

September 2008



SGAC

Newsletter

An update from the Space Generation Advisory Council in support of the UN Programme on Space Applications for its global space advocates



IYA-2009
preparations have started at Puerto Rico with a five day work-shop held at Arecibo Observatory in July 2008. Have you planned your IYA celebrations? Get involved now!

The Starry Messengers offered bilingual demonstrations and activities in Astronomy for over 600 visitors and distributed NASA lithographs of the Solar System.

(Image Courtesy: Marc Cornwall)

HEADLINES

*** SGAC Updates: Jamaica participates in IYA activities starting now * Exciting student events * Regional Updates * Perspective featuring famous author Cynda Arsenault!**

Message from the SGAC Executive Council

Dear Space Generation,

The past month has been an exciting one for all of us at the Exec Office. We are delighted to have received some excellent Quarterly reports from our NPoCs and are looking forward to more in order to be able to highlight our regional activities and share our successes across our global partners better.

This month brings us to Space Generation Congress 2008 and closer to the World Space Week. We hope you have already contacted the points of contact in your country and are registering your events at www.worldspaceweek.org.

The Executive Council also sends its best wishes to Maryam Aljooha and Alex Karl who tied the knot last month. Alex and Maryam have both been SGC delegates since 2005!

Thank you for helping us bring space closer to all, one step at a time!

SGAC Executive Council

Note from the team

Greetings to all of the Space Generation from the News team! Last month, our newsletter page marked its 1000th read! We look forward to getting this newsletter out to several 1000s more this issue onwards. Thank you for the growing support and interest. We look forward to seeing you at IAC in Glasgow. Till soon, enjoy reading!

The Starry Messengers get prepared for the International Year of Astronomy 2009 in Puerto Rico

The IYA-2009 preparations have started at Puerto Rico with a five day workshop held at Arecibo Observatory in July 2008. During this workshop a group of enthusiastic college students got ready to actively participate of the IYA-2009 events. This group of volunteers constitute the Starry Messengers. The workshop sponsored by a NASA IDEAS Grant focused on the astronomical discoveries of Galileo and the effort it took to convince the world of the imperfections of the heavens. The NAIC/Arecibo Observatory also supported this event. The students had the opportunity to chat with the US SPoC Doug Isbell who encouraged them in their effort. As a preamble of what is to come in 2009, this workshop was packed with the excitement of being at the world's largest radio telescope while working on a variety of Astronomy activities which included building the Project STAR refracting telescope and using it to observe the Moon and Jupiter during the night, lectures by Arecibo Observatory staff astronomers about the most important scientific discoveries made at Arecibo, familiarization with adapted astronomy material for the blind (we had two blind participants). On Sunday July 13, the students guided over 600 visitors to the Fundación Ángel Ramos Visitor Center through the "Galileo Route". This trail with eight exhibits introduced visitors to the IYA-2009. The Starry

IN THE SKIES

will find these two together at the end of months of October, November and December.

Messenger's offered bilingual demonstrations and activities in Astronomy for the family and distributed NASA lithographs of the Solar System to the visitors.

This workshop initiated several important collaborations for IYA-2009 at Puerto Rico. As part of the "Galileo Route", each exhibit also displayed a poem with an astronomical theme. The selected poems were by poets from the Caribbean. This was an opportunity for us to contact the Jamaica SPoC who kindly provided two poems by members of their local astronomy club. A young poet from Aruba also kindly provided a poem for our exhibit. It was an opportunity to engage the two organizations of amateurs astronomers of Puerto Rico in the IYA-2009 activities. Volunteers from these organizations set up several optical telescopes with filters for solar viewing along the "Galileo Route" and offered a lecture about Extra Solar Planets.

The students considered this workshop an unforgettable experience, they had the opportunity to work with students from different disciplines, practice their public speaking, learn about Astronomy and help create and arrange the "Galileo Route". The students are looking forward to a follow-up activity during this semester, a "Star Party" workshop. This activity will be made in collaboration with the amateur societies of the island. They are very motivated and excited about celebrating the IYA-2009.

The evaluation made by the visitors indicated this family event was excellent, they enjoyed the activities and expressed interest in learning more about Galileo and Astronomy. They considered the collaboration between the students and the Observatory as very positive. According to the evaluation, the students distinguished themselves for their knowledge and for being attentive and helpful with the public.

The second night of October finds Venus in the southwest just to the right of the crescent Moon. You

will find these two together at the end of months of October, November

and December.

We are very proud of the achievements of the Starry Messengers, and we are sure this group will help the IYA-2009 be a great success." The Poems submitted by the IYA2009 Single Point of Contact (SPoC) for Jamaica, Stanley Smellie, representing the Astronomical Association of Jamaica (AAJ) are available on the SGAC News section: www.spacegeneration.org/node/2091

(By Carmen A. Pantoja and Mayra E. Lebrón Santos, submitted by Marc Cornwall, SGAC NPoC Jamaica)

Zambia joins World Space Week Celebrations

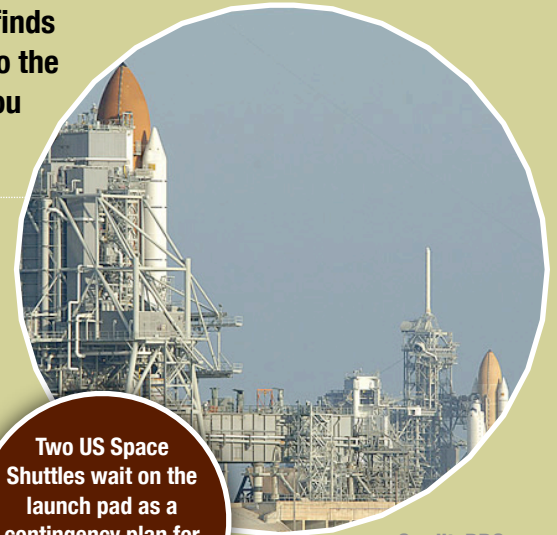
The Space Generation Zambia Chapter (SGZC), in partnership with the Physics Department of the University of Zambia, has joined the world in celebrating this year's World Space Week whose theme is 'Exploring the Universe'. The scheduled activity is a special workshop on space science for high school physics teachers, for schools in and around the capital city Lusaka. It will take place on October 3, 2008 at the University of Zambia. The presentations at the workshop will include topics such as General Space Science, Global Warming, Applications of Space Science and Technology, Space Science Groupings, Space Exploration by man and Teaching of Space Science in high schools. The participating schools are expected to hold some activities at their respective schools during the week 4th-10th October 2008.

It will be the first time that an activity of this kind is held in Zambia. This is a grand beginning as we hope to have more such activities in coming years. A greater boost is that serious research and postgraduate studies in space physics will soon be introduced at the university. It must be noted that Zambia is strategically located for space related research works. In April this year, we made another leap by taking part in celebrating Yuri's Night. We had a very successful braai party. The future is sparkling bright.

(By World Space Week National Coordinator - Zambia, Prosperity C. Simpemba)

Volunteers needed for Challenger Center's Earth Science Challenge

When Richard Garriott is in space, he plans to take photographs of the Earth, many of which will



Two US Space Shuttles wait on the launch pad as a contingency plan for the Hubble Servicing Mission

Credit: BBC

replicate some of the photographs his father, astronaut Dr. Owen Garriott took 35 years ago on Skylab.

Looking at astronaut photography over time, we can see changes that have happened on Earth over the last generation. We can use this information to see how humans have impacted different regions on the planet over time and to make predictions about what may occur in the future.

The NSF-TERC-NASA & Challenger Center Earth Science Challenge (www.challenger.org/programs/garriottearthscience.cfm) for Richard Garriott's mission currently needs some volunteers to create a 3D Animation. If you are interested in donating your time and effort - or know someone who might - please contact Muhammad Shazlee at tshazlee@challenger.org (Keith Cowing, USA)

An Introduction to Cornerstone projects for the International Year of Astronomy

★ 100 Hours of Astronomy:

The 100 Hours of Astronomy Cornerstone project has a new web site - www.100hoursofastronomy.com - where information will be available on all the plans for this exciting event. 100 Hours of Astronomy is a round-the-clock, worldwide event with 100 continuous hours of a wide range of public outreach activities during a four-day period, 2 - 5 April 2009. A new mailing list for the project - open to all - will provide regular updates on plans and developments. There are many exciting ideas to be announced soon!

There are some great activities planned. A 24-hour webcast from research observatories around the world, including live broadcasts, will give the public an insider's look at the world's greatest telescopes. A 24-hour global star party - the biggest astronomical event in history - will invite

GET INVOLVED

Send in your contributions and suggestions to make this a better newsletter for you!

news@spacegeneration.org

Don't forget to share this with all space advocates you know!

www.spacegeneration.org

PERSPECTIVE

Space and Security by Cynda

Cynda Arsenault is on the board of Directors for the Secure World Foundation and works on preserving the mandate for the peaceful use of outer space.

In 1968 when 2001: A Space Odyssey was released, 2001 seemed a VERY long way away. In my mind, it certainly seemed feasible that humans would be living and traveling in space by then. As a student at the University of California, Berkeley, it also seemed feasible that we were going to change the world and have world peace (Make Love Not War). One might say that both ideas were a little naïve. And yet, the world is a very different place than it was in 1968. Although the routineness of space travel conveyed in the film has not happened, we have been to the Moon, we work together with the Russians and other countries on the International Space Station, 462 men AND women have flown into space including private citizens, and we rely on space for information, communication, and observation. In addition, our digital world has created ways of doing things we never even dreamed of. But we also have significant global problems not thought about in 1968 – like limited resources, increasing poverty and a growing divide between developed and developing countries, and global warming.

It seems inevitable that we will one day have the technology and capability for the space travel represented in Space Odyssey but what is not inevitable is what that will look like. How will business be conducted? What laws will govern our activities? Who will decide? What new forms of governance will come into play? How will conflict be resolved? Will we have a healthy Earth? Who will benefit from space? How do we ensure the fair and sustainable use of space?

These and other questions are the focus of the Secure World Foundation. Some immediate threats to the long-term sustainability of our use of space include: orbital crowding, growing clouds of orbital debris and the threat of space weapons and warfare. The Secure World Foundation is committed to promoting effective measures to achieve a sustainable space environment. Reaching this goal includes the following steps:

Limiting Orbital Debris Formation

Fortunately, even non experts have come to realize that it is important to limit the generation of space debris to the absolute minimum. That is why, after years of study and discussion, the United Nations Committee on the Peaceful Use of Outer Space (COPUOS) passed a non-binding resolution in June 2007 formally calling for the reduction of new debris generation and the study of means to remove debris from orbit. The U.N. General Assembly accepted the resolution in October 2007. COPUOS followed closely the recommendations of the Inter-Agency Space Debris Coordination Committee (IADC), the group of space faring States working on the development of debris mitigation guidelines for well over a decade.

Passage of this resolution was an important, perhaps crucial step in providing long term governance of our orbital environment. However, this non-binding resolution is not enough. For these guidelines to be effective, each State will need to adopt binding national regulations at least as strong as the UN debris guidelines.

Space Situational Awareness and Space Traffic Management

Larger steps toward space governance are needed. As additional countries and private companies launch spacecraft into orbit, popular orbits like the polar, sunsynchronous and geosynchronous orbits are becoming more crowded and will eventually need some sort of international space traffic management system to keep these highly useful orbits collision free.

As the case on July 4, 2007 of the [Cloudsat and SINAH-1](#) satellites reveals, in which the US Cloudsat was maneuvered to avoid a

everyone to join in the celebration. And it all starts with the inspiration for IYA2009 – the telescope that Galileo used for his historic observations 400 years ago, live from a gala opening event. Schools, science centres, planetariums, astronomy clubs and more are joining in. The new web site will be the centre of activity for announcements, plans and discussions, all coming soon and building towards the big event.

★ Universe Awareness

Ever wanted to answer a kid asking how much they would weigh on another planet? Or what the phase of the Moon is right now?

Following demand from Universe Awareness communities we have started a website of simple astronomy tools: www.unawe.org/unawe_tools

These are small useful reference items such as scaling the Solar System to any reference (distance or diameter), calculating telescopic magnification, observing the libration of the moon, etc. intended for all kinds of astronomy outreach. The idea is to complement reference sheets like the Astroguide (contd on pg 5)

(astronomy2009.sao.ac.za/projects/astroguide/) with something dynamic.

REGIONAL

Asia Pacific

A Seminar was held on 20 July, 2008 to mark the 39th Anniversary of first Landing on Moon, organized by Bangladesh Astronomical Society in the Auditorium of 'Foundation for Research on Educational Planning and Development' (FREPD), Dhaka at 5 pm. A detailed feature can be found on www.aprsaf.org/feature/feature_63.html

In upcoming events:

★ An amateur astronomy workshop will be held this year at Shastra, the Technical Festival of IIT Madras. All interested students are invited to participate. The details are put up here: www.shaastra.org/2008/Events/Astronomy Any clarifications should be addressed to the email addresses put up under the 'Contacts' section on that page.

★ United Nations Regional UN-SPIDER Workshop: Building Upon Regional Space-based Solutions for Disaster Management and Emergency Response for the Pacific Region will take place in Suva, Republic of the Fiji Islands on Sep 16-19. More info on: www.unoosa.org/oosa/en/unspider/workshops.html

potential collision with the Iranian satellite, a quasi space traffic management regime exists now, mostly controlled by the United States. The U.S. Air Force maintains ground-based optical and radar observatories that keep track of the 18,000 or so working satellites and larger debris. The system provides a degree of space situational awareness (SSA). Through NASA, it publishes an open catalogue of orbital elements that commercial and non-U.S. satellite operators can use to guide their spacecraft and avoid collisions. However, this open catalogue holds much less information on orbits of working satellites and debris than the full catalogue (information on U.S. classified satellites is withheld, as are the orbital elements of debris of uncertain provenance). Commercial entities and non-U.S. national agencies can request and receive guidance from the Air Force in planning needed spacecraft maneuvers. However, satellite operators complain that the Air Force is often slow to respond to requests. That is understandable, given the demands of maintaining SSA against ever increasing amounts of debris and satellites. Air Force budgets for maintaining such a capability have generally not kept up with the need for personnel and information tools.

Further, other countries do not want to depend on the United States for such critical information. As a result, several countries, including China, France, Germany, and Russia are now developing or strengthening their own SSA capabilities. Because the U.S. military advantage in maintaining a closed catalogue is therefore declining, it would be in the U.S. interest to lead the way in a cooperative program for SSA, first with close allies, and then broadening to other space-capable nations as experience is gained. This could be an important first step in developing an international space traffic management system for space, a system that would provide much greater safety and security for the many Earth observation satellites in the increasingly crowded sun-synchronous polar orbits.

The Secure World Foundation is exploring the technical, political, and economic issues of an [international space traffic management](#) scheme or system. There are many possible models for such a system, ranging from one modeled on air traffic control to a system of systems, where each space faring State agrees to provide data of sufficient accuracy and precision to an internationally endorsed entity that then provides space agencies and commercial spacecraft operators with operational orbital guidance for maneuvers and collision avoidance. Whatever scheme is put into place must be technically and legally sound and politically acceptable.

International Cooperation in Advancing the Sustainability of Space Activities

Improving the sustainability of space activities requires countries using the space environment to cooperate on the development of technical standards, legal instruments, and practices that will improve the continued ability to conduct beneficial space activities and prevent the placing of weapons in space. Cooperation can take many forms, ranging from bilateral cooperation on specific projects to broad sharing of plans and coordination of research and applications projects. Examples include the Global Earth Observations System of Systems (GEOSS), the Committee on Earth Observation Satellites (CEOS), and the previously mentioned IADC. Each of these cooperative mechanisms make possible the sharing of technical standards and plans and fosters greater transparency among nations, an essential ingredient in reducing tensions and promoting peaceful solutions.

We at the Secure World Foundation are convinced that ensuring the long term sustainability of outer space activities is most effectively achieved through a bottoms-up approach focused on 1) vigorous efforts to reduce the further generation of orbital debris, 2) development of a code of conduct for space (or rules of the road), leading eventually to a space traffic management (STM) regime, and 3) agreements, treaties and other legal arrangements to ban anti-satellite use, development and tests.

In order to pursue these activities, the Secure World Foundation maintains partnerships with a variety of organizations focused on the development of technical, legal, and political means to ensure the long term sustainability of outer space activities including the Space Generation Advisory Council. The marvelous Agnieszka Lukaszczyk, SGAC Executive Director, consults with the Secure World Foundation for the purpose of increasing the influence of youth on space issues in the international community. Ben Baseley-Walker, SGAC's co-chair is also our Legal and Policy Analyst. SWF also worked with Chris Boshuizen on the development of SGAC's [50 Year Vision](#).

Any new venture can be dangerous and has risks. The wayward U.S. [NRO satellite](#) and its subsequent purposeful destruction with a missile in 2008 is an example of the many risks we face in the future use of space. The odds of dying in a car accident are far greater than being hit by a falling satellite and yet we continue the use of the automobile. Societies throughout the world have developed rules and regulations to mitigate some of the dangers of the automobile (speed limits, drivers licenses, standards for production, stop signs, and seat belt regulations) as well as consequences for violations (speeding tickets, jail, and fines). We do not yet have related "rules of the road" for space. When a satellite fails, what is the proper procedure to mitigate possible danger to the population, who makes that decision, and how can disagreements be resolved? These questions must be answered as we move forward into the next 50 years of space activities. No country can or should attempt to act as policeman of the world with regard to space security. The Secure World Foundation contends that space is a global commons and as such answering these questions requires global participation. We must not let the [Tragedy of the Commons](#) happen to space.

As the generation of 2001: A Space Odyssey nears retirement, we rely on the Space Generation to carry us forward. We hope that you will be able to learn from our past mistakes and utilize the skills and technology of today to plan a future for your children and your children's children that will create a Secure World as our world expands beyond this planet. You can help determine our path at this crossroads as we move into the next frontier.

★ APSCC 2008 Satellite Conference and Exhibition will take place from Sep 22-25 in Jeju, Korea. Info: www.apsc.or.kr/event/apsc2008.asp

★ Regional Multi-Stakeholder Consultation to provide recommendations on the formulation and improved understanding of the MRC Hydropower Programme will meet in Vientiane, Lao PDR on Sep 25-26

www.mrcmekong.org/download/Regional-HP-Consultation-FirstAnnouncement-update11Jul08.pdf

★ Sep 26-27 - 7th Asia GIS conference 2008 Busan, Korea www.asiagis2008.com/

★ Sep 29-Oct 2 - 8th Australian Space Science Conference (ASSC) Canberra, Australia www.assc.nssa.com.au

(Courtesy: D.Vijaykumar, India)

North America

The Canadian Space Summit is an annual event hosted by the Canadian Space Society, a national non-profit space advocacy group.

The Summit is

explicitly dedicated to helping the Canadian Space industry, academia, and special interest groups develop a wider understanding of the diverse space exploration and development projects that are being conducted across the country and to foster collaborative connections amongst the many companies and organizations involved. The Canadian Space Society also strongly encourages student participation in the Summit!

The 2008 Space Summit theme is titled "What next?" in order to address relevant issues in Canada's current and future space program and the major roles that could be played by various actors (private space sector, government, and academia). This Summit will provide a unique forum for collaboration and updates from Canada's space community through various sessions, and include speakers from all facets of the Canadian Space industry, including former

Astronaut and liberal Candidate Marc Garneau. Additionally, this year's Summit precedes the 6th annual Canadian Space Exploration Workshop, held at the Canadian Space Agency's headquarters in Montreal from November 25th – 27th, 2008.

(Marianne Mader, SGAC Member Canada)

Africa

In realizing her role as a NPoC, Miss Onyema Benigna Ajuogu who is the candidate for Aerospace/Aeronautic engineering and the 2nd

NPoC for Nigeria with the focus of spreading the enthusiasm for peaceful space exploration around Africa particularly in Nigeria, decided to establish the dialogue with the Office of Africa Regional Centre for Space Science Technology & Education (ARCSSTEE), to see on how they can collaborate on space activities. She has explained to Prof Jegede who is the incharge of the centre the activities in which she would like to collaborate with the centre

★ Establishment of space clubs in the six geopolitical zones of Nigeria.

★ Organize National Space Week/World space week

★ Organize Yuri's Night Celebration.

The NPoC for Burundi Mr. Bizimana has come to realize that In Burundi, a high proportion of people do not use ICT facilities particularly due to ignorance or the high poverty the country is facing particularly these days. This is serious problem that hamper the country sustainable development. He took some initiatives on the matter and came up with the Project Proposal and submitted it to the Bureau des Nations Unies au Burundi, Burundi UN office (BINUB) and other potential funders at national and international level.

The project proposal intends to help the Burundi youth in communes (Equivalent to counties) of the Bujumbura Province (the capital city of Burundi and suburbs) to access to updated Information and Communication Technology mainly through Internet Cyber cafes"

(Castory Ntullu, SGAC RC for Africa)

Upcoming Events

★ Deadline for the submission of paper manuscripts for the International Astronautical Congress 2008 Glasgow, is coming up on the 1st of September. More on www.iaac2008.org

The SGAC News team is recruiting!

We currently looking for volunteers that can

- ★ Help populate interesting news stories
- ★ Interview people with questions relevant to our SGAC community
- ★ Contribute astronomy facts for our 'in the skies' section
- ★ Finding a key issue/article we want to discuss with the members in our community
- ★ Help liaison with the SGAC Communication team in order to streamline the newsletter to requirements

This will allow volunteers to meet dynamic people & experts and interact with them on topical subjects of importance as young professionals and active space advocates.

Join us at news@spacegeneration.org

How can I play a part in making space happen?

SGAC is run by young people for young people. If you share our enthusiasm for space and a strong willingness to change what we do in space in the coming years, we would like to hear from you. If you would like to work with fellow space advocates from all over the world or would like to use some of your spare time, here's how you can help:

★ Become a National Point of Contact
Check out www.spacegeneration.org/regions. If your country does not have a NPoC, please email officer@spacegeneration.org

★ My country already has an NPoC...
★ Check out volunteer position listings at www.spacegeneration.org/volunteer
★ Find out what you can get involved in www.spacegeneration.org/activities

★ Studying marketing or good at strategic communications? Help us devise better communication tools
www.spacegeneration.org/node/34
★ Check our website for regular updates!

www.spacegeneration.org