In order to run this event smoothly, we need your support. If you would like to help us out at symposium, or for any other ASX events, please email us at space.society@utoronto.ca and we will contact you about volunteering. There are a wide variety of tasks that you could help us with, including event postering, ticket-taking, and crowd control. This can be a great resume opportunity, and you may even to meet speakers and other leaders in the astronomy and space fields.

III. The Sky This Month

'Tis the Season: December is a month that lacks the humid air and haze of summer, which makes it one of the better times for stargazing. The early setting sun of winter (by 5pm) should also give extended hours of possible viewing.

Once In A Blue Moon:

The moon will be at centre stage in December as there will be full moons on both December 2nd and on the 31st. The extra full moon for this season is what is often referred to as the blue moon. There will also be a partial lunar eclipse in Gemini during the 31st, although the best viewing for this will be in the Eastern Hemisphere.

Planets and Stars:

Jupiter, which has been prominent in the south the last few months, is starting to set earlier, while Mars and Saturn start to make their way into prominent positions in the night sky. Specifically, Mars rises at the opposite end of the sky where the sun sets and stays up all night.

Early in the evenings, looking to the west, you can still find the summer triangle, made up of Vega in Lyra, Altair in Aquila, and Denab in Cygnus. After these constellations set, Orion takes prominence in the southern sky throughout the night. Next to Orion it is easy to spot Taurus with its red giant, Aldebaran, most prominent. Also look for the Pleiades (7 sisters) nearby.

The Geminid Meteor Shower also occurs this month, peaking on the night of Sunday the 13th. This meteor shower originates from the extinct comet, 3200 Phaethon. The Geminids, as their name suggests, are seen in the constellation, Gemini, in the vicinity of Orion and Taurus. Meteors are known to occur at a rate of over 100 an hour and can be seen at all times of the night.

Observing Calendar:

December 2: Full Moon occurs.

December 13th: Geminid Meteor Shower peaks.

December 16th: New Moon occurs.

December 21th: Winter Solstice occurs in Northern Hemisphere. This is the shortest day of the year and the official beginning of winter.

December 31st: Another Full Moon occurs, this time with a partial lunar eclipse with best viewing in Europe, Africa, Asia and Australia.

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

IV. Other Upcoming Astronomy/Space Events (free unless specified)



Thursday, December 3, 2009, 8:10 PM

U of T Astronomy & Astrophysics Department – Public Lecture

“The Quest for Dark Matter”

By Dr. Anne-Marie Weijmans

LOCATION: McLennan Physical Labs (60 St. George Street), Room 102

http://www1.astro.utoronto.ca/~gasa/public_talk/iWeb/Whats_Up/Whats_Up.html

Saturday, December 12, 2009

Apogee Books & The Canadian Air & Space Museum

Special Appearance and Book Signing followed by Special Screening

DESCRIPTION: William P. Suitor author of the new book *Rocketbelt Pilot's Manual* will be signing books and doing brief presentations.

The Original Rocketbelt will be on display there from Dec 5 through to January 6. There will also be a Special Screening of the Apollo 12 40th Anniversary DVD from Apogee Books.

LOCATION: The Canadian Air and Space Museum, Downsview Park, Toronto, Ontario

TIME: Author Appearance and Book Signing: 4:00 PM to 6:30 PM.

DVD Screening: 6:30 PM

Ongoing until Sunday, December 13, 2009

Blackwood Gallery

“Fall Out: An Art Exhibition Exploring Gravity”

DESCRIPTION: An exhibition where to be bound by gravity will be considered, diverted, and inverted. Some work will defy gravity, while others will simultaneously defy and confirm its inevitable pull.

LOCATION: Blackwood Gallery, Kaneff Center, University of Toronto Mississauga, 3359 Mississauga Road North, Mississauga, ON, L5L 1C6

MORE INFO: <http://www.utm.utoronto.ca/services/gallery/>

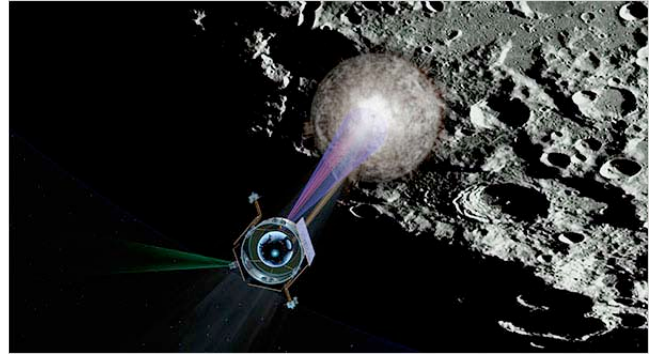


V. International Space News

Water Confirmed on the Moon

NASA's LCROSS probe discovered beds of water ice at the lunar south pole when it impacted the moon in September. The \$79 million spacecraft hit the lunar crater, Cabeus on October 9, creating a debris plume that scientists have used to search for traces of water below the moon's surface. The area impacted (a smaller crater within Cabeus created by the probe that is about 20 metres across) produced about 100 kg of water, which is a quite significant amount. Scientists had already suspected water to be near the lunar south pole based on the detection of hydrogen on previous missions. Also, a probe from India's recent Chandrayaan-1 mission had recently found trace amounts of water on a crater nearby and scientists are currently looking to see if there is any link between the water findings by the two missions. Also, because of the cold temperature of the lunar south pole, it is possible that this water (in the form of ice) has been there for billions of years, which may aid scientists in uncovering the long term history of the moon. Just where this water came from, has also been the subject of much debate and is sure to remain a hot topic of discussion in the near future.

More info: <http://www.space.com/scienceastronomy/091113-lcross-moon-crash-water-discovery.html>



This rendering released by NASA shows the Lunar Crater Observation and Sensing Satellite as it crashed into the moon to test for the presence of water.

Canadian Researchers to Investigate Tree Growth on ISS

Last month, NASA's space shuttle Atlantis took off to the International Space Station with the Canadian APEX – Cambrium (Advanced Plant Experiments on Orbit) experiment. This is an experiment that will help determine the role that gravity plays on trees forming different kinds of wood. Tree physiologist, Rodney Savidge of the University of New Brunswick, and Canadian astronaut, Bob Thirsk, will be conducting this experiment. On earth, parts of a tree that are not vertical typically grow different types of wood on its opposite sides. This is called "reaction wood," and the mix of this kind of wood in a tree influences the suitability of the wood for various uses. Scientists believe that the growth of this reaction wood is a result of the force of gravity, but have yet to prove this. Savidge's experiment will determine whether the phenomenon of reaction wood occurs in the zero-gravity environment of the ISS. If no reaction wood is found, it will be an indication that gravitational effects are cause for the growth of reaction wood.

More info: <http://spaceref.ca/missions-and-programs/canadian-space-agency/space-shuttle-atlantis-launches-with-canadian-apex-experiment-on-board.html>

For national space news, refer to CSS discuss lists at <http://www.css.ca/mailman/listinfo/discuss>.
 CSS Facebook group: <http://www.facebook.com/group.php?gid=12706081197>