

Highlights:

I: FoS Lecture 3:
Mining on the Moon
– January 11, 2008

II: Symposium:
Lunar Exploration
– January 25, 2008

Dear Astronomy and Space Enthusiasts,

Welcome to our first newsletter of 2008.

The Astronomy and Space Exploration Society (ASX) at the University of Toronto would like to wish you a very happy new year, and share with you our exciting upcoming events. **January is ASX's Moon Month!** See below for details.

Please feel free to visit our website at <http://asx.sa.utoronto.ca/> for more information about ASX or our upcoming events.

Clear Skies,

ASX

I. 5th annual "Faces of Space" (FoS) Lecture Series – Lecture 3

Mining on the Moon
Featuring Daniel Faber

DATE & TIME:

Friday, January 11, 2008, 7:00 PM

LOCATION:

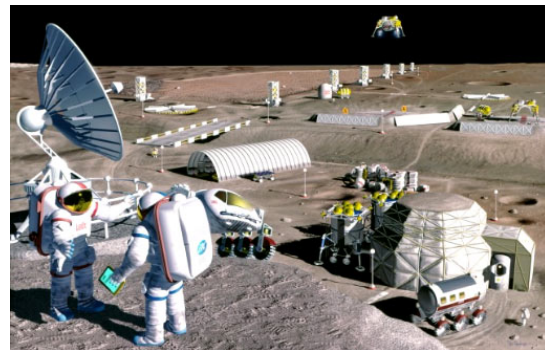
University of Toronto, St. George Campus, 40 St. George St.
Bahen Centre for Information Technology, Room. 1190 (BA 1190)
Campus map:

<http://rrs.osm.utoronto.ca/map/f?p=110:1:776015805415755764>

Admission is **Free**

SPEAKER:

Daniel Faber - *President, Heliocentric Technologies Inc.; President, CSS*
Daniel Faber has been observing and participating in the space industry for many years. He recently started a business in mining industry in order to add to his experiences in manufacturing, power generation and construction. High on his list of insights is the narrow horizons that can be found within every industry sector. There is more in common between mining, insurance, construction and space development that meets the casual observer's eye.



Abstract: The presentation contrasts the mining industry with the space industry, and draws some interesting parallels. In the process, Daniel explains the needs for stable legal and financial structures for the Moon and other heavenly bodies. Most importantly for the members of ASX, perhaps, Daniel shares his insights on how individuals can make a big difference in the way the future looks.

II. 5th annual "Expanding Canada's Frontiers" Symposium – Lunar Exploration

DATE & TIME:

Friday, January 25, 2008, 7:00 PM
(Doors open at 6:00 PM)

LOCATION:

[Bloor Cinema](#), 506 Bloor St. W.
(Close to Bathurst subway station)

ADMISSION:

Students: **FREE** (with ID)
Public: \$15 in advance, \$20 at the door
For information on how to obtain tickets,
please see our website (details to be posted soon)



SPEAKERS:

- **Dr. Robert Richards**
Founder and CEO, Odyssey Moon Limited

Subject: Google Lunar X PRIZE: The New Race to the Moon

Abstract: This talk outlines how a carefully planned private Moon mission could set in motion the technological, political, legal and regulatory precedents that will allow humanity to rationally and peacefully embrace and develop the Moon as the world's eighth continent.



Robert D. Richards is the Founder & CEO of Odyssey Moon, a private commercial lunar enterprise that was recently unveiled as the first team to complete registration for the \$30M Google Lunar X PRIZE. Richards is also Director of the Space Division at Optech Inc., a company developing laser radar (lidar) systems for space exploration, observation and operations. Along with Peter Diamandis and Todd Hawley, Richards founded the International Space University in 1987, and prior to that SEDS and the Space Generation Foundation. Richards is a contributing author of *Blueprint for Space*, and has received several international space awards, including the K.E. Tsiolkovski Medal and the Space Frontier Award.

- **John Connolly**
Vehicle Engineering Manager, Lunar Lander Project Office of NASA

Subject: Building the Next Lunar Spaceships

Abstract: This talk illustrates the journey that today's designers at NASA are undertaking in building the next generation of lunar spacecraft. The presentation includes discussion of Apollo program's trials and triumphs, the physics of spaceflight, the many competing factors that shape the design of a spacecraft, and concludes with details of the current design concepts and observations on the path toward the future.



John Connolly joined NASA in 1987, and since then has devoted his efforts to defining the future systems that will return crews to the moon and transport them to Mars and beyond. Connolly currently leads vehicle design and engineering for NASA's Lunar Lander Project Office at the Johnson Space Center. Connolly's prior duties at NASA included Deputy of the Exploration Systems Analysis Study (ESAS) Team, Special Assistant to JSC's Astronaut Office and senior systems engineer. Connolly has received several awards, including the NASA Outstanding Leadership Medal, and the Sven Berggren Prize.

- **Prof. Ariel Anbar**
Associate Professor, Arizona State University

Subject: Life in the Universe: Lessons from a Dead World

Abstract: This talk focuses on what we know about the early Earth and how this relates to space exploration, and illustrates how our ideas about the history of life on Earth and the possibility of life beyond are profoundly shaped by lessons learned from the geologic history of the Moon's dead world.



Ariel D. Anbar is an Associate Professor in the School of Earth & Space Exploration and the Department of Chemistry & Biochemistry at Arizona State University. Anbar is a biogeochemist interested in the past and future evolution of the Earth as a habitable planet and how this knowledge informs the search for inhabited worlds beyond Earth. He is a Co-Investigator of the Deep Time Drilling Project of the NASA Astrobiology Institute. Anbar was awarded the Geological Society of America's Donath Medal (Young Scientist Award) in 2002 and was elected as a Fellow of the GSA in 2003.