

Space Resources Roundtable http://csmspace.com/events/srr/archives at http://ISRUIinfo.com	June 10-11,
<p>ASTEROID MINING AND SPACE SIMULATIONS WITH CITIZEN SCIENCE AND GAMING. Michelle M. Cadieux, MBA independent on various space teams. Community Safety Programs (MN nonprofit corp) (940 44TH Ave NE #21561, Mpls MN 55421, michellectadieuxmba@gmail.com)</p>	<p>Hackathons, business start up competitions are a good way to get teams together for a quick weekend to brainstorm ideas. Other competitions like Lunar X Prize and Mars Return Sampling and the NASA Systems Engineering Mars Sampling project for Saylor online university are also good places to find teams working on this. NASA had the http://CreateTheFuture.com contest on.</p>
<p>Link to powerpoint presentation https://docs.google.com/presentation/d/1G8xS_CuCKNaYCDnD0UzyfvKwdJJSRSM8hlf6XSWI6c0/edit#slide=id.p</p>	<p>Crowdsourcing for volunteers should only be used for nonprofit teams. There have been changes in legislation that crack down on the use of unpaid interns and volunteers for profit making companies. There are also very tricky tax rules about assets acquired for a nonprofit should only be used for a nonprofit and not for profit entities.</p>
<p>Link to this abstract: https://docs.google.com/document/d/1RN0DJu53fQkrHGAmnPKITWZZQyTmUxHLldhZfs3XkI/edit</p>	<p>NASASpinoff.com has always done a good job of showcasing how technologies that have been developed for space are used on earth. Memory foam and other products have been developed, even if velcro, tang, and teflon actually were not.¹ These technologies can help to establish the business case for funding projects, in a climate that is reluctant to fund space projects without a clear ROI.</p>
<p>Introduction: Many space companies are trying to find out how the economics of space mining will work. Many of these projects are being completed in simulations like NASA spaceappschallenge.com, Astropreneur.com game, 3d printer simulations like D Space, NASA Dark Side of The Jam, and more.</p>	<p>Business Case: The business case has been estimated at a 400% ROI by a WA asteroid mining prof.</p>
<p>Citizen Science exploration with groups like PongSat, are helping to gather intel on space that will affect exploration in new ways. PongSat has it's first micro-gravity lab now.</p>	<p>Value: Asteroid 1999 JV6, unfortunately just slipped past in January with an estimated worth of \$1.43 trillion, or an estimated mining profit of about \$190 billion based on what asteroid tracking database Asterank thinks can be retrieved. It will be back in 2015.</p>
<p>Crowdfunding has been successful for raising money for projects like NanoSat, LiftPort and others.</p>	<p>Law: There is also no formal law clearly defining taxation of profits from asteroid mining, though some legal experts contend there is current US law that could be adapted to cover it, albeit only for American citizens.</p>
<p>This paper will aim to explore some of what has been successful, and what hasn't when working on projects aimed at supporting space mining.</p>	

¹ <http://spinoff.nasa.gov/spinfaq.htm#spinfaq12>

Gaming:

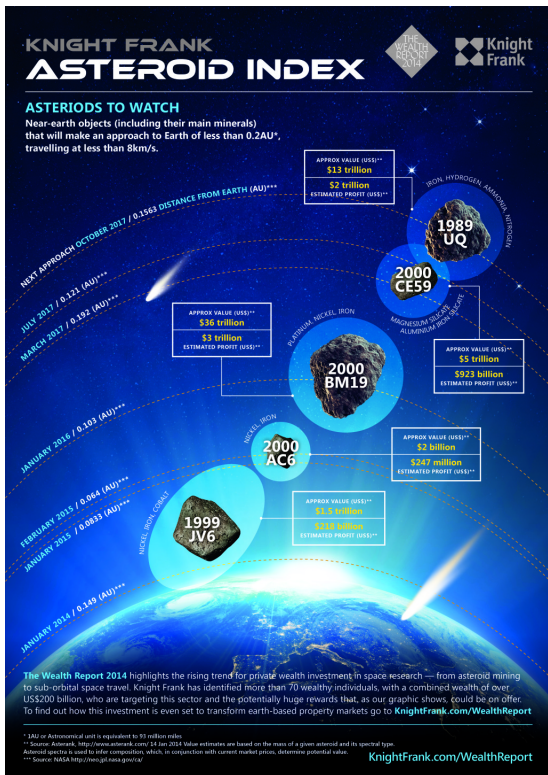
Astropreneurs is a game that hopes to help demonstrate the space business model. It was developed at a StartupWeekend with Paul Fuller, and worked on more at NASA's Dark Side of the Jam gaming hackathon with myself and a team, it has continued to grow with developer resources.

EVE online is one game that has asteroid hunting and has the composition of what is in different systems.

CCP Games has had a commitment to enacting real science and by recruiting scientific experts to make sure they are teaching it right. They also have a solid fan base that is bringing in millions per month in subscription fees.

GRAPHIC: Asteroids to watch.

<http://qz.com/184502/the-ultra-rich-are-starting-to-like-the-risks-involved-in-asteroid-mining/>



RESOURCES:

PAST CONFERENCE PROCEEDINGS:

http://www.isruinfo.com/index.php?page=srr_14_ptmss

<http://www.asterank.com> Asterank is a scientific and economic database of over 600,000 asteroids with collected, computed, or inferred important data such as asteroid mass and composition from multiple scientific sources. With this information, we estimate the costs and rewards of mining asteroids.

ECONOMIC IMPACT FORECASTS:

<http://www.newrepublic.com/article/117815/space-mining-will-not-solve-earths-conflict-over-natural-resources>

National Space Society statement

<http://www.nss.org/settlement/asteroids/key.html>

The Technical and Economic Feasibility of Mining the Near-Earth Asteroids

<http://www.nss.org/settlement/asteroids/sonter.html>

Star Miner:

www.moddb.com/games/asteroid-miner

CONTESTS:

NASA's *Fifth Annual NASA Robotic Mining Competition*

Asteroid Data Hunter

<http://www.topcoder.com/asteroids/tracker/>

Tracker:

<http://www.topcoder.com/asteroids/tracker/>

<http://www.mining.com/nasa-is-offering-35000-in-awards-to-asteroid-hunters-93563/>

<http://CreateTheFuture.com> Design contest.

NSS AWARDS:

<http://www.nss.org/awards/>

LEADS LIST:

<http://facebook.com/creativecommunications>

GROUPS: How to connect to student groups

NASA Student Programs:

<http://www.nasa.gov/offices/education/programs/descriptions/Students-rd.html#.U5MQsN6wUXs>

NASA College Programs:

<http://education.ssc.nasa.gov/highered.asp>

Space Grant:

<http://www.nasa.gov/offices/education/programs/national/spacegrant/home/#.U5MRF96wUXs>

High School:

BEST Robotics Competition:

<http://www.robotevents.com/robot-competitions/best/>

<http://conradawards.org> HS Innovation Awards

UNIVERSITY:

International Space University

[www.isunet](http://www.isunet.edu)<http://impact.colorado.edu/lungradcon/2014/registration.html>.edu

MARS SAMPLE RETURN PROJECTS FROM SAYLOR:

<http://www.saylor.org/essay-gallery/>

SCHOLARSHIPS:

Space Resources Roundtable awards two scholarships.

GRAD STUDENTS:

SSERVI July 2014 conference Silicon Valley, @ames. Graduate conference on Small Bodies peer review conference. Travel grant for grad and early post doc.

<http://impact.colorado.edu/lungradcon/2014/registration.html>

	<p>TEENS:</p> <p>http://LeewardSpaceFoundation.org does a high school space scholarship.</p> <p>KIDS:</p> <p>@GeekPartnershipSociety Minneapolis does a space camp grant for elementary school kids. http://geekpartnershipsociety.org</p> <p><i>Michelle Cadieux, MBA.</i> Michelle has been involved with Leeward Space Foundation, LiftPort Space Elevator as the VP, Space.StartupWeekend.org, Silicon Valley Space Center org , and more. She has worked in satellites with Lockheed, SolSpike.com rocket powered boot with SolarSystemExpress.com and Pong Sat conference with SVSC, LunarCubes.com, and many other events. She's a supporter of XPrize Team Jurban, MARS sample return and on the board with Team Prometheus.org. Michelle has been a computer based trainer and is named on a gaming patent.</p>