March 2010

SGAC

Newsletter

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

The EXPLORE team (from left: Johannes Weppler, Christine Hill, Andreas Fink, Emil Nathanson, Robert Schelling, Jürgen Schlutz

Meet the EXPLORE team!

*** SGAC Releases the Full Version of the 2009 Annual Report * SGAC Welcomes a Team of Translators from All Six UN Languages * SGAC Co-Chair Publishes an Article on Space-Related NGOs in Capacity Building * Member of the Month March * News from Asia Pacific * The SGAC SPIDER Group Releases a New Paper**

Dear SGAC,

March is set to be another exciting month for SGAC. The organisation is ramping up Space Generation Congress organisation, working on completing a new website for the SGAC community, and representing at the UN COPUOS Legal Subcommittee at the end of the month.

We are also in the process of adding several new National Points of Contact and members which we are very proud of. We know all of the new leaders and members will help pull the young space community closer in all corners of the globe. Good luck in all of your endeavors and always feel free to contact the Executive Office for support!

Ad Astra! The Executive Office

SGAC Releases the Full Version of the 2009 Annual Report

The report includes country reports, project reports, and UN activities

Following on the executive summary released early last month, SGAC is proud to release the 2009 Annual Report.

SGAC Annual Report 2009 available here

This full version includes reports of SGAC and youth space activities from each of the regions and countries where SGAC is active. It also includes, reports from SGAC's key projects and SGAC's activities with the UN. The organisation is proud of what it has accomplished in 2009 from our community outreach activities to the annual Space Generation Congress and our other organisation-wide events. SGAC is looking forward to further growth and development in 2010 and encourages all to get involved!

The Executive Office would like to thank 2010 intern, Chris Vasko, for compiling the report as well as Alan Steinberg (NPOC USA) and Rishi Sharda (NPOC UK) for their aid in editing the document.

(Ariane Cornell, Executive Director SGAC)

SGAC Welcomes a Team of Translators from All Six UN Languages

As an international organisation, SGAC strives to optimize its communications to all its six regions, in order to share the ideas and accomplishments of the Space Generation. Faced with this challenge, the SGAC Public Relations (PR) and Communication Team has recently recruited a team of translators that will help the SGAC communicators reach all corners of the world. In addition to English, the translation team will fully represent the full six official languages of the United Nations.

The translators will work directly with the SGAC PR Lead, Oana Sandu, ensuring that the most relevant news and press releases, as well as important organisation presentations are translated in several languages so as to increase accessibility. For the time being, the languages in which translations will be available are: Arabic, Chinese, French, German, Russian and Spanish.

SGAC is pleased to introduce the translators that will help open SGAC to the full world of university students and young professionals in the space sector. For pictures of the new team members, please see the SGAC council page: **http://www.spacegeneration.org/council**

Ghanim Alotaibi (Arabic)

Yi Zhou and Yuqian Dong (Chinese)

Assad Anathallee (French)

Klaus Kornfeld (German)

Catherine Doldirina (Russian)

Ana Alexandra Pérez and Rossie Shaddock (Spanish)

You can read their bios online at:

http://www.spacegeneration.org/node/2761

(Oana Sandu, PR Lead SGAC)

SGAC Co-Chair Publishes an Article on Space-Related NGOs in Capacity Building Featuring SGAC

SGAC Co-Chair, Agnieszka Lukaszczyk, co-authors the article published in "Advances in Space Research"

SGAC Co-Chair, Agnieszka Lukaszczyk, has co-authored an article with Secure World Foundation Executive Director, Ray Williamson, on the role of space related NGOs in capacity building. The article has been published in the February 2010 edition of "Advances in Space Research" (Volume 45, Issue 3).

The abstract is below and the full version is available for review here.

"The Role of Space-related NGOs in Capacity Building"

Agnieszka Lukasczyk, Space Generation Advisory Council & Ray A. Williamson, Secure World Foundation

Non-governmental organisations (NGOs) play a unique role in international affairs, providing access to resources, expertise, and assistance to supplement State resources. Sometimes the diplomatic skills and unofficial access of NGOs to policymakers through Track Two diplomacy can move a previously stalled critical issue forward and assist policymakers from different to find common ground outside official channels. Because they work outside of official channels, they are not bound by State policy that may inhibit negotiations between States. Some also have a convening power that sometimes makes it possible for State representatives to meet space experts and each other for informal discussions on issues of mutual interest. Finally, NGOs can draw attention to issues that may be overlooked avoided by State organisations.

This paper will examine the ways in which NGOs can assist in building scientific, technical, educational, and governance expertise related to space and Earth science, technology and governance of space activities. In particular, it will explore and analyze the ways in which organisations such as the Space Generation Advisory Council, the Planetary Society, EURISY, and the Secure World Foundation contribute to building scientific capacity in developing nations.

(Ariane Cornell, Executive Director SGAC)

SGAC Inspires and Facilitates Space Involvement

While SGAC offers many opportunities for young space enthusiasts to become active in its own right, one important aspect and strength of the organisation also lies in its potential to inspire and to facilitate local, national and international projects. SGAC brings students and young professionals closer to industries and institutions, communicates programmatic and technical contents, and enables insight into ongoing discussions normally not available in the usual educational curriculum.

Through its own projects and activities like the UN COPUOS involvement or the Space Generation Congress, SGAC attracts the interest of individuals who want to pro-actively support space activities and utilization for the best of all mankind, and then shows them how to do that even beyond the SGAC owned framework.

As a recent example, three students of aerospace engineering from Germany attended the Space Generation Congress 2009 in Korea, kindly sponsored by our partners from the German Aerospace Center (DLR). However, it was through this interest and involvement with SGAC that they could also attend the International Astronautical Congress (IAC) and learned about the many opportunities for youth involvement around the world, some of them closer than they might have thought. One opportunity from DLR specifically caught their attention: the REXUS/BEXUS programming, offering flight opportunities for student experiment on research rockets and stratospheric balloons in a cooperation of DLR and the Swedish Space Corporation. They decided they themselves want to send an experiment to space!

While first project ideas were already discussed during the congress, these students teamed together with others in the following months to form a project group for a microgravity experiment named EXPLORE (EXPeriment for Liquid On-orbit REfueling), supported also by one of the German NPoCs. They conceptualized their idea for a December 2009 workshop with DLR, where their concept was chosen as one of the few to actually fly on the REXUS rocket in March 2011 from Kiruna in Sweden. Since then, the team is working hard on the realization of this dream, has passed a successful experiment review in Kiruna in early February and already gained sponsorship support for hardware and tests.

What does EXPLORE do? The experimental goal of the setup is to demonstrate an orbital refueling process, vital for the extensive future human and robotic exploration of our solar system, where transportation performance and reusability of assets is a critical capability. EXPLORE uses six transparent test chambers with connected gas reservoirs that will be filled from two central liquid reservoirs. The fuel transfer process is observed visually by a camera and through the recording of pressure and temperature data. The flow velocity profile will be varied for each chamber to identify optimal conditions for maximum chamber filling. The secondary outreach goal of EXPLORE is also to inspire others and to communicate space activities throughout its project life. For this purpose, a professional web presence has been established and various local and regional events are planned to promote the experiment and space exploration in general.

The EXPLORE setup will be integrated and extensively tested throughout the summer and fall months, with a delivery to the launch provider scheduled for November 2010. Everyone is most looking forward to the actual launch campaign, currently tentatively planned for March 2011. To find out more about the experiment, the involved people, the REXUS/BEXUS programme and for lots of pictures and impressions, check the website at: www.explore-rexus.de or email to: info@explore-rexus.de

All students are looking forward to increasing their involvement also with SGAC and other international players at SGC and IAC 2010 in Prague.

(Juergen Schlutz, NPoC Germany and EXPLORE Outreach Manager)

EXPLORE Images

The EXPLORE logo shows a stylized image series capturing the refueling capability as enabler for planetary exploration with rockets.

The EXPLORE team (from left: Johannes Weppler, Christine Hill, Andreas Fink, Emil Nathanson, Robert Schelling, Jürgen Schlutz

Andreas and Johannes inspect one of the REXUS experiment modules in Kiruna

3D view of the EXPLORE setup inside the REXUS experiment module

REXUS research rocket on the launch tower (Image: DLR)

REXUS launch from Esrange Space Center in Kiruna (Image: DLR)

All images courtesy of EXPLORE if not shown otherwise.

Member of the Month March 2010!

Oana is a communicator with a passion for astronomy, as much as she is an amateur astronomer with a passion for communication. She therefore combines the both and enjoys the ride!

Licensed in Communication and Public Relations, Oana is presently working in Bucharest for one of the leading PR Agencies in Romania and Eastern Europe. In addition to that, she has been heading PR for the Astronomy Club from Bucharest as well as for other international organisations or projects. She is also editor at Vega, an online astronomy magazine, and when skies are clear she loves hunting for Messier objects.

Juergen Schlutz, NPoC Germany, and Halit Mirahmetoglu of Turkey nominated Oana for Member of the Month March:

"Oana is and continues to be the voice of SGAC in her role of communications officer. She has taken considerable responsibility in her role as lead of the communication team. And even when considering the great team that works with her, she surely deserves the acknowledgement for all her dedication and continued efforts to make the voice of SGAC heard inside and outside of the organisation. The monthly SGAC newsletter is the most visible documentation of her work, bringing to us the regular updates on what is happening world wide in connection to SGAC. To collect and compile this information, Oana keeps motivating all SGAC members to contribute, while she always seems to be at close reach for direct mail communication. With her strong background in PR work, Oana brings a lot of experience and new creative ideas into SGAC, promising exciting times in the future.

Also personally, I have come to know Oana at SGC 2009 and she was definitely one of the new contacts that made the trip to Korea worthwhile. She is open-minded, friendly and fun to be around, so I am looking forward to many future meetings at SGAC events. Oana, keep going!" (Juergen Schlutz, NPoC Germany)

"Oana is a brilliant and hard working crew member who gives professional visibility and reliability into SGAC. I do appreciate to have her in this position and enjoy reading articles and newsletters that she leads to publish. Her work is beyond of expectations for a voluntary based non governmental organisation. She is also an active member of SGC committees and used to spend enormous amount of time to ensure updating blogs and collecting reports.

She has a high aptitude for amateur astronomy and very much involved in her work, applying herself with persistence and dedication and often going beyond the regular IYA2009 outreach activities. She inspires an unusual amount of trust from others with her work and personality. I would like to see Oana in front of the curtain this time as the member of the month and thank her on behalf of SGAC for her valuable effort." (Halit Mirahmetoglu of Turkey)

And here is our MoM March reaction:

"They say that PR efforts are hard to estimate. While it is true for the organisation, for the team behind to receive positive and encouraging feedback from colleagues is the best evaluation they could ever have. I am most happy that you see SGAC communication improving due to the involvement of the PR team. We are just at the beginning of our bold plans and I am positive that more and better is to come!

Personally, I am enjoying every moment spent collaborating with each of you and I am thrilled to be part of the space generation! Thank you!"

(Oana Sandu, SGAC PR Lead, Romania)

REGIONAL

Asia Pacific

The first quarter of the year was a busy period for Nepal Astronomical Society (NASO) with observational programs and conferences being organized throughout these months. Suresh Bhattarai SGAC NPOC of Nepal, and founder member of NASO, reports on the events.

On January 14, 2010, a talk program was organized by NASO at the Nepal Academy of Science and Technology (NAST), in Khumaltar. The topic was the longest annular eclipse of the millennium that was to occur on January 15, 2010. Er. Rishi shah, an academician from NAST and the president of NASO, explained the particularity of the annular solar eclipse that was to be partially seen from Nepal. Mr. Sudeep Neupane, Vice President of NASO and Mr. Suresh Bhattarai, Secretary of NASO went on to describe the history of eclipses, misconceptions regarding them and the safe techniques for observing such phenomena. Around 50 people, along with some media representatives had the pleasure to participate in the talk program.

Participants at the Solar Eclipse Observation Campaign

The following day, on January 15, NASO in collaboration with NAST organized the Partial Solar Eclipse Observation Campaign on the premises of NAST. The program, which attracted around 550 participants, was a huge success. It was fully broadcasted LIVE on Sagarmatha Television. Some of other news channels reporters, radio journalists and other media representatives were also present at the event. TV cameras were able to catch the moment of the eclipse, while the 14 DIN wielding glasses were used as filters. Apart from these filters, the partial eclipse could also be observed with solar glasses and through projection on pinhole cameras. NASO also used its 8" dobsonian telescope for an enlarged view of the eclipse along with sunspots.

To see the video clip of the event, please use the following link: http://www.youtube.com/watch?v=C0RTGVx2bP0.

The next solar eclipse can be witnessed by Nepalese eclipse enthusiasts in March 2016, however the eclipse will be marginally visible and it will appear very low on the horizon. In order to see an eclipse under good conditions from Nepal, Nepalese will have to wait until 26th of December 2019

Beauty Without Borders (BWB) is a project of Astronomers Without Borders and Sidewalk Astronomers, through which participants share the beauty of the celestial events with the general public. In January 2010, it was the turn of Planet Mars to be in the spotlights of events organized across the globe under the name “Hello Red Planet”. On January 29, 2010, from 6:30 pm to 9:00 pm, NASO arranged an observational program on the premises of H.B. complex, Lalitpur, part of the Beyond IYA2009 events organized in Nepal. The date chosen was the opposition of Mars. Apart from the beauty of the red planet, people could also enjoy the Moon, Orion Nebula (M42), Pleiades (M45), Andromeda Galaxy (M31) and other celestial bodies.

Last, but not least, on February 10, 2010, NASO organized an observational program at the Central Department of Physics at the Tribhuvan University in Kirtipur, Kathmandu, Nepal. Despite the quite disappointing weather on the previous day, it improved considerably the following day. From 3 pm to 8 pm, the long queue of observers waited eagerly to have a glimpse of the awe-inspiring star and its thrilling sunspots through telescopes equipped with solar filter. Professors and lecturers of Tribhuvan University also participated, among which there was the HOD of Physics, Prof. Dr. Lok Narayan Jha.

Participants at the star party from the Tribhuvan University

Along with Sun observations, a brief introduction to the celestial bodies and constellations was given. Additionally, there was a brief insight into Global Astronomy Month (GAM2010), which will take place this April across the globe.

As the Sun disappeared under the horizon and night sky slowly began to reveal its beauty, telescopes were pointed to the red planet, followed by the blue star - Sirius, the Orion nebula and other celestial bodies.

(Suresh Bhattarai, SGAC NPoC of Nepal, and founder member of NASO)

SGAC and Its Work Is Introduced to the Asia Pacific Regional Space Agency Forum (APRSAF)

In late January, SGAC's National Point of Contact for Thailand, Patthara Limsira, attended APRSAF's annual conference and presented on behalf of SGAC. Please see below for his report from the conference.

"From 25th - 29th January, 2010 was the sixteenth session of the Asia-Pacific Regional Space Agency Forum (APRSAF-16), under the main theme entitled "Space Applications: Contributions towards Human Safety and Security" in Bangkok, Thailand. In particular, I attended the Space Education and Awareness Working Group and represented the Space Generation Advisory Council (SGAC). I replaced Stephanie Wan to deliver a presentation on the "Youth for Global Navigation Satellite Systems (YGNSS) Project and the Asia Pacific" in the meeting.

For the SGAC YGNSS presentation please see here: **Youth for Global Navigation Satellite Systems (YGNSS) Project and the Asia Pacific"**

On the second day of the conference, I had a great opportunity to listen to a presentation from a Japanese astronaut during the Space Environment Utilization Working Group. Not only was it an excellent presentation but also it was a memorable moment for me, as it was my first time meeting an astronaut.

During APRSAF, I was able to bring a youth perspective, network, and help introduce SGAC to other participants. Among other young space topics, I made the suggestion for using internet social networks such as Facebook to bring the space awareness into the youth. I also made suggestions directly to APRSAF on how to improve next year's poster contest, "Space Technology to Help the Earth."

Evening receptions were perfect for talking to other participants from other working groups and other countries. I introduced them both to Thailand's space sector as well as SGAC. I was even able to recruit a new National Point of Contact for Singapore.
During APRSAF, I was even able to initiate discussions on establishing a formal relationship between SGAC and APRSAF. This would be an excellent development for SGAC in Asia. If things go well with APRSAF, SGAC could then investigate observer status of Asia Pacific Space Cooperation Organisation (APSCO).

Having participated in such a fruitful APRSAF-16, I am very much looking forward to APRSAF-17 in Australia. I hope by then that SGAC will have achieved APRSAF membership.

I would like to thank a few people who contributed to the success of my presentation and conference: Stephanie Wan, Muhammad Shafiq and Ariane Cornell.

For the full agenda of the conference please see here: **http://www.aprsaf.org/text/ap16_info_1.html#SEAWG**

Appendix – SGAC and Youth-Relevant Recommendations of APRSAF-16

[Space Education and Awareness]
19. Recommend that all countries and international organisations that participate in APRSAF should support space education efforts, to enhance the quality of education for young people at all educational levels and to contribute to human development at individual level;

SGAC presentation at the Asia-Pacific Regional Space Agency Forum

20. Agree that efforts should be further strengthened to provide support to school teachers to facilitate the integration of space subjects and materials into the school curricula by, among other things, increasing the availability of educational materials in local languages and providing more training opportunities for teachers in space education;

21. Agree that through APRSAF, space education activities should be expanded in terms of participation, type and funding sources and that those activities should contribute to global initiatives undertaken by entities of the United Nations system and other international organisations in areas relating to space education and awareness;"

(Ariane Cornell, Executive Director SGAC)

The SGAC SPIDER Group Writes a Paper that Reviews International Efforts by the Space Sector in Disaster Management and Highlights the Recent Applications in Haiti

Following the January 2010 earthquake in Haiti, the SGAC SPIDER Group has produced a document that reviews and emphasizes benefits of space-based applications in disaster management.

"Space Applications for Disaster Relief: The Haiti Earthquake Brief"

The document presents the efforts of the space sector to support the coordination of disaster response and recovery activities around the world and presents the relevant technologies. Efforts began in 1999 when the International Charter on Space and Major Disasters was created following the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) to act as a crisis response tool. Subsequently, in 2006, the United Nations Office of Outer Space Affairs (UNOOSA) implemented the United Nations Platform for SPace-based Information for Disaster management and Emergency Response (UN-SPIDER), a framework and information dissemination network. These international collaborative initiatives continue to work towards optimizing the use of today's space technology in disaster management.

To bring these international space-based disaster management initiatives and technologies to light further, the SGAC SPIDER group's paper includes a case study on the recent Haiti earthquake. In this particular situation, space technology enabled international bodies to disseminate information in real time, producing maps to show important data on survivors and damage. Space technology also provided vital communication links to Haiti to support governments, non-governmental organisations, media groups and relief teams as local the Global System for Mobile Communications (GSM) was incapacitated. These information dissemination and communication capabilities were complemented by the various space-derived technologies and tools used by the international earthquake recovery teams.

Space-based applications and services are therefore extremely important for emergency preparedness and recovery efforts. International organisations, space agencies, universities, and the people they serve have much interest in working together to bring space-based technology innovations to the service of communities that were, are or will inevitably be affected by disasters.

About the SGAC SPIDER Group:

Following a meeting of the Committee for the Peaceful Uses of Outer Space (COPUOS) in June 2009, the Space Generation Advisory Council (SGAC) created an ad hoc working group focusing on the UN SPace-based Information for Disaster management and Emergency Response (UN-SPIDER) activities. Since then, young volunteers from industry, academia, and governmental agencies have come together to see how greater awareness of UN SPIDER activities can be created, in the hope of helping communities in the world be better prepared for disaster situations. To this end, the SGAC SPIDER volunteers are currently working on researching the disaster management and emergency response practices in their respective countries, thereby creating national profiles to be referenced by the public. Anyone interested in volunteering their time are kindly invited to get in touch with the SGAC SPIDER group via its website: http://www.spacegeneration.org/spider they serve have much interest in working together to bring space-based technology innovations to the service of communities that were, are or will inevitably be affected by disasters.

(Ariane Cornell, Executive Director SGAC)

More on SGAC!

For more information on SGAC please visit www.spacegeneration.org

To contribute to next month's SGAC newsletter, please write to communications@spacegeneration.org by the 25th of the current month. Thank you!