

SPACE GENERATION ADVISORY COUNCIL 2009 ANNUAL REPORT



SPACE GENERATION ADVISORY COUNCIL
in Support of the United Nations Programme on Space Applications

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Contents

INTRODUCTION

Acronyms	3
About the Space Generation Advisory Council (SGAC).....	7
Message from the SGAC Co-Chairs	8
Message from the Executive Director of SGAC	9
Executive Review	10
Sponsors and Partners	12

SGAC BACKGROUND

History of the Space Generation Advisory Council	14
SGAC Leadership and Structure	15
SGAC Programme.....	16

THE ORGANISATION IN 2009

Goals and Strategy	18
SGAC Global Activity Highlights	21
United Nations Report	26
UN COPUOS and Subcommittees	26
UN Economic and Social Council.....	27
Attending the General Assembly at UN Head Quarters in New York.....	28
Treasurer's Report	30
Communications and Public Relations Team Report.....	31

SGAC SPOTLIGHT CONFERENCES AND PROJECTS

Youth for GNSS.....	34
SGAC Ad-Hoc Team on Disaster Management, Risk Reduction and Capacity Building	36
Near Earth Object (NEO) Working Group	38

SGAC REGIONAL ACTIVITIES

SGAC Regional Activities	41
Maps of SGAC Regions and Represented Countries	41
Regional and National Reports	42



Africa	42
Asia Pacific.....	52
Europe	80
Middle East	113
North, Central America and the Caribbean	123
South America.....	132
Space Generation Congress 2009, Daejon, Korea	149
10 Year Anniversary Conference	152
Appendices.....	156
Appendix A: Financial Tables and Details	156
Notes to and Forming Part of the Accounts	158
Committee's Declaration	158
Appendix B: Additional SGAC Websites	160
Appendix C: SGAC 2008 Executive Team	161
Appendix D: SGAC 2009 National Points of Contact.....	164
Acknowledgements.....	167



Acronyms

SGAC	Space Generation Advisory Council
AAA	Afghanistan Astronomical Association
ACARE	Advisory Council for Aeronautics Research in Europe
ACEMA	Asociación de Cohetería Experimental y Modelista Argentina (Argentinien Association for experimental and model Rocketry)
AFCODEV	Action for Community Development
ARCSSTE-E	African Regional Centre for Space Science Technology Education in English
ARISS	Amateur Radio on the International Space Station
ASF	Austrian Space Forum
BRITE	Bright Target Explorer
C&PR	Communications & Public Relations team
CBNR	Chemical, Biological, Radiological and Nuclear
CCE	Columbia Space Commission
CDM	Comprehensive Disaster Management
CFISU	Canadian Foundation for the International Space University
CNES	Centre Nationale D'Études Spatiales
COSPAR	Committee on Space Research
CSA	Canadian Space Agency
CSA	Chinese National Space Administraion
CSS	Canadian Space Society
DLR	Deutsches Zentrum für Luft und Raumfahrt (German Aerospace Centre)
DLRK	German Aerospace Conference
DMC	Disaster Monitoring Constellation
ECOSOC	Economic and Social Council
EDA	European Defense Agency
EGU	European Geophysical Union
ESA	European Space Agency
ESEO	European Student Earth Orbiter
ESO	European Southern Observatory
ESF	European Science Foundation
ESMO	European Student Moon Orbiter
ESPI	European Space Policy Institute
EURISY	European Association for International Space Year
EVE	Earth Venus Explorer
EXA	Ecuadorian Civilian Space Agency
GAC	Gmes Advisory Council
GAIA	Globales Astrometrisches Interferometer für die Astrophysik
GSA	Global Navigation Satellite Systems Supervisory Authority



GEOSOC	Geological Society
GISTDA	Geo-Informatics and Space Technology Development Agency
GMES	Global monitoring systems
GNSS	Global Navigation Satellite Systems
GTPP	Galileo Teacher Training Programme
GYSD	Global Youth Service Day
HAAC	Hochiminh Amateur Astronomy Club
HAS	Hochiminh Astronomical Society
HOU	Hands on Universe
IAA	International Astronautical Association
IAC	International Astronautical Congress
IAF	International Astronautical Federation
ICG	International Committee on GNSS
ICMEE	Institut de Mécanique Céleste et de Calcul des Ephémérides
IEEE	Institute of Electrical and Electronics Engineers
IHY	International Heliospheric Year
INSPIRE	Infrastructure for Spatial Information in the European Community
ISRO	Indian Space Research Organisation
ISU	International Space University
IUCAA	Inter-University Centre for Astronomy and Astrophysics
IYA	International Year of Astronomy
JETRO	Japan External Trade Organisation
JSEA	Japan Space Elevator Association
KNRO	Kuwait National Radio Observatory
LEEM	Laboratory for Space and Microgravity Research
LOC	Local Organising Committee
M3	Moon Mineralogy Mapper
MDG	Millennium Development Goals
MIP	Moon Impact Probe
MRP	Manned Rocket Project
MSS	Master Programme on Space Sciences
NASO	Nepal Astronomical Society
NAST	Nepal Academy of Science and Technology
NEO	Near Earth Objects Legal Aspects Conference
NGOCN	Non Governmental Organisation Development and Communication Network
NMST	National Museum of Science and Technology
NPoC	National Point of Contact
NSF	National Space Foundation
ODA	Official Development Aids
OOSA	Office of Outer Space Affairs
PGWWDA	Programme Group for the Worldwide Development of Astronomy
RC	Regional Coordinator



ROSA	Romanian Space Agency
SCINDA	Scintillation Network Decision Aid
SCOPE	Stabilized Camera Observation Platform Experiment
SCST	Supreme Council of Science and Technology
SEDS	Students for the Exploration and Development of Space
SETI	Search for Extraterrestrial Intelligence
SGC	Space Generation Congress
SGF	Space Generation Forum
SLASA	Sri Lanka Space Agency
SNSB	Swedish National Space Board
SPoC	Single Point of Contact for the IYA 2009
SSHRC	Social Sciences and Humanities Research Council
SSTAG	Space ST Advisory Group
SSTL	Surrey Satellite Technology Ltd.
STEP- Nepal	Society for Empowerment-Nepal
STI	Space Technology Institute
STSJ	Space Tourism Societ Japan
TAD	Teaching Astronomy for Development
TUBITAK	Technological Research Council of Turkey
TWAN	The world at night
UN	United Nations
UN COPUOS	United Nations Committee on the Peaceful Uses of Outer Space
UN GA	United Nations General Assembly
UN-SPIDER	UN Space-based Information for Disaster Management and Emergency Response
UNIDIR	United Nations Institute for Disarmament Research
UNISEC	University Space Engineering Consortium
UNISPACE III	Third United Nations Conference on the Exploration and Peaceful Uses of Space
WSW	World Space Week
YGNSS	Youth for Global Navigation Satellite Systems



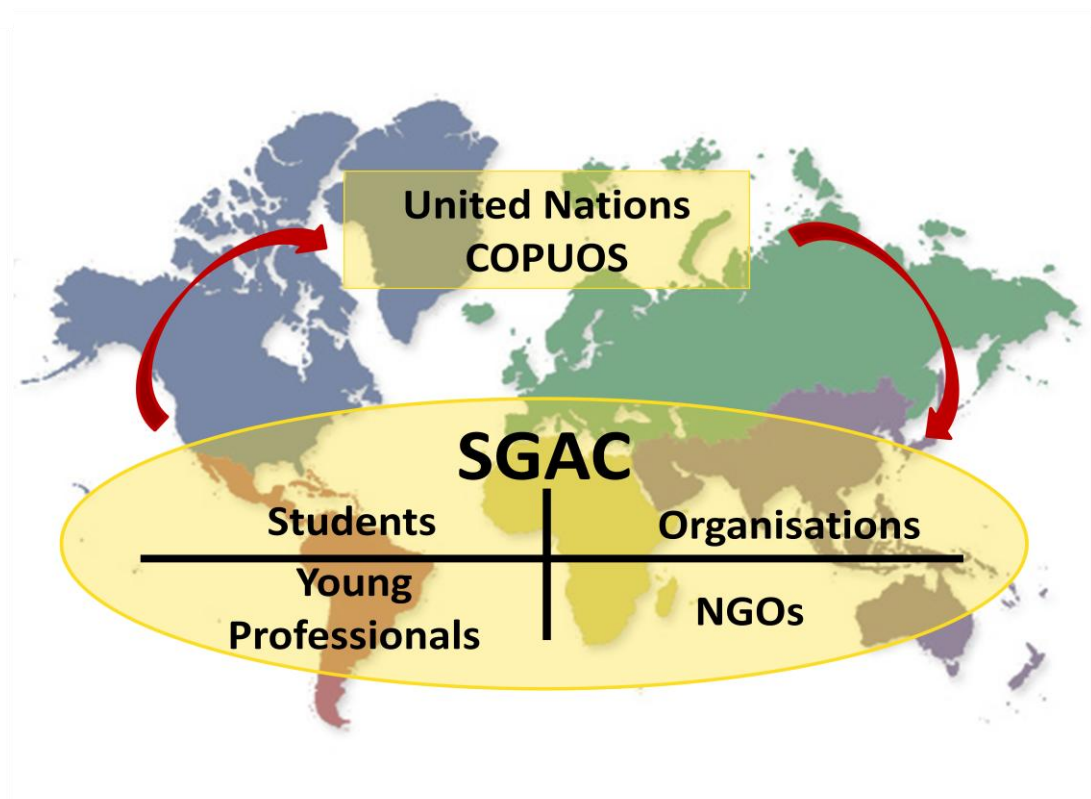
INTRODUCTION



About the Space Generation Advisory Council (SGAC)

The Space Generation Advisory Council in support of the United Nations (UN) Programme on Space Applications (SGAC) is a non-governmental organisation that aims to represent university students and young space professionals to the United Nations, Nation States, space agencies and other organisations in the space community.

SGAC has permanent observer status in the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS). SGAC has a long history and was conceived at the Third United Nations Conference on the Exploration and Peaceful Uses of Space (UNISPACE-III) in Vienna in 1999. The SGAC Executive Council is made up of representatives from each of the six UN regions, and has a larger body of representatives from nation states. Our focus is on pragmatic space policy advice to policy makers based on the interests of the global community of university students and young professionals, broadly in the age range 18-35, interested in space. SGAC currently has 4,000 students in roughly 90 countries.



The interaction between the SGAC, its member organisations and people, and the information flow between UN COPUOS

Message from the SGAC Co-Chairs

Dear members, sponsors and supporters,

2009 has been a productive year for SGAC. We have continued to consolidate the foundations of the organisation through improved finances, new staffing and more effective processes. We believe that our achievements in this area in 2009 will allow our members in 2010 to take better advantage of all that SGAC has to offer. Our annual conference, the Space Generation Congress, took place in Daejeon, Korea and was one of our most successful events to date. A key highlight from the Congress was that SGAC provided a record 21 scholarships – many to delegates from developing countries. Our projects also continued to be a core part of our work, and we hope to expand on these in 2010. Overall in 2009, we feel that we have accomplished key steps for future success!

We, the Co-Chairs, and the rest of SGAC team would like to thank all those who have supported us over the last year. SGAC has benefited greatly from the openness of many top diplomats, policymakers, and other space sector leaders who engage with the organisation and its members. We would like to extend a special “thank you” to Ambassador *Ciro Arévalo*, Chair of the United Nations Committee on the Peaceful Uses of Outer Space. During his time as Chair, Ambassador Arévalo has been a strong supporter of the space policy voice of students and young professionals around the world.

We would also like to thank our supporters, financial and intellectual. SGAC could not serve the young, international space community without you. The input that our membership receives from experienced space policy is critical in assisting them to refine their thoughts on the key space policy topics of the moment. We hope to expand on these most fruitful relationships.

Lastly, we would like to recognize our members. It is the passion, engagement and vision of our 4,000 members in 90+ countries that make up the backbone of current and future success for SGAC. This year SGAC celebrated its ten-year anniversary. This ten-year milestone also marked the fact that SGAC has now supported more than one generation of young space policy professionals. We hope that as SGAC matures, working with our growing alumni network and new membership, we will continue to undertake exciting projects and work for the voice of students and young professionals in space policy!

Many thanks and we look forward to working with you in 2010!

Ben Baseley-Walker and Agnieszka Lukaszczyk, SGAC Co-Chairs



Message from the Executive Director of SGAC

Dear all,

2009 was an extraordinary year for SGAC. In its celebratory tenth year, SGAC demonstrated both its maturity and its continued growth. Stepping up from an ever solidifying base, in 2009, SGAC made progress in all areas of the organisation including, finances, structure, partnerships, and activities.

Financially, SGAC had a successful year with generous backing from our sponsors. Because of this, SGAC spending increased 65% — the primary component of which being scholarships for our members. In January, SGAC helped bring two Asian members to the International Year of Astronomy's (IYA's) opening ceremony in Paris, France. In June, SGAC supported nine members from eight countries to come to Vienna, Austria to contribute to SGAC's 10 Year Anniversary Conference and the United Nations Committee on Peaceful Uses of Outer Space annual meeting. In September, SGAC sponsored YGNSS Project Lead, Stephanie Wan, to attend the ICG-4 meeting in St. Petersburg, Russia. Finally, in October, SGAC ended the year on a high note by supporting a ground-breaking 21 members to attend the Space Generation Congress (SGC) in Daejeon, Korea. This is more than twice SGC's previous scholarship records.

In addition to improved finances, SGAC leadership team made progress in 2009. In March, former Executive Officer, Agnieszka Lukaszczyk was elected to join Ben-Baseley Walker as Co-Chair of SGAC. In the transition, the Executive Officer position was developed into the Executive Director position. Also joining the Executive Office was the new Public Relations and Communications Lead, Oana Sandu. She and her team have been a great asset showcasing SGAC's activities to the public. SGAC has also been strengthening externally, growing its connections to others in the space sector in 2009. This year SGAC reinforced its already close ties to many of its key supporters and partners. These partners have been of great support to both the growth and intellectual development of SGAC and its members. For this, SGAC is very grateful and is looking forward to expanding on these relationships in the future.

Last, but certainly not least, SGAC in 2009 held events that demonstrated well its outreach capabilities from the international to the grassroots to level. All year long, SGAC contributed to the IYA. In June, SGAC's 10 Year Anniversary Conference brought together original members, current members, and outside supporters to examine the youth's role in the future decade of humans' development in space. SGAC produced the Youth Vision for the Next Decade to report the results of these discussions. In October, SGAC's Space Generation Congress in Daejeon, Korea was a grand success with 75 attendees from 32 countries. The delegates' discussions during this conference were captured in five widely disseminated reports. Finally, throughout the year, SGAC members around the world continued to organise space events in their regions

Together, the SGAC community was very active in 2009. As an organisation, the output generated in 2009 shows that it is gaining strength, even in its tenth year. The executive office is looking forward to continuing this upward trajectory for SGAC in 2010 and invites all to get involved!

Warm wishes for 2010,

Ariane Cornell, SGAC Executive Director



Executive Review

Organisational Development

- Finances: SGAC's increased fundraising allowed for a 65% increase in spending over 2008 and left SGAC's books to be balanced for 2009
- Team Changes:
 - Agnieszka Lukaszczyk served as Executive Officer through March, when she was elected in March as SGAC's new Co-Chair. In the transition, the Executive Officer role was developed into the Executive Director role, a position with expanded responsibilities.
 - Ariane Cornell was hired as the new Executive Director.
 - SGAC welcomed two new Executive Secretaries: Maria-Laura Voda and Jeffrey Riviera.
 - Oana Sandu and Kerem Koker were appointed as the Lead and Co-Lead, respectively, of the Public Relations and Communications Team.
 - Five new Regional Coordinators (RCs) and numerous new National Points of Contacts (NPoCs) were added.

Space Generation Congress

The 8th annual SGC was held on the 8th to 11th October in Daejeon, South Korea

- Delegate statistics: 75 delegates represented a total of 32 countries from six continents, with 40% of the attendants being female; 21 of the attendees received SGAC scholarships.
- This year, five topics were covered and worked upon; for more, see the SGC section below.
- SGAC continued its participation in the IAC and the UN / IAF workshop.

Projects & United Nations Work

- Youth for Global Navigation Satellite Systems (YGNSS or "Why GNSS?") contributed to a series of conferences and meetings, including the International Committee on GNSS (ICG-4) in St. Petersburg, Russia.
- SGAC SPIDER: The new SGAC team recruited a number of specialists to prepare for future activities based on space applications for disaster management.
- Near Earth Object (NEO) Working Group: The SGAC group contributed to the 1st International Astronomical Association (IAA) Planetary Defence Conference in April 2009 and held its second annual a competition on how to move an asteroid.
- United Nations Report: SGAC participated in the UN COPUOS main meeting and the two COPUOS subcommittee meetings as well as the UN General Assembly.

Regional Roundup

- Africa: Despite regional challenges and difficulties in communication, 14 countries are represented and many outreach activities were organised.
- Asia Pacific: This region continues to with strong contributions to SGAC, representing a dynamic and growing region of space activities.
- Europe: SGAC's 50 Years Vision document was presented at various occasions throughout the region and SGAC participation at various conferences continues at a high rate.



- Middle East: The excellent work and motivation of SGAC members were recognized with awards and increasing number of scholarships to international conferences.
- North, Central America and the Caribbean: The region continued a great effort in promoting YGNSS by attending a series of conferences and meetings.
- South America: SGAC continues to expand and develop its first media contacts in the region.



Sponsors and Partners

The Space Generation Advisory Council would not have been able to provide all of these opportunities for our members in 2009 without the generous backing of our sponsors. This year our sponsors went further than before and provided subject matter experts, speakers, reports, data, and other support to the intellectual content of SGAC. SGAC would like to thank them for their contributions to one of the most successful years in SGAC history.



Promoting Cooperative Solutions for Space Security



Mr. Julio Aprea
Ms. Cynda Collins Arsenault
Mr. Norbert Frischauf
Dr. William Marshall
Mr. Shaun Wilson

Mr. Ian Bryce
Dr. Peter Diamandis
Mr. Yukiko Kodachi
Mr. Florian Renk
Ms. Charlotte Mathieu

Mr. A. C. Charania
Mr. Daniel Faber
Mr. Trond Krove
Mr. Kevin Stube



SGAC BACKGROUND



History of the Space Generation Advisory Council

As part of UNISPACE III¹, alumni of the International Space University² (ISU) organised and convened the Space Generation Forum (SGF). The aim of the forum was to express the visions and perspectives of youth with regards to future space activities. This evolved to include youth input and recommendations into the deliberations of the UN at UNISPACE. Over 160 young people from 60 countries attended the forum, which ran parallel to the UNISPACE III proceedings.

One of the recommendations was *"To create a council to support the United Nations Committee on the Peaceful Uses of Outer Space, through raising awareness and exchange of fresh ideas by youth. The vision is to employ the creativity and vigour of youth in advancing humanity through the peaceful uses space."*

Five of the top ten recommendations (indicated in **bold** below) from the SGF Technical Report³ were integrated into UNISPACE III's final report, the Vienna Declaration on Space & Human Development⁴:

- A Global Space Education Curriculum
- **Priority Access to Mobile Satcom Network for Disaster Emergency Management**
- International Space Authority
- **SGF Follow-up**
- **Establishment of an International Centre for Space Medicine**
- International Space Chamber of Commerce
- **Action Plan for Meeting the World's Basic Needs through Technology**
- Nobel Space Prize
- **UN Space Advisory Council**
- Planetary Defence/Protection

¹UNISPACE III <http://www.un.org/events/unispace3/>

²International Space University <http://www.isunet.edu/>

³Space Generation Forum technical report

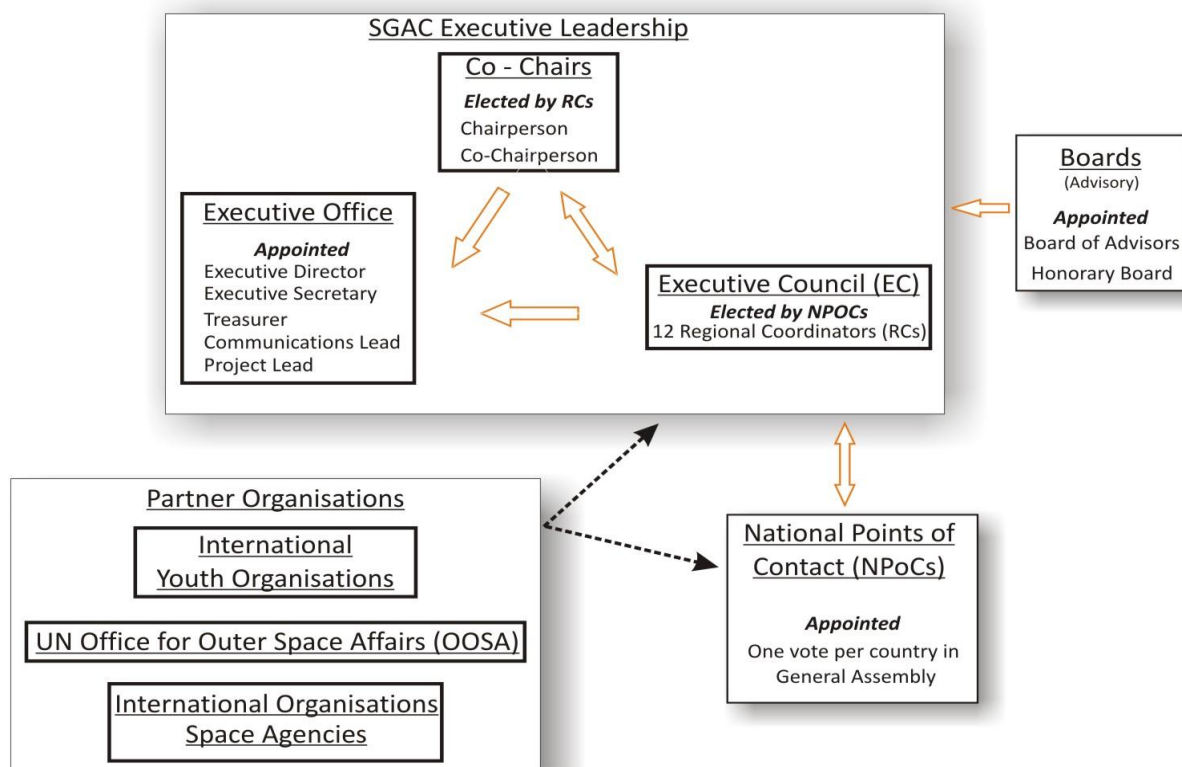
<http://www.spacegeneration.org/downloads/documents/UN/sgf-technical-report-july-1999.pdf>

⁴Vienna Declaration on Space & Human Development

<http://www.unoosa.org/pdf/reports/unispace/viennadecIE.pdf>



SGAC Leadership and Structure



SGAC Programme

Space Policy

Past SGAC achievements include the Vienna Declaration (1999), creation of Latin-American Space Association ALE (2000) and the Space Association of Turkish States SATS (2001), the Space Policy Summit (SPS) (2002), the EU Green Paper Submission (2003), and *"The Youth Space Vision for the Next Decade"* (2009).

In 2009, SGAC continued to have an observer presence and input to the 46th meeting of the Scientific and Technical Subcommittee in February, the 48th session of the Legal Subcommittee at the end of March and the 52nd Session of COPUOS in Vienna in June, 2009.

Space Education & Outreach

Space outreach was once again a primary SGAC activity uniting SGAC members worldwide. This year many SGAC members participated in and organised space education and outreach events in their respective countries. As in former years, in 2009 SGAC was able to obtain funding for several students from the developing countries to attend international conferences and workshops such as, the SGC and IAC (with ground-breaking 21 scholarships), 10 Year Anniversary Conference of SGAC, the opening ceremony of the IYA 2009, UN COPUOS and many more.

International Cooperation

International cooperation is more of a deeply embedded philosophy than a programme. SGAC Members have worked together to advance space projects more efficiently - time and money was saved by not reinventing the wheel. The global network enabled many proven concepts to be brought from one country to another and international collaboration was enhanced.

Space Generation Network

The Space Generation continued to expand in 2009 with the addition of many new National Points of Contact around the world. At the end of 2009, 58 of our roughly 90 countries are represented by National Points of Contact. Significant discussions were held on the TALK e-mail list and connections were made between individuals and groups. Many international collaborations have developed as a result.



THE ORGANISATION IN 2009



Goals and Strategy

At the beginning of 2009, the Space Generation Advisory Council set nine strategic goals to achieve during the year in three areas: increased representation, strengthened network, and a robust administration. Below is the SGAC Executive Office's evaluation of our success in doing so.

Increased Representation

1. Be represented at more meetings by more young professionals

In 2009, SGAC is proud to have provided a platform for many of our members to express their opinions at several high-profile events and meetings. SGAC projects, such as the 50 Years Visions Project and the Youth for Global Navigational Satellite Systems Project, in particular, were showcased at multiple conferences around the world. Moreover, SGAC provided for our members not only the platform but also the financial means to attend conferences. In June, SGAC provided eight scholarships to members from five continents to join us at our 10 Year Anniversary Conference and the United Nations Committee on the Peaceful Uses of Outer Space in Vienna, Austria. In October, SGAC helped provide scholarships for 21 members from six continents to attend our annual Space Generation Congress and the International Astronautical Congress (IAC) in Daejeon, South Korea. In this respect, 2009 has been a breakthrough year for SGAC, as the organisation has never had the opportunity to offer so many scholarships to our top performing members. Below is a sample of the events where SGAC was represented:

European Geophysical Union's Annual Conference (Austria), United Nations Committee on the Peaceful Uses of Outer Space (Austria), Legal Subcommittee and Science and Technology Subcommittee of UN COPUOS (Austria), United Nations General Assembly (United States), The National Space Foundation's National Space Symposium (United States), European Space Policy Institute General Assembly (Austria), European Space Policy Institute Young European Space Agency (ESA) Event (Austria), International Congress on Global Navigation Satellite Systems (Russia), International Astronautical Congress (South Korea), European Science Foundation's Humans in Outer Space Conference (Spain), International Space University's 13th Annual Symposium (France), Official Inauguration Ceremony of the International Year of Astronomy (France), United Nations / International Astronautical Federation Workshop (South Korea), Caribbean Conference on Comprehensive Disaster Management (Jamaica), and the Near Earth Objects: Risks, Responses, Opportunities – Legal Aspects Conference (United States).

Marks: 8/10

2. Improve relationships with space agencies

Over the last year, we have spent significant amounts of time investigating how we believe that we can best contribute to the work of national and regional space agencies around the



world. We have found this process to be time-consuming but valuable. This year we focused on improving our relationships with the National Aeronautics and Space Administration and the European Space Agency. We feel that we are starting to gain traction and create avenues for our members to have effective engagement with both agencies. This gain is evidenced by the fact that both NASA and ESA sponsored sessions at the 2009 Space Generation Congress. Additionally, some SGC participants were drawn from space agencies. We hope to continue the budding relationships we have started and to expand out our approach to the space agencies of other countries over the coming years.

Marks: 7/10

3. *“Re-launch”* at Space Generation Congress 2009 in Daejeon, South Korea

We believe that SGC 2009 was a success. Of recent conferences, we believe that this was the most professional, high calibre event that SGAC has produced. First, the delegates that attended were of a superior quality. Second, the intellectual and substantive output was a clear success. Third, we effectively recruited sponsors and provided them with tailored sessions that culminated in a product and many ideas for future work. Finally, and above all, the 21 SGC 2009 scholarships we gave out were more scholarships than SGAC has ever given before. Many of these scholarships were to students from developing countries. We still think that there is significant room for improvement, but we believe that we have established a model and structure that can be applied to future events and that will stand us in good stead for SGC 2010.

Marks: 8/10

Strengthened Network

4. Rejuvenate NPoC and RC network

This goal was not prioritized in 2009. As an organisation, we continued to focus on building strong foundations for the Executive Office and the organisation as a whole in terms of credibility, durability and effectiveness. When we examined this issue in depth, we considered that without these elements and without the improved communications infrastructure, we are in the process of building, we would not be able to accomplish this goal effectively. As we enter 2010, we have already overcome many of the limitations to success we felt in 2009. As such, we have included this as achievable goal in our 2010 strategy.

Marks: 0/10

5. Constitute an Advisory Board

During 2009, we have identified key players who we believe are of value to our Advisory Board. We have sent out board invitations and are awaiting responses. We hope to convene the first Board meeting in the first quarter of 2010.

Marks: 6/10



6. Improve organisation of country and issue events

This is still an area where SGAC needs to improve. Closely connected with strengthening our RC and NPoC network, developing country and regional events is another goal that we felt needed to be delayed as we focused on developing strong foundations at the organisational level. The new foundation will allow SGAC in 2010 and beyond to facilitate and support more of these country and regional events.

Marks: 0/10

Robust Administration

7. Incorporate SGAC US into organisational structure

During 2009, SGAC and SGAC US worked closely to come to an agreement on incorporation of SGAC US into the SGAC structure. With the efforts of Loretta Hidalgo-Whitesides and Lance Bush, members of the SGAC US board, we have developed a plan of action. Due to its size and success, Yuri's Night will be spun-off into a separate non-governmental organisation. We are proud that it came from SGAC and continues to be growing, successful undertaking. Due to the complexities of the legal and financial of incorporation, we are still working through the details. We hope to have this process completed by mid-2010.

Marks: 6/10

8. Recruit and Hire a New Executive Officer

SGAC hired Ariane Cornell in 2009 as our Executive Director. She has been an unqualified success. The support she has given the organisation and her outreach and engagement with members, policymakers and supporters alike has been an immense asset. We accomplished a smooth handover between Agnieszka Lukaszczyk, former Executive Officer and current Co-Chair.

Marks: 10/10

9. Improve support for the SGAC Communications Director

In 2009, we acquired a new SGAC Communications Director, Oana Sandu. In addition, we created an expanded communications team to support the role of Communications Director. This expanded team accomplished much. Our branding, output and image have been standardized. Our press coverage has been increased, and our publications have been improved. We consider that this streamlining of the SGAC external image has been of great value, and we believe we have laid the foundations for solid capacity for the organisation over the coming years.

Marks: 9/10



SGAC Global Activity Highlights

The Space Generation Advisory Council closed its first decade with a year of concerted activity. Mirroring the trend of expanding international space collaboration, 2009 was a year where SGAC began to reach out from its solidified base. The increase in quality conferences, papers, and outreach activities from SGAC members in all six SGAC regions – all developed into input for the United Nations – is indicative of the organisation's progress.

SGAC Organisation-Wide Highlights

- SGAC held its 10 Year Anniversary Conference from the 6th to the 7th of June in Vienna, Austria to celebrate, examine, review, and analyze the Council's past, present, and future. Attended well by past SGAC members, current members, and various international supporters, the conference reflected the unique enthusiasm and drive of the organisation. Members from Brazil, Colombia, Pakistan, Bulgaria, Tanzania, Romania, and Iran were fully funded by SGAC to participate.
- In light of its ten year anniversary, SGAC produced *"The Youth Space Vision for the Next Decade: Looking Back to Look Forward"* report. This document is a youth vision of the political development of the "spacescape" in the next decade. This vision includes a description of the roles the youth and the Space Generation Advisory Council would like to play. Ideas were developed from the Space Generation Advisory Council's Ten Year Anniversary Conference that reviewed the past ten years and assessed the coming decade.
- SGAC organised its annual Move an Asteroid Competition with the support of A.C. Charania and SpaceWorks. The winner - Sini Merikallio (Finland) wrote a paper titled, *"Moving an Asteroid with Electric Solar Wind Sail"*. The goal of this competition was to develop innovative and credible planetary defence solutions by describing in technical detail how to move an asteroid or comet that is at least 140 meters in diameter. The prize for the competition covered lodging and registration for the Space Generation Congress 2009 and International Astronautical Congress as well as a flight to South Korea for the events.
- SGAC's Near Earth Object (NEO) Working Group released a film about NEOs and planetary defence. The volunteer made documentary presents the opinions of international experts on issues surrounding defending Earth from asteroid and comet impacts.

Executive Office Highlights

- Agnieszka Lukaszczyk served as Executive Officer through March, when she was elected in March as SGAC's new Co-Chair. In the transition, the Executive Officer role was developed into the Executive Director role, a position with expanded responsibilities.
- SGAC hired Ariane Cornell as the new Executive Director for the organisation.
- SGAC Co-Chair, Agnieszka Lukaszczyk, co-edited *"Threats, Risks and Sustainability - Answers by Space"* book published by Springer.
- SGAC welcomed two new Executive Secretaries: Maria-Laura Voda and Jeffrey Riviera (Guatemala).



- Co-Chair, Agnieszka Lukaszczyk, made a Statement to the Scientific and Technical Subcommittee of United Nations Committed on the Peaceful Uses of Outer Space in addition to two technical presentations from SGAC leaders (see Middle East and North, Central America and Caribbean sections for details).
- Projects Coordinator, Alex Karl, published on behalf of SGAC in the latest United Nations Institute for Disarmament Research (UNIDIR) issue of the "*Disarmament Forum*."
- International Astronautical Federation interviewed the SGAC Co-Chair, Agnieszka Lukaszczyk, in its latest "*Focus On*" issue regarding the SGAC.
- SGAC was invited to present one of its highlight projects, the "*Visions for the Next 50 Years*" at the General Assembly of the European Geophysical Union (EGU). Executive Director, Ariane Cornell, presented the results of the project and networked to a variety of scientists from all over the world.
- Chair, Ben Baseley-Walker, gave a presentation to UN COPUOS which highlighted the organisation's 10 year anniversary. It was a well-received presentation that reviewed the organisation's origins, current statistics, and products.
- Co-Chair, Agnieszka Lukaszczyk also made a statement to UN COPUOS that highlighted not only the basis, history, and values of SGAC but also brought to the Committee's attention SGAC's very special 10-year milestone.
- Following the SGAC 10 Year Anniversary Conference, SGAC Executive Director, Ariane Cornell, delivered a presentation on the results to COPUOS.
- SGAC Executive Director, Ariane Cornell, addressed the European Space Policy Institute's (ESPI's) General Assembly. In her 20 minute presentation, she described SGAC's origins, its current purpose and products, as well as how it is working on developing its partnerships with outside organisations. The presentation was another event that continues to demonstrate the close relationship between SGAC and ESPI, who hosts SGAC's headquarters in Vienna, Austria.
- SGAC appointed Oana Sandu and Kerem Koker as the leads of the Public Relations (PR) and Communications Team.
- The SGAC Executive Council decided to acknowledge one member per month for his or her outstanding work and contributions to SGAC and its goals.

African Region Highlights

- Castory Ntullu, Regional Coordinator from Africa and National Point of Contact of Tanzania, was awarded a full scholarship to attend the SGAC 10 Year Anniversary Conference in Vienna, Austria.
- Michael Kio, RC from Africa, and Susan Murabana (Kenya), NPoC of Kenya, were both awarded SGAC Young Leader Awards. The prizes included a fully-funded trip to South Korea for SGC 2009.
- Led by Eric Aikins (Ghana), SGAC member and Lecturer in the Geography and Regional Planning Department at Cape Coast University in Ghana, SGAC co-organised an outreach event with the university's Geographical Society. Eric both gave an overview of SGAC and lectured on "*The Role of Remote Sensing in Space Activities and Its Relevance to the Society*."



Asia Pacific Region Highlights

- SGAC participated in the Official Inauguration Ceremony of the IYA at UNESCO. This event was a key highlight for SGAC IYA Essay Competition Winners - Miftachul Hasana (Indonesia) and Ajit Padmanabham (India), who were awarded a travel grant and participation by UNESCO. The winners also were hosted by the Local Organising Committee (LOC) and attended the International Astronomical Union Symposium on *"Role of space in society and culture."*
- SGAC held its annual Space Generation Congress in Daejeon, South Korea.
- SGAC supported 21 international scholarship winners to go to SGC 2009. Generous funding from this year's sponsors allowed the organisation to help many bright students and young professionals to attend one of the best SGC events ever. Each of the winners received lodging, round trip airfare, and SGC 2009 registration fees for their trip to Daejeon.

European Region Highlights

- SGAC's Andrew Bacon (United Kingdom) and Tejal Thakore (India) were funded to attend the 1st International Academy of Astronautics (IAA) Planetary Defence Conference hosted by the International Academy of Astronautics in Granada, Spain.
- SGAC made two poster presentations the 13th Annual International Space University Symposium: *"The Necessity of Space Situational Awareness for the Success of Future Space Utilization"* and *"GNSS beyond Navigation."*
- Co-Chair, Agnieszka Lukaszczyk, presented SGAC's 50 Years Visions Project at the Humans in Outer Space Conference organised by the European Science Foundation in La Palma, Spain.
- SGAC's 50 Years Visions Project contributed to the European Space Agency-Centre National d'Études Spatiales (ESA-CNES) Seminar. The ESA-CNES Seminar was an invite-only workshop which collected individuals from key organisations within Europe to provide input to a cross-European long term. SGAC's Bijal Thakore (India), who leads the 50 Years Visions Project at SGAC, gave a presentation under *"The Young People's Views"* to kick start a process of radical ideas and future strategies to really break present day barriers
- The German Aerospace Centre (DLR) and SGAC awarded Andi Fink (Germany), Christine Hill (Germany), and Emil Nathanson (Germany) three fully paid scholarships to the 2009 Space Generation Congress. Each of their backgrounds and applications showed the motivation and vision that truly represent the leaders that DLR and SGAC strive to support. For this, SGAC is very excited to offer these candidates this scholarship. DLR generously contributed funds to cover the flights while SGAC covered lodging and registration fees for the three winners.
- Yann Lorber (France) created a fresh, new look for the United Nations World Space Week (WSW) website to win a competition, supported by UN Office of Outer Space Affairs and SGAC. The Space Generation Advisory Council teamed up with the Office of Outer Space Affairs (OOSA) to provide the winner with a fully-funded round-trip to the 2009 International Astronautical Congress and Space Generation Congress. The prize covered the return airfare to Daejeon, South Korea registration fees for the Congress, hotel accommodation and a subsistence allowance.



Middle Eastern Region Highlights

- Former Regional Coordinator for the Middle East region, Maryam Aljoaan (Kuwait), and National Point of Contact for Kuwait, Ghanim Alotaibi (Kuwait), presented to the UN COPUOS Scientific and Technical Subcommittee. The first presentation was titled, "*A Youth's Perspective on the Future of a Space Programme in Kuwait.*"
- SGAC awarded the 2009 Peter Diamandis Scholarship to the Regional Coordinator for the Middle East, Mahsa Taheran for her excellent, inspirational essay, which accompanied continued, hard work that Mahsa has contributed to SGAC and the young space community.
- NPoC of Turkey, Aziz Kayihan (Turkey), was awarded the SGC Staff Leader Award for his hard work and dedication towards the Space Generation Congress in Daejeon, South Korea. The award included a fully-funded scholarship to attend SGC 2009.
- Aziz Kayihan was awarded the first ever SGAC member of the month award for his continued day-to-day, enthusiastic contributions to SGAC.

North, Central American and the Caribbean Region Highlights

- The North American Regional Coordinator and SGAC's YGNSS project Co-Lead, Stephanie Wan, made a statement regarding YGNSS to the International Committee on Global Navigation Satellite Systems (ICG) preparatory meeting held in Vienna, Austria.
- SGAC YGNSS Co-Lead, Stephanie Wan, gave her presentation, "*YGNSS: Youth Promoting Global Navigation Satellite Systems (GNSS) Cooperation and Education,*" to the UN COPUOS Scientific and Technology Subcommittee in February.
- SGAC Co-Chair, Agnieszka Lukaszczyk, moderated a panel at the National Space Symposium in Colorado Springs, US titled "*A New Generation for The Next Space Age Panel*" highlighting young aerospace professionals and their viewpoints on the space industry. Panellists, including SGAC Colombian NPoC, Nicole Jordan, described the younger generation as passionate and focused on the use of technology and networking capabilities.
- SGAC Co-Chair, Agnieszka Lukaszczyk, presented "*Legal and Policy Aspects Emanating from the Various SGAC Projects Proposing NEO Mitigation Approaches*" at the Near Earth Objects: Risks, Responses, Opportunities – Legal Aspects conference organised by the University of Nebraska, US.
- Executive Director, Ariane Cornell, presented the regional views and politics on Space Security to the 2009 International Space University Space Studies Program held at NASA Ames Research Centre near San Francisco, US.
- National Point of Contact of Guatemala, Jeffrey Rivera, earned a fully-paid scholarship to attend SGC 2009 and the UN/IAF Workshop. The United Nations sponsored his trip to Daejeon for him to participate in the two weeks of exciting events.
- The North American Regional Coordinator and the YGNSS Project Co-Lead, Stephanie Wan, and SGAC Co-Chair, Agnieszka Lukaszczyk, attended the International Committee on Global Navigational Satellite Systems 4th meeting (IGC-4) in St. Petersburg, Russia. The YGNSS project has garnered much support of the ICG members over the past several months through its GNSS outreach and educational activities. Both women gave presentations on behalf of SGAC and represented SGAC well in the Working Group C, of which SGAC is a member.



- UN Economic and Social Council (ECOSOC) Representative, Ulf Livoff (Denmark) represented the organisation at the UN General Assembly in New York City, US. Ulf shared his experience in a report to the members of SGAC.
- SGAC has partnered with the UN-SPIDER in a poster competition. Carlene Alex Boodoo (Trinidad, West Indies) submitted the winning poster, which earned her a fully-paid grant to attend the fourth Caribbean Conference on Comprehensive Disaster Management (CDM) on the theme *"Strengthening CDM through Youth and Community Empowerment"* at Montego Bay, Jamaica.

South American Region Highlights

- NPoC for Colombia, Nicole Jordan was one of the ten recipients of the first IAF Youth Grants. These ten students and young professionals were selected from over 130 well-qualified applicants from 35 countries.
- Former SGAC Regional Coordinator for South America, Marco Pirateque (Colombia), represented Space Generation Advisory Council at the high-level space law seminar in Bogota, Colombia.
- Peruvian newspaper *"El Comercio"* featured the work of former SGAC Regional Coordinator for South America, Martín Canales (Peru).



United Nations Report

UN COPUOS and Subcommittees

The United Nations Committee on the Peaceful Uses of Outer Space was established by the General Assembly in 1959 to review the scope of international cooperation in the peaceful uses of outer space, to devise programmes in this field to be undertaken under United Nations auspices, to encourage continued research and the dissemination of information on outer space matters and to study legal problems arising from the exploration of outer space. COPUOS and its two Subcommittees (the Scientific and Technical Subcommittee and the Legal Subcommittee) each meet annually to consider questions put before them by the General Assembly, reports submitted to them and issues raised by the Member States. The Committee and the Subcommittees, working on the basis of consensus, make recommendations to the General Assembly.

The United Nations Office for Outer Space Affairs (UN OOSA) implements the decisions of the General Assembly and of the Committee on the Peaceful Uses of Outer Space and its two Subcommittees. The Office is responsible for promoting international cooperation in the peaceful uses of outer space, and assisting developing countries in using space science and technology. Located in Vienna, Austria, OOSA maintains a website at <http://www.unoosa.org/>.

UN COPUOS held its fifty second session in Vienna, Austria, from the 3rd to 12th of June. Co-Chair Agnieszka Lukaszczyk, gave the Space Generation's statement. The central issues of the 2009 statement were recent SGAC activities and projects. Prominently featured was the 10 Year Anniversary Conference of SGAC, which examined the goals achieved in SGAC's first decade since its founding in the wake of UNISPACE III. The statement further emphasized the importance of the strengthening of SGAC structures and methods enabling SGAC to achieve its goals, broaden its reach and increase the quality of the output in a consistent and enduring manner for the years to come.

At the 52nd session of the UN COPUOS, SGAC contributed two presentations. One was entitled: "*A Youth's Perspective on the Future of a Space Programme in Kuwait*" and was given by the past Regional Coordinator for the Middle East region, Maryam Aljoaan, and the National Point of Contact for Kuwait, Ghanim Alotaibi. The second presentation entitled, "*YGNSS: Youth Promoting GNSS Cooperation and Education*," and was given by Stephanie Wan of the United States.

Scientific and Technical Subcommittee

This year, the Subcommittee convened for the 46th time in February 2009. SGAC participated with two well-received presentations and the statement by then Executive Officer, Agnieszka Lukaszczyk. Foci of the statement were SGAC's highlights of rejuvenating SGAC membership (including officers), starting new projects and the ten year anniversary of SGAC.



Legal Subcommittee

The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its forty-eight session in Vienna from the 23rd of March to 3rd of April 2009. SGAC did not make a statement during this session of the subcommittee and was represented then Executive Officer Agnieszka Lukaszczyk.

UN Economic and Social Council

ECOSOC was established under the United Nations Charter as the principal organ to coordinate economic, social, and related work of the 14 UN specialized agencies, functional commissions and five regional commissions. The Council also receives reports from 11 UN funds and programmes. The Economic and Social Council serves as the central forum for discussing international economic and social issues and for formulating policy recommendations addressed to Member States and the United Nations system. It is responsible for:

- promoting higher standards of living, full employment, and economic and social progress;
- identifying solutions to international economic, social and health problems;
- facilitating international cultural and educational cooperation; and
- encouraging universal respect for human rights and fundamental freedoms.

It has the power to make or initiate studies and reports on these issues. It also has the power to assist the preparations and organisation of major international conferences in the economic and social and related fields and to facilitate a coordinated follow-up to these conferences. With its broad mandate, the Council's purview extends to over 70 per cent of the human and financial resources of the entire UN system.

Since 2003, SGAC has had Consultative Status at UN ECOSOC. In 2009, SGAC attended two ECOSOC events at the UN in New York: the General Assembly Thematic Debate on the Millennium Development Goals (MDG), and a Millennium Project workshop and reception hosted by the United Nations Foundation. The following report is by SGAC member Ulf Livoff, who was this year's representative of SGAC at the United Nations General Assembly, (GA) 2009.



Attending the General Assembly at UN Head Quarters in New York

By Ulf Livoff



UNHQ, New York, photo by Ulf Livoff

In October 2009, I once again visited the UN headquarters in New York as a SGAC representative. The representative status means I can attend various meetings as an observer, however, I cannot make statements to the floor. I attended a two sessions: *“General Debate on the International Cooperation in the Peaceful Uses of Outer Space”* and *“Working Group of the Whole on International Cooperation in the Peaceful Uses of Outer Space,”* both held 21st of October, 2009.

The General Debate

One type of meeting is the general debate. In spite of its name, it is not like a political debate where parties take turns discussing a specific topic. Instead, they have the form of each country taking the floor and making a number of statements. Usually they start with various greetings and courtesy remarks regarding the committee or the organizer of the session. Hereafter, the country gives a description of various high-level developments or focus areas in the national space sector during the last year or since last meeting. This is followed by remarks on various international efforts that the country supports or would like stronger cooperation in. This again is very high level and could be in the form *“we encourage stronger cooperation on the program UN-SPIDER.”*

The Work Group

Where the debate appears formal and usually undramatic, the Work Group is livelier. In the workgroups, the desired output is usually a resolution of some sort that the countries then can volunteer to commit to. During the workgroup, the Chair goes through a draft proposal, and for each paragraph countries can ask for clarifications to have it rephrased or object to it altogether. If no country objects, the paragraph is approved, and the Chair moves on to the next paragraph. When the document is finally produced (which can take several years), this work form means there is a good chance that the participating countries will commit to it. Sometimes there is a bit of discussion between countries (and the occasional drama), but mostly the work progresses in this form throughout the document proposal.



So How Can the UN Affect the World on Various Topics?

Upon visiting the UN, I was very eager to see how the process works. How do discussions in a meeting then translate to a physical change somewhere in the world? Sometimes newspaper articles will have headlines like “The UN should act now on topic X” or “The UN should focus more on topic Y,” so how does it work when the UN has an impact on a certain issue somewhere in the world?

What I learned was that in its simplest form, the UN is merely facilitating countries to talk to each other to make voluntary commitments. Those countries can then go back and develop national laws or other national initiatives. Of course there is more to it with various UN offices like the World Health Organization, the United Nations High Commissioner for Refugees and so on, but in principle, I came to see the UN as an international meeting space. In a way, it works a bit like Wikipedia: it is a framework for content generated by its members.

Seeing it from this perspective, one can understand the advantages and disadvantages of how the UN works. It is an advantage because it can bring together almost all countries of the world and enable them to work together in a fashion that is acceptable to most of the countries most of the time.

Since resolutions are non-binding recommendations to member countries and take time to generate, this structure also gives the UN its disadvantages. Aside from the Security Council, the UN cannot act like a fire brigade that would be able to move out whenever there is a fire somewhere, which is why the UN can appear slow and bureaucratic when there is no pre-existing resolution that addresses a certain topic.

Other Thoughts

As an information technology consultant, the diplomatic world in itself was also a new and interesting experience to me. In my work, I am used to information-dense meetings that is low on formality and very goal-oriented. At the UN meetings I attended, the formalities would take up a fairly big part of the time and topics were often very broad and high level, even compared to parliamentary debates in my home country (Denmark). I assume it is this polite, high level approach that enables 192 diverse member States to work together, but it definitely also takes some patience to work in this environment, where resolutions are not generated over night.

Getting involved

With this document, I hope to have shared my impressions of having attended the UN General Assembly in New York. For those who want to get involved with the UN, there are many opportunities and places to start. Please see here for more information:

<http://www.un.org/en/faq/index.shtml>



Treasurer's Report

From a financial perspective, 2009 was an excellent year for SGAC. The organisation was able to capitalize on its healthy position at the end of 2008 and commit to a fully-costed operating budget for the year.

The most significant change for the year was engaging Ariane Cornell as Executive Director on a long-term contract. This allowed both Ariane and the executive to comfortably focus on SGAC's core business with confidence over financial issues. From this position the organisation was able to dramatically increase its expenditure on activities (a 65% increase on 2008) and effectively break-even for the year.

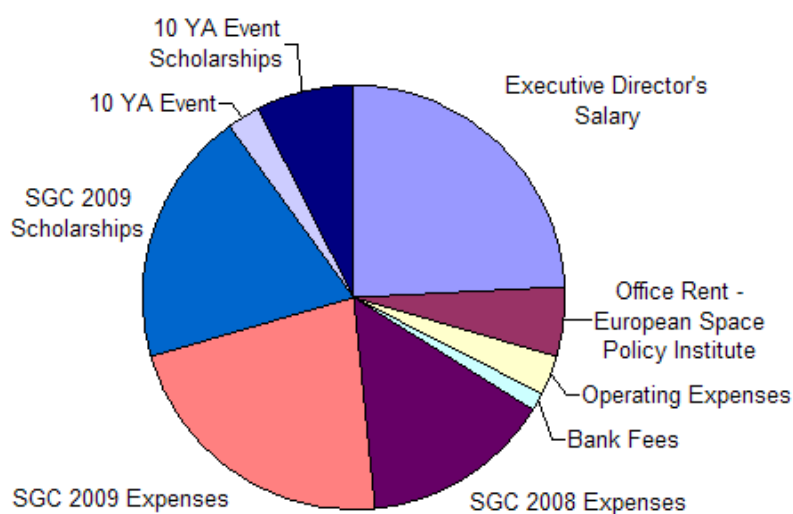
The two major events held by SGAC in 2009, the 10 Year Anniversary and SGC, were well supported by sponsors and delegates. Both events contributed to the financial health of the organisation.

SGAC has ended 2009 with no significant debt, a strong bank balance, which once again allows the executive to commit to an operating budget and increased investment in activities for members in 2010.

Once again, thank you to all who have assisted throughout the year in helping our finances run so smoothly.

Michael Brett

SGAC Treasurer



Graphical representation of SGAC's budget distribution

Communications and Public Relations Team Report

The Communications & Public Relations Team (C&PR) has worked hard in the beginning of its first year after having been officially formed at the Space Generation Congress 2008. The team provided consistent support to SGAC, its executives and members.

The SGAC C&PR Team helped in the organisation and attended the SGAC 10th Anniversary Conference. During the Conference, members of the team put out live reports on Twitter and news coverage for the SGAC website and the SGAC newsletter. A photographic diary of the event was also compiled.

The monthly issue of the SGAC newsletter went out to the SGAC membership every month. The C&PR Team not only edited and released the newsletters but also wrote articles and made significant contributions to the content.

A new column was started in the SGAC newsletter called Changing World. It aimed at bringing the latest news, research and developments on a space topic of immediate importance. Every three months the theme to the column would be changed to reflect the changes in the international space community. The first two themes for 2009 were “*Space and the Economy*” and “*Space and Health*”. The original aim was to compile a series of annual reports, the Changing World Report Series, on the quarterly themes.



SGAC C&PR Team Banner for the Changing the World Report Series

An SGAC 2009 brochure was developed based on the original SGAC Brochure. The purpose of this brochure was to highlight the 10th Anniversary of SGAC and SGC 2009. The brochure was distributed to a number of officials in the space and policy sectors including at the UN COPUOS June 2009 session.

Starting in August, the PR & Communication team changed its structure, in order to increase communications efforts and to expand them by being more social media friendly. The team as of December 2009 comprised of: Oana Sandu, PR Lead; Kerem Koker, PR Co-Lead; Alexandra Ruths, PR Assistant and Marc Cornwell, Graphics Designer.

The first mission the new team assumed was to design a PR strategy whose main purposes were to help build the SGAC brand, as well as to increase the public's awareness of SGAC. After thorough

research, the team developed strategic directions, targets and methods of communicating more effectively.

The second important task for the new PR team was to handle the communication for SGC09, a mission accomplished with success. SGC09 had the best media coverage of any SGC held to date: 16 articles were written on different publications and websites. SGAC was also covered by the South Korean national news network, YTN. PR efforts were structured during three waves of communications:

- Prior to the event: announcements on the website and articles in the monthly SGAC newsletter in order to increase number of participants.
- During the event:
 - A press release announcing the beginning of the congress that included confirmed speakers and topics to be discussed, published on our website, as well as sent out to international and local media;
 - Real time event updates via the SGAC Twitter account (#SGAC), daily summary press releases, and SGC09 announcements on the SGAC Facebook group.
- After the event:
 - A press release with the first conclusions of the congress published on our website, as well as sent out to international and local media;
 - A press release that will announce the SGC09 Final Report, due to be distributed when the report is completed.

The monthly SGAC newsletter continued to inform members on latest news, and starting in the beginning of 2010 will be restructured in order to adapt to members needs and wishes which were gathered at SGC09.

Social media gained importance as part of the new strategy. The PR & Communication team is working to improve interaction with members and fans via Twitter, Facebook and LinkedIn. Local media also is starting to play a central role as the new PR strategy focuses on making SGAC a strong brand in each represented country. The PR & Communication team has started working on local media database. A translator team is also being established so that SGAC news and press releases can be translated into the six UN official languages.

Graphics continued to play an important role as each major SGAC event or project has specially designed visuals: SGC09 visuals, NEO press release, Member of the Month initiative, the SGAC annual holiday card, etc.

For 2010, the C&PR team has bold objectives: becoming a global brand starting from the ground up. With a local media database up-to-date and a translator team, we hope to reach students and young professionals from all of the represented SGAC nations. Another major objective is to bond more closely to our main targets. We want to:

- inform our members with the latest news and opportunities to develop professionally;
- engage more actively in the space community by being daily present in the digital world; and
- establish professional relations with representatives of mass media and communicate extensively with them.

Through these strategic directions, we hope to make SGAC a stronger, better-defined and highly visible brand in the space community.



SGAC SPOTLIGHT CONFERENCES AND PROJECTS





Introduction

YGNSS Project is a team of students and young professionals under the Space Generation Advisory Council.

The YGNSS project was initiated in April 2008. Noticing the need for the youth to gain a better understanding of how Global Navigation Satellite Systems is used in our everyday lives, YGNSS aims to bring maximum benefits of GNSS to the future society. YGNSS therefore focuses on the outreach and education of GNSS applications. YGNSS project team members not only include students and young professionals from GNSS provider countries, but more importantly, developing space nations. This is important to note as we hope to represent the voices of nations that need to benefit and be educated in GNSS applications.

Since April 2008, the team has been able to recruit and receive positive feedback from similarly passionate students and young professionals around the world, as well as the encouragement and support from the International Committee on GNSS (ICG), NASA, and Global Positioning System (GPS) industries.

Completed Activities in 2009

Following the December 2008, 3rd International Committee on GNSS in Pasadena, California, YGNSS conducted an international opinion poll on the youth's knowledge and perspective of GNSS and its applications. In the span of one month, the poll successfully captured the voice of over 150 students from around the world. The results were presented at the UN COPUOS Science and Technology subcommittee meeting in February 2009, emphasizing how it is necessary for nations to develop a GNSS education infrastructure.

To further distribute its opinion poll findings, YGNSS wrote a paper and made a poster for the 2009 ISU Symposium (17th to the 19th of February 2009) in Strasbourg, France. It was entitled, *"Youth's Perspective on GNSS Applications for Civil Security Purposes."* The paper was based on the opinion poll results and how further knowledge with GNSS can aid humanitarian causes. SGAC members aided in the poster set-up and represented on behalf of YGNSS at the poster session.

In May, project co-lead, Stephanie Wan, was asked to present at the Positioning, Navigation and Timing (PNT) Advisory Board meeting on the origins of SGAC and YGNSS activities. This opportunity allowed for greater US outreach and support from top GPS specialists and industry members. With NASA mentorship and support, she and SGAC Co-Chair, Agnieszka Lukaszczyk, attended the 4th International Committee on GNSS in St. Petersburg, Russia in September 2009. During the weeklong meeting, they presented at the Working Group C: Information Dissemination and Capacity Building and lobbied for SGAC permanent observer member status to further the youth's perspective in the GNSS arena. The final decision for observer member status will be held at the 5th ICG in Turino, Italy.



In concluding the year's events, YGNSS played a key role at the 2009 Space Generation Congress in Daejeon, South Korea, with NASA sponsorship. NASA Senior GPS Specialist, Jim Miller, spoke to the Congress on the benefits of the agency's GPS and communication technology. The Agency Session analyzed the use of GNSS application technology in transportation infrastructure for highly populated cities. The team hopes to present its findings in various venues in early 2010.

Besides producing conference papers and opinion polls, a brochure on the benefits of GNSS catered towards the general public is currently in the process of editing and printed, and aims to be distributed at the regional UN education centres. The goal of the brochure is to be finished by the end of 2009. While the brochure will first be in English, it will also be translated into other languages in the near future.

Current and On-Going Activities

As a support structure to the UN Office of Outer Space Affairs ICG Education Portal, YGNSS has created another mechanism for education input through a GNSS education wiki portal. The team agreed that an open source wiki-styled website to allow contribution from all GNSS professionals and students would be the best approach in creating a comprehensive education resource portal. Initial materials have been collected over the past months, and have been slowly uploaded onto the portal site. As an open source network, YGNSS is working with universities and professionals to add materials to the portal where students are able to gain easy access to materials and resources for basic research. Therefore, if students lack the education materials in their school, they have the ability to find GNSS education resources with internet access.

YGNSS is also working with ICG Working Group C: Information Dissemination and Capacity Building to create an interactive visual GNSS model for display. The model is still in its initial stages and would require further technical expertise and input from ICG members during the working group meetings before completion.



SGAC Ad-Hoc Team on Disaster Management, Risk Reduction and Capacity Building

Introduction

On 25th of June 2009 the SGAC Ad-Hoc Team on Disaster Management, Risk-Reduction and Capacity Building went online as a youth group to assist the United Nations SPIDER (Space based Information for Disaster Management and Emergency Response). The group collects students and young professionals to create better awareness of UN-SPIDER's activities and programmes and would like local communities, NGO groups and other organisations to robustly tackle different disasters.

Background

Under the Resolution 61/110 of 14th of December 2006 the United Nations General Assembly agreed to establish the “United Nations Platform for Space-based Information for Disaster management and Emergency Response – UN-SPIDER”, as a new programme of the United Nations Office for Outer Space Affairs. UN-SPIDER provides universal access to all countries and all relevant international and regional organisations for all types of space-based information and services relevant to disaster management. UN-SPIDER's mandate is to support the full disaster management cycle by being a gateway to space information for disaster management support, serving as a bridge to connect the disaster management and space communities and being a facilitator of capacity-building and institutional strengthening, in particular for developing countries.

The SGAC ad-hoc team is envisioned to become a young community that increases awareness of UN-SPIDER's work and membership (this includes countries that may not have registered NPOCs in the UN-SPIDER database) and helps in capacity building actively.

Accomplishments in 2009

Healthy coordination with external and internal stakeholders

The team formed a healthy coordination and relationship with UN-SPIDER for coordination of related activities.

Recruited a dedicated project team of multi-disciplinary collaborators for further activities

The team, we are proud to say, draws experience and interest from a diverse group – both in terms of geography and expertise. Members bring inputs from space agencies, university and academic groups, space industry, infrastructure and town planning, non-governmental groups active in disaster management as well as grass-roots organisations.

First meeting

The SGAC Ad-hoc team on Disaster Management had its first face to face meeting with members of the team present at the IAC 2009 in Daejeon, South Korea.



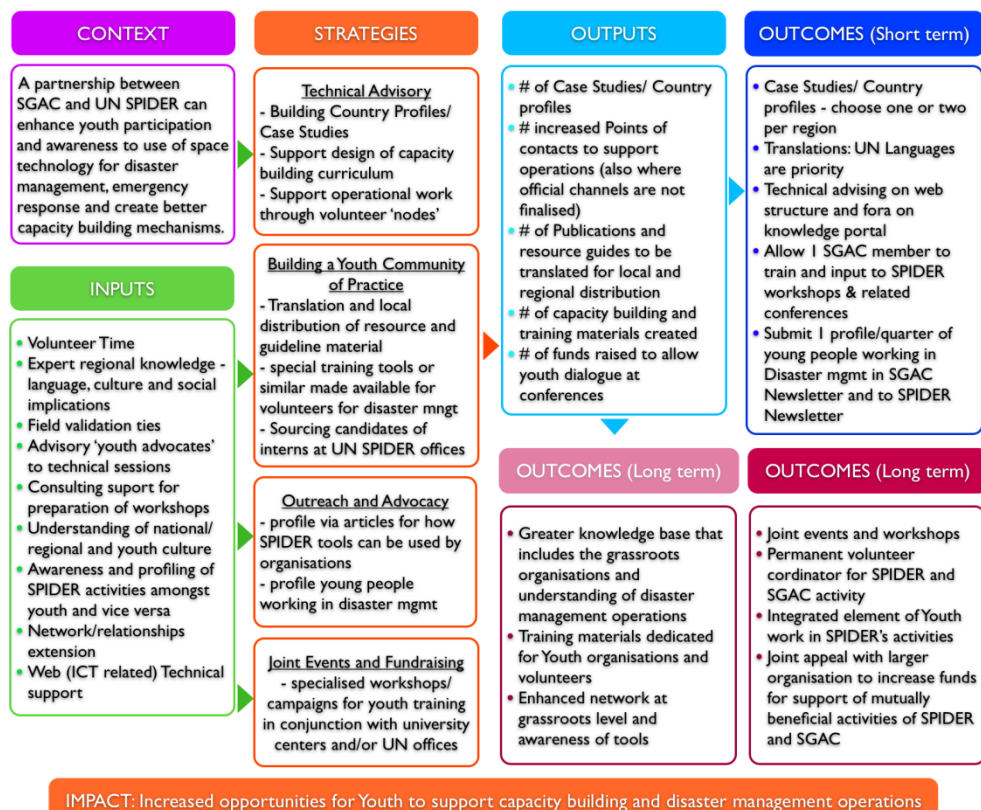
SGAC UN-SPIDER Poster Competition for Disaster Management in the Caribbean region

The SGAC UN-SPIDER team organised and facilitated a poster competition in conjunction with the UN-SPIDER to award one travel grant and all expense paid participation for a young researcher to attend the fourth Caribbean Conference on Comprehensive Disaster Management this year on the theme “*Strengthening CDM through Youth and Community Empowerment*” at the Rose Hall Resort and Spa, Montego Bay, Jamaica on 7th to 11th of December, 2009. Ms. Carlene Boodoo from Trinidad, West Indies was awarded the travel grant and unique opportunity to contribute to the fourth Caribbean Conference on Comprehensive Disaster Management

Going Forward in 2010

We hope to leverage the observer status of Space Generation Advisory Council in the coming year to create more awareness and alignment to the project team’s work and key priorities of international players in the field of using space based technology and information for disaster management. We have laid out an outline for the project team’s roles on:

- Technical advisory service by formulation of national profiles to help countries currently signed up within the UN-SPIDER’s framework build capacity.
- Better outreach by availing young researchers more opportunities to get technical and programmatic training. We also hope to connect university students and young professionals currently working in using space technology for disaster management.
- With a focus on space technology and information sharing, we have proposed to work together with the UN-SPIDER on delivering the following strategy.



The team remains open to the interest of other SGAC members who would like to be involved in the project work. All interested members can contact: spider@spacegeneration.org.

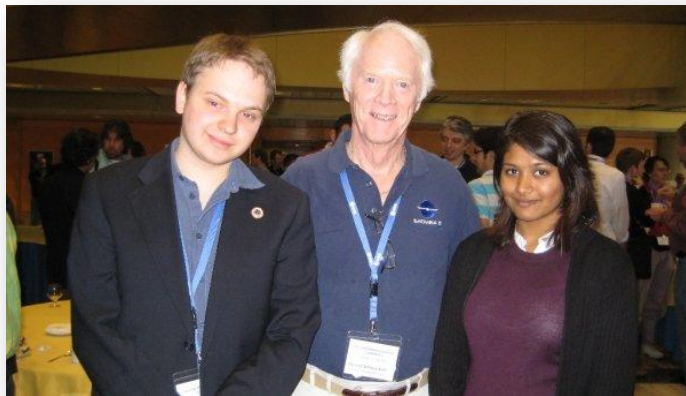


Near Earth Object (NEO) Working Group

Andrew Bacon has become a co-lead alongside the existing project lead, Alex Karl, of the NEO Working Group to assist with the group's outreach projects. Andrew can be contacted at andy.bacon@spacegeneration.org

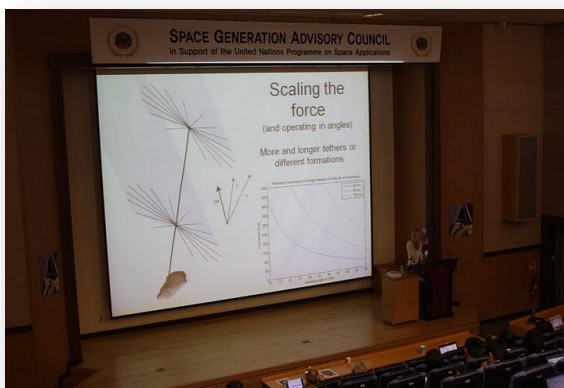
Presence at the Planetary Defence Conference

The SGAC was an official co-sponsor of the 1st IAA Planetary Defence Conference held in April 2009 in Granada, Spain, and two SGAC members were part of the organising committee. The conference was attended by three members of the NEO working group: A.C. Charania, Tee Thakore, and Andrew Bacon. Here, we took the opportunity to announce the 2009 Move an Asteroid Competition, talk to the student delegates about the SGAC and also present a poster paper on an asteroid deflection concept based upon the second place entry of the 2008 Move an Asteroid competition.



Andrew Bacon and Tejal Thakore with Chairman of the B612 Foundation, Rusty Schweickart

Move an Asteroid Competition 2009



Tee Thakore took over from A.C. Charania to lead the second Move an Asteroid Technical Paper Competition which was held this year following the successful 2008 competition. It asked students and young professionals to send in novel proposals on how to deflect an asteroid. The entries were reviewed by a team of experts and the winner of the competition, Sini Merikallio of Finland, was awarded a trip to present the paper at the 2009 Space Generation Congress. This gave Sini the opportunity to present her winning

paper, "*Moving an Asteroid with Electric Solar Wind Sail*," to a larger audience. The purpose of this competition is to enable youth to proactively participate in NEO activities and analyze the issues surrounding them.

NEO Documentary Project

A video documentary was premiered at the 2009 IAC by the SGAC NEO working group entitled “*Near Earth Objects and Planetary Defence.*” This was an entirely volunteer made documentary, using interview footage from the 2009 Planetary Defence Conference with animations and narration done by SGAC community members. The purpose of the documentary is to convey expert opinions of important mitigation topics to the general public in a non-exaggerated manner. These topics included discussion of several deflection scenarios, the political issues, public awareness, and even the use of nuclear devices.

Conferences 2009

NEO Conference

SGAC Co-Chair, Agnieszka Lukaszczyk, presented “*Legal and Policy Aspects Emanating from the various SGAC Projects Proposing NEO Mitigation Approaches*” at the NEO Conference in April in Nebraska, US. (http://www.spacegeneration.org/files/Nebraska_NEO_Slides_v1.pdf) The Presentation was prepared by Agnieszka and A.C. Charania, SGAC Lead for the *Move an Asteroid Contest 2008*. SGAC members also presented SGAC’s NEO activities at the IAC09 held in October in Daejeon, Korea.

UN COPUOS AT14

As a member of the UN COPUOS *Action Team 14 on Near Earth Asteroids*, SGAC recognizes the importance of the work of the NEO working group and strongly supports its efforts. As outlined in the working plan for 2009, the International Year of Astronomy can act as a framework to raise awareness about NEO issues among the public and, in particular, the youth. Understanding that the youth needs to be made aware, SGAC works on outreach programmes to increase youth involvement.

Ongoing Projects

There is an ongoing project to assist Brian Weeden of the Secure World Foundation with the creation of a wiki based guide to the ESA's new Planetary Database. This database is intended to hold a catalogue of all the information known about every discovered NEO and other solar system bodies. The NEO working group ran a successful campaign to find volunteers from the SGAC community to help Brian with this and work on the guide has begun.

Future Projects

Members of the NEO working group will soon be meeting to discuss the plans for the Move an Asteroid 2010 competition, which may involve rule changes and possibly a variation on the subject theme. The NEO Working Group will also continue to support and actively engage the UN COPUOS Action Team 14 on Near Earth Asteroids.

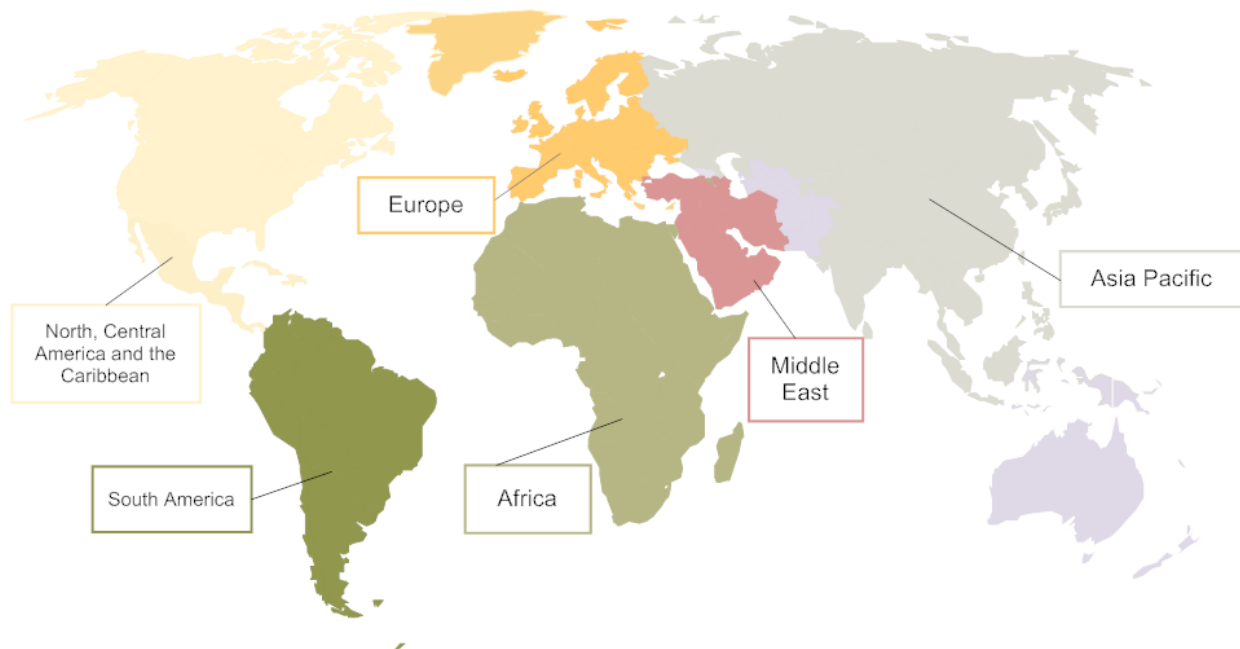


SGAC REGIONAL ACTIVITIES

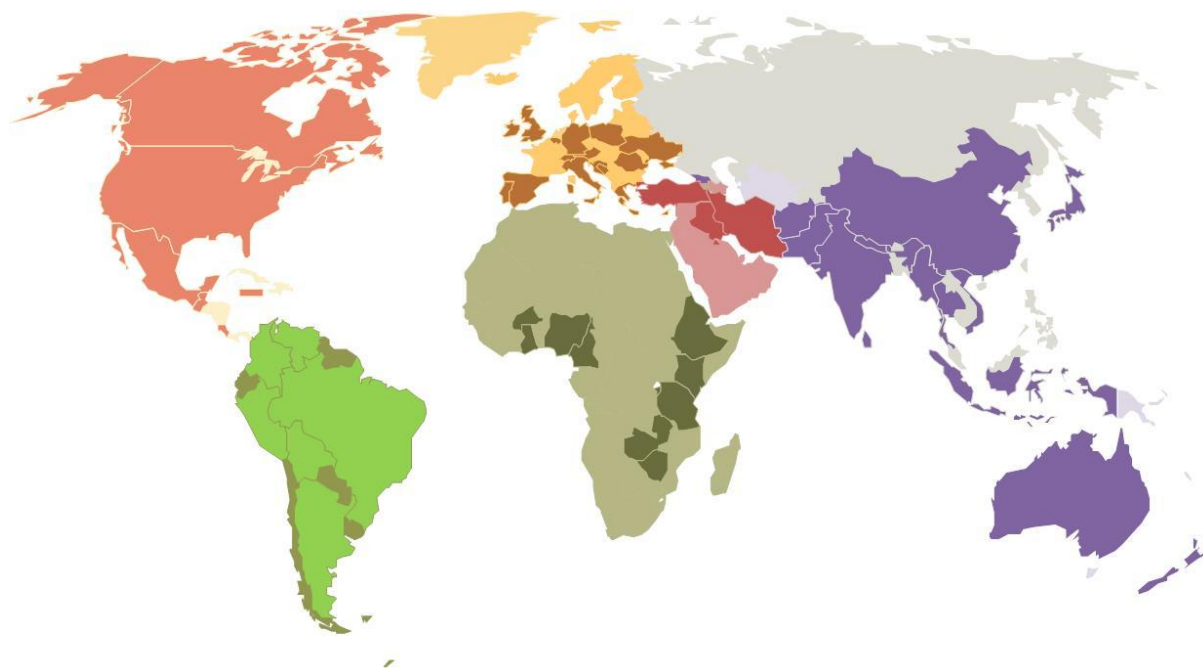


SGAC Regional Activities

Maps of SGAC Regions and Represented Countries



Regions represented in SGAC



Detailed map of countries represented in SGAC

Regional and National Reports

Please note that all of the following regional and national reports were written by the respective RCs and NPoCs.



SGAC is represented in 14 African countries with two regional coordinators and 15 NPoCs. Space awareness has increased in Africa thanks to many public activities, and thanks to commitment of some SGAC members, we faced fewer challenges than in the previous years. A number of new NPoCs for the year 2009 were recruited:

Hubert Foy Kun for Cameroon, Biniyam Yosef for Ethiopia, Susan Murabana Oduari for Kenya, Laban Maiyo for Rwanda and George Bepete for Zimbabwe.

Participation in regional and SGAC-organisational activities improved due to better. Numerous SGAC newsletter articles were contributed mainly by African RCs, Castory Ntullu and Michael Kio. There were numerous space activities taking place in different countries of Africa. This includes a seminar by UN-SPIDER in Tanzania and Nigeria, the IAA regional conference in Nigeria and Cameroon, a Geosociety seminar in Ghana, which was co-organised by SGAC, and number of other activities that will be mentioned by the NPoCs.

Africa was represented at the 2009 SGC in Daejeon, South Korea, by Kio Michael (RC Africa) and Susan Murabana Oduari (NPoC Kenya). They won the Young Leaders Scholarships and thus received full sponsoring to go to Korea.

The World Space Week and Yuri's Night events were organised in many African countries; detailed description of those events can be found in the individual NPoC reports.

Future plans for regional SGAC activities in 2010

- Forming of an African working group, putting an end to the low participation of African countries in SGAC activities due to the lack of work incentive in challenging environments.
- Collaborating directly with the International Astronautical Association (IAA) in order to include SGAC in its programme, to pave the way to a SGAC African conference.
- Organising seminars and workshops around African similar to the successful activities in Ghana in 2009.
- Encouraging a higher level of African participation in SGAC activities taking place outside of Africa.
- Recruiting more NPoCs for Africa.



- Organising competitions among the different sections and giving awards during the SGAC Africa conference.
- Sponsoring NPOCs in rotation bases for different workshops in and outside Africa especially short study programmes in the ISU.
- Organising regional space camps in the mountainous regions of Africa, for example, Kenya.
- Encouraging NPOCs to organise national space activities.
- Encouraging SGAC members in Africa to contribute to knowledge by writing good papers and presenting it.

National Reports

Cameroon

The Cameroon chapter of the SGAC started in the last quarter of 2008 with the appointment of a new NPOC, Foy K. Hubert, and unfortunately neither an event was organised nor was a report submitted for that year. The first quarter of 2009 was dedicated to Education and Public Outreach. Mr. Foy used Cameroon-related Yahoo groups and alumni networks to create awareness of the existence of SGAC Cameroon Chapter, its mission and objectives and benefits to youths and Cameroon at large. The purpose of the outreach program was to canvass space enthusiasts and garner volunteers in order to form an executive committee within Cameroon, now consisting of five members. The mobilization process raised significant awareness about the benefits of space technologies and how it can contribute to sustainable social and economic development. It further raised curiosity among college and university students to learn more or explore careers in the space field. A core achievement of the phase was the availability and willingness of three graduates to join the team, all from the African Regional Centre for Space Science Technology Education in English (ARCSSTE-E), Obafemi Awolowo University, ILE-IFE NIGERIA.

Outreach Highlights

In July 2009, NPOC Foy K. Hubert was guest speaker on the famous “Monday Show” on the national TV broadcasting channel that attracts over 10 million viewers. The other members of the Executive Committee have given talks to the University of Buea in the South West Region, Sacred Heart College Douala in the Littoral Region and other colleges in Limbe town. There has been marginal success in reaching out to students, albeit lack of political will from the government in promoting space issues and lacking national space policy activities. In one of the discussions with University of Buea students, later published by Eden Newspaper, many students in the other 12 regions of the country requested the creation of space clubs at local levels and colleges as one mechanism to promote SGAC goals in Cameroon. Mr. Foy is looking forward to a formal event in July 2010 during which he will, among state officials, launch a nation-wide initiative facilitating students to form and sustain space clubs in colleges, map out strategies to promote the effectiveness of the club and



gradually bring to the attention of the Government of Cameroon the role that space plays in national development.

Perspectives

It is expected that after July, with possibly space clubs existing across the country, the executive committee will expand to include more volunteers, develop a plan of action on how to organise seminars, outreach programs and workshops, lay some ground rules on the running of SGAC activities in Cameroon, explore administrative requirements for the executive committee, examine ways to involve private and public space-related institutions in order to support SGAC activities.

Although space as a topic is new and abstract in Cameroon, there appears to be excitement among some government officials to learn and understand practical benefits to contemporary Cameroon. Kids in the grades from six to eight are very keen in learning about space and related games, university students and some faculty members are curious to learn about space related careers.

SGAC has a future in Cameroon but will have to face some challenges on this path. Access to the internet is still very difficult and major means of communication are the press, radio, articles and TV. Notwithstanding, two effective methods that can be utilized to expand SGAC activities in Cameroon: workshops and seminars. These events are very costly. Currently, the focus of SGAC Cameroon chapter is to spotlight the creation of “*space clubs*” throughout the country, using radio broadcasting as the major means of communication. There are efforts underway to arrange with some private persons to support in this effort, like printing brochures and providing structures for seminars and press coverage. The far term goal of SGAC Cameroon is to explore ways and motivate the government to have national legislation to promote the space industry in Cameroon and, possibly, provide scholarships to deserving and interested students to pursue space related studies as one way of building Cameroon’s capacity to effectively participate in international debates on space issues.

Ghana

The National Point of Contact was appointed in 2008 and has since been working with his fellow activists of students in Ghana to increase the awareness on space activities in Ghana.

Highlights

Radio Interview in April

Under the leadership of Yussif Abdul Mumin (Director of a youth led NGO known as the *Action for Community Development*, or AFCODEV) and other members of AFCODEV, the importance of commemorating the *Global Youth Service Day* (GYSD09) on Radio Savannah was emphasized. The



radio lectures enabled the organisers to give a good overview on the event to those who could not attend the celebration in person. Listeners were briefed on the significance of celebrating the day and the motto, *“Supporting the campaign to achieve the Millenium Development Goals (MDGs) by 2015-the role of the youth in Northern Ghana”* was successfully relayed.

Lecture on Ghana's Millennium Development Goals

A lecture session for young people on the topic of the MDG was organised with the intent to raise awareness for the MDG among the youth, since most of them are still unaware of the UN - Millennium Declaration and thus are unable to demand any governmental action on behalf of the MDG. Another goal of the MDG forum on GYSD 2009 was to create a support base among the younger population.

In his opening statement, the Director of AFCODEV and the NPoC of Ghana, Yussif Abdul Mumin, welcomed all participants to the event and presented a brief review on space activities and the concept of Global Youth Service Day. These are as follows:

- To call for active support from traditional authorities on global campaign on climate change and poverty.
- To advocate for speed in the rate of activities directed towards the achievement of the MDGs by 2015.
- To enlighten the youth on the world habitat day observation.

World Habitat Day

World Habitat Day observation is organised by the United Nations body known as UN-HABITAT with support from their partners in government, municipalities and other organisations who share the same concerns worldwide.

This year's world habitat day fell on the 5th of October and *“planning our urban future”* was this years' motto. The reason for that is simple but important fact that in many parts of the world today, urban planning systems have changed very little and often contribute to urban problems rather than serve as tools for human and environmental improvement. In the northern region of Ghana-Tamale, AFCODEV represented by Ghana's NPoC organised a campaign with the goal to motivate Ghanaians to stand up for the MDGs and take action. This campaign became a joint march of AFCODEV and the Ghana Coalition on Climate change, which started at the palace of the chief of Tamale - Dakpema Naa Dawuni Mahamadu and continued from there to the Savulugu Nantong district, 15km away from the city, and ended with a grand youth hearing at the Vitting Senior High School.

Chief of Tamale Dakpema Naa Dawuni Mahamadu expressed his joy and satisfaction upon the call on him and his elders to involve them in the world habitat day observation. He stated to be aware of the effects of climate change having a direct link with poverty and thus threaten the achievement of the MDGs. Further, he believes that as traditional leaders to it is their duty to add their voice to that of the government and other organisations in addressing this challenge. A message from the Secretary General of the United Nations and the Executive Director of UN-HABITAT and a map was given to the chief, who was happy to sign them and in order to show his endorsement.

Symposium on Remote Sensing

SGAC in collaboration with the Geographical Society (GEOSOC) of the Department of Geography and Regional Planning, University of Cape Coast, organised a one-day symposium on the theme: *“The*



role of Remote Sensing in Space Activities and its Relevance to the Society” at the New Lecture Theatre of the University of Cape Coast.

With over one hundred students attending, this symposium marked the first SGAC University Students Outreach Project on the University of Cape Coast Campus, Ghana. The keynote speaker was Mr. Eric K. Aikins, a lecturer of Geography and Regional Planning and SGAC member. His presentation explained the audience the role that Remote Sensing has played and is playing in space activities, which is principally through the processing and analyzing of satellite images of other planetary bodies. He encouraged students to pursue remote sensing in geography and actively participate in space activities since their services and skills would be needed very much in present and future time where satellite technology and space imaging has become an integral part of space activities.

Kenya

Kenya is located in the Eastern part of Africa with a population of 36 million people. There are around six public and several private universities, most of them offering science courses. Nairobi University, the first university in Kenya, launched a bachelor degree programme in astronomy this year. Astronomy is also covered in the high school and primary curriculum in geography, biology and physics. There are a number of international organisations that do education and public outreach in astronomy as well. A number of space related events will be described in the following.

Star Parties

This is a public programme aiming at promoting astronomy awareness and using the topic of astronomy to promote education and peace. This year there have been a series of star parties at the local universities and public parks. The events were organised by, Dr. Paul Baki, Single Point of Contact (SPoC) for the IYA2009 in Kenya and professor of Physics at University of Nairobi, Susan Murabana, Hands on Universe (HOU) Africa leader and National Point of Contact SGAC. HOU is an organisation dedicated to promoting science education in Africa by using astronomical tools and concepts. SGAC and HOU have been successfully recruiting young professionals and science university students who will be invited to the other organisations to participate in public outreach events and to serve as role models for pupils in schools.

International Year of Astronomy

In June this year, the IYA was commemorated with a two-day event in Nairobi. The host of the event was the University of Nairobi physics department. There was a good representation of university professors and students from all the leading science universities and education institutions in the country. A workshop on freeware astronomy software was also organised, providing a platform for students to ask questions and to present and discuss their views on astronomy.

Several other star parties have been held at the university and schools. To support astronomy activities, the university has since purchased another telescope additionally to a telescope donated by South Africa. HOU also received a telescope donation from a local medical equipment company,



Pulse Healthcare Ltd. The equipment is being used to promote astronomy in schools and amongst the general public. HOU Kenya is also expecting another telescope donated by a university in the US.

Universe Awareness

In February 2008 Kenya became a partner of *Universe Awareness*, an international programme that exposes very young children in underprivileged environments to the scale and beauty of the universe. The first UNAWE programme took place in Mathare internally displaced camp (IDP), one of the largest slums in Kenya. Other schools were visited and a total of over 100 young children were approached last year. Programmes like 'Nyota' for peace and 'Nyota' for schools have since been developed. Several students and teachers have been reached under this programme and on-going plans are still underway to reach as many children as possible.

The UNAWE programme received funding from *Four Tell eAfrica*, a local ICT company. After the introduction of the *Universe Awareness* programme, a mentor programme between young professionals/university students, high school students and primary school students is now currently being set up. The programme is being introduced to already existing organisations and clubs that already a network at the same time. The mentor programme is already well planned and scheduled to commence in January 2010. Students of Kenya High School Nairobi and from Kileleshwa Primary will be the first schools to participate. The high school students will teach the younger students basic computer skills and astronomy concepts. They will also serve as role models and mentors to the younger students. A joint programme between Kenya High school and El Cerrito High school in California will help to run this programme. This is a programme organised and coordinated by Universe Quest volunteers and HOU universe officials.

Astronomy Clubs

SGAC and UNAWE have set up astronomy clubs in various schools and a number of activities will be coordinated with the schools. SGAC is currently teaming up with Cosmos Education, an organisation dedicated to promoting science education in developing countries to reach as many schools as possible. So far a good number of schools in Kenya already have astronomy clubs. With those clubs SGAC has been able to organise student workshops between schools in Kenya and in the US. One of these workshops took place in October at Kenya High School: The two-day three-hour workshop with approximately 30 students from Kenya and 10 from the El Cerrito High, California was a success. The students learned to use astronomy software and shared their cultural ideas on astronomy. A series of the similar workshops are scheduled to continue early next year when schools resume in January.

Galileo Teacher Training Programme (GTTP)

SGAC and UNAWE trained teachers and young professionals on the already existing astronomy software. We are planning a GTTP workshop in January-February for more teachers who will serve as astronomy/science ambassadors. We have already received some funding from *Las Cumbres Observatory Global Telescope Network (LCOGT)* for the workshop.

Teaching Astronomy for Development (TAD) Regional Workshop

In November this year, the *Teaching Astronomy for Development* workshop took place in Kenya with participants from all over Eastern Africa. The aim of the programme was to promote astronomy amongst university students, young professionals and university professors. It was also an opportunity for the officials to tap on possible resources from the government using a regional approach. Resources were shared and great ideas discussed. There were astronomy professionals



from the US and South Africa. Visits to the main public universities were made and several star parties and open nights were conducted.

Collaborations with other African Nations

The second International Heliospheric Year (IHY) and Scintillation Network Decision Aid (SCINDA) workshop was held in Livingstone Zambia, from the 7th to 12th of June. The Minister of Science and Technology, Gabriel Namulambe, officially opened the workshop. The workshop brought together many African scientists from West Africa, East and Central Africa and Southern Africa. NPoC Susan Murabana took the opportunity to give an oral presentation on HOU, UNAWE and SGAC.

Further, SGAC and UNAWE also visited *Hillcrest Technical High School* and to give a lecture on astronomy software and hands-on lessons to a class of over 100 students. The outreach team comprised of approximately 10 Zambian undergraduate physics students, one Congolese and NPoC Susan Murabana. The students should be able to implement the activities in Zambian classroom after our training session.

For more information please visit:

www.unawe.org

www.universeawarenesskenya.blogspot.com

www.africahoukenya.blogspot.com

www.handsonuniverse.org

Mauritius

Mauritius has had few space related activities this year. There is no formal space based industry but there is an ongoing dynamic educational and research activity being carried out by the University of Mauritius at the Mauritius Radio Telescope (<http://www.uom.ac.mu/mrt/>).

Selected Highlights

Lecture Sessions by Jean-Louis Heudier

In 2009, the island has also been honoured by the visit of several distinguished academics including astronomer Jean-Louis Heudier. Among his many interactions with the young in schools, Mr. Heudier not only gave introductory to advanced level talks and conferences about the history of astronomy and currents trends in astronomy, but he also spoke of his own background and career, which will no doubt hopefully foster budding scientists and astronomers¹.



This event was backed by several lectures on the educational/knowledge channel by Dr. Dinesh Somanah, of the University of Mauritius.

Further Events

On the occasion of the 400th Anniversary of *Galileo's* Observations and the IYA 2009, the astronomy club of the University of Mauritius organised a stargazing event.

The Mauritius Astronomical Society published a sky atlas that was freely distributed at educational institutions.

The Rajiv Gandhi Science Centre hosted an exhibition on astronomy and the 400th Anniversary of *Galileo's* Observations².

Professor John Hearnshaw of University of Canterbury, New Zealand visited the island in March 2009. He is the Chairperson of Commission 46 *Programme Group for the Worldwide Development of Astronomy* (PGWWDA) and wrote a report to the International Astronomical Union Executive Committee and to the IAU Commission 46 president on astronomy in the Republic of Mauritius³.

Students of the option *Culture et Démarche Scientifique* (CDS) at the Lycée La Bourdonnais won a telescope in the contest 'Fais ton journal' organised by the CNES⁴.



Students of Lycée La Bourdonnais win "Fais ton journal" contest

In January 2009, two delegates participated at the IYA2009 Opening Event in Paris⁵.

¹ http://ambafrance-mu.org/france_maurice/spip.php?article576

² <http://www.gov.mu/portal/site/rajiv/menuitem.22b100e65ff78efa1f5f1110a0208a0c/>

³ http://www.gov.mu/portal/sites/nsp/download/Mauritius_IAU_Mar09.pdf

⁴ http://www.lyceelabourdonnais.mu/page/index.php?record_id=198&level1=Search%20Result&level2=&level3
http://www.lyceelabourdonnais.mu/photo/index.php?level1_id=26&level2_id=250&level3_id=&record_id=66

⁵ <http://aramis.obspm.fr/IYA2009/index.php>

Zambia

The year 2009 has been a successful year for Space Generation in Zambia. Important events have taken place and these include the celebrations of the *Yuri's Night World Space Party* at the University of Zambia and the launch of the International Year of Astronomy activities in Zambia on 6th of April 2009. SGAC Zambia participated in World Space Week with two public events at *Lechwe Trust School* and the Copperbelt University, an international exhibition at the Lusaka International Agriculture and Commercial show from the 27th of July to the 3rd of August. At this exhibition, a planetarium dome was exhibited in addition to other scientific activities in partnership with the University of Zambia, Department Of Physics. Other activities included participation in the IHY/SCINDA Africa 2009 workshop, outreach to schools, study of astronomical beliefs of the Zambian people, counting of stars during clear night skies, the launch of the Zambia astronomy book drive and Zambia's participation in the *Cassini Scientist for a Day* essay.

2009 was an important year for space science and astronomy in Zambia. The donation of 275 Galileo telescopes to the country from the *Developing Astronomy Globally* cornerstone project is specially worth mentioning.

Detailed Report

2009 International Year of Astronomy Activities

- Launch of IYA at the Unza NS Lecture Theatre and commemoration of Yuri's Night on the 6th of April
- Study of astronomical beliefs of the Zambian Community
- Exhibition during Zambia Agriculture and Commercial Show
- Public outreach activities at schools and colleges
- Counting of stars during clear sky nights
- Presentation about the IYA at Lechwe Trust School in Kitwe. The guest speaker was Prosperity C. Simpemba of the Copperbelt University who talked in front of over 200 pupils of the senior classes

JUNE 2009: The IHY/SCINDA - Africa 2009 Workshop:

This conference turned out to be a great success. Over 120 space scientists and students gathered in Zambia to discuss space related topics. For more information please visit: www.unza.zm/ihyafrica2009.

Cassini Scientist for A Day essay contest.

The essay contest was an opportunity for students around the world to learn about the Cassini mission to Saturn and to study Saturn with its fascinating rings and moons, Tethys and Titan.

October 2009: Astronomy Book Drive

A Collection of astronomy books, CDs, DVDs and other materials for promoting astronomy in the country were made available to the public.



World Space Week Celebration

Events at the University Of Zambia, Copperbelt University held in high schools on the Copperbelt province commemorated the World Space Week in Zambia.

Zimbabwe

2009 brought the first involvement of Zimbabwe youth in space related activities. This first step happened accidentally when the NPoC of Zimbabwe, George Bapete, was giving a progress report on his masters of science thesis to *Renewable Energy Group* at the University of Zimbabwe. He developed organic photovoltaic devices for possible space applications and thus provoked a debate on the necessity of having space activities at all. Highly motivated by the topic, George Bapete gave a talk on the potential offered by space activities in solving the energy and the climate problem and thus started to wonder what other young people around the world are doing to have a good understanding of space activities and to get involved.

George was accepted to become the NPoC for SGAC in Zimbabwe in August of 2009. Before that Zimbabwean youngsters were in the dark about involvement and developments on space related issues. During the course of the year since August, SGAC Zimbabwe's main activities have been communicating with students mainly using emails and thus creating awareness in Zimbabwe on benefits of taking up careers on space related subjects. Most unfortunately at the moment there are no universities or colleges offering educational courses on space sciences, space policy or even astronomy. Thus the activities of SGAC managed to motivate students to take up research projects in order to apply their research to space studies. Some students have also been accepted to take up postgraduate studies in astronomy and space related studies in universities in South Africa after responding to advertisements which SGAC relayed to them.

Outlook

SGAC in Zimbabwe hopes that these young people will come back home after their studies to develop space industry in Zimbabwe. Further, SGAC hopes to be able to convince most of the students we have been in contact with to join SGAC and become active participants in the organisation in the year 2010.





Asia Pacific

It has been an exciting and busy year for SGAC members in the Asia Pacific (AP) region! Enthusiastic SGAC members and NPoCs have organised and actively engaged in a variety of events related to space education, space awareness, public outreach as well as the UN declared International Year of Astronomy. These events were designed to bring the wonders of astronomy and space exploration to the people. There has also been a keen interest in space policy related issues and this offered the youth perspectives be taken into account. IYA2009 has been a special “*Big Event*” in the AP region. Apart from participating in IYA related activities, AP members have also made an impact on the annual Yuri’s Night in April, Space Day in May and World Space Week in October.

SGAC AP RCs, Yohan Ferreira and Muhammad Shafiq, have extended their full efforts to aid the NPoCs and extend as much help as possible to the volunteers in the region within the SGAC scope. All means of communication (e.g., internet, email, mobile phones, Web 2.0 tools, etc.) have been utilized to enhance the communication amongst all the volunteer NPoCs working from their countries as well as to get feedback from them within the Asia Pacific countries. Indeed, we have had great coordination with our region’s leaders and members in 2009.

SGAC Regional Highlights

Welcome to SGAC!

During 2009, SGAC welcomed many new members from the countries in the AP region. Tens of people have joined the SGAC in the last year, and amongst those countries represented by them, SGAC has approved some to officially represent SGAC as a National Point of Contact. The newly joined NPoCs belong to China, Georgia, Indonesia, Nepal, Thailand and Vietnam.

News on NPoC – welcomes and good-byes

Yohan Ferreira, who was already an NPoC for Sri Lanka for SGAC, was elected to serve as the new Co-Regional Coordinator in the SGAC Executive Board. The SGAC Executive Council selected several youth space enthusiasts and advocates to serve their countries as NPoC.

In March, we welcomed Suresh Bhattarai, the first NPoC for Nepal and Wajahat Nassar for Pakistan. The Pakistani SGAC team was strengthened when Muhammad Atteeq joined as co-NPoC for Pakistan in April. In May, Miftachul Hasana joined as the first NPoC for Indonesia, while in June, Hiroshi Yamashita joined as co-NPoC to further accelerate SGAC activities in Japan. June saw three new NPoC join the SGAC Asia Pacific region. They were Jackson Wood of New Zealand and Patthara Limsira and Duangkaew Noppornprom, the first NPoC for Thailand. In July, we welcomed Dong Yuqian as the first NPoC for the People’s Republic of China, a leading space nation in the region. Catherine Doldirina was welcomed as the first NPoC for Georgia in July. Pradeep Mohandas and Rijendra Thapa were selected by the Executive Council to be co-NPoC for India and Nepal respectively to further strengthen SGAC activities. Last, but certainly not least, Vu Trong Thu was



welcomed as the first NPoC for Vietnam. We wish them all the very best in their endeavours and look forward to working with them.

During the period under review, SGAC bid farewell to Nitto Ronjon Bormon, NPoC for Bangladesh and Vikrant Narang, co-NPoC for India. We thank them for their wonderful work in promoting SGAC, youth space policy and astronomy education in their countries and wish them the best in all future endeavours. Bijal Bee Thakore who was a Regional Coordinator for AP finished her tenure and left but is still working as an IYA Co-Liaison with the SGAC.

IYA Opening Ceremony

We were delighted that both *IYA Essay Competition* winners were from the Asia Pacific region. Miftachul Hasana of Indonesia and Ajit Padmanabham of India were awarded a travel grant by UNESCO to attend and participate in the IYA Opening Ceremony (14th to 15th of January 2009) at UNESCO Headquarters in Paris, France. The winners were also hosted by the Local Organising Committee and attended the International Astronomical Union Symposium on “*Role of space in society and culture*” (19th to the 23rd of January 2009). The SGAC IYA Winners were accompanied by SGAC IYA Co-Liaisons Bee Thakore (India) and Halit Mirahmetoglu (Turkey) at the IYA Opening Ceremony.

General Assembly Participation

It was heartening to note that despite the very early hour, most NPoC of the Asia Pacific region participated in the annual SGAC General Assembly on 13th of December 2009.

We would like to thank all SGAC members and NPoC in the region for their wonderful commitment, outstanding work and continuing support of SGAC, and in promoting space exploration and astronomy in their countries.

National Reports

Afghanistan

The efforts of SGAC to promote space-related activities across Afghanistan continued during 2009 with more achievements than previous years. SGAC NPoC, Ahmad S. Hakimyar, was also appointed as the SPoC for the International Year of Astronomy '09 for Afghanistan and took part in the Corner Stone Projects of the IYA'09.

Highlights

Launch of Afghanistan Astronomical Association (AAA)

The SGAC NPoC is also the President of the Afghan Students for the Exploration and Development of Space (SEDS), which is the official chapter of the global SEDS network in Afghanistan, and was thus



honoured to provide help to initiate AAA. SGAC provided this association a big help with space-related posters (particularly during WSW), DVDs, important contacts within and outside of Afghanistan, and directing them to available online resources. NPoC Ahmad Hakimyar spread the world about SGAC and thus SGAC and its activities/achievements were presented to the general public on some occasions.

World Space Week celebrated for the second time

SGAC had the honour to celebrate WSW for the second time since the SGAC NPoC is also the National Coordinator for WSW in Afghanistan. A great event was hosted, including water rocket competitions and a fifteen minutes space-related movie and exciting posters, attracting almost a hundred people including students and teachers and the members AAA in Kabul.

100 free Galileoscopes for school children

Another mentionable achievement was organising Galileoscopes for Afghanistan. A proposal which was submitted by Ahmad to the IYA'09 corner stone project "*Developing Astronomy Globally*" (as the SPoC for IYA'09) was successful and Afghanistan was awarded with 100 free Galileoscopes. These, will be put to use promoting space across Afghanistan. SGACs NPoC Ahmad has planned a space-related competition to be held among local primary and high schools, where the winning schools will be awarded with a telescope plus an educational package featuring space-related books, DVDs and probably SGAC flyers. But unfortunately, so far, he has not been able to secure funds for transporting the Galileoscopes from nearby China to Afghanistan. That still remains a challenge to be faced.

Plans for the Year Ahead - 2010

Ahmad has been undertaking efforts (there is already a little progress) to open official head office of **AfghanSEDS** (Afghan Students for the Exploration and Development of Space) at his university in capital Kabul, and other chapters in some other institutions across Afghanistan. AfghanSEDS will be officially launched involving some space-related projects to make it inspiring for university students. He hopes to turn this into a big success and promote space in a better way across Afghanistan in 2010 and beyond.



China

As the developments of astronautics related projects and activities, the government and people of China are beginning to pay more attention to the humanity aspects of space. However, due to little precedents in promoting such an NGO as SGAC in the area of space, the building of relationships for projects and sponsorship is tentative. Through first tentative activities, some useful experience and information has been collected.

National SGAC Highlights

- This year, the new NPoC of China Yuian Dong joined forces with SGAC.
- China's NPoC participated SGC09 in Korea and successfully represented the People's Republic of China.
- SGAC in China is currently building a relationship with the Chinese National Space Administration (CSA) for further cooperation.
- Develop our relationship with the Non Governmental Organisation Development and Communication Network (NGOCN). It is very possible for them to build a link for SGAC on their website and to cooperate with SGAC in some projects together in 2010.
- We performed a survey about SGAC at some universities in Beijing and the result showed that those students taking part in the survey were interested in participating in some international activities to broaden their perspective in space, but opportunities to do so were limited up to this day.
- SGAC China helped NASA carrying out the *Cassini Scientist for a Day* essay contest, and got a educational website company in to coordinate with the contest.

National Plans and Suggestions for 2010

China is looking forward to seeing a great growth of SGAC in China with some niche targeting projects and activities in order to get more Chinese sponsors to contribute their enthusiasm.

It is seems better to begin with educational aspects to promote space under the name of SGAC in China, such as essay or translation contests. By doing this we think the universities, especially those with a strong focus on aerospace and some other educational organisations (e.g., companies, NGOs, social associations, governmental organisations) are likely partners we can turn to with such project plans.

China would like to get more involved and contribute more to the international activities on promoting space among the youth.



Georgia

The activities related to space are still very scarce. Georgia is not a member of COPUOS, which results in a low priority of space and space technologies for the country. Georgia does not have a satellite of its own and according to the available information has no plans to develop one any time soon. Taking this into account, the interest in space of the younger generation is also quite low; it is hard to imagine what space technologies could be useful for if there is no public debate about the development of space activities. Nevertheless, since space can be beneficial for all nations despite their size or economic strength, there is a potential for Space Generation to spread the word about space, as well as to plan several space awareness programmes and to organise public outreach events.

Highlights 2009

Last year, Catherine Doldirina became the NPoC of Georgia with the SGAC. She currently resides in Canada, but is very enthusiastic about promoting space awareness among the people of Georgia.

First Public Lectures

A public lecture on space, space activities and space law was organised in Tbilisi, capital of Georgia, in November last year for the law students of the Tbilisi State University. Catherine Doldirina was the speaker at this lecture. This event has paved the way to establishing the Space Generation network in Georgia and attract young people who might be interested in pursuing space careers in or outside Georgia.

Space law course at Tbilisi State University

Catherine Doldirina will most likely teach a space law course at Tbilisi State University faculty of law in summer semester 2010. This can serve as an opportunity to interact with the students more extensively, as well as to try and organise a university-wide information session on space and Space Generation. Attracting young people to get involved with space-related matters will be the priority for the coming year, and will hopefully result in Space Generation having new members and activists from this country.

Other goals for this year are to promote space events like *Yuri's Night* and the World Space Week. Organisation of these events in Georgia might attract more attention to space activities and promote Georgian engagement in space matters in the long run.

India



In 2009, India made several strides in space exploration and development, most prominent among them being the discovery of water on the Moon by the Chandrayaan-I probe announced on 24th of September 2009. Amateur astronomers also made significant contributions at the international celebrations commemorating the International Year of Astronomy 2009. India also unveiled its *Space Vision 2025* which includes human spaceflight.

The formation of several new space related societies have also been announced. The *Indian Space Society*, the *Indian chapters of National Space Society* and the *Moon Society* were founded this year. India also participated in the *International Astronautical Congress* in Daejeon, South Korea with several representatives including the head of the Agency.

Several Milestones were also achieved by the Indian Space Research Organisation (ISRO).

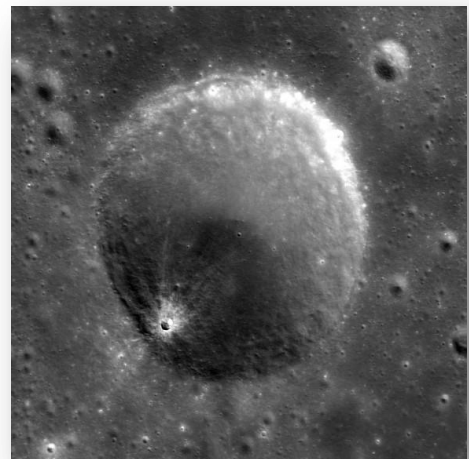
Chandrayaan - I Update in 2009

Scientists from ISRO, NASA and ESA met at Bangalore on 7th to 8th of September and reviewed the data sets obtained from the 11 scientific instruments on-board Chandrayaan-1. The scientists discussed results obtained so far from that data, some of which are being reviewed by a peer review committee.

The highlight of the scientific results was the discovery and confirmation of water (hydroxyl molecules) by three instruments on board Chandrayaan-I: *Moon Mineralogy Mapper* (M3), *Moon Impact Probe* (MIP) and the *Hyper Spectral Imager*. Results for M3 were published in 24th of September.

Scientists from India and participating agencies expressed satisfaction on the excellent performance of Chandrayaan-1 mission as well as the high quality of data sent by the spacecraft. They have started formulating science plans based on the data sets obtained from the mission. It is expected that in the next few months, interesting results about lunar topography, mineral and chemical contents of the moon and related aspects are expected to be published from the data obtained from Chandrayaan-1 mission.

The mission lost contact with ground stations on 29th of August, 2009. The mission was called off on 30th of August.



Lunar Crater, Credit ISRO

Other ISRO missions

ISRO also made two other launches this year - PSLV-C12 and PSLV-C13. The PSLV-C12 carried the RISAT-2 and India's first student satellite ANUSAT, built and developed by students of Anna University. PSLV-C13 carried OceanSAT-2, the replacement for the ten year old OceanSAT-1 in order to provide continuity of service. PSLV-C13 also saw the launch of four international student cube sats and two RUBINSats.

International Year of Astronomy 2009

India hosts over two hundred scientists currently conducting front-line research in Astronomy and Astrophysics at several research institutes and universities. These academic centres regularly host astronomy outreach programmes such as workshops, lecture series, sky watch demonstrations, etc. There are organisations which manage science centres, museums and planetaria spread all over India with the aim of enhancing the public profile of science on a national level. For doing so at a local level, several other science centres exist which are funded by the local government or private organisations. Amateur astronomy clubs (mostly in the cities) also play an important role in bringing astronomy closer to the general public. The celebration in India is spearheaded under the efficient leadership of Padmashree Prof. Thanu Padmanabhan of the *Inter-University Centre for Astronomy and Astrophysics* (IUCAA), Pune.

The *Sastragramam* project has astronomy as the core theme for the current year's science popularization activities.



Students in Murrikasseri, 4th of May

Other active members and associations helping with the IYA 2009 are listed below:

- IUCAA, Pune http://www.iucaa.ernet.in/~scipop/iya2009/iya_iucaa.htm
- ISRO, Bangalore <http://www.isac.gov.in/News/IYA.html>
- Nehru Planetarium, New Delhi http://nehruplanetarium.org/IYA2009/IYA2009_Activities.htm
- Indian Institute of Astrophysics, Bangalore <http://www.iiap.res.in/iya2009/>
- Vigyan Prasar, Delhi <http://www.vigyanprasar.gov.in/iya/iya2009.html>
- Jawaharlal Nehru Planetarium, Bangalore of Bangalore Association for Science Education <http://www.taralaya.org/iya2009.htm>
- All India People's Science Network (AIPSN) - a premier network of voluntary organisations involved in science popularisation and communication. It conducted *Pondicherry Science Forum* (PSF) a national workshop on the International Year of Astronomy on the 6th and 7th of September 2008 in collaboration with the Indian Institute of Astrophysics, AIPSN, Navnirmithi etc. <http://groups.google.co.in/group/iya2009india?hl=en-GB>



- *Science Popularisation Association of Communicators* (S.P.A.C.E) is an NGO working in the field of science popularisation amongst the masses. It is a society registered under Indian society registration act. It is a team of dedicated and eminent Astronomers, Science Communicators & Educators. Through astronomy it aims to spread science and an attitude of rationale questioning and experimentation amongst children. <http://www.space-india.net/>
- IYA is celebrated by *Sasthramam Project* (Project - Science Village) a unique programme of Newman College, Thodupuzha, Kerala, initiated by the Department of Physics, Newman College, Thodupuzha, Kerala. The programme is implemented in collaboration with the *Kudumbashree mission* - the state Poverty Eradication Mission a project of the Government of Kerala. <http://www.shastragramam.blogspot.com/>
- *Tanmaye's Amazing Space*, Ahmedabad One man's efforts in taking astronomy to children and general public almost single handily. <http://tanmayevyas.blogspot.com/>
- Dinesh Nisang's *Bhaskaracharya Astronomy Research Centre* (BARC) is one man's efforts in taking astronomy to children and general public almost single handily <http://www.bhaskarastro.org/>
- Sandeep Nigam - A science Journalist who is trying to create more and more space for Astronomy in Indian Television <http://www.starry-messenger.blogspot.com/>

Planetary Society

The *Planetary Society* (not associated with the-US based *Planetary Society*) hosted several programmes and awareness campaigns related to the IYA, the Chandrayaan-1 mission and the threat of asteroids through publishing newspaper articles, giving TV interviews and through its website. It also conducted several outreach sessions in various parts of Andhra Pradesh. The Society ended the year in being the organisational co-ordinator in the *Cassini Scientist for a Day* Essay Competition 2009's India edition.

SEDS India

In February, SEDS India hosted the *SEDS India National Conference'09 (SINC'09)* for the first time. More than 300 students from all over India participated. The *National Small Satellite Symposium* was held during SINC09, giving all students involved in various student satellite projects a platform to discuss their respective ideas. During this working year, SEDS has grown from a mere three local groups to almost ten fully functional groups all over India and continues growing.

The SEDS School students outreach *One Space* also saw a lot of activity. A number of workshops such as Water Rocketry were held for kids attending school. SINC also involved work with school children in the form of a water rocket competition and a paper presentation competition. On 15th of August 2009 SEDS India along with SEDS VIT and *One Space* conducted ANTARIKSH'09, a space themed art fair. SEDS India also plans to hold SINC 10 in February 2010.

Indian Space Society

Urban school students will now get a chance to see and meet the astronauts and space engineers with the aim of explaining and presenting them the mysteries of space to students. ISRO former group director Suresh Nayak was appointed as the Chairman of Indian Space Society.

IAC 2009 - Daejeon, South Korea

India presented its **Space Vision 2025**:



- Satellite based communication and navigation systems for rural connectivity, security needs and mobile services
- Enhanced imaging capability for natural resource management, weather and climate change studies
- Space science missions for better understanding of the solar system and the universe
- Planetary exploration
- Development of a heavy lift launcher system
- Reusable Launch Vehicles - Technology demonstrator missions leading to Two Stage To Orbit
- Human Space Flight

Milestones 2009

- Chandrayaan-1 finds water on the Moon using its instruments - Moon Mineralogy Mapper, Moon Impact Probe's spectrometer and Hyper Spectral Imager (HySI) (24th of September).
- PSLV-C14 successfully launches Seven Satellites - OCEANSAT-2, Four CUBESAT Satellites and Two RUBIN-9 from Sriharikota (23rd of September).
- PSLV-C12 successfully launches RISAT-2 and ANUSAT from Sriharikota (April 20, 2009).
- Yuri's Night 2009 India: The Yuri's Night was registered in four locations in India to celebrate humanities achievement in space (Ahmedabad, Bharuch, Hyderabad, Valsad)

TSE, 2009

The solar eclipse on the 22nd of July 2009 was the longest total solar eclipse in the 21st century so far, not to be surpassed until June 2132. It lasted a maximum of 6 minutes and 39 seconds. Totality was visible in many large cities, including Surat, Vadodara, Bhopal, Varanasi, Patna, Gaya, Dinajpur, Siliguri, Guwahati and Tawang.



Crowds Gather to watch the TSE, Varanasi, India 22nd of July 2009

New NPoC India

Pradeep Mohandas was selected the Co- National Point of Contact for India this year. Pradeep is a highly motivated mechanical engineering undergraduate student from Mumbai University. His interests lie in the field of space and energy sciences.

SGAC Goals and Visions for 2010

- Better networking possibilities for Indian students interested in space
- Creating Indian Forums for SGAC members from India
- Increasing the public awareness of space in India
- Promoting exchange between student ideas from around the world and in India

Japan

State of the Space Programme

This year, Japan watched with excitement as our astronaut Koichi Wakata worked onboard the International Space Station from March to July. In June, Kaguya lunar orbiter completed its mission with a planned impact on the Moon. In September, JAXA successfully launched the H-2 Transfer Vehicle on the H-2B rocket from Tanegashima Space Centre.

Some other highlights included approval of the Basic Space Law by the National Parliament last year, a missile launch over Japan from North Korea in April, and the announcement of Basic Space Plan and solicitation of public comments in April. In September, the Democratic Party took over the government and the national budget for science and technology will be decreased. The future of space policy in Japan is unpredictable.

Many space enthusiasts wish to promote commercial space activities including private space travel, but the government's policy limits, delays, or demands high cost for commercial uses of outer space. To open up the use of outer space for everyone, our colleagues are activating commercial new space through grass roots efforts, largely led by the following organisations:

- University Space Engineering Consortium (UNISEC) <http://www.unisec.jp/>
- Manned Rocket Project (MRP) <http://www.manned-rocket.jp/>
- The Space Tourism Society, Japan (STSJ) <http://www.sts-j.com/>
- CAMUI hybrid rocket project <http://www.hastic.jp/camui/default.htm>
- P D Aerospace <http://www.pdas.co.jp>
- Japan Space Elevator Association (JSEA) <http://jsea.jp/>



Visions of SGAC Japan

1. Encourage more members from Japan to participate in SGC!
2. Hold more space events in Japan like Yuri's Night, World Space Week, etc.
3. Invite SGAC members worldwide to visit Japan and host them.
4. Participate on the SGTalk list and hold discussions with delegates from other countries.
5. Report our activities in Japan to SGAC Executive Committee annually.

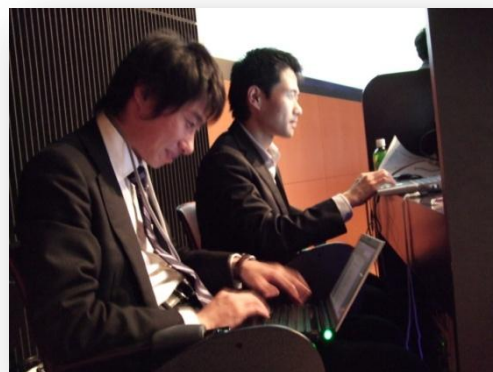
1st SGAC Japan Meeting, 28th of December, 2008 in Tokyo

When a National Point of Contact Yuki Takahashi (UC Berkeley) temporarily returned to Japan, Hiroshi Yamashita organised a SGAC Japan meeting with his space colleagues.

SGAC Japan members network

Yasuko Yanatori, Takeshi Hakamada, Hiroki Minematsu, Tsuyoshi Sotome, Noriaki Inami, Kentaro Sakurai, Kayoko Oshima, Naruko Fujita, Daichi Nakamura, Kazuhito Kidachi, Shuichi Ito, Tatsuaki Yoshihiro, Seiichiro Morisawa, Atsushi Kimoto, Yusuke Iwasaki, and many more (about 50 space colleagues).

We created a 'SGAC Japan' mailing list group, currently with 19 members:
<http://groups.google.com/group/sgacjapan>.



SGAC Activities in 2009

Yuri's Night JAPAN 2009 (April)

Apollo 40th Anniversary Lecture was held on April 12 at Tokyo University with presentations by JAXA/ISAS professor Yasunori Matogawa, science journalist Shinya Matsuura, and University of Aizu professor Junya Terazono. They were followed by panel discussions on "Are human beings going back to Moon? How should Japan move?" Videos from the event were uploaded on YouTube. There were 193 participants, of which about half also attended a party after the lecture event. 53 of the participants were students.



<http://www.yurisnight.jp/>

2009 Report: http://www.spss.or.jp/support/pdf/21/YN09_Report_Final.pdf

SGAC 10th Anniversary in Vienna (June)

Hiroshi Yamashita attended the SGAC 10th Anniversary event and reconnected with SGAC members from SGC 2005 Fukuoka. He presented a document 'Space Activity in Japan' to SGAC Executive committee and NPoCs.



Post-ISTS Tsukuba (July)

Some SGAC members attended the 27th International Symposium on Space Technology and Science (ISTS) in Tsukuba. After ISTS, we held a welcome party for them at a bar in Roppongi, Tokyo. Participants were Chris Boshuizen, A.C. Charania PrincessLieza Manzon, Julie Bellerose, Kazuhito Kidachi, Noriaki Inami, Takeshi Hakamada, Tatsuaki Yohihiro, Yasuko Yanatori, and Hiroshi Yamashita.

Space Event in Encafe Koenji (July)

Encafe Corp. (a social networking service company for engineers) hosted a Space Event at the Koenji Platform Workshop on 5th of July, two days before the Tanabata Japanese traditional star festival. Hiroshi Yamashita introduced space-related experiences and grass-roots space activities. Misuzu Onuki explained various space hotel visions. Noriaki Inami talked about training experience as a founder of the Space Ship Two flight by Virgin Galactic. The emcee of the event was a young comedian, "Ad Balloon."





<http://encafe.jp/event/schedule/9061901.html>

SGC Korea (October)

Four Japanese members participated in SGC Korea. Yasuko Yanatori is the only Japanese member who continuously participated the SGC for five years in a row, starting from 2005 Fukuoka to 2009 Korea. Daichi Nakamura mentioned Japanese explorer spacecrafts in the discussion of the “Exploration” group. Hiroki Iida showed a performance of Japanese historical swordplay style Kendo at the Cultural night. Hiroshi Yamashita introduced the astronaut Chiaki Mukai at the Space farer Social reception as part of the IAC 09 Young Professionals Programme.



Post-IAC with NPoC Aziz, Metehan (October)

After the IAC Korea, Turkey NPoC H. Aziz Kayihan, Turkish SGAC member Metephan Sezgin, and Chris Boshuizen, visited Japan. Yasuko Yanatori, Daichi Nakamura, Hiroki Iida, Senichi Nanbu, and Hiroshi Yamashita held a welcome party at a traditional Japanese restaurant in Iidabashi, Tokyo.

Space Event in Tokyo Culture (December)

Noriaki Inami organised a space event at Tokyo Culture by nifty in Daiba, Tokyo on 13th of December. Shuji Ogawa, the president of PD Aerospace reported about his company's activities, Misuzu Onuki

hosted a space quiz and gave Christmas presents to guests. Noriaki Inami talked about the rollout of Spaceship Two in Mojave Desert. The emcees were the comedians, “Fuuraibou” who entertained guests with short stories and nice reviews.

http://tcc.nifty.com/cs/catalog/tcc_schedule/catalog_091122202694_1.htm



Vision of SGAC Japan for 2010

We would like to more actively seek donations to sponsor members for SGAC related activities.

We have met many colleagues in the world through SGAC and other aerospace events. Let's challenge ourselves to open up commercial space access together with passion, enthusiasm, and strong will!

Nepal

Nepal was officially joined SGAC when Suresh Bhattarai, founder member of Nepal Astronomical Society (NASO) was appointed NPoC of SGAC for Nepal on 2nd of March 2009 on his return from IYA 2009 and IAU symposium “*The role of Astronomy in our Society and culture*”. Since then SGAC- Nepal has been carrying out various activities in the field of space science and astronomy. These included participating and hosting activities by SGAC with a high impact on Nepalese young. More than 2,500 people observed the beauty of night sky during dozens of star parties in Kathmandu, Lalitpur, Bhaktapur and Dhangadi. 2009 in the field of space science and astronomy has been of tremendous success, with an increase of educational outreach activities in Nepal.

National Highlights of SGAC Nepal

100 Hours of Astronomy in Nepal, 2nd to 5th of April

Nepal celebrated 100 hours of Astronomy with star parties, lectures and screening of the movie "*The Eyes on The skies*" at St. Xavier's College, Maitighar, Kathmandu and the Institute of Engineering (IOE), Pulchowk, Lalitpur. A SGAC promotional video was also screened during the event.

Star for Global Peace Event, 5th of June

Star Peace colleagues from all around the world, from Brazil to Uruguay, Iraq, Iran, Pakistan, India, Nepal and New Zealand, crossed the artificial borders of this planet using three key words: Sky, Peace, and Environment - during *Star for Global Peace* on 5th of June, World Environmental Day. This event was supported by Star Peace, *Astronomers Without Borders* and the UNAWE programme.

The Nepalese session was organised by Jayanta Acharya, SPoC and Chair International Year of Astronomy 2009, with the help of Suresh Bhattarai.

Release of Nepal's first Astronomy Documentary, 14th of June

Nepal's first astronomical documentary entitled "*Hubble and The Universe*" was officially released by Rishi Shah, Chief guest and Academician of Nepal Academy of Science and Technology (NAST) and President of Nepal Astronomical Society, Reverend Father Antonysamy, principal of St. Xavier's College at St. Xavier's College, Maitighar in Kathmandu and Jayanta Acharya. The documentary is a production of *FAR SCIENCE Productions* initiated by G.D. Pudasaini and Utshav Kandel, students of B.Sc. first year at St. Xavier's College. Mr. Sudeep Neupane, co-founder of NASO, gave a speech on NASO activities in the past, present and future to commemorate the IYA2009 in Nepal. More than 200 students from different colleges of Kathmandu attended the ceremony. After the release ceremony, a solar observation session was organised by NASO. During the observation session, Abdul Haleem Thowfeeq, founder member of Maldives Science Society, talked about some mutual programmes between Nepal and Maldives.

Longest Total Solar Eclipse Observation Campaign, July

- Press release 17th of July 2009.
- Organisation of a programme called *Meet Your Scientists* at Nepal Academy of Science and Technology on the 21st of July. Key speakers for the programme were Rishi Shah, Jayanta Acharya, Suresh Bhattarai and Sudeep Neupane.
- Observation campaign: Live on Sagarmatha Television. We succeeded in arranging an interview of Prime Minister Madhav Kumar Nepal and the President of NASO Rishi Shah on BBC London. The event was highly covered various national TV channels and radio stations. We were on live telephone interviews with a number of radio stations to talk about the total and partial solar eclipses. The programme was attended by more than 300 people.
- The review programme regarding the event was organised at NAST on 2nd of August.

Talk Programme on Astronomy and Its Impact in our Society 10th of August

Rishi Shah, Rijendra Thapa and Sudeep Neupane were key speakers as founder members of NASO at the *Golden Gate College*. More than a 100 students of bachelor and master programmes in Physics participated.



Talk on Impact of Astronomy on Nepalese Civilization, 25th of August

NAST, Khumaltar, Lalitpur and the NASO jointly organised a lecture series on **The Impact of Astronomy in Nepalese Civilization** presented by Mr. Suresh Bhattarai to commemorate the 400th Anniversary of Galileo's Telescope at the NAST Hall.

Second NPoC of SGAC for Nepal Appointed

Rijendra Thapa, cofounder of the Nepal Astronomical Society, was appointed as second NPoC of SGAC for Nepal on 4th of September. He is M.Sc. Physics student at St. Xavier's College, Maitighar, Kathmadu.

Star Peace Event to Celebrate World Peace Day in Nepal, 21st of September

For another time, the Star Peace clubs drew a memorable peaceful line across the world. From New Zealand to China, Philippines, Maldives, Nepal, India, Iran, Iraq and Brazil amateur astronomers united to display the peace between them on the International Day of Peace, 21st of September 2009. In Nepal, NASO in association with Takshashila Academy organised a star party to observe Jupiter and its moons at Takshashila Academy, Bishalnagar, Kathmandu. The event commenced with the introduction of Jupiter and its moons and the Star Peace Project by Mr. Suresh Bhattarai.

World Space Week

The astronomical documentary "*Hubble and the Universe*" was screened in various schools and colleges of Kathmandu during the event from the 4th to the 10th of October.

International Cassini Scientist for a Day Essay Contest, October

The special project of IYA 2009 was organised by NASO in Nepal under the coordination of Mr. Rijendra Thapa. The Contest was held for high school students of Nepal in October and the essays received were on the topic of Saturn's moon Titan. Abinish Dutta, student of St. Xavier's College Maitighar, Kathmandu, was the winner of the essay contest.

Galilean Nights 2009 and Campaign Against Light Pollution in Far West, October, 2009

NASO and STEP-Nepal, a local NGO, jointly organised different programmes in Dhangadi, Far West Nepal to celebrate Galilean Nights 2009 in Nepal. On 23rd of October, a lecture session was arranged in the District Development Committee hall in Dhangadi. There were four lectures on different topics along with the documentary on Hubble & Universe by GD Pudasaini and Utsav Kandel. Co-ordinator of the *Campaign against Light Pollution* (CALP-Nepal) and Executive Founder Member of NASO, Mr. Sudeep Neupane gave a talk on "*Light Pollution*". Further talks included "*Global Warming*" by Mr. Riway Pokhrel (Founder Member-NASO) and "*What is Astronomy?*" by Mr. Suresh Bhattarai. After the lectures, Mr. Sudeep Neupane lectured "*Steps into Amateur Astronomy*" to provide a guide for astronomy enthusiasts which was then followed by a sky observation. The NASO team made an arrangement to observe Jupiter and the Moon through Telescopes and Binoculars. There were almost 250 participants (including teachers, students, journalists and public) attending the talk and observational session. The public seemed to be interested in all the topics, the topic of Light Pollution was completely new for all. BBC Nepal reported about this event.

Workshop on Astrophotography and Image Processing, 15th of November

A workshop on **Astrophotography and Image Processing** was held at St. Xavier's seminar. The workshop was jointly organised by NASO and the department of physics of St. Xavier's college. It was a half day workshop in association with *The World at Night* (TWAN). There were almost 120



participants including students, teachers, journalists and other enthusiasts. In the course of the programme, Mr. Babak Tafreshi, director of TWAN and Mr. Oshin, an astrophotographer (TWAN) presented their talk and showed different cameras and their techniques for taking night sky images.

Leonids Outburst Observation Campaign 2009 in Nepal

This campaign was hosted by the NASO in the night of the 17th/18th of November at the Nagarkot Hill Station, at the 2195 m above the sea level. This year, the Leonid meteorite shower was predicted to climax at 03:45NST on 18th of November, 2009. More than 50 participants including students, teachers, amateurs astronomers, journalists, astrophotographers and tourists gathered to observe the brightest deep sky objects, constellations, planets (Jupiter, Mars & Venus) and Leonids in the morning. NASO used its two 76 mm Celestron FirstScopes and one 206mm SkyWatcher Dobson for the observation of deep sky objects like the Orion Nebula. A Canadian Film Company *Acquainted Films Inc.* captured the event for the upcoming 90 minute documentary entitled *Acquainted with the Nights*. The event was coordinated by Mr. Sudeep Neupane.

Mr. Suresh Bhattarai coordinated the International group including Dr. Prakash Atreya, Jeremie Vaubaillon, Frederic Vachier of Institut de Mécanique Céleste et de Calcul des Ephémérides (IMCCE), France; Frederic Vachier of the Search for Extraterrestrial Intelligence (SETI) Institute, Fred Bruenjes, Astrophotographer, Jen Winter, NASA Solar System Ambassador, Wang Jinglei, Jia Hao, Li Minghao of Nanyang Technological University of Singapore, Deepak Shah, Arun Silwal and Rishi Shah. A double station observation of Leonids was carried out by the team led by Dr. Prakash Atreya.

Star Party at Bhaktapur Durbar Square, 19th of November

NASO organised a grand Star party at the historic city of Bhaktapur. This became one of the greatest outreach activities conducted by NASO till date. The observers were over 1,000 students, local people, police officers, women, the audience reaching from street children to high ranking officers. NASO used its two 76 mm Celestron FirstScopes and one 206 mm Sky Watcher Dobson telescopes to observe celestial bodies. Rishi Shah explained the night sky and its highlights to the locals. The Canadian Film Company *Acquainted Films Inc.* also captured scenes of this event for the upcoming 90 minute documentary entitled *Acquainted With The Nights*.

Talk on Astronomy and Meteor Science, 22nd of November

NASO organised a lecture session on Astronomy and Meteor Science at Nepal Academy of Science and Technology, in Khumaltar Lalitpur. Jennifer Dudley Winter, NASA Solar System Ambassador and Owner of Astronomical Tours LLC, US and Fred Bruenjes, amateur astronomer, astrophotographer and owner of Moon Glow Technology, US gave a talk on Astronomy Calls to the audience. Another Speaker, Dr. Prakash Atreya from IMCEE, France presented a talk on Meteor Astronomy focusing on basics of meteor science.

Fifth Inter School Young Scientists Fair 2009, 3rd to 4th of December

Young Nepalese Scientists organised *The 5th Inter School Young Scientist's Fair (5th ISYSF)* on the 3rd to the 4th of December at the Nepal Academy Exhibition Centre, Kamaladi, Kathmandu to celebrate IYA2009 in Nepal. More than 35 schools from different parts of Nepal participated in the fair. More than 10,000 visitors visited the exhibition of about 100 scientific models built by participating school students. This fair is regarded as the largest science fair for school Students in Nepal.

<http://astronomy-nepal.blogspot.com/2009/12/fifth-inter-school-young-scientists.html>



International Participation of SGAC-Nepal

Astronomy and Civilization, Budapest (Hungary), 10th to the 13th of August

Nepal advocates the Asian Contribution to the history of astronomy in the International Conference on Astronomy and Civilization, Budapest, Hungary. Mr. Suresh Bhattarai presented his paper on Impact of Astronomy on the Nepalese Civilization on 10th of August. He advocated the Asian contribution to the history of astronomy with special reference to the Nepal. The conference was organised by the Konkoly Observatory of the Hungarian Academy of Sciences, the Lorand Eotvos Physical Society, and the Lorand Eotvos University.

XXVII IAU General Assembly, Rio de Janeiro, Brazil, 3rd to the 14th of August

Ms. Nishu KARNA, founder member of NASO presented a poster on Astronomy in Nepal at XXVII IAU General Assembly in Rio de Janeiro. She highlighted the work of NASO and its impact in Nepalese society.

Space Generation Congress 2009 and 60th International Astronautical Congress

Mr. Rijendra Thapa for Nepal was honoured to receive the first IAF youth grant award ever to be awarded to Nepal, allowing him to participate in SGC 2009 and 60th IAC 2009 at Daejeon, Korea. He contributed to the Peace project, one of the five projects of SGC2009 and also in 19th UN/IAF workshop. He was one of the speakers on the first young professional and student plenary session entitled “*Entering the Workforce and Strengthening the Global Community.*”

Winter School on Astroparticle Physics (WAPP 2009), 14th to the 22nd of December

Mr. Sudeep Neupane and Mr. Riway Pokhrel, two brilliant amateur astronomers and executive founder member of NASO participated in the *Winter School on Astroparticle Physics* (WAPP 2009) which was hosted by the Bose Institute, Darjeeling in association with TIFR, Mumbai. Both Mr. Sudeep Neupane and Mr. Riway Pokhrel are the students of Physics and doing their M.Sc. in their final year at the Central Department of Physics, Tribhuvan University, Kirtipur in Kathmandu.

<http://bic.boseinst.ernet.in/capss/wapp09/>

Tentative Plans for SGAC-Nepal 2010

To motivate Nepalese Youth Community on Space Science and Astronomy through various educational outreach activities throughout the nation.



Pakistan

The year 2009 has seen many activities for the young people of Pakistan as the International Year of Astronomy 2009 was celebrated in different cities. The excitement and the willingness of the young people of Pakistan to learn more on space and related issues was evident at the different *Astrofests* and similar activities. From this it is evident that if the young people and the students of Pakistan could participate more frequently in such events, which they have proven to take as opportunities to increase their skills and knowledge, they would be able to develop their interest in space-related activities and work towards the peaceful use of space applications.

State of Space Programmes in Pakistan

There are only a few societies which work towards the promotion of space related studies and try to involve youth in their programmes. At the moment it is essential to provide more windows of opportunities to the students for developing their interest in pursuing activities towards a peaceful space exploration and raise general public awareness of space related topics.

New programmes are needed to be developed in order to include more people and provide them with more learning opportunities.

Activities in Pakistan

The main activities in Pakistan revolved around the International Year of Astronomy 2009, the *Khwarzimid Science Society* has been actively involved in celebrating the International Year of Astronomy 2009 with other societies in Pakistan.

Their main activities involved:

World Space Week

SUPARCO, Khwarizmi Science Society, Lahore Astronomical Society and Society of the Sun celebrated World Space Week on 5th and the 6th of October, 2009 at Gulshan Iqbal Park, Iqbal Town, Lahore.

KSS Fifth Astrofest

The 5th Astrofest or the Falakiyati Mela was arranged at the Govt Girls School, Shahdara on 4th of October.

STARPEACE-5th of June

Uruguay, India, Iran, Iraq, Oman and Pakistan celebrated Star Peace on World Environment Day. Participants used telescopes to spot heavenly objects and lightened up candles as a marker of peace under stars.

KSS Forth Astrofest

The Fourth Astrofest or the Falakiyati Mela was arranged at the Rohtas Forts on 30th of May.

Falakiyati Melas

The Third Astrofest or the Falakiyati Mela was arranged at the District Public School and College, New District Complex, Okara on 6th of April.



Moon-watch

Society of the Sun and Lahore Astronomical Society with the kind help of National Museum of Science and Technology (NMST) arranged a Moon-viewing session for the public at the NMST building on 4th of April 2009. This was a part of 100 Hours of Astronomy, a corner stone project of IYA 2009.

Star Peace Event between Pakistan and India

Society of the Sun, and Kutch Amateur Astronomy Club held a Star Peace event in SOS children's villages of both countries on 9th of February.

Public Lectures

An Inaugural Public Lecture by Dr.Pervez Hoodbhoy, Chairman Department of Physics, Quaid-e-Azam University, Islamabad 29th of January at the Auditorium Environmental Law College, University of the Punjab

Tentative plans for 2010

SGAC's NPoC looks forward to 2010 and working to provide more opportunities to the young people of Pakistan. An essay competition is planned. The aim of these activities is to raise awareness and the interest of youth in the space activities, hopefully increasing in manifold ways. Furthermore, it is planned to hold a session on space traffic management in the future.

Sri Lanka

This year Sri Lanka mainly focused on the International Year of Astronomy. Many professional organisations and the academic institutions were organising a number of astronomy related events throughout the year. This year also saw a historic milestone as the Sri Lankan Government decided to construct a satellite in collaboration with the British Government.

The SGAC is happy to report a great improvement in the field of astronomy and space related sciences. Many student oriented activities such as observational camps and quiz competitions were organised. This seems good sign that our responsible parties have understood the importance and the needs of the space since industry. Now many Sri Lankan universities have added astronomy in to their educational programme, being a good example of the rapid growth in the field of astronomy.

The NPoC of Sri Lanka, Thiwanka Jayasiri, took this report as an opportunity to present his gratitude to President Mr.Mahinda Rajapakse for his personal interest and his vision of future space endeavours of his people, and to express his gratitude to all the people who are supporting them with their energy and strength to make their dreams come true.



National Highlights

Solar Camp organised by the Arthur C Clark centre

The partial eclipse reached Sri Lanka on the 22nd of July at 6:05 a.m. local time, reached its maximum at 6:20 a.m. and ended up at 7:12 a.m. Clouds in the eastern sky obstructed the crowd from viewing the beginning of the eclipse. An 80mm refractor telescope with a solar filter was used to capture images on a digital camera. The exact moment of the end was recorded at 7:11:53, which agrees very well with the time provided by the NASA Eclipse website for Colombo, Sri Lanka.

Star Quest 09

Star Quest 09 was a nationwide Inter-School Astronomy Quest Competition on the 24th and the 31st of May and was organised by the Mathematical and Astronomical Society of the University of Colombo at the Faculty of Science University of Colombo.

Sri Lanka Signs a Historic Agreement for its first Communications Satellite



This agreement starts a Sri Lankan national space capability by providing an Earth observation satellite and commencing the definition and design of Sri Lanka's first communications satellite. The Director General of the Sri Lankan Telecommunications Regulatory Commission, Priyantha Kariyapperuma and Professor Sir Martin Sweeting of Surrey Satellite Technology Limited (SSTL), signed an agreement, starting a Sri Lankan national space capability by providing an SSTL Earth Observation satellite and commencing the definition and design of Sri Lanka's first communications satellite.

This agreement includes a training and development programme and collaborative activities between the University of Surrey and leading Sri Lankan academic institutes, in order to promote academic, industrial and socio-economic development. By partnering with SSTL, Sri Lanka will become an important member of the Disaster Monitoring Constellation (DMC) with the ability to participate in international disaster relief support activities coordinated by the United Nations through the International Charter. SSTL will also advise on the establishment of the Sri Lanka Space

Agency (SLASA), building on SSTL's experience of supporting the formation of five previous national agencies.

The Director General of the Sri Lankan Telecommunications Regulatory Commission, Priyantha Kariyapperuma welcomed the agreement, saying:

"Universities here in Sri Lanka have developed a programme of strong engineering research. Given that the UK is the most preferred destination for academic professionals working in technological fields to further their development, I am delighted that the opportunities created through this programme will serve to bring the two nations closer together."

For more information see:

http://www.sstl.co.uk/News_and_Events/Latest_News/?story=1493

<http://www.trc.gov.lk/about-us/events/129-acquisition-of-national-satell...>

Forty Years of Space Age and Beyond Workshop (FOYSA09)



One of the highlights of the FOYSA 09 programme was a display of the Apollo 11 moon rocks. The exhibition was officially opened by Dr. Rohan Munasingha and Prof Kavan Ratnatunga.

Thailand

This year, space related activities in Thailand commenced with the international conference on space technology and geo-informatics applications called *Geoinfotech 2008*, hosted by the Geo-Informatics and Space Technology Development Agency (GISTDA) in January.

The Minister of Science and Technology and the Wuhan University, P.R. China, signed a Memorandum of Understanding, thus paving the way for the *Princess Sirindhorn International Research Centre of Geo-informatics* in February.

A number of workshops and exhibitions hosted by organisations of both the public and private sector held nationwide, aimed to raise awareness of space related subjects and knowledge among the youth and the society.

During *60th International Astronautical Congress*, GISTDA acted as space agency of Thailand and exhibited its work in International Aerospace Technology Hall.

Amid the wave of rumour about doomsday in 2012, the Thai Astronomical Society uploaded a scientific answer of those rumours to its website, helping Thai people to distinguish between fact and fiction.

http://thaiastro.nectec.or.th/library/faqs/faq_doomsday.php

Geoinfotech 2009 in December concluded the year, hosting various lectures and paper presentations on space related applications.

SGAC Activities

In June, Patthara Limsira and Duangkaew Noppornprom, were appointed as the National Points of Contact for Thailand. They were studying LL.M. at Chulalongkorn University and also are considering themselves to be rookies in space and SGAC.

Most of the SGAC activities were about introducing the organisation to the public. However due to the limited of capacity of NPoCs, it was hard work to explain the motives and the mission of SGAC. All activities and news from the SGAC newsletter were translated to Thai and submitted to university- and other websites, in order to raise awareness of SGAC activities by public announcements.

Plan for Year 2010

The increased interest in space of young Thai is a result of the recent movie on Domsday, Roland Emmerichs 2012. Hence, SGAC Thailand hopes to carry on the debate and to spread knowledge on space and SGAC by co-organising events with other local organisations. Therefore, the most important aim for next year is the initiation of cooperation and establishment the network with local agencies such as GISTDA and the Thai Astronomical Society.

In January 2010, the 16th *Asia-Pacific Regional Space Agency Forum* (APRSF - 16) will be held and SGAC Thailand already registered. SGAC hopes to start 2010 off well by making a presentation at this conference.



Vietnam

Vietnam's Space Development in 2009

In 2009, Vietnam's first telecommunications satellite, Vinasat-1, has leased out 70 percent of its capacity to domestic and foreign clients, just one year after its launch on April 19th, 2008, according to the operator, Vietnam Telecom International (VTI).



Announcement of VNREDSAT-1 project (Vietnam Natural Resources, Environment and Disaster monitoring small SATellite), which is an Earth observation satellite carrying two optical sensors (2.5-4m-resolution panchromatic and 10m-resolution 4-spectral bands) and weighing about 150kg. The budget for project comes from French government's Official Development Aids (ODA) loan.



Space Technology Institute (STI) and Japan External Trade Organisation (JETRO) joined force to perform a feasibility study and completing a proposal for Hoa Lac Space Centre (the first space centre in Vietnam) for approval from Vietnamese Prime Minister. The budget for this project will be coming from Japan's ODA sources, estimated at 350 million USD.



FSpace laboratory under FPT Research & Innovation institute, FPT University was established on the first day of 2009 with the goal of developing space R&D capability, establishing network contact and manufacture of the F-1 nano-satellite.



SGAC Activities in 2009

1st SGAC's National Point of Contact for Vietnam

Thu Vu Trong was appointed as the first NPoC of Vietnam in November, marking the day Vietnamese youth joins forces with SGAC.

Awed by the black & white pictures sent back from Mars by the Mars Pathfinder mission in 1997, then high school student and soon-to-be NPoC Thu was quickly captivated with space stuff. From the first telescope made from magnifying glasses, Thu and his friends founded the first amateur astronomy club in Vietnam and organised many space promotion events including World Space Week. At the moment, Thu and his team of space enthusiasts at FSpace laboratory is working to manufacture a nano-satellite which they hope to launch into orbit in 2011.

SGAC will be greatly benefited from Thu's enthusiasm and experience and looks forward to build up a new momentum in 2010.

Space exploration talks in clubs and university by FSpace laboratory



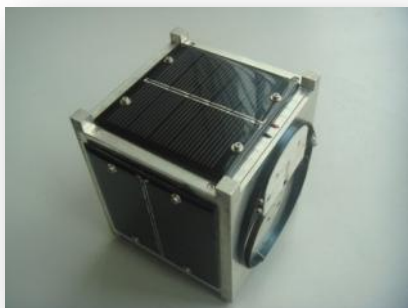
Talk to students at Hanoi University of Technology



Presenting latest news from Cassini/Huygens mission to Saturn

Pico Dragon project

The team of Space Technology Institute (Vietnam Academy of Science and Technology) had completed the engineering model of the Pico Dragon cube-sat. 11 researchers were trained and six thesis topics were applied for students in Coltech, VNU, Hanoi.



Engineering model of Pico Dragon cube-sat



Pico Dragon team inside clean room

F-1 nano-satellite project

Officially founded on the first day of 2009, *FSpace laboratory* has been attracting Vietnamese space enthusiasts and has grown to more than 10 members with many supporters. The team has been focusing their heart and mind into the F-1 nano-satellite project with the goal to complete the satellite in 2010 and reach launch state readiness in 2011. The small satellite (2U cube-sat) measures 10x10x20cm and weights 2kg. It carries several cameras to take photos of the Earth and some sensors (temperature, magnetic) to study space environment.



FSpace team testing antenna



Working on F-1's prototype



BBM model of F-1 nanosatellite

World Space Week and International Year of AstronomyWorld Space Week in Hochiminh city, organised by HAAC
(Hochiminh Amateur Astronomy Club)

Sharing experience in telescope usage

To commemorate the IYA 2009, HAAC has organised some events throughout the year to raise public awareness in astronomy and space. Activities included seminars, knowledge contests, star parties. These events attracted many youngsters from local schools and universities.



"Astronomy, sky and space" contest



Seminar on astronomy topics



Star party with HAAC



Star party with HAAC

Fun Science Fair for the Youth

The event was held in Hochiminh city, 15th of November 2009 in order to introduce and inspire the young for science and included hands-on activities and competition for several hundred visitors.



Easy to make, inexpensive homebrew telescope



Pupils from secondary schools are preparing their water rockets before the launching competition



SGAC NPoC for Vietnam and HAAC friends
at the science fair

Plans for 2010

We will continue our tradition by organising World Space Week events in big cities including Hanoi, Danang and Hochiminh city with the goal of attracting more attendants than 2009. We also have planned to organise Yuri's Night 12th of April, 2010 in cooperation with teams of other countries to make it truly a global event.

SGAC Vietnam would also like to reach out to the developing young professional community in the country by participating exhibitions and organising talks at local schools and universities on space exploration and development topics. Moreover, we will also encourage more Vietnamese youth to join SGAC as well as international projects.

2009 was the first successful year for SGAC Vietnam and we look forward to growing on this success in 2010.



The European Region remained very active in 2009, and we are happy to report that all major goals set for the year were successfully met. The emphasis was on consolidating the internal structure of SGAC by improving communication between members while expanding our membership basis by adding new National Points of Contacts from previously unrepresented countries. New Regional Coordinators, Daniela Petrova and Marko Gacesa, were elected and several new NPoCs were recruited, establishing SGAC's presence in six additional European countries: Belarus, Bosnia and Herzegovina, Greece, Italy, Poland, Russia and Spain. Taking into account its space programme, Russia is a particularly notable addition to the list, as we hope to connect better to the Russian space programme and youth activities. The ESA member states Italy, Spain and Greece previously unrepresented at SGAC are a welcome addition to our expanding network. High level of enthusiasm regarding space among younger people in Poland is also very encouraging, and we expect to see many new developments there in the near future.

Events

A particularly notable event, hosted by ESPI in Vienna, was the celebratory SGAC 10th Anniversary Conference. The conference, which overlapped with the 52nd session of the United Nations Committee on the Peaceful Uses of Outer Space, was well attended by current and founding members of SGAC as well as by several UN COPUOS delegates including the current Chair, Ambassador Ciro Arévalo, who expressed his strong support for ongoing SGAC activities and strategy. In recognition of their long-term contribution to SGAC and young space enthusiasts, our distinguished supporters Jim and Lin Burke were presented with the SGAC Lifetime Honorary Membership Award. The conference offered a great opportunity for current SGAC members to meet, work together, and interact with founding members (affectionately also known as "SGAC Dinosaurs") as well as with leading space professionals and UN COPUOS delegates.

Europe was well represented at the 10th Space Generation Congress 2009 in Daejeon, South Korea. Nine European delegates were awarded scholarships to attend the congress, including Christine Hill, Emil Nathanson and Andreas Fink who were sponsored by the German Aerospace Centre (Deutsches Zentrum für Luft- und Raumfahrt; DLR), and Sini Merkallio of Finland won the 2009 Move an Asteroid technical paper competition.

Representation

Regional Coordinator, Daniela Petrova, gave a presentation at the International Space University Space Programme at NASA Ames Research Centre on SGAC and SGC09, which was followed by a significant number of applications for SGC09 from the ISU and the Singularity University (SU) alumni communities as well as young people who are now working for space agencies including NASA.



SGAC has also established close relations with other scientific organisations related to the space sector within Europe. Two notable additions to this list of organisations include the United Kingdom Space Biomedicine Conference (UKSBA) and the Strategies for Engineered Negligible Senescence Foundation (SENS).

SGAC was represented at the *UK Space Biomedicine Conference 2009* by Regional Coordinator, Daniela Petrova, who introduced many students and young professionals in the audience to the work of SGAC. With the increasing importance of human spaceflight, biomedical research in space along with the growth of the private spaceflight industry and space tourism, and with the explicit goal of many space agencies preparing for the manned exploration of the Moon and Mars, it is becoming increasingly important for young people to be aware of the potential in these emerging topics. SGAC's European representatives have been striving to maintain SGAC's edge in informing its members of the latest developments and opportunities in the space sector.

SGAC was also represented at the *SENS 2009 Conference* by one of the Regional Coordinators who reported on the latest developments in the biomedical industry and how they relate to spaceflight at a time of growing space biomedical research. An initiative was also established with the SENS Foundation, which offers research placements for students and young people, to extend opportunities for young researchers to space research placements.

Future Directions

Plans are being made to ensure the representation of SGAC at a number of European events including SpaceLand in Sardinia, Italy, and the next UK Space Conference in 2010.

The next SGAC Annual General Meeting for the European Region will be held during the first half of 2010. The aim is to hold it at the ESPI during one of the next UN COPUOS sessions in order to ensure maximum attendance and exposure of European members to the SGAC seat at UN COPUOS.

National Reports

Austria

Once again, in the year 2009, Austria has shown high level of commitment to actively engage itself in space related activities as well as showing a great amount of participation in the discussion of space related topics in the area of technology, culture and policy making. Recollecting events and activities in the year 2009, Austria shows a strong focus on outreach, aiming at bringing space closer to society and raising awareness for space especially among the younger generation.



Policy Making: Highlights

UN Space Congress -

The UNO space conference took place from 9th to the 20th of February 2009, featuring the "COPUOS Scientific and Technical Subcommittee" meeting. One of the main agenda points: the UN-SPIDER Programme "United Nations Platform for Space-based Information for Disaster Management and Emergency Response". Austria supports the UN-SPIDER through the framework and activities of ASAP - the agency for aeronautics and space.

UN Workshop "Building Capacities to Reduce Disasters"

The purpose of this workshop from the 2nd to the 4th of June was to gather information about catastrophes via space applications and to discuss measures for managing catastrophes. The workshop served for presenting the most recent space based technologies for catastrophe and risk management.

Funding and Outreach Activities: Highlights

Austria's space related organisations laid a strong focus on outreach activities as well as on informing young businesses and organisations about the opportunities to receive funding. Several workshops and conferences discussing these topics took place in the year 2009.

Series of Lectures: "Die Himmel rühmen die Herrlichkeit Gottes (Melk Abbey)

By hosting this series of events and an exhibition from the 28th of March to the 20th of December 2009, taking place in the historic setting of Abbey of Melk, the abbey expressed its interest, acknowledgment and engagement in the International Year of Astronomy. The workshops, seminars, lectures and the exhibitions taking place throughout the time period of nine months took a deep look into the history of astronomy and were organised by Mag. Paul Beck and his colleague Dr. Georg Zotti. Both are specialists on historical issues of astronomy and presented the marvels of the abbey's library in the context of modern science and astronomy.



Looking through centuries old scripts and documentations of astronomic observations

Himmel @ All - 18.06.2009 - 19.06.2009

This was a series on the 18th and the 19th of June of workshops and lectures on the topic of astronomy in education and culture.

40 Jahre Mondlandung (40th anniversary of landing on the moon)

Beginning with the 26th of September, this fair commemorated the occasion of the 40th anniversary of the moon landing and lasted until the 4th of October.



Poster announcing the Austrian fair dedicated to the 40th anniversary of landing on the moon

Sommerschule Alpbach 2009 -

The summer school "Alpbach 2009" discussed the topic of "Exoplanets - Discovery and Identification of Planets Similar to Earth." The workshop from the 21st to the 30th of July aimed to show the most recent developments in this area, introducing students and young professionals to the technology that enabled a giant leap of progress in discovering earth like planets in the past decade. Initiators of the annual, very successful summer school programme are the FFG department of aeronautics and space in cooperation with ESA.

Abenteuer Weltraum im Planetarium Wien (Adventure: Space)

"Abenteuer Weltraum" ("Adventure Space") was an event on the 4th of October, taking place in the course of World Space Week 2009. This event was initiated by UN COPUOS in cooperation with FFG department for aeronautics and space, the Planetarium in Vienna, the Ministry of Traffic Control, and the Ministry of Education and Arts.

Conference "European Identity through Space" - 12.11.2009 - 13.11.2009

The European Space Policy Institute organised this conference in Vienna, discussing "European Identity through Space" on the 12th and the 13th of November. Key speakers were the General Director of ESA as well as representatives of the European Parliament.

Research Activities: Highlights

Austrian scientists are doing research in the fields of stars and planets, galaxies and cosmic matter circuit, and the history of astronomy (there is a small museum in the building of the Institute in Vienna). A lot of people do not know that the participation in satellite programmes has such huge astronomical fan base in Austria. Since the events for the IYA2009, the public has begun to realize that the astronomy study in Austria is not a bold new adventure, but it has been occurring for a while and it has a bright future.

SGAC Austria already established contacts with Austrian personal in connection with astronomical research and advertisement. A meeting discussing opportunities for collaboration is scheduled in the first quarter of 2010. Another objective for 2010: establishing contact with the Austrian Space Industry, informing representatives about SGAC activities and entering discussions about possible cooperations in the future.

Participation of Austria in Space Related Projects: Highlights

Satellite Cooperations Herschel, Bright Target Explorer (BRITE) and Globales Astrometrisches Interferometer für die Astrophysik (GAIA)

There is a special participation worth mentioning: the collaboration in the Herschel satellite project, which aims to explore the formation of galaxies and stars for the next two or three years. A whole Austrian consortium is involved in this project and is lead by researchers at the Institute for Astronomy of the University of Vienna. In BRITE), a joint project of Canada and Austria, young Austrian scientists got the chance to build one of the satellites and are currently working in Canada on writing a thesis about this mission. And finally, the GAIA mission is currently in the development phase and will conduct a census of one thousand million stars in our Galaxy, with the participation of Austrian scientists from the Institute for Astronomy in Vienna.

<http://herschel.esac.esa.int/>

<http://www.univie.ac.at/space/HERSCHEL/>

<http://www.univie.ac.at/brite-constellation/spacecraft.html>

Other missions: Convection, Rotation and Planetary Transits (CoRoT) and Earth Venus Explorer (EVE)

This mission is led by the French Space Agency, Centre Nationale D'Étudees Spatiales (CNES) (<http://smc.cnes.fr/COROT/>) and the Austrian AstroDynamics-Group at the Institute for Astronomy in Vienna, thanks to this group it is possible estimate the long-term stability of discovered planets. EVE stands for *Earth Venus Explorer*, a mission is led by Univ. Prof. Dr. Maria G. Firneis, who is the head of the planetology section at the Institute for Astronomy in Vienna. Her team focuses on Venus for planetary exploration. EVE is one of many projects in the ESA Cosmic Vision Programme.

<http://www.univie.ac.at/EPH/venus/index.htm>

Delta Scuti Network (DSN)

It was founded by Michel Breger at the University of Texas (McDonald Observatory) and at the University of Vienna (Institute of Astronomy) in 1983 with the goal to improve the frequency solutions of multiperiodic Delta Scuti stars. It is supposed to work as a multisite campaign.

<http://www.univie.ac.at/tops/dsn/map.html>

Not long time ago the VAC (Vienna AsteroSeismology Centre) was founded as a research group of six project leaders and nearly fifty team members (all from Austria). The main focus is the observation and theoretical modelling of the pulsation of stars showing radial and non-radial oscillations.

<http://www.univie.ac.at/vac/>



SGAC Activities in 2009

Yuri's Night Party and SGAC Vision presentation at EGU

SGAC co-organised a Yuri's Night event in Vienna that featured two movies and a great networking event. On the following day, SGAC was privileged to present the "*Visions for the Next 50 Years*" at the European Geosciences Union (EGU) General Assembly in Vienna, Austria. Executive Director, Ariane Cornell, presented the results of the project and networked with a variety of scientists from all over the world.

SGAC funded nine members to attend the 10 Year Anniversary Celebration in Vienna, 5th - 7th of June. Members from Brazil, Colombia, Pakistan, Bulgaria, Tanzania, Romania, and Iran fully funded to participate in the SGAC 10 Year Anniversary Celebrations consisted of reception and a conference "*Revisiting UNISPACE III - how far have we come?*"

World Space Week at the UNO City Vienna

SGAC participated in a World Space Week event at the UN Vienna and contributes to the Austrian Space Forum (ASF) driven space event for kids. SGAC Executive Director, Ariane Cornell, took part in the United Nations World Space Week event that was held at the United Nations centre in Vienna, Austria. The function was held in the main rotunda of the centre where kids were invited to wear a mock space suit, drive a model Mars rover, meet astronauts Dr. Takao Doi (Japan) and Dr. Shaikh Muszaphar (Malaysia), and experiment with hands-on space science activities. The event pulled in more than 300 children from the Vienna area.



SEDS Austria

Students for the exploration and development of space also find its members among Austrian students and young professionals. The activities of SEDS Austria only stand at the very beginning.

The Austrian chapter aims at forming structures and long term goals in 2010.

SGAC Media Contacts and Media Cooperation Plans

- "Der Orion" www.der-orion.com.

The "Orion" is an online-magazine for astronomical research and human spaceflight. SGAC Austria managed to establish contact with the "Orion" - a website link followed shortly after. Orion provides a German translation of Astronomy Picture of the Day: www.starobserver.at

- Meta-Physik www.meta-physik.com

Meta Physik is a small advertisement agency dedicated to research in Austria. There are plans to meet in the first quarter of 2010.

- Okto (TV channel): Show “Supernova”

“Supernova” runs as an astronomy show on the Viennese TV Channel OKTO (<http://okto.tv/supernova/>). SGAC Austria is in close contact with the participants of the show, discussing ways of cooperation.

Plans for 2010

Serving as a place for several important space related organisations such as UN COPUOS, ESPI and SGAC, Austria is in a very fortunate position as the gathering of those influential players have the potential to create increased awareness of space and of the necessity to further and to fund space related activities and research. In 2010, Austria wants to focus even more on outreach and on an ongoing cooperation between the several space players represented in Austria.

The upgrade process for the Austrian site “spacegeneration.org/austria” is currently running, expecting to be successfully completed in 2010. The foremost goal is going to be, to encourage and enhance cooperation between COPUOS, SGAC and ESPI especially concerning events in the occasion of e.g. the international World Space Week, Yuri’s Night and more.

Moreover SGC members of Austria and the NPoC liaison Austria have worked on an outreach concept with the preliminary name “*Space Talk*,” ideally to be realized in 2010. “*Space Talk*” is a series of round tables, enabling very personal and memorable exchanges between young people, (children and students) and professionals working in space-related areas.

Belgium

Belgium is a very blessed country in terms of space activities. There is a lot of interest and awareness from the public, from all ages, but there are also a huge number of activities organised by many organisations. Having two astronauts in our country is certainly an asset to this interest. Because of many high quality events, organised by both professional and non-professional organisations, it is somewhat difficult for the NPoCs to host even more. Instead, we try to advertise the existing events as much as possible and spread information about SGAC and its international activities.



Brief State of The Space Programme and Non-SGAC Activities in Belgium

This year was very good for space interest in Belgium: next to all the yearly events, we had our own astronaut in the International Space Station for six months. He was even the first non-American or Russian commander onboard! Besides the enormous honour and historical importance of his ISS mission, we also had the international year of astronomy, which did not pass unnoticed in Belgium. In the following, we give an overview of the most important space-related organisations in Belgium, and the activities which they organised during 2009.

Frank De Winne:

Belgium's second astronaut is Frank De Winne. He already went in space during 2002 on a ten day ESA-mission to the ISS, but in 2009, he returned for a six-month mission called OasISS. Launched on 27th of May, he was a part of the 20th and 21st expedition of the station, and in October, he even took over the command of the ISS as the first non-American or Russian commander ever. This is a huge honour for the small country Belgium. He returned on the 1st of December.



It needs no explanation that his journey was closely followed by the whole nation. It was an occasion to create awareness among the public, to make people enthusiastic about space, and to inspire children and youth of all ages. Science projects at all levels were created; children were brought into contact with the astronaut via videoconference during his mission on several occasions. As a result, the ministry of science made promises to maintain and increase aerospace investment in our country.

On the whole, it was the highlight for space enthusiasts in Belgium. An overview of the mission of De Winne you can find here (http://www.esa.int/SPECIALS/OasISS_Mission/), but some important organisations had their own newsfeeds about the mission and everything around.

IYA 2009:

Belgium has also been involved with the International Year of Astronomy. An enormous amount of events have been organised in every province, and in each month. An overview of the events is given on the website; even so, all of the groups, organisations, companies that participated were space ambassadors. These lists are very heart-warming because they really give a good impression of the huge interest and awareness of space in our country.

<http://www.iya2009.be/>



Euro Space Society:

This organisation was founded by Belgium's first astronaut, Dirk Frimout, and tries to bring space closer to young people, focusing on primary and on secondary school, but also on university students and other higher educational systems. It provides a very broad offer of different activities, events, conferences, contests and the like. This year's focus was on the space trip of Frank de Winne, naturally, but there was also the ODISSEA-Prize, space classes, lectures by Dirk Frimout, and other events.

NPOC Pieter-Jan is a member of this organisation, and he attended the ODISSEA prize ceremony in December in the Belgian Senate.

<http://www.eurospace.be/default.aspx>

Space Centre:

Belgium has its own Space Centre in Transinne. It hosts a permanent exposition and indoor theme park for families to visit and learn about all aspects of space, and it also organises Astronaut, Rocket and Space camps, stargazing events, and the like.

<http://www.eurospacecenter.be/hoofd.html>

Space Week:

During the third week of September Euro Space Society, together with all the Belgian ministries of education and science (both Flemish and Walloon) organised nationwide events for students older than 15. On every day of that week, each day in another major city of the country, lectures were held and exhibitions hosted, to promote space related subjects, and to motivate young people to take up science-related careers.

<http://www.spaceweek2009.com/>

Euroavia:

This European Aerospace student organisation has a department in Belgium in Leuven/Brussels. It organises lectures and offers visits at aerospace companies in and outside Belgium. They have had a very busy programme the last year, and the managed to increase their members

<http://leuven.euroavia.eu/>

Planetaria:

Belgium is very blessed with an enormous amount of star-observatories: more than seven (see www.spacegeneration.org/belgium for their websites-addresses). Their programme is always very busy: almost every week there are stargazing opportunities. Now and then special programmes or lectures are organised. Every year in February or March, the government organises the national stargazing-days, so special activities are scheduled and a lot of streetlights are being dimmed.



Many other activities/organisations are also involved and we are working on creating an exhaustive list of links to them all on the SGAC webpage for Belgium.

SGAC Developments and Activities in Belgium in 2009

As stated in the introduction, the role of the NPoCs in Belgium is rather limited, because of all the activities already hosted by other organisations (see point one). In 2009, we accordingly did not organise any specific events.

It must also be noted that former SGAC-Chair Alex Karl (and his wife Maryam Aljoaan, former NPoC of Kuwait) moved to Brussels and so are now part of the Belgian space community.

In the very beginning of 2009, we also created an webpage for Belgium on the SGAC website (<http://www.spacegeneration.org/Belgium>) where people can find out about future and past space related events (in Belgium), discover who the NPoCs are, etc.

Tentative Plans for SGAC Activities 2010

Again, as our role is limited, we have no specific future activities currently planned except for creating an extensive list of links to all space related activities and organisations in Belgium. We would like to place this on the Belgian webpage of the SGAC-website. By doing so, we hope to emphasize our role as points of contact for our country regarding space matters, particularly for university students and young professionals.

All the organisations cited above (and many more unmentioned) will continue to strive with bringing space in all its aspects closer to the public.

Bosnia Hercegovina

SGAC Activities in 2009

1st National Point of Contact for Bosnia and Herzegovina

Alma Krivdic was appointed as the NPoC of Bosnia and Herzegovina. She was born in Sarajevo where she lives and works as high school teacher for math. She studied and lived in Famagusta, North Cyprus, Strasbourg, France and Honolulu, US. She studied at the International Space University for a Master of Space Studies in 2006/2007. She was one of organizers of Yuri's Night in Sarajevo in 2008.



Bosnia and Herzegovina Riding the IYA2009 Wave

Astronomy Day was organized by the Department of Physics, University of Sarajevo in honor of celebrating the International Year of Astronomy. It included lectures about astronomy in culture, arts and education; how to form an astronomy club at school. Celebration was finished by observing sky with available telescopes. Intention was to educate kids (primary school and high school pupils) and introduce them to astronomy.

Reopening of only observatory in Bosnia and Herzegovina after 17 years

Astronomy society Orion from Sarajevo has worked hard and finally managed to reopen only observatory in Bosnia and Herzegovina at Colina Kapa on the mountain Trebevic near Sarajevo. Reopening was commemorated on the 30th of June 2009.

Colina Kapa was first opened in 1969 by members of than called University Astronomical Society what is today the Orion. During aggression and war in Bosnia and Herzegovina 1992-1995 this observatory was totally destroyed.

Croatia

Astronomy and remains the main link between space-related activities and general public in Croatia. Thus, it is not surprising that the International Year of Astronomy 2009 global effort has had significant positive impact on promotion of space in Croatia. Croatian Astronomical Society played an important and commendable role in celebrating the IYA09 by organising various public space-related activities. Majority of activities described below are a direct or indirect result of the IYA09.

Overall, Croatia suffers from lack of government interest in space sciences and funding, which could help increase the enthusiasm among students of all levels. Nevertheless, there is hope that raising interest in space in neighbouring countries as well as prospects for near-future membership in the European Union could have positive implications on the current situation.

Notable Events:

Events Sponsored or Organised by the Croatian Astronomical Society

Numerous events were organised to celebrate the International Year of Astronomy 2009. Examples are:

- Women in Astronomy workshop for teachers (<http://astronomija.hr/index.php>) in Zagreb Observatory (11th of December)
- Numerous public night sky observation events throughout the year



Space Days in the Technical Museum Zagreb

A series of astronomy and space-related talks “*Space Days*” organised for general public. At this three-day event with free admission different topics from space travel and exploration, principles and applications of Global Positioning System, to intricacies of Einstein’s general the theory of relativity were presented by country’s leading scientists and experts.



The Sky as a Gift '09

Ongoing countrywide project led by Ana Bedalov has been successful at promoting astronomy and space among elementary and middle school students. The best teams at the annual competition are awarded telescopes. The project is sponsored by several amateur astronomical societies and a non-profit organisation znanost.org and it successfully connects professional astronomers and students.

6th Cultural Fair in Zagreb Student Centre

The Cultural Fair picked space as theme in order to unite different arts and sciences while promoting the importance of impact of science and space exploration on the society. Various plays, movies, and concerts with space thematic, talks by astronomy and physics students on topics such as techniques for detection of exoplanets, space propulsion, etc. were organised. Impact of the event was significant since it was organised in the Student Centre of University of Zagreb, the largest Croatian University, well attended and covered by popular media.

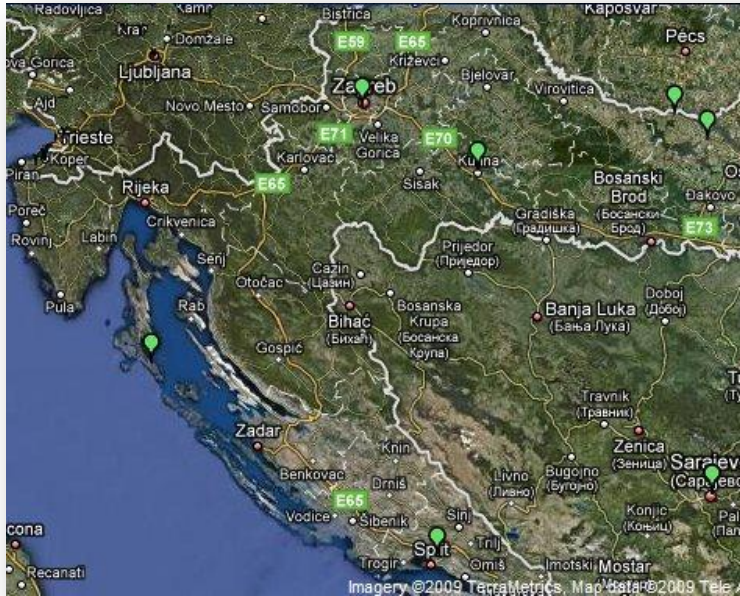


Galilean Nights

The Galilean Nights project of the IYA09 has successfully been implemented in several Croatian cities, as described in <http://www.galileannights.org/>:

“On 22nd to the 24th of October 2009, the International Year of Astronomy 2009 Cornerstone Project, Galilean Nights, will see amateur and professional astronomers, enthusiasts and the public taking to the streets all around the globe, pointing their telescopes to the wonders that Italian astronomer Galileo observed 400 years ago.

Spread over three nights, astronomers will share their knowledge and enthusiasm for space by encouraging as many people as possible to look through a telescope at our planetary neighbours. The focus for Galilean Nights is the objects that Galileo observed, including Jupiter and the Moon, which will be well-positioned in the night sky for observing.”



Regional map indicating the various locations of *Galilean Nights* in Croatia

Space Generation Congress 2009

The author of this report attended the SGC09 in Daejeon, Korea as a Croatian National Point of Contact and Regional Coordinator for Europe. Marko was awarded Young Leader Scholarship from the SGAC which made it possible for him to attend the Congress. He also served during the conference as an assistant project leader. Attending the SGC and interacting with international delegates was a very rewarding experience from which lot can be learned about successes and failures of different strategies that other people as NPoCs or delegates tried in their countries.

Future Directions

The following are objectives for 2010:

- Recruit a second NPoC in support of Marco Gacesa in fulfilling NPoC duties as he/she gets ready to take over the role.
- Re-establish contacts with student sections of the University of Zagreb and Croatian Astronomical Society.
- SGC 2010 – Advertise the SGC and attract more people to attend. Next year's Congress is going to be in Prague which makes it simpler for Croatians to attend since finding sponsors in Croatia is not easy and current economy makes it even more difficult.
- Attend SGAC events and possibly COPUOS in spring 2010.

Germany

Continuing the momentum from the successful European Ministerial Council in November 2008, Germany has positioned itself well in the European Space Agency and is increasingly supporting space exploration and exploitation activities.

2009 has seen the first astronaut selection of ESA in the current millennium, which has selected a German candidate, Alexander Gerst, together with five other European outstanding professionals to represent Europe in the future years of manned spaceflight. Another German representative has successfully participated in the 105-day spaceflight simulation of the Mars500 project, a European-Russian project to investigate long duration spaceflight influences on humans. Germany is actively involved in research on the International Space Station, while multiple other satellite missions are continuing to function flawlessly.

SGAC Activities in 2009

2nd National Point of Contact

Oliver Troll has been appointed as second NPoC for Germany in May 2009. Alongside with Juergen Schlutz he will support the coordination of national activities and communication within national and international groups.

Oliver studied aerospace engineering in Stuttgart and Madrid and has just recently taken a position that leads to the European Launch Centre in Kourou, French-Guyana. While this takes him one step closer to going up to space, we are looking forward to work with him right here on Earth in the future.

Space Generation Congress 2009, Daejeon, Korea

SGC 2009 was well supported by Germany and increasing number of applications and delegates confirm the increasing visibility of SGAC in the country. A total of seven German participants attended the SGC 2009 in Daejeon, Korea, out of which four were newcomers to SGAC affairs, and the three others were actively involved in the planning of the event. Through the NPoC, the close cooperation and support from the German Space Agency DLR could be continued. DLR enabled SGAC to give three full-paid scholarships to German delegates to allow their participation in the event as well as at the subsequent International Astronautical Congress. The three scholarship candidates were Christine Hill, Andreas Fink and Emil Nathanson. They produced a summary report of their experiences, which is available at the DLR homepage at

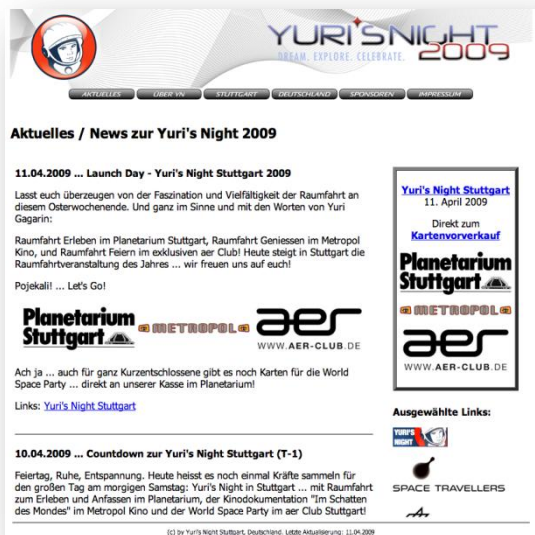
http://www.dlr.de/en/desktopdefault.aspx/tabid-4743/7838_read-21194/.

Yuri's Night 2009 – World Space Party

Yuri's Night is the worldwide celebration of spaceflight. Being initiated from SGAC members in 2001, it has been growing every year since. Stuttgart, Germany, once again claimed one of the biggest events outside of the US, while five other events in the country also celebrated in the same timeframe (Stuttgart, Berlin, Darmstadt, Heidelberg, Molfsee, München).



Nationwide coordination of events and resources has been achieved by the NPoC, Juergen Schlutz, through the implementation of a German website at www.yurisnight.de, providing a portal for communicating and advertising Yuri's Night parties for all interested contributors. Through this resource, many more potential partners as well as media have gained interest in the activities, approached local organisers and engaged in continued support of the outreach.



German Yuri's Night website screenshot



Map of nationwide Yuri's Night activities in Germany, 2009.

Yuri's Night Stuttgart was realized on Saturday, 11 April 2009. It took advantage of the partnership with the Stuttgart Planetarium, allowing a small space exhibition to be installed already on 1st of April, thus creating considerable awareness of the spaceflight activities and the upcoming World Space Party already prior to the event itself. The exhibition was received so well in fact, that organisers and the planetarium decided to keep it open in a reduced form until September 2009. The exhibition featured general models of human spaceflight systems such as historic US and Russian launchers, the space station MIR and the International Space Station, Saturn V, Apollo systems and astronauts, and many others. The link to the Apollo mission was of considerable interest due to the 40th anniversary of this extraordinary event in 2009.

During the course of the afternoon, the Apollo flights were then also the topic of a feature talk, while others addressed the current ISS activities (including 3D material from the station), local Stuttgart research and future space exploration. Binding together the exhibition, the talks as well as the children's rocket building workshop in the planetarium made this location a prime spot for families and the general public interested in space activities. Public awareness of the event was greatly enhanced through the fact that rocket launches were possible outside of the Planetarium Stuttgart in agreement with local authorities, seeing some of the self-built systems rocketing up to about 50 m into the sunny skies above the city.



Impressions from Yuri's Night Stuttgart 2009: Planetarium exhibition (left), model rocket launching (middle), night club party (right)

With the daytime events in the planetarium, Yuri's Night 2009 then took the evening and night experience to the next level, partnering both with a local movie theatre as well as a prime night club in the Stuttgart city centre. The movie theatre introduced a special screening of the recently released Apollo documentary *"In the Shadow of the Moon"* in its original English version, preceded by a specifically made trailer to capture the audience for the Yuri's Night event.

Just after the movie screening, the AER night club opened doors for a true World Space Party, featuring live DJ, top dance floor, three bars and an exclusive Yuri's Night lounge area. Furthermore, it set the scene for the 2009 raffle, where Space Travellers contributed the supreme price of a *"Space Shuttle Farewell Tour,"* featuring a round trip to major space cities in the US including a Shuttle launch at Kennedy Space Centre, Florida. The club filled quickly with a large crowd of space enthusiasts and the general party guests, introducing the idea of Yuri's Night also to a whole new audience.

Yuri's Night Stuttgart 2009 easily surpassed party guests of last years' events (500+) with the club night alone, but also the other offers were well-received.

Other Youth-Oriented Space Activities in 2009

International Astronautical Year (IYA 2009)

The International Astronautical Year has been very well organised and received within Germany. Events have been organised on local, regional and national level in literally every week of the last year. Many of these events have also been targeted at or involved elements to address specifically kids, students and young professionals. It would be out of scope to address all of these, but a very complete summary of events is presented at the national website: <http://www.astronomie2009.de/>

REXUS/BEXUS

The REXUS / BEXUS programme allows students from universities and higher education colleges across Europe to carry out scientific and technological experiments on research rockets and balloons. Each year, two rockets and two balloons are launched, carrying up to 20 experiments designed and built by student teams. The programme is realised under a bilateral Agency Agreement between the DLR and the Swedish National Space Board (SNSB). The Swedish share of the payload has been made available to students from other European countries through collaboration with the European Space Agency.

The current campaign Rexus 9/10 and Bexus 10/11 have been opened in fall 2009 and there are about 10 experiments brought forward by German student teams to an ongoing selection process in December 2009. We are looking forward to these experiment results, launching in January and March 2011, respectively. Similar campaigns will become available in the future as an opportunity for German students.

SkyFuture.de

As an initiative of the DLR, the website <http://www.skyfuture.de/> offers a big opportunity for anybody interested in aerospace activities in Germany to find out about what is going on. It lists study options, job opportunities and current projects in aerospace in Germany.

DLR Conference in Aachen, Germany

In the frame of the German Aerospace Conference (DLRK) the 19th student conference was held in September 2009 in Aachen, Germany. It featured selected paper and poster presentations on aeronautical, aerospace and related topics. A similar opportunity will be available at the next DLR conference in Hamburg from 31st of August to 2nd of September 2010.

DLR student groups

The DLR features a number of young academics groups on various projects, all of which generally offer the possibilities for interested individuals and groups to get involved. These project groups include:

- Aeronautical Engineering Research Team of Students (AERTOS), Hamburg
- AkaModell, München
- AQUARIUS, Berlin
- Experimental Raketen Interessen Gemeinschaft (ERIG, formerly IGHWR), Braunschweig
- Flugtechnische Vereinigung Heinrich Focke e.V. (FVHF), Bremen
- Helix: Wissenschaftlicher Hubschraubermodellbau, Stuttgart
- Studentische Arbeitsgruppe Raumfahrttechnik (STAR), Stuttgart
- Wissenschaftliche Arbeitsgemeinschaft für Raketentechnik und Raumfahrt (WARR), München

An overview to these groups can be found here:

<http://www.dglr.de/gliederung/nachwuchsgruppen/index.html>

DLR Schoollab

DLR has introduced its “School Labs,” which allow school students and teachers to experience high technology research live at selected DLR locations. Currently, eight DLR School Labs exist in Germany, a ninth one is in the process of establishment. Each of these locations offers multiple experiments and opportunities each year. Check the website for more: <http://www.schoollab.dlr.de/>

Space Education Institute

The Space Education Institute (SEI, <http://www.spacepass.de/>) in Leipzig, Germany, offers high-school students the possibility to train as a “student astronaut” in Germany, the US and in Russia. Through various projects, students gain early hands-on experience in space programmes and related technologies.

For the third consecutive year they participated with a team in NASA’s Moon Buggy Race in April 2009 and received multiple awards for their design and performance. Also in 2010 they have currently two international teams participating to this event.





SEI team at the NASA Moon Buggy Race 2009

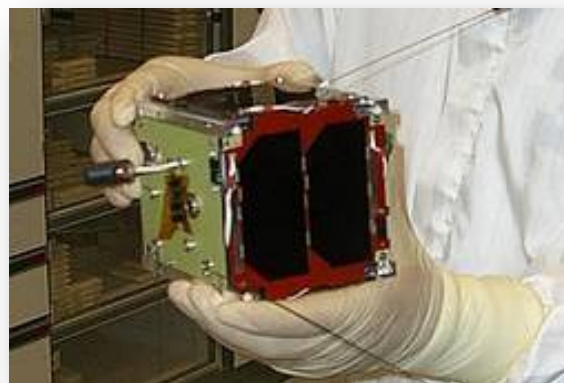
World Space Week

World Space Week saw eight events in Germany in October 2009, hosted in Munich, Ottobrunn, Diessen, Wunstdorf, Duisburg, Bremen, Friedrichshafen, Lampoldshausen. They involved space professionals sharing their knowledge, expertise and fascination with school kids and public alike in order to stimulate further interest in space exploration and utilization activities.

Universität Würzburg Experimental-Satellit2

On 23rd of September 2009, the UWE-2 has been launched successfully on an Indian PSLV-rocket. First beacon signals from UWE-2 have been received by CalPoly.

UWE-2 is the second satellite of the University of Wuerzburg, with UWE-1 having been launched in 2005. We congratulate the team for this success and are looking forward to future activities of the cube-sat team in Wuerzburg.



UWE-2 cube sat

Plans for 2010

The NPoCs aim to work more closely in 2010 in order to coordinate the work and communication of the many institutions, universities, project groups and clubs involving young people in Germany. We see a big opportunity for SGAC as a governing organisation to stimulate exchange between different interest groups and to encourage individuals and new groups to get involved.

As such, there are multiple ideas that have been brought forward already and we are aiming at realizing some of these in the next year.

Poland

Space Activities in General

In the year 2009 in Poland there was much work around some satellites programmes. The Warsaw Polytechnic PW-Sat has prepared a de-orbit demonstration of Cubesat for the first Vega flight. Additionally, the Polish Space Research Centre was awarded with a contract to build two scientific satellites which will be part of the BRITE constellation.

Teams from the Students Space Association (Warsaw Polytechnic) have also been working on satellite projects like European Student Earth Orbiter (ESEO), the European Student Moon Orbiter (ESMO) or the Stabilized Camera Observation Platform Experiment (SCOPE). Members of the group were the only European team during the US University Rover Challenge with so called "*The Skarabeusz Rover*."

What is more, there was a big breakthrough in the space-fascinated internet community. The www.astro4u.net forum bloomed with over 3,500 users and over 175,000-posted messages. The community centered on the portal started its own projects like: specialized PDF mission reports, Wikipedia editing projects, a high altitude balloon experiment etc.

Besides, the astro4u members created the kosmonauta.net portal, which is publishing very professional information about astronomy and spaceflights, and is also working as a common information hub for various Polish space communities. Amateur Radio on the International Space Station (ARISS) space station radio contact initiatives were also getting popular in Poland. Two communication sessions with the ISS crew were held. Thanks to that now more schools are getting ready to contact the ISS in the next year. The ARISS team has also built one of two radio contact stations for the PW-Sat project.

Poland had its representative during the European Space Agency/European Centre for Space Law (ESA/ECSL) Summer Course on Space Law and Policy, taking place in Lisbon, Portugal. It is two weeks event starting from end of August.

Poland had also beaten a record having two teams during the European Round of the Manfred Lachs Space Law Moot Court Competition in Athens, Greece. One team represented Faculty of Law of the University of Silesia and the second was from the Catholic University of Lublin.



SGAC Activities in 2009:

Michal Moroz and Damian Bielicki were appointed as the NPOCs of Poland. Michal is permanently based in Poland where he is currently a Ph.D. Candidate. His master thesis concerned *"Space research activity in the Arab World."* Damian is a Ph.D. Candidate and a space lawyer currently based in London, United Kingdom. In a very short period of time, they have build a communication channel between the worldwide space industry and Polish space professionals and enthusiasts not only in Poland but also abroad.

The Polish Mailing list was created. It was a great success, as it connects now not only Polish people in Poland interested in space activities, but also Polish immigrants or foreigners of Polish origin, and also people of great interest of Poland living in the United Kingdom, United States, Canada, Greece, and Israel.

A list (database) of institutions in Poland connected with space industry was created and will be delivered to all interested people who will contact the NPOCs. The list contains all relevant contact details.

On 25th of September 2009 a Space Conference was held at University of Warsaw. It focused on *Use of Outer Space – The World, Europe and Poland*. Both NPOCs were deeply involved in the conference, as they had presentations during the Conference. A publication from the Conference will be released in early 2010.

Also a presentation was given by Damian during a special conference dedicated to the Geneva Conventions and the Humanitarian Law of Armed Conflicts (40th Anniversary of existence of the Treaties). The presentation concerned *"International Humanitarian Law of Armed Conflicts and Space Law."* A scientific essay on that will be published shortly in English.

Michal gave a presentations and radio interviews during the *"Dogonic Kosmos IV – Catch up with space IV"* event in the city of Jaslo. It included an exhibition on space exploration featuring space hardware, meteors, models, books and historical press releases. It is important to note that the Polish astronaut, Miroslaw Hermaszewski, was a special guest of the event.

SGAC was featured in Warsaw during the Polish Radio Science Picnic, which is the biggest space event in central Europe, with over 200,000 visitors and over 200 scientific organisations present. Our stand was shared with the representatives from the Polish Astronautical Society.

Michal supported the *"Space Project Management Workshop"* in the city of Torun, featuring also guests from the Students Space Association, Mars Society Poland and Polish Astronautical Society.

Damian promoted the SGAC during the International Space University's Space Studies Programme (ISU SSP) at NASA Ames Research Centre in California, the United States. The ISU SSP gave an opportunity to spread the spirit of SGAC among 130 people from 35 countries. Some of them declared to join the SGAC or involve more actively.



Plans for 2010:

- There is an increased awareness of space related activities in Poland. Both NPoCs are going to undertake further research about progress in Polish space industry and about incoming activities and events related to space in 2010.
- Five ARISS communication sessions with the ISS are planned for the next year.
- Polish space enthusiasts will take part in the IAC in Prague giving presentations on web-community projects. It is intended to share experiences with people from neighbouring countries with the aim for a future collaboration on projects.
- NPoCs will promote space exploration at the Eurocon 2010 event, the biggest European science-fiction and fantasy convention. In 2010 it will be held at the Polish-Czech border in Cieszyn.
- Further steps to develop and advertise the mailing list will be undertaken.
- Active promotion of Manfred Lachs Space Law Moot Court Competition will take place.

Portugal

The NPoC of Portugal, Pedro Rodrigues, lives abroad which makes it difficult for him to organise SGAC events and to represent SGAC at any other events. He has been focusing more into staying in touch with what is happening in Portugal and how space activities have been developing and into gathering contacts.

Status of Space in Portugal

The status of space activities in Portugal can be divided in three different areas: education, social awareness and industry and research. The first focuses more on programmatic contents during basic and high school and university degrees related to space science and technology. The second focuses on organised events with the purpose of rising space awareness among the society, from young children to adults. Finally, the third one refers to the companies established in Portugal that have their activities connected to or depending on the space industry and to the research conducted at university or governmental level on this field.

Education

During basic education period, there is a specific curricular content regarding space, in the 7th year of studies. The Universe and its formation, the solar system and technologies for space exploration are some of the subjects taught during this year. On previous years, short references are made, but not so structured, and on high school, in Physics, it comes up again, related to gravitational forces and planet motion kinematics.

At university level, there are several degrees on the space area, either undergraduate, Masters courses in Science or Doctorate programmes, like Aerospace Engineering, Astrophysics, Astronomy



or Aeronautics Engineering. There are several other degrees, connected to Physics, Mathematics or Engineering that also have short references or projects related to space.

Social Awareness

There is a governmental programme, called Ciencia Viva, that organises a large number of events related to science in general and to space in particular. Its work is actually quite interesting as it promotes the scientific culture among the society in general in a systematic way and it works together with the local institutions and associations, schools and universities and companies to reach a larger audience.

Industry and Research

Space industry in Portugal is still small when compared to other European Community countries. Some small companies are established and contribute to ESA space missions, normally indirectly, through major contractors. The space related activities are also spread among different ministries, which makes it very difficult to build a structured and effective policy for space in Portugal. There is a space companies' association that gathers around 90% of the space industry sector in Portugal, called Proespaço.

The number of governmental scholarships for traineeship or research and development in the space sector has also increased, together with the research at some universities and institutes, though still slowly. The fact that Portugal joined the European Space Agency and the European Southern Observatory (ESO) has given more opportunities for both companies and researchers, taking advantage of the geographical return policies of these institutions.

SGAC Events and Activities

No public SGAC events or activities were organised in Portugal this year. However, the SGAC National Point of Contact for Portugal, Pedro Rodrigues, participated in the Global Astronomy Survey, a project integrated in the International Year of Astronomy 2009. The objective was to complete a survey with the current status of Astronomy in Portugal.

Other Events and Activities

Astronomy in summer

Ciencia Viva organises systematically during summer a large number of events open to the public in general, for observing the stars and get in contact with Astronomy.

3rd Portuguese Space Forum 2009

With the participation of the Ministry of Science and ESA's director general, this exhibition intends to show the participation of the Portuguese industry in space activities, specially related to the European Space Agency.

NASA Astronaut Videoconference

A videoconference with a NASA astronaut was made to give the chance to some high school students to ask some questions, focused essentially on manned space missions and microgravity research.



SGAC Activities Plan for 2010

The plan of activities for Portugal will be focused on establishing a solid information structure, to increase the awareness of events and opportunities and gather more people related to space into SGAC. It is important to give credibility to the work being done by us in general, to be able to successfully organise events later on.

The national webpage has to be updated more often and be definitely set as a major source of information for people in general and space enthusiasts in particular. The goal is to optimize the updating process and make it a complete and up-to-date database of events and institutions.

Finally, effort will be put to spread the activities being done by SGAC to diverse institutions and try to establish some partnerships for organising events and to circulate information.

Romania

The Romanian Space Programme and its objectives, as developed by the Romanian Space Agency (ROSA) and the other governmental bodies by means of inter institutional cooperation, can be detailed and divided as follows:

A. Aerospace Technologies

- Aeronautics techniques, flight dynamics,
- Launch, operation and recovery systems for sub-orbital missions
- Launching and orbiting techniques
- Manned and unmanned specialized platforms and spaceflight devices
- Sensors, on board and ground-based systems and equipments research and development, space results spin-off development
- Advanced methods and techniques for simulation, command and control, aerial, aerospace and space flight devices design and production
- Aerospace flight dynamics systems and methods, platform altitude control. Optimal control systems. Aerospace traffic control and ground-based systems
- Quality analysis, testing and control systems, specifics to the space, aerospace and aeronautics fields

B. Space Exploration

- Participation in circum-terrestrial space missions and in the solar system
- Research and results in theoretical, experimental and computational models for phenomena specific to the Earth environment, Solar system, Universe and interactions between them, based upon space missions' experimental and observation results



- Microgravity experiments
- Research and instruments, scientific equipment and on board systems design for spatial platforms, on board and ground-based experiments
- Microsatellites for operational exploration and utilization

C. Space Applications

- Earth observation from satellites and aerospace platforms
- Satellite global navigation and positioning systems, (GALILEO)
- Spatial communication and relevant ground-based systems
- Space applications integrated for telemedicine, precision agriculture, natural hazards monitoring, global information systems
- Geospatial techniques
- Automatic and semi-automatic algorithms for spatial data
- Global monitoring systems (GMES)
- Positioning-based systems and services

D. Security Technology

- Detection, localization, positioning, communication, tracking and identification systems, techniques and equipments.
- Technology development for countering bioterrorism and Chemical, Biological, Radiological and Nuclear (CBRN) aggressions.

E. Security Systems and Infrastructures

- Development of interoperable technologies, systems and defence techniques, in accordance with operational requirements of the national safety and defence system structures
- Systems and equipments for personal protection, security enhancement and rescue, including diagnosis and treatment means
- Systems to provide the efficient crisis management and interventions in case of disasters, detection systems, warning and alert

The attributes of the Romanian Space Agency within the international structures and organisations can be synthesized as follows:

ROSA is the appointed **national representative** for:

- **ESA** –by Laws 40/1993 and 01/2007
- **UN COPUOS** –by mandate from the Foreign Ministry
- Consultant for the **EU Space Council / European Space Policy**
- EC –FP6 –**AEROSPACEPC**
- EC –FP7 –**SPACEPC, SECURITY RESEARCH PC, TRANSPORTS PC (Aeronautics and Galileo)**
- EC –**GNSS** Supervisory Authority (GSA), **GMES** Advisory Council (GAC)



- Infrastructure for Spatial Information in the European Community (**INSPIRE**)—by mandate from the Ministry of Education and Research
- **Committee on Space Research (COSPAR)** –ICSU—National secretariat
- **GEO**—Principal representative
- **NATO**—Scientific Committee “*Science for Peace and Security*”
- **NATO -RTO**—Space ST Advisory Group (SSTAG)
- Space agencies: NASA, CNES, Russia ROSKOSMOS (negotiations), Hungary, Bulgaria, Azerbaijan...—Bilateral agreements International organisations membership and/or national representative: COSPAR, IAF, IAA, European Association for International Space Year (EURISY), Advisory Council for Aeronautics Research in Europe (ACARE), EREA, ASD, European Defense Agency (EDA) and others, bilateral agreements with research organisations.

SGAC Events in Romania

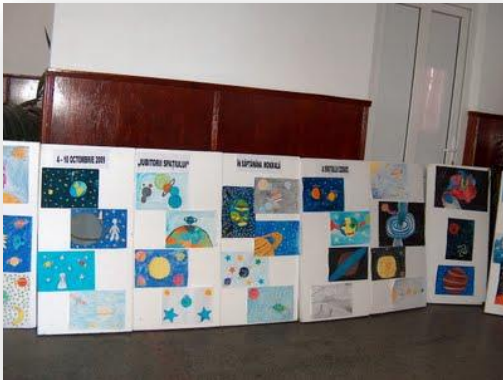
World Space Week events – 2009

All the events WSW based in Romania have been coordinated by Mr. Virgiliu Pop, WSW representative and former NPoC for Romania. The year 2009 has seen more than 100 World Space Week events in Romania, making our country one of the hot spots for the WSW. Given the theme of this year – Space for Education – most of the events took place in schools and kindergartens – the



diminutive size of the participants being counterbalanced by their huge enthusiasm. The tenth edition of the World Space Week has seen events taking place in half of the Romanian counties, with many events occurring in the countryside. The most active participants, in terms of number of events organised, were the teachers from the Cluj, Hunedoara and Constanta counties; like in the previous years, most of the event organisers were women. Most beautiful activities can be related as follows:

- Photo Exhibition in “*Grigore Antipa*” College for Sciences, Brasov, Romania – this event was focused on a better understanding of the space technologies by the Romanian youth.
- “*Space for Education*” Symposium, in Marginea School, Romania, comprising: a drawings exhibition, Astronomy lessons, projections with astronomy movies, space instruments presentations (telescopes).



"Our Creations in Outer Space", Moreni Gymnasium, Romania – comprising poems & literary works, paintings and other artistic creations, all space related.



Participation in the SGAC Activities on the part of the Romanian Representatives

The Romanian SGAC activists took part in very important events within the organisation, as follows:

- SGAC 10 Years Anniversary, June 2009, Vienna (Virgiliu Pop and Maria-Laura Voda). We truly believe this emblematic event was a great chance for us to meet and collaborate with professional at all levels and to get to know each other better in order to enhance the fulfilment of all the SGAC goals.
- UN COPUOS Scientific Subcommittee meeting, June 2009, Vienna (Maria-Laura Voda). Also, a great opportunity to see and observe the space activities at such a high and impressive level.
- SGC 2009, Daejeon, South Korea (Oana Sandu, Virgiliu Pop, Maria-Laura Voda). A great event that helped a lot the proliferation of the SGAC goals within all the space environments worldwide.

Astroclub Bucharest and the related events

Astroclub Bucharest is the meeting point of a great astronomy passionate community from the country, comprising students and young professionals. Oana Sandu, SGAC Public Relations and Communications Lead, is part of this organisation. The project developed within the Astroclub contain: debate forums, discussions, astronomy contests, Astronomy summer camps within the country, Space events (e.g., Galilean Nights), an online astronomy library, astronomy blogs, guides on how to use astronomical instruments etc. But maybe the most important task of this organism is his liaison and networking feature, because of its affiliations and connections with other similar organisms within the continent.

SGAC - Romania Vision for 2010

A more active involvement in the SGAC tasks, a more effective sponsoring process in order to give as many people as possible the opportunity to attend the SGAC events, a more comprehensive strategy to increase the SGAC visibility, in coordination with the other European countries and our RC for Europe.

Russia

The year 2009 has been a year of intense and productive work in the space world for Russia. Several exciting project in cooperation with international space agencies and industries were started up or continued, and various national space and scientific missions were carried out, just to name a few:

- Mars 500
- Launch pad in French Guiana for Soyuz Rocket
- Missions to the ISS supporting international projects as well as space tourism
- Multiple launchers of commercial satellites
- New national launch pad
- GLONASS system upgrade

Many important decisions and steps have been taken by the Russian government to support space programmes in the country. This concerns increasing financial help, multiple international agreements all over the world and also commercializing the space sector.

This leads to a new era in the Russian Space and hopefully the recovery process will be passed soon.

Nevertheless it seems that Russian influence on the space community has been shown mostly through official statements and agreements; this is due to inefficient informational environment where only few can reach the goal carrying their messages to the global community.

The role of SGAC in this case will be to help those space oriented ones by connecting particular persons with the decision maker. It is expected from SGAC through the NPoC Russia to communicate



with the communities of young space oriented people. This will be done by developing connections with universities, research groups, and professional schools.

Since this is the first time when SGAC will be able to aim towards Russia in terms of devoted programmes and associations, it is important to bring the right message and information to the people potentially interested in being part of this movement. SGAC gives exclusive opportunities for enthusiasts to make a difference by raising their voices. Our mission is to make it possible and provide support.

Russia is a big country with various social communities and cultural differences. Its space background is impressive and there is a lot of potential and many concerned young people who would be ready to participate in creating possibilities for peaceful use of outer space.

Lack of information can have a huge impact on the development processes in international cooperation. The influence of Russia on the global situation could be higher if everyone who wants to have a word could easily reach the right person or organisation. Definitely out of 150 million of people there are a big number of those who care.

Prospects for 2010

Various space institutes and organisations will be contacted in order to give them valuable information about SGAC.

- The state of progress will be reported regularly.
- New proposals in terms of organisation will be announced as soon as the conditions are favourable.
- All relevant information from SGAC will be conducted through NPoC to the interested people.
- Networking and personal contacts will be established.
- International events will be supported by NPoC by representing the country.

Along with the listed duties, SGAC Russia will be creating and maintaining a data base of Russian space related news and events as well as the organisations that could be of interest for the SGAC members. We will hope to get some support from the Russian Space Agency (Roscosmos) as the primary player within space activities in Russia.

Spain

The tenure as National Point of Contact of Spain for Maite Trujillo began in July 2009. During the months after her appointment she coordinated with local and national space associations in search of synergies and opportunities to increase SGAC awareness among students and young professionals.

In July 2009, SGAC met with Hector Salvador, President of Laboratory for Space and Microgravity Research (LEEM), which is one of the most successful and active Spanish organisation in the field of space. The objective of this meeting was to identify potential collaboration opportunities and identify a joint roadmap of cooperation and interactions. As background information, LEEM invited NPOC Maite Trujillo to participate in the last Spanish Space Student (S3) Congress that took place in Zaragoza in November, 2008. In this venue, an overview of SGAC, its activities, projects and opportunities for collaboration was presented with great interest by congress attendees.

As a result of this meeting, a fruitful partnership has developed during the last months. This has consisted on sharing contact information in academia, industry and government to identify key stakeholders that might embrace SGAC in Spain and thus, bridge common interest between these organisations and SGAC for the benefit of the Spanish members of our organisation.

In August 2009, our NPOC had the opportunity to participate in a Space Law and Policy session within the Master course of Space Sciences organised by *University Polytechnic of Madrid*. At the end of the session, an overview of SGAC was presented and connection with potential SGAC members interested in the activities of the organisation took place.

In November 2009, an opportunity to participate in the first edition of the alumni students of the prestigious *University Carlos III of Madrid* arose and SGAC took the opportunity to present the organisation and create awareness for SGAC with the goal of reaching a high number of young professionals. An article about that can be found in the following figure.



Since July to December, other activities to involve and connect with Spanish members have taken place with the aim of creating a mailing list for distribution of space related information and SGAC opportunities of involvement such as UN-SPIDER among others.

Switzerland

Highlights

Swiss Space Days 2009

Once again, the Swiss Space Association's annual "*Space Days*" was the biggest space event of the year in Switzerland. This time, the yearly meeting took place in Lausanne at the "Comptoire Suisse" and in order to mark the 40th anniversary of Man's landing on the Moon, the Swiss Space Association coordinated its event together with the Swiss Polytechnic School's (EPFL) Space Centre and made the Space Days coincide with the Space Centre's Space Research Days 2009.

Among the highlights of the events were the presentations that were made by US astronaut Donald Pettit and Swiss Astronaut Claude Nicollier. Don Pettit gave a highly inspirational speech about exploration and draw lines of comparisons between his trip to the International Space Station and his expedition to Antarctica.

Professor Johannes Geiss of the University of Bern, who designed the first experiment deployed by the Apollo 11 astronauts to measure sun radiation on the surface of the Moon, took the time to tell to an audience of youngsters about this so-called Swiss Solar Wind Sail. As the sail was designed in Switzerland and was deployed on the Moon by the astronauts before the US flag, Professor Geiss likes to joke about the fact that the first "*flag*" on the Moon was, in fact, a Swiss one. The event was also an opportunity to recall the launch, a few weeks earlier, of "*Swiss Cube*", the first Swiss Cube Sat, which was built and designed at the EPFL's Space Centre.

Other speakers spoke about the European space Agency's programme since 1969; the participation of Switzerland in the European Space activities; and the Swiss space industry.

A ten-day-long temporary space exhibit on the exploration of space, which included models of rockets, satellites and other spaceflight memorabilia was also put up for the occasion by the "*Comptoire Suisse*." SGAC was represented by two NPoCs at this event, namely: Onja Ravelonjato (NPoC - Madagascar) and Cédric Sapey (NPoC - Switzerland).

The Swiss Space Association's annual Swiss Space Days aim to bring together experts and specialists from space industry; official representatives of the National Space Office; enthusiasts from various space advocacy groups; and students together with the public and schoolchildren. The 2009 Space Days took place on 25th and the 26th of September and the space exhibit was open from the 18th to the 27th September.

IYA 2009

The other major events in Switzerland this year were rather of Astronomical nature, with the celebrations around the International Year of Astronomy, which took place all throughout the year. In Switzerland, the International Year was launched at an official ceremony, which was held in February at the University of Bern and which gathered personalities from politics, the federal administration, universities, the press, and actors in Swiss astronomy. The title of the ceremony was: "*Astronomy in Switzerland: top science for a small country*."



A series of astronomical events took place during the whole year in various places around the county. A competition in astronomy also took place in the framework of the Swiss platform “*Science calls Youngsters.*” The International Year’s concluded in November at the Swiss Museum of Transport in Lucerne.

United Kingdom

The purpose of this document is to provide an overview of activities that UK NPoC, Rishi Sharda, has participated in during 2009 as fulfilment of SGAC duties. Having been appointed to the position of National Point of Contact in late 2007, Rishi’s aims have been to improve the visibility of the SGAC within the UK and to encourage the involvement of new members. To this end, the following initiatives have been undertaken and are summarised below:

Space in the UK during 2009

It has been a big year for Space in the UK this year. More than 40 years after the Apollo era a British Space Agency is to replace existing British National Space Centre as a single umbrella organisation for the nation's space activities.

The decision has been made at pivotal point in the global plans for space exploration over the next 40 years. As the international community begins to define the global participants and capabilities, Britain’s plans have been announced strategically to influence the international community to provide the UK a greater role to play. Although Britain has a long-standing policy of not contributing to human spaceflight and instead supporting robotic and satellite-based missions, the announcement of Britain’s first Astronaut to join the ESA Corps, Major Timothy Peake, may additionally encourage funding into the field of human spaceflight.

So what does this mean to the student and young professionals in the UK? A more focussed space agency will most certainly outreach across the spectrum of the educational system and (assuming more funding will make more jobs) provide greater opportunities for entrance into the Industry. It is important that during 2010 the SGAC are represented at any conferences, especially those affiliated with the new Space Agency. A more important platform at conferences can certainly provide greater visibility of SGAC activities.

Space Generation Congress

The SGC was held in Korea in parallel with the 2009 IAC. To support this event UK’s NPoC performed activities in the following areas:



- Pursuit of Sponsorship within Lockheed Martin UK (LMUK):** To raise the profile of the SGAC within LMUK, Rishi wrote an article for the LMUK Today magazine which is distributed to all LMUK employees and Industry partners. Although he was not successful in gaining sponsorship, the article has raised the profile of the SGAC and its activities to senior management within the division.
- Industry Project Moderator:** As a new project for this year's SGC, Rishi took on the responsibility of Project Moderator. Although the group identified recommendations for the study, his aim is to take a step back and research the topic in more detail to understand and root cause issues already identified and where applicable develop the initial ideas generated by the project group. Rishi's aim is to produce a short paper on this topic by first quarter next year and to use it as a method of allowing SGAC to collaborate with Industry and to grow its relationship with Lockheed Martin.



Attendance to SGAC 10th Anniversary

Although primarily held as a celebration, UK's NPoC felt it was important to attend the 10th Anniversary weekend to gain a better insight into how and why the SGAC was formed and to provide inputs into the way ahead for the future. This educational visit has helped him in his discussions with potential members of the SGAC and explaining to them the foundations of the SGAC's existence.

Attendance to UN COPUOS S&T committee

Having spent most of his academic and working life in the engineering field, Rishi grabbed the opportunity to experience a world of international affairs and politics at the UN COPUOS sub-committee meeting during February.

Before his attendance to the meeting, he had very little appreciation to the sensitivity that nations must take when advising on possible resolutions. Rishi learnt very quickly that what one considers to be a reasonable solution (from a developed space nation) other lesser developed countries may take a different view. There are no right or wrong solutions but for a recommendation to be made, all countries must agree to it in consensus. It is with this in mind that these discussions are undertaken.

Objectives for 2009

The following are objectives for 2009 in continuation of NPoC duties:

- Pursuit of Sponsorship for SGC 2010** – To support the SGAC organisation team, SGAC aims to pursue sponsorship opportunities within the UK and liaise with the sponsorship committee to ensure effective communication with industry.
- Encourage publicity opportunities** – To develop opportunities of exposure of SGAC activities through magazine publications or presentations at national conferences and ensure all activities are coordinated with the SGAC communications team.



- Recruit a second NPoC to support Rishi in fulfilling NPoC duties during his second term and being to initiate a handover.
- Attendance to national space events as SGAC representative and where possible promote SGAC to event participants.





Middle East

The activities of this year were oriented towards achieving the organisational objectives and regional priorities described in the 2009 SGAC strategy and 2009 Middle East regional strategy document. While all the members tried their best to achieve these goals, they were not achievable within a single year. Despite the apparent achievements the efforts should continue for the next couple of years to fully reach the desired state in Middle East.

Regional Strategy for 2009

The regional strategy document for 2009 was a set of goals consistent with those of the SGAC 2009 strategy document, with the main objectives being:

- Develop the network of SGAC in the region
- Facilitate access of the enthusiasts in the developing countries of the region to space related events
- Introduce the activities of the governmental and non-governmental activities, and interesting projects of the region to other regions through SGAC
- Provide support for the communication
- Increase representation of SGAC
- Strengthen network

While in some aspects we gained significant success, some of the stated strategic goals were more difficult to achieve in a year, and we will continue to work on them during 2010.

Presentation of the SGAC in the Region

Since the start of 2009 the Regional Coordinators of the Middle East have not changed are Mahsa Taheran from Iran and Aysegul Tansen from Turkey

The efforts to increase the number of countries presented in SGAC will continue in 2010. Along with the NPoCs, Kerem Koker from Turkey has been working with the Communication and PR team as the co-lead.

Appearance in the SGAC Newsletter

As mentioned in the strategy of 2009, covering the regional news and introducing the activities in the region in the SGAC newsletter were one of the goals of this year. The efforts were made to include Middle East events, and progress in the regional news of the newsletter. The Middle East region news was appeared in the following newsletters:

- February, Regional News: The first domestic satellite of Iran



- May, Regional News: End of Omid satellite mission, World Space Week competition in Iran
- June, Newsletter: Project: Star Peace

SGC 2009

There were a total of eight applicants for SGC2009 in Daejeon, one applicant from each country from each Iraq, Iran and Kuwait and a total of five from Turkey. The significant number of applicants from Turkey, compared to other countries of the region without any doubts proves the hard work of the NPOCs of Turkey, H. Aziz Kayihan and Cem Karako. From these applicants, five delegates attended the congress:

- Mahsa Taheran, RC of the Middle East Region from Iran
- Aziz Kayihan, NPOC of Turkey
- Tehan Sezgin, from Turkey
- Ghanim Alotaibi, NPOC of Kuwait
- Halit Mirahemtoglu, former RC of the Middle East Region from Turkey

The Middle Eastern delegates also took part in the organising committee of the SGC, and received scholarships for their valuable work in SGAC. H. Aziz Kayihan, the NPOC of Turkey was a member of logistics team of SGC2009, and won the Staff Leadership Scholarship; while Mahsa Taheran helped with the communication team and won the Peter Diamandis Scholarship.

Attending UN COPUOS Annual Sessions

In June 2009, two of the SGAC members in Middle East had the opportunity to attend the Annual Sessions of UN COPUOS: Cem Karako and Mahsa Taheran attend the 52nd UN COPUOS session in Vienna. Their report can be found online on the SGAC webpage:

<http://spacegeneration.org/node/2511>

10 Year Anniversary Conference

The 10 Year Anniversary of SGAC was held in Vienna in June 2009. Mahsa Taheran attended this event and presented the regional activities and strategic goals of the region to the audience of current and former members.



http://spacegeneration.org/files/downloads/10years/Day2_Middle_East_SGAC_Regional_Strategy_2009.pdf

UN COPUOS Scientific & Technical Subcommittee

On 18th of February 2009, the former Regional Coordinator for the Middle East region Maryam Aljoaan and National Point of Contact for Kuwait Ghanim Alotaibi presented "A Youth's Perspective

on the Future of a Space Programme in Kuwait" to the UN COPUOS Scientific and Technical Subcommittee. The presentation can be found here:

http://www.spacegeneration.org/files/downloads/COPUOS/SEDS_Q8_S&T_2009.pps



Connecting to the Relevant Groups in the Middle East

To strengthen the network of SGAC in the region, several groups are now receiving the newsletter and other SGAC events and projects details. These groups are listed below:

- Lebanese Astronomical Society
- Jordanian Astronomical Society
- Emirates Astronomical Society
- Palestinian Astronomical Society
- Syrian Amateur Astronomers
- The Arab Union for Astronomy
- King Abdulaziz City for Science and Technology

There are more new contacts after the COPUOS sessions, SGC2009 and IAC2009, which will be contacted in 2010 to strengthen the network of SGAC.

Regional Weaknesses and Crucial Issues

There are still several regional weaknesses to deal with in the following year. These include, but are not limited to:

- Increasing the number of NPoCs
- Holding regional projects and events
- Improving SGAC reputation as an international community of youth space enthusiasts

- Fund raising and attracting the support of the relevant institutions in the region
- Improving attendance of the regional members in international events

The new draft of the regional strategy addressing these issues is ready and will be circulated among the NPOCs to finalize as we take steps toward eliminating these weaknesses and achieve higher goals.

National Reports

Iran

Through the last year, we have followed two important goals in Iran which we will continue to pursue in this year as well. Our first goal is to host and organise astronomical gatherings, workshops and the second one is to focus on SGAC activities in Iran.

We have met all our goals we proposed for 2009 and consider this year to be a very successful one.

Astronomical Observations and celebrating the International Year of Astronomy, Christmas night

At Christmas and continuing through January we set up a number of observations in Isfahan, Tehran, in Persepolis in Shiraz, Mashhad, Hamedan, Zahedan and Ahvaz.

Workshops

In cooperation with the Astronomical society of Iran, and Pars sky institutions in several cities a series of workshops were organised in February and March. Topics aimed to raise awareness for space, explaining the significance of space and astronomy for peace, bringing children and space technology contact and general outreach. The workshops were accompanied by relevant exhibitions

Space Science Lectures and Photography exhibition

Introductory short courses on Space Sciences and a photography exhibition with the topic of Night Sky were organised in May.

"Night Sky" published

SGAC succeeded in creating an astronomical monthly publication with the general subject of astronomy and space, named "*Night Sky*." We have covered several subjects related to space in the first volumes of this publication as well as in an article.

New contacts

SGAC has been introduced in Iran's national newspapers and SGAC is now linked to Astronomy.ir website. The webpage Parssky.ir also introduced our organisation and published SGAC news on this website.

Amateur Astronomy

SGAC helped leading and guiding a group of amateur Iraqi astronomers and space fans in order to develop SGAC in the Kurdistan region of Iraq. SGAC cooperated with Afghanistan's newly established



astronomy community, which made an astronomical exhibition possible. In this programme, the images of solar system missions and the historical development of missiles were presented for those interested in the subject.

Public events

SGAC was also present in the two programmes *Galileo's Observation Nights* and *100 Hours of Astronomy* in Esfahan.

Outlook to 2010

- We will be focusing on astronomy development and education by means of Internet.
- Holding the first practical workshop aimed at making SGAC goals known in the country, with the cooperation of Iran's astronomy institute in summer 2010.
- Working with Iran's spatial institute, based on institute's own initiative, to develop spatial knowledge programme for children and young adults.
- Cooperating with Iran's airspace monthly publication devoting one part to SGAC subjects.
- Working with SGAC links in Middle East.

Finally it should be mentioned that we have established an internet website for SGAC which includes all the information and news related to SGAC activities. This website would start to work by the middle of March, with the beginning of Iran's New Year.

Kuwait

The year 2009 was a productive year, especially for the space volunteers, the young people. The year included an organised movement by the youths to establish a national space programme. More space activities were done by the new SEDS branch, and more steps forward were taken to open the Kuwait National Radio Observatory (KNRO). It is important to notice that most of the activities are fully organised by volunteers, and the following is a general spot of what has been achieved during 2009.

Kuwaiti Youth Contribution to Establish a National Space Programme

This year there were several activities organised by the youth in Kuwait to encourage both the society and the government to establish a national space programme, these activities can be summarized by the following:



A Presentation in the Committee of Peaceful Use Of Outer Space "COPUOS" in Vienna

An important presentation was done by Ghanim Alotaibi and Maryam Aljouan in the United Nations building in Vienna at the COPUOUS meeting, the presentation was titled "A youth's perspective on the future of a space programme in Kuwait".

The presentation mentioned the current activities in Kuwait related to space specially the remote sensing applications, and what benefits that could be gained to the society in case of establishing a space programme. However, it is believed that the COUPOS meeting is a great step forward in order to reach and convince the decision makers to establish a Kuwaiti Space Programme.

Meetings with Businessmen

Two meetings with two Kuwaiti businessmen were held to discuss establishing a national space programme, both meeting were not really productive, however businessmen were interested to help sponsoring Kuwait SEDS activities.

Presentations

A presentation was conducted on Kuwait science club to encourage the idea of establishing a national space programme, the idea was highly encouraged, and however the need of a governmental contribution is still important.

A Paper Titled as "Discussing Expanding Kuwait's Activities in Space Sciences and Industry "

The idea of the paper is to examine the possibilities for Kuwait needs on space application, the author of the paper is Maryam Aljouan and co-authors were Ghanim Alotaibi and Sara Jamal, but Dr. Aljumali from Kuwait Institute of Scientific Research and Dr. Hala Aljassar from Kuwait University offered a great contributions to the paper.

The paper was presented at the IAC and at the Department of Astronomy and Space Science (DASS) in Kuwait.



Paper presentation at the IAC 09

Kuwait National Radio Observatory (KNRO)

KNRO is still under construction but more than 90% of the project has been completed by the end of November 2009. The leader of the project, Jasim Mutalq, said that KNRO will be a great tool to attract more amateur astronomers in Kuwait. And the project is expected to be completely finished in February 2010, KNRO will be the first Radio Observatory on the Middle East region.

*Series of Lectures, Courses and Exhibitions*

During 2009, many lectures, seminars and exhibitions were organised by the Department of Astronomy and Space Science to introduce astronomy to the public, the main target of this important event were students under the age of 18 years, a total number of three exhibitions and 18 lectures and seminars were organised on different topics such as: "the International Space Station," "Space Sciences," "The Sun and the Moon," "The Sun and Its Effect on the Earth," "Galaxies," "The Weather in My Country," "Astronomy – Science and Scientists," and many other topics.

Yuri's Night

As all around the world, Kuwait was a part of Yuri's Night festival, and this year the schedule consisted of a series of events. The evening started with a brief description of the history of Yuri's Night and a lecture on the Apollo programme. Star observation with 14 telescopes during a lecture break, under the instruction of the Department of Astronomy and Space Sciences, made the evening a memorable night. The event was concluded by a competition on the lecture contents. The audience was about 45 persons and the festival was completely sponsored by the Department of Astronomy and Space Sciences.

The main language of the party was planned to be Arabic, but during the party, presentations in English were very important because many foreign guests attended the night.

100 Years of Astronomy Celebration

Under the umbrella of the Department of Astronomy and Space Science, many activities were conducted to celebrate the international year of astronomy by organising different activities either on public places such as malls and parks or inside the building of the department.

Star Parties

The main idea of the star parties is to apply what was learned in the astronomy courses, during 2009 three star parties were organised on the following dates 25th of February, 14th of April and 20th of August.



The establishment of SEDS on Kuwait University

A great step was achieved by establishing a SEDS chapter in Kuwait University College of Engineering and petroleum especially that SEDS is the only student based organisation that focused into the space field.

The open day consists of an exhibition on the campus of the college of engineering and petroleum to attract students to attend the opening presentation and to explain about KU – SEDS.

Turkey



2009 has been a great year in Turkey for space and astronomy events. Because Turkey does not have a national space agency, space related activities are still few but more compared to last year's, 2009 was a success. Beside the promising cooperation between Turkey and ESA, which started in 2006; Turkey did not showed the same enthusiasm in the field of national space law. For that purpose, The Supreme Council of Science and Technology (SCST) and Technological Research Council of Turkey

(TUBITAK), being the space related organisations of Turkey displayed that aim to improve the space philosophy in Turkey.

The most important thing about this year was the launch of Turkey's first Cube Sat, *İTÜpSAT1*. The project of *İTÜpSAT1* started in 2006 and three years of work it took position 720 km above surface on 23rd of December 2009. The project of *İTÜpSAT1* was funded by TUBITAK and was just the beginning of similar projects.

In spite of all these positive developments of Turkey in respect to the international arena, Turkey is still reluctant to regulate space law on national basis. Turkish citizens still lack of a uniformed national space legislation. Being a member of COPUOS, Turkey has not yet realized the importance of such organisation. Turkish companies still lack a legislation which regulates the space activities.

However, 2009 was also the International Year of Astronomy. Countless astronomical activities were held all around the country. There are more than 20 astronomy societies in Turkey. To commemorate IYA all astronomical societies in Istanbul gathered under the name of *Istanbul Astronomy Societies* and they merged all their members and budget for greater activities in 2009.

In 2009 Radio Astronomy studies moved forward and the first radio astronomy observatory of Turkey officially established in Erciyes University. Erciyes University Radio Astronomy Observatory (ERAO) established under the name "*Erciyes University Astronomy and Space Sciences Observatory Practice and Research Centre (UZAYBİMER)*."

SGAC Activities

2nd National Point of Contact of Turkey

Cem Karako was appointed as the co-NPoC of Turkey along with Hasan Aziz Kayihan. Cem Karako graduated Istanbul University Law Faculty in 2004.

Space Generation Congress 2009

This year six people applied for SGC09 from Turkey and all of them accepted as a delegate. But unfortunately only three of them could make it to Korea, Halit Mirahmetoğlu (Co-Liaison IYA 2009), Metehan Sezgin and Hasan Aziz Kayihan (NPoC for Turkey). This was a great success and after their return from SGC Metehan Sezgin and Hasan Aziz Kayihan shared their experiences on the SGC and SGAC with the student of Erciyes University. It is a great thing that every day the interest into space sciences are increasing. We believe that SGC10 will have more delegates from Turkey.

Youth-Oriented Space and Astronomy Activities

100 Hours of Astronomy

Part of IYA2009 activities 100 Hours of Astronomy activities took place all around the country and thousands of people attended those activities.



Yuri's Night World Space Party

Yuri's Night World Space Party celebrated in five cities with six parties this year. The parties with the greatest attendance were organised in Istanbul (by Istanbul Astronomy Societies) and Kayseri (by Erciyes University Astronomy Society). Nearly 1000 people attended these parties. These started with Concerts and Dj Performances. During all the activities people played space related board games and made observations all night long.



18th Traditional May Festival on Astronomy

İÜFFAAK (Amateur Astronomers Society of Istanbul University Faculty of Science) organised the 18th Traditional May Festival from the 27th to the 30th of May at Istanbul University. The event had two main sections: space & astronomy education for kids and lectures on general astronomy & space activities. Club members gave lectures on space activities conducted around the world. There were also planetarium sessions and kids received model spaceships as presents. The traditional May festival on astronomy is also an event serving as a platform for all astronomy societies in Turkey to gather.

Aster TV

Astronomy Society of Erciyes University started an online streaming television to air astronomy and space related news and activities. The main target of Aster TV is to reach millions of people around the country and to create awareness for astronomy and space related activities happening in Turkey. Aster TV will air Yuri's Night 2010 Kayseri live on 12th of April.





North, Central America and the Caribbean

2009 has been an interesting year for space activities in North America and the Caribbean, with an increased number of SGAC activities in the region. SGAC North America and Caribbean have a few new positions in the region, namely new NPoCs and a new RC.

Regional SGAC Activities and Highlights

North, Central America and the Caribbean Activities

- Collaborated on activities with the UN-SPIDER working group.
- Outreach to space education programmes at the university and space agency level.
- Several students and young professionals in the region attended the International Space University Master's and summer Space Studies Programme.
- Several countries in the region participated in IYA 2009, including activities such as "Galileoscopes" and "100 hours of Astronomy."

Space Generation Congress 2009

- SGAC members in the region attended SGC 2009 in Daejeon, Korea.
- Co-RC, Stephanie Wan, moderated the Agency GNSS Session, while Co-RC, Israel Ojeda Coronado, was a reporter.

Other Youth programme liaison

- A Washington, DC Liaison role was created.
- Strengthened relationship between NASA and SGAC through YGNSS project collaboration.

Regional Plans for 2010

The North America and Caribbean region is looking forward to 2010 and continuing its work of bonding together the space young professionals and students. With the new NPoCs, the region would like to increase its awareness by coordinating future public outreach efforts. We hope to strengthen communication between the NPoCs and RCs, especially by using online communication technologies to further discussions. The North America and Caribbean region also hopes to encourage more collaboration between the SGAC members within the region by obtaining a database of regional members for further communication. We also believe that oftentimes members are in multiple space organisations and we can synergise our efforts by outreaching and partnering with the rest of the space community within the region.

Introduction

This year represented substantial regional growth in Space Generation. In terms of National Point of Contacts enrolment in the region, we received two new NPoCs from Canada (Annie Martin and Laura Drudi) and an NPoC from Panama (Edgardo Monasterio). Also, Stephanie Wan joined SGAC as co-regional coordinator. These great additions have further established a stronger foundation in the region. While the region is far and wide, there are many activities NPoCs have to report, and hopefully as the regional membership base grows, there will be SGAC events to help bring the region together.

National Reports

Canada

As newly involved NPoCs, Annie Martin and Laura Drudi outlined main point of interests for Canadian students and young professionals of 2009.

The young Canadian space professionals have been very active this year. In 2009, young professionals and students participated in workshops organised by the Canadian Space Agency (CSA). This included the 6th Canadian Space Exploration Workshop in September and a Workshop on Earth Surface-Atmosphere interactions and processes in climate and air quality in December, to name a few. The Canadian Space Agency has been encouraging students to pursue a career in aerospace by supporting students through various scholarships. Many Canadians spread the passion for space in their community during various events: conferences, lectures, school projects, etc. These activities have been strongly supported by the Canadian government, especially the CSA. Below are a few examples of the work achieved by Canadian students and young professionals.

There have been many space related projects and opportunities for Canadian students to pursue. As an example, SGAC member, Tania R. Wood, from the University of Alberta had the chance to work with Dr. Lange on projects related to Phoenix mission to Mars, in collaboration with the CSA. This opportunity has increased her interests in space technologies; hopefully this would exemplify the need for CSA and universities to continue collaborations to inspire our generation and increase the accessibility to jobs in the space field. There has also been encouragement in interdisciplinary space fields in the nation, such as aerospace medicine. In early May 2009, two Canadian students, first year McGill University medical student, Laura Drudi, and fourth Year University of Ottawa medical student, Gregory Stewart, attended the annual Aerospace Medical Association (AsMA). This was an opportunity to meet aerospace medicine experts from the civilian industry and the military.

Human spaceflight has created significant space awareness across Canada. The videoconferences between Bob Thirsk (Dr. Robert Thirsk was the first Canadian astronaut to be part of Expedition 20/21 onboard ISS) and high school students were a tremendous success. Moreover CSA, with its education branch, continued to work with educators from all the provinces to generate interest



about science and technology through the study of space topics in primary and high school. The annual conference at the CSA on education and space had a tremendous success.

Canadians also attended the International Space University 2009 Master programme in Space Science (MSS) and Summer Space Studies Programme (SSP). Through scholarships offered by the Canadian Foundation for the International Space University (CFISU), many had the opportunity to learn about a wide diversity of topics in the space field, as well as perform scientific experiments, hands-on activities and a team project. This year, CFISU attributed ten scholarships, sponsored by CSA, MDA corporation, Com Dev, OCE, SSHRC and Bristol/Magellan. They had the chance to meet with the Prime Minister of Canada to discuss issues related to science, technology and space. Tahir Merhali (SSP08, MSS09) was part of a 50-member team from 14 nations and worked with the IRIS (Image Reversal in Space) experiment, which is a collaborative venture between ISU and the CSA, the IRIS experiment sought to test the impact of microgravity on human perception of optical illusions. It was first experiment in cognitive neuroscience entirely designed, developed, and analyzed by students to be flown on the International Space Station (ISS).

This year, CSA sponsored 26 students and young professionals to attend the International Astronautical Congress in Daejeon, South Korea from the 12th to the 16th of October, 2009. This was the first year IAC held a youth plenary competition, where seven students and young professionals from across the world were selected through YouTube video contest discussing their current research, visions for the future of space exploration, and their goals as current and future leaders in the space sector. Two Canadians were selected: Kevin Shortt, the president of the Canadian Space Society, and Laura Drudi, Canadian NPoC and a McGill medical student. Many other SGAC members from Canada presented at technical sessions, and a Master's student, Marie-Eve Gagne, was selected as the recipient of the overall best graduate student's project.

As for SGAC involvement, two Canadians, Mario Ciaramicoli and Annie Martin are part of the SGAC UN-SPIDER working group. They have been gathering information about disaster management activities at provincial and national organisation levels, as Canada has considerable experience in using space-based technologies to provide support during disaster management. Canadian disaster management programmes can provide support in the elaboration of national programmes in other countries and projects supported by other SGAC members of the working group. The identification of major tools used during the disaster management cycle (prevention, response, recovery) will then be starting point to provide inputs for future programmes.

As for other space organisation activities in Canada, the Canadian Space Society (CSS) has been very active this year. More than one hundred of participants across Canada attended the 2009 Canadian Space Summit. This success story represents the space awareness created this year and they are putting lots of effort in the participation of many events across Canada. CSS has also been effective in providing networking opportunities amongst professionals and students in the space field. Their participation in a large number of space events across Canada is very important; CSS constitute an important player in the stimulation of space innovation in Canada.

In conclusion, 2009 has been an amazing year in terms of space activities and space awareness. It certainly generated a lot of enthusiasm all across the country. Canada still needs to develop a clear vision for space exploration to provide a strong basis in future development of space technologies and programmes. We believe that students and young professionals can come together and inspire



the whole country with their innovative ideas and dreams about space exploration in order for it to be realized by Canada.

The year 2010 will certainly be another great year in the Canadian aerospace industry. With SGAC, CSA, CSS, CAISU and all other organisations, the presence of Canadians in the space industry will continue to evolve and will move forward in order to spread even more passion for space and further increase interest about space related issues.

Goals for 2010

- Encourage Canadians to get involved in the definition of Canadian participation in space exploration via activities, forums, production of documents to be sent to the head of CSA, etc.
- Continue to propagate the enthusiasm for space activities throughout the country and maintain space awareness in regards to human spaceflight.
- Work in collaboration with the CSA educational branch to help promote space at primary and high school levels.
- Promote accessibility to scholarships for undergraduate and graduate student from university across Canada to work on space-related project and increase the number of scholarships awarded by CSA.
- Increase Canadian presence and the enthusiasm at the 2010 International Astronautical Congress in Prague, Czech Republic.
- AsMA's 2010 annual scientific meeting will be held in Phoenix, Arizona. The importance of the development of the space life sciences field for Canada is of utmost importance, especially as the endeavours to space exploration continue. Leaders in the Canadian aerospace medicine industry attend this conference on an annual basis with hopes of developing the space life sciences field in Canada. In the upcoming year, I hope to see the progression of this field in Canada.
- Work more closely with the Canadian Space Society.

Costa Rica

Costa Rica has seen an evolution on its science education system and in overall, an augmented awareness on its capability to design, create and develop different high end technologies^{1, 2}. Among these technologies, space is arguably the most recent one thus it is in a quite early stage compared to other nations, yet it is advancing in an outstanding pace.

Other nations in Latin America have experienced similar developments and it is, therefore, necessary to work together in order to accomplish goals of mutual interest. In collaboration with the Ecuadorian Civilian Space Agency (EXA)³, the project called "*Un Satellite en el Aula*" (A satellite in the classroom, in Spanish) will be implemented in Costa Rica through the Universidad de Costa Rica's Planetarium^{4,5} and, in the near future, in schools around the country. This project brings access in



real-time to a network of remote sensing satellites to primary and high school students. With this collaboration it is intended to provide students from a broad range of ages the tools that will enable them to understand the different phenomena that occur in our planet's atmosphere, how the climate in our region changes and also to familiarize them with the technologies required to obtain such data.

This collaboration will not only strengthen the relationship between Costa Rica and Ecuador but it will also help as an example to continue expanding the success of this project to other latitudes in our region. The project is expected to start by a small number of schools which will eventually extend to as many different areas in Costa Rica in order to reach out to as many students as possible.

¹ Ad Astra Rocket Company, <http://www.adastrarocket.com/aarc/>

²Space Research Center of the Universidad de Costa Rica, <http://www.cinespa.ucr.ac.cr/>

³Ecuadorian Civilian Space Agency, <http://exa.ec/>

⁴Universidad de Costa Rica's Planetarium, <http://www.planetario.ucr.ac.cr/>

⁵ACODEA, Costa Rican Astronomy Association, <http://www.acodea.org/>

Guatemala

In Guatemala there is no Space Commission, but there are people working on building an organisation that will serve as a centre point for space activities, with hopes in 2010 to have some results.

Lectures on Space

The Museum of Science and Technology (MUCyT – Museo de Ciencia y Tecnología) has been discussing and providing presentations directed toward the general public for the purpose of education on topics such as space, satellites, astronomy and the planets. Such talks were given approximately once a month during the year 2009. This is thanks to the efforts and support of Alcira García-Vassaux who is the director of the museum. Similar activities will also be prepared in 2010. For more information please visit <http://www.mcd.gob.gt/2009/04/13/museo-de-ciencia-y-tecnologia-mucyt>.

Astronomy Club

The University Rafael Landivar of Guatemala has taken the effort of having reunions about astronomy thanks to the astronomy club that it has. The students have managed to have many talks about space and astronomy to the general public in the university during the year 2009. The



university has its own telescope laboratory in order to benefit night observations as well. For the year 2010 other talks will be prepared. The university website is:

<http://www.url.edu.gt>

Lights Out 9999

There was an event in Guatemala which was “*Lights Out 9999*” for the country in which a great number of the population along with business companies and universities and schools were involved. The event which was done on the 9th of September of 2009 was a great impact on the world which was seen from space what the outcome was. Such an event will be organised for the year 2010.

For reference visit the website <http://www.youtube.com/lightsout9999>

ESRI Users of Central America Conference 2009

On the 6th and the 7th of August there was the “*ESRI Users of Central America Conference 2009*” which was done to help understand more about GIS. This was done for the general public at the “*Hotel Vista Real*” the city of Guatemala. For reference, please visit the website:

http://www.esri.com/library/newsletters/sig_adelante/sigadelante_apr_09.html#10

For the 60th International Astronautical Congress from 12th to 16th of October 2009 at Daejeon, Republic of Korea there was the participation of two people from Guatemala: Jeffrey Rivera (SGAC NPoC) and Julio Duarte (from IARNA). This participation was very important for Guatemala in order to advance in the knowledge of space. For reference please visit:

<http://www.iac2009.kr>

Jamaica

The year 2009 was filled with space activities in Jamaica due to the International Year of Astronomy (IYA2009). While Jamaica does not have a space programme, space related activities are focused on astronomy. Under the auspices of the Astronomical Association of Jamaica (AAJ), with input from the SGAC National Point of Contact for Jamaica, there were several positive developments which include participation in the International Year of Astronomy as well as 400 Galileoscopes headed toward educational institutions across Jamaica.

Highlights

4th Caribbean Conference on Comprehensive Disaster Management

A poster competition was organised by SGAC and UN-SPIDER focusing on the uses of space technologies in Comprehensive Disaster Management, where the poster would be presented at the 4th Caribbean conference on Comprehensive Disaster Management. This competition was promoted



by the NPoC within a network of contacts from several Caribbean islands. The winning poster was designed by Alex Boodoo of Trinidad and Tobago – details can be seen on the SGAC website.

Galileoscopes

Most recently the AAJ was awarded 400 Galileoscopes for distribution to educational institutions across Jamaica. This has been made possible under an IYA2009 initiative and was achieved with several guiding points from the NPoC for Jamaica – it also involves the Jamaican Ministry of Education. A plan was developed which falls under the purview of the Inspire Space SGAC initiative for Jamaica, where the aim is to catalyse the establishment and flourishing of school astronomy clubs, and general public interest in astronomy, and in the longer term, space.

The Moon for All Mankind

The AAJ also represented Jamaica in the IYA2009 Moon for All Mankind Project organised by the Malta committee where the aim was to create a collage of the Moon from several images of small sections taken in different countries. The image and an animation can be viewed at the IYA2009 website.

Sun Impressions

The AAJ collaborated with Udo Backhaus of Universität Duisburg-Essen in Germany in a big to raise awareness of the general public of the Sun's motions across the sky and how these relate to shadow positions and lengths, day lengths, sunrise and sunset times and positions on the horizon and the shape of Earth. Measurements of the position of the Sun were taken by AAJ members on an April day in 2009 in conjunction with people from several other countries. This highlighted the relationships between shadow lengths, and angles and the positions of the Sun and observer, along with what this reveals about the Earth's shape. Overall results can be seen at a dedicated website of Universität Duisburg-Essen.

100 Hours of Astronomy

Jamaica played its part in the 100 Hours of Astronomy IYA2009 event and was featured in the August 2009 issue of Sky and Telescope magazine. The AAJ organised a school star party which introduced many young and youthful minds to the world of astronomy and space. The event took place at the school where the AAJ was instrumental in starting Jamaica's first school astronomy club, Campion College. The success of the event encouraged plans to start more school astronomy clubs and the Galileoscope drive mentioned elsewhere. Photos can be seen at the Jamaica micro site of the SGAC.

AAJ Website Project

The SGAC NPoC for Jamaica and the AAJ have been working together to create the AAJ's first official website. The website is still under construction; however it has been opened up to the public. It has already resulted in enquiries from other islands about astronomy activities in Jamaica, strengthening the Caribbean network of space interests. The site is the 4th main listing when the term "astronomical association of Jamaica" is searched on Google.



Mexico

2009 brought the most active year related to space for the country. An increasing amount of people in Mexico is becoming aware about space, as this due to the space outreach efforts fostered mainly by the Mexican Space Agency group and its main founders: Fernando de la Pena Llaca and NASA astronaut Jose Hernandez.

In regards to Space Generation, a Facebook group, "*Space Generation Mexico*," was created and currently hosts 68 people. SGAC Mexico participated actively in supporting the AEXA project and sent a letter to the president of the Science and Technology Commission of the Lower Chamber of Congress to express the benefits to society if Mexico would have a space agency.

In terms of participation at the Space Generation Congress, Israel Ojeda (former NPoC of Mexico) received the "*Young Leader Award*" from SGAC, which sponsored his travel expenses to attend the Space Generation Congress 2009 in Daejeon, South Korea in October.

Afterwards, Israel was invited by "*Radio Red*," one of the main radio stations in Mexico City, Monterrey and Guadalajara (the three largest cities in the country) to share his experience about the Space Generation Congress and the International Astronautical Congress. At the interview he invited the public to join Space Generation and this was a great opportunity to share the benefits of space applications for the benefit of society, there was a good response from the public since many people called asking for more information. Another good outcome from his participation in South Korea was that Israel met NASA Director, Charles Bolden and the Assistant of NASA Foreign Relations where the former NPoC got the opportunity to briefly share the AEXA project to these personalities.

The AEXA project got an excellent year since it was approved at the beginning of the year the Senate and then passed to the Lower Chamber, where it got passed the law initiative to create the space agency –in the general- and is waiting to get the approval in the particular. But even when it has not been granted full approval it already received its initial budget from the Lower Chamber in Congress to start operations in 2010.

Also the AEXA project received personalities from several space agencies to foster international cooperation including: Brazil, Czech Republic, Canada, Russia and the Mexican-American NASA Astronaut Jose Hernandez who shared to the Mexican Congress, several schools and also among the public in regards of his experience of his space mission on board of the Space Shuttle Discovery STS128. This was the first mission that carried along two Latinos on board.

There was also a Radio Programme developed that was called "*Mexico across its Space Development*" which is the first historical documentary of the national space efforts since 1959. Another interesting research was the entitled "*AEXA. Global Analysis*" and was authored by Rosie Shaddock. This year several newspapers, magazines, radio and TV news programmes commented about AEXA and the benefits of the use of space applications across the nation.

As for space education, two Mexican students (Fernando Vargas and Carmen Félix) got accepted to attend the International Space University in Strasbourg, France to perform space studies at a



graduate level. A former student from that university, Sandra C. Alvarado was selected as a Teaching Associate for the Summer Session programme, which took place in NASA Ames Research Centre in California, United States. Cynthia Jimenez (ISU alumnus) has finished her PhD in Space Law from the University of Leiden in the Netherlands.

Next year Mexico will host the “*Conference of the Americas*” and hopefully AEXA will pass from a project to an agency. Looking forward for the year of 2010.

United States

2009 has been a quiet year for SGAC in the United States. While nationally, there have been many changes to the US space programme, and SGAC in the United States has been building up a foundation for more activities in 2010. This has been seen with regards to a DC Liaison, as well as a new RC from the United States.

SGAC member and YGNSS project co-lead Stephanie Wan has been very active working with NASA on GNSS activities, nationally and internationally. Within the US this included presenting at the Positioning Navigation and Timing (PNT) Advisory Board meeting, and working with NASA on sponsoring the 2009 SGC Agency Session. SGAC member, Brooke Owens, has acted as SGAC DC Liaison over the past year, setting up meetings with SGAC and NASA. She has been heavily involved in the International Astronautical Federation's Young Professionals Programme (YPP). At SGC and IAC, she was able to learn more about the SGAC's activities and further SGAC efforts through helping out at YPP events during the week.

There are many space communities within the US, such as the National Space Society and the Students for the Exploration and Development of Space (SEDS-US). Other groups have been conducting activities throughout the year, spreading educational awareness about space. As SGAC in the United States establishes a stronger active membership nationally, it would be beneficial to have collaborations with other space organisations.

2010 Goals

- Increase the number of SGAC activities and active membership base, starting with NPOCs.





South America

2009 was a year of changes for the South American Region. Paul Acquatella and Martin Canales as the RCs began the year by organising virtual meetings more often which kept the group together for a long time, however key members did not continue for various personal reasons which affected the group as a whole and began to lose its strength. Nicole Jordan and Ana Alexandra Pérez were elected as the new RCs for the region.

In South America, space activities have been consolidated in recent years by various public and private organisations, increasing participation in various sectors of society, fostering the integration of amateurs and professionals from various fields with the aim of participating in multiple events national and international related with the sciences space. South America is one of the strongest regions in SGAC and the new RCs are in the process of recruiting participation from other South American countries.

Regional SGAC Activities and Highlights

Yuri's Night 2009

SGAC helped to increase and encourage participation of Latin American members in the Yuri's Night Annual celebration. Argentina, Colombia, and Venezuela held events during this important date.

It is interesting to note that 2009 was the first year in which Venezuela organised an event during Yuri's Night. It was a very successful event, where more than 100 people participated.

SGAC Newsletter

The participation of the Latin American members continued to increase. Laura García - NPoC Argentina, Konrad Link - NPoC Brazil and Ana Alexandra Pérez - NPoC Venezuela, are the Latin American volunteers that usually contribute and write articles that are not only showcased in the newsletter but also in the South American region blog.

Space Generation Congress 2009

Nicole Jordan - Colombia NPoC, attended the SGC09 as well as participated as part of the executive group as the delegate coordinator. Victoria Alonzo Pérez had the opportunity to attend the Congress as a guest delegate from the International Astronautical Young Professional programmes grant. Due to her great participation and enthusiasm she was selected as Uruguay's NPoC a few months after.



Others

- Ana Alexandra Pérez helped and coordinated scientist entries, for a day essay contest in Brazil, Colombia, Peru, Argentina and Venezuela.
- Several talks and teleconferences were prepared for small children in kindergarten at the rural area of Cañuelas, Southwest of Buenos Aires. Children, directed by a teacher and a SGAC member prepared a “*space mission*” building cardboard rockets, “*space helmets*” and planned a mission to Mars.
- Space Educational Activities were organised by Ana Alexandra Pérez in Venezuela.
- Nicole Jordan, Colombian National Point of Contact, had the opportunity to represent Colombia at the SGAC 10 Year Anniversary Conference, the UN/IAF Workshop on climate change, and she was one of the ten young professionals selected for the International Astronautical Federation grant to attend the International Astronomical Congress as well as participate in the Entering the Workforce and Strengthening the Global Community plenary. Nicole also represented the SGAC at the “*A New Generation for the Next Space Age*” plenary at the National Space Symposium, in Colorado Springs, US.

Regional Plans for 2010

In 2010, the South American region is looking to increase its activities for World Space Week, Yuri's Night, and other education and outreach projects. The main objective is to look for missing NPOCs and leaders of the current unrepresented countries. The region will work on creating a new blog, update national pages, and update the list of the members of the Google group.

National reports

Argentina

Argentina is a country with a long standing history of space activities. Starting in the 1940s, following World War II, Argentina developed an interest in jet propulsion and rocketry. The first liquid rocket engine was developed in 1947 and the first rocket guided missile, the “*Tábano*” was tested the following year. During the beginning of the 1960s, the National Commission on Space Research (CNIE) was created by President Frondizi, and it organised the space effort in the country. The first solid propellant research rocket was developed and tested in 1961. Since then a family of research rockets was developed until 1980, where the Cóndor launcher programme was cancelled due to international pressure.

Since then, Argentina has developed several satellites. Some of these satellites were created under the National Commission for Space Activities (CONAE) which was created in 1990 by President Menem to redirect the space activities to scientific satellites instead of launchers. Non-governmental space activities in Argentina are mainly organised by the Argentine Association for Space Technology, AATE (an IAF Member), which develops several payloads and educational satellite



projects, organises conferences, symposiums and courses and edits the Latin-American Journal of Space Science and Engineering¹.

Some of the Activities of 2009

Argentine Congress on Space Technology 2009

The Fifth Argentine Space Congress, organised by the Argentine Association for Space Technology took place in May 2009 in the coastal city of Mar del Plata. This congress, which is held every two years, counts with the co-sponsorship of the American Institute of Aeronautics and Astronautics (AIAA), and the Argentine Council on Aerospace Engineering. More than 150 participants, mostly young engineers and advanced students were at the congress attending to presentations and papers, some of them which will be published in the Latin-American Journal of Space Science and Engineering. Two SGAC members from Argentina (Lynn Van Broock and Pablo de León) were among the organisers of the congress. In the future, the Argentine Congress on Space Technology might be a great platform to promote SGAC activities. For the next congress (2011) that will take place in the city of San Luis, the Argentina NPoC will contact the Regional Representatives to discuss ways to show SGAC activities and to interest young students to join.



Argentine Congress on Space Technology 2009

Rocketry Activities in Argentina

ACEMA, (Asociación de Cohetería Experimental y Modelista Argentina) Argentina's main association for model and experimental rocketry has been sponsoring several amateur rocket contests in Argentina during 2009. ACEMA is one of the most important organisations for rocketry in Latin America and sponsors conferences and courses on rocketry. Members of SGAC are also members of ACEMA and are planning joint activities to interest youth in joining SGAC. ACEMA also have several branches in other Argentine regions, such as Neuquén, Rosario and Córdoba widening their reach of the activity.²



Rocketry Activities at ACEMA (Courtesy ACEMA)

Ricardo Dyrgalla, Pioneer of Rocket Research in Argentina

In the Volume 65, Issues 11-12 edition of Acta Astronautica was published an article about one of the pioneers of rocketry in Argentina, Polish-born Ricardo Dyrgalla. Dyrgalla who studies the V-2 and other German designs while in the UK moved to Argentina in 1947 to work for the Argentine Air Force. There he developed several prototypes of liquid and solid rocket engines. This long overdue work makes justice in one of the forgotten pioneers of rocketry in South America.

Argentine Flag flown to space to the National Library of Aeronautics.

An Argentine Flag, flown to space in mission STS-108 of the Space Shuttle Endeavour was presented by SGAC's Argentina NPoC Pablo de Leon to the director of the National Library of Aeronautics in Buenos Aires, Brigadier Miguel Aguilar. This flag is permanently displayed at the reading room of the library. The flag flew along with seven experiments developed by universities in Argentina, as part of the Proyecto PADE (Paquete Argentino de Experimentos) or Argentine Experiment package³.



Argentine Flag flown into space on board the NASA's Space Shuttle

Space presentations at kindergartens in the rural area of Argentina.

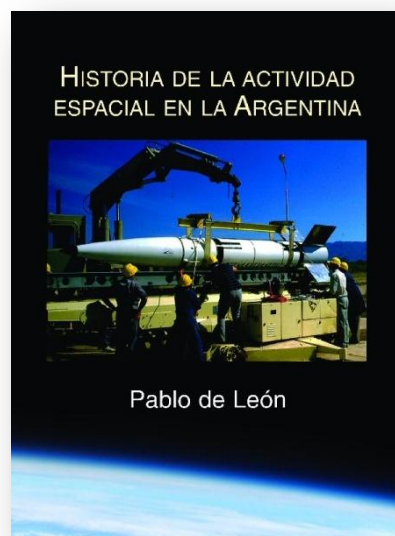
Several talks and teleconferences were prepared for small children in kindergarten at the rural area of Cañuelas, Southwest of Buenos Aires. Children, directed by a teacher and a SGAC member prepared a space mission building cardboard rockets, space helmets and planned a mission to Mars.



"Sagrada Familia" Kindergarten children planning their Mission to Mars

Presentation of the book "Historia de la Actividad Espacial en la Argentina"

On the 6th of November 2008 the book "*Historia de la Actividad Espacial en la Argentina*" (History of Space Activities in Argentina) authored by the Argentina SGAC NPoC, Pablo de León, was presented at the Círculo de la Fuerza Aérea Argentina in Buenos Aires. This first volume accounts from the beginning of space activities in the country until 1980. The second volume will cover from that year to the present⁴.



Cover of book History of Space Activities in Argentina

Argentine Educational Satellite PEHUENSAT-1 is in Orbit!

On 10th of January 2007 the Argentina-made educational satellite Pehuensat-1 was successfully launched from ISRO's PSLV-C7, from India. The Pehuensat-1 satellite was built by the Universidad Nacional del Comahue, in Neuquén, and the Asociación Argentina de Tecnología Espacial. Pehuensat-1 was built in part by SGAC members from Argentina⁵.

Tentative Plans for 2010

Some of the plans for 2010 by SGAC members in Argentina include involvement in the design of the Pehuensat-2, a new educational satellite planned by the Argentine Association for Space Technology and the National University of Comahue. Another project is to continue supporting the organisation of the Argentine Congresses on Space Technology. Another project is to host a Yuri's Night in Buenos Aires and plan for at least three public talks about space and its benefits to humankind and another talk about Lunar and Mars exploration.

¹More information (in Spanish) at <http://www.aate.org>

²The webpage of Acema is available (in Spanish) <http://www.rocket.com.ar>

³More information <http://www.aeroespacio.com.ar/584/584/site/aeronoticias.htm>

⁴A commentary on the book (in Spanish) available at:
<http://www.aeroespacio.com.ar/585/585/site/bibliograficas.htm>
<http://books.google.com/books?id=X174Scm1qVkC&printsec=frontcover&source...>

⁵More information about this wonderful project, developed by professors and students is available at <http://www.aate.org>

Bolivia

This year SGAC in Bolivia developed a series of experiments which were presented at various scientific events throughout the entire country. These events generally attracted the attention of the public and resulted in many visitors to this type of scientific events. These crowds also attracted a number of local newspapers, and the *Universidad Mayor de San Andres* published a notice of our events. Today the group of SGAC Bolivia consists of seven members and all of them are students of physics.

The *Max Scherier* planetarium of the city of La Paz has a mobile planetarium. This year it was taken to cities and villages far from the capitals of the country with the aim of showing some wonders of the universe for motivating children and young students consider a career in space related subjects.

This year Bolivia also to pave the way for Bolivia's first satellite named "*Tupac Katari*." China has pledged to build and launch a communications satellite for Bolivia to help link up remote and



isolated areas as part of an overall development plan. President Evo Morales will visit China in March 2010 to conclude agreements for the space programme. For more please see:

http://www.upi.com/Business_News/Security-Industry/2010/01/11/China-to-build-launch-Bolivia-satellite/UPI-17091263251627/

SGAC Bolivia seeks to integrate another group of students of aeronautics. They are currently interested in propulsion work.



Columbia

Currently Colombia does not have a space agency of its own, but it does have a body known as Colombia Space Commission (CCE) that coordinates all major space activities. It is the task of the CCE to consult, coordinate and plan national activities. It conducts the execution of the national development policy and application of space technologies, and coordinates the elaboration of plans, programmes and projects in this field. The CCE was created by the Presidential Decree 2442 in July 2006, and presently the Executive Secretariat is hosted by the Agustín Codazzi Geographic Institute until the end of 2010. Even though most of the space activities are being

coordinated by the CCE, Colombia still has many universities and small private organisations that also contribute to the national research and space education.

Colombia's Main Space Activities

In Colombia, space activities have been consolidated in recent years by various public and private organisations and an increasing participation from various sectors of society, fostering the integration of amateurs and professionals from various fields with the aim of participating in multiple space related events, both nationally and internationally. The persons involved with SGAC in Colombia support, participate and organise various events, with an emphasis on generating more awareness and encouraging public outreach and transfer of knowledge.

Aventura Espacial

Aventura Espacial took place during the month of May in Barranquilla. The event was a mixture of intensive workshops and science competitions, where boys and girls from all over the country had the opportunity to share experiences with scientists and experts from different international organisations such as NASA, UNESCO, the UN COPUOS and Boeing. Those kids also had the opportunity to interact with figures of national scope such as representatives from University of Pasto, Universidad Sergio Arboleda, the Colombian Commission of Space, Bogotá Planetarium and Maloka. Some of the speakers and experts in the field included: Adriana Ocampo Uria, Cesar Ocampo, Mario Perez, Sergio Torres Arzayuz, Guillermo Lemarchand, Nelson Lerma Jr, Ivan Ramirez Atehortúa, Angela Posada-Swofford, Marty Quinn, Ciro Arévalo, Raúl Toya Olarte, Alberto Quijano Vodniza and Jose David Contreras.

The event as a whole commemorated the International Year of Astronomy, the 200th anniversary of the birth of Charles Darwin, the 50th anniversary of the US space agency (NASA) and 90 years of aviation in Colombia. Some of the events that took place included water and hydraulic rocket competitions, challenges in astronomy, astronautics and related sciences and an essay competition. An important highlight was the participation of the Colombian Air Force, marveling the attending crowd with a number of activities. During the opening military aircraft flew in close formation accompanied by the Colombian anthem. The event was very well attended and very well received by both participant and speakers alike. Colombian Ambassador and current COPUOS chairman, Ciro Arévalo stated:

"We are witnessing the birth of a new era, a humanist renaissance of global proportions, which shall be carried forward by a vanguard flushed with the confidence of youth..."



The objective of bringing children to science was undoubtedly met and as a result the participants in various competitions were brought to the attention of the Genius Foundation, to further stimulate development of these talented youngsters in the aerospace industry.

The Space adventure in Colombia does not end with this event, *Aventura Espacial* will continue to hold a series of gatherings in Bogota, Cartagena and Monteria. Universities, foundations and Colombian aerospace experts will continue to work towards the education of the youth and inspire them:

"It is imperative for young people to understand that the care and respect of our fragile environment entails more than just the planet we call home; we must recognize that the cosmos, itself, is at stake..."

Ciro Arévalo, Colombian Ambassador and COPOUS chairman.

Satellite Development Research Programme and Applications in Earth Observation

The National Development Plan 2006-2010 made the economic and social progress in the development of spatial technologies a very high-priority. All of the details were released in the document "*2019 Colombia Vision II Centenary*," which emphasizes in the necessity to advance in the knowledge and use of spatial technologies in Colombia. Two main projects are described, the Earth observation satellite and the communication satellite. Both projects aim to develop technologies and applications for Earth Observation that could contribute in improving knowledge of territory, public policies and sustainable management of the resources.

Fiesta de Estrellas: Colombia 2009

This was an opportunity for five different cities of Colombia to bring amateur astronomers as well as students, families and space enthusiasts together to celebrate the International Year of Astronomy. All the cities made telescopes available for people to explore the sky as well as participate in different educational activities. All the educational activities were organised by Maloka which is a new center of science and technology. The cities that participated were Bogota, Cali, Minizales, Pasto and Bucaramanga.

Semana Geomatica

This set of seminars took place on 26th to the 30th of October at the Augustin Codazi in Bogota, Colombia. The idea was to create a set of seminars that will provide a platform for young professionals to exchange information and share experiences with different space technology expertise in particular in the field of satellite management, communication and earth observation. These sessions covered 28 different topics (for more information see: http://www.cce.gov.co/web/guest/tematicas_semana) and more than eight industry experts shared their experiences. The second part of the seminars consisted of workshops in which Colombia presented the current status of both of its satellite projects and explained the goals for the Colombia Space Commission. The CCE hopes to keep organising these seminars on an annual basis for the years to come.

World Space Week Celebrations

Similar to last year, the Colombian Commission Rocketry and Astronautical C3 organised a series of conferences on issues in space exploration and the launch water rockets throughout the month of October at the Planetarium of Bogota. This year's celebration commemorated the World Space Week and was attended by a significant number of people of all ages. It was considered to be a very successful event with the following sessions:

- "The Golden Jubilee of NASA: The First 25 Years"
- "The Celebration and Commemoration of the Apollo 11 Landing on the Moon"
- "Truth and Lies of the Soviet Space Race"



- “What about China and India?”
- “Astronautics and Space Education in Colombia”

Third Science and Technologies Aerospace International Congress CICTA2008

This event was organised by the Distrital University and Colombian Air Force in the city of Bogota. This year, various national and international organisations were able to present the progress of programmes currently being conducted within the framework of the Air Force Education Department. While this event is still considered to be an important one to continue to hold especially because of its collaboration with universities, the exchange of information requirements makes it quite difficult for Colombia to get support from other nations.

Events

NPoC Nicole Jordan had the opportunity to represent Colombia at a number of occasions:

- SGAC’s 10 Year Anniversary Conference
- The Space Generation 2009 Congress
- The UN/IAF Workshop on Climate Change
- The International Astronomical CongressThe National Space Symposium (Colorado Springs, US) for “A New Generation for the Next Space Age” plenary



At the National Space Symposium

Tentative Plan for SGAC Activities in 2010

- Recruit another National Point of Contact, one that currently lives in the country.
- Fundraise so more Colombian young professionals and students have the opportunity to participate in the Space Generation Congress 2010.
- The brainstorm and execution of a Latin America Space Generation Congress.
- Organise better events for the purpose of celebrating the World Space Week.

Uruguay

In Uruguay, most of the aerospace related activities are youth oriented. Many take place at the Universidad de la República. The aim of this project is to introduce undergraduate students to aerospace projects, with the final objective of launching the first Uruguayan satellite.

This year, due to the International Year of Astronomy, many activities related to space were organised throughout the country. The Centro de Investigación y Difusión Aeronáutico-Espacial (CIDA-E) was involved in many activities related to aeronautic and space law. It co-sponsored and participated in the XXXIII Latin-American meeting on Aeronautic and Space Law, organised by the Latin-American Association of Aeronautic and Space Law (ALADA) and the National Section of ALADA.

SGAC Activities in 2009

1st National Point of Contact from Uruguay

Victoria Alonsopérez was appointed as NPoC from Uruguay on November 2009. She was the first Uruguayan to fill this position. She was born in Montevideo, place where she still lives and studies. She was awarded the IAF Youth Grant Award enabling her to go participate in the SGC, the UN/IAF Workshop, and to present a paper at the IAC. Furthermore, she was very honored to give a speech at the IAF General Assembly.

Space Generation Congress 2009- Daejeon

While in Daejeon, Victoria Alonsopérez volunteered to be at the SGAC booth at the IAC 2009. There, she could meet several important people from the aerospace sector and discuss with them about the future of Uruguay in the space industry.



Victoria Alonsopérez at the SGAC Booth in IAC2009 with Professor Bernard Foing and Sanjoy Som

CIDA-E Annual Event

In November 2009, CIDA-E held its annual event at DINACIA (National Directorate of Civil Aviation and Aeronautical Infrastructure). The aim of this event is to inform the Uruguayan aeronautic community about the activities of CIDA-E in the current year. Furthermore, there were presentations by distinguished speakers mainly in the legal aeronautic field, about international aspects that concerned Uruguay. Victoria Alonsopérez, SGAC NPoC of Uruguay did a presentation entitled, “*The Aerospace Development in Uruguay.*” She talked about her experience in Daejeon and about the paper that she presented at the IAC2009. One of the main points of her presentation was to introduce SGAC to the Uruguayan astronautic community.

The event concluded with Dr.Gaggero, Director of CIDA-E, appointing Victoria Alonsopérez as the new corresponding member of CIDA-E.

Institute of Electrical and Electronics Engineers (IEEE) Student Branch Universidad de la República final meeting

In December 2009, the IEEE Student Branch made its final meeting of the year with most of its members. The aim of it was to do an evaluation of the activities done in 2009 and the activities to be done in 2010. There, SGAC NPoC Victoria Alonsopérez talked about her experience at the SGC2009. She also encouraged the students to present projects at international events related to aerospace.

LAÍ project

LAÍ aims to develop and operate a micro-satellite. It is a project at the Institute of Electrical Engineering at the Universidad de la República (UdelaR), and is the result of the efforts and the research of undergraduate students exclusively.

This is the first space-related experience in Uruguay. It started in 2007 with the development of high-altitude balloons as means to gain experience needed for the construction of a satellite. High altitude balloons (balloonsats) consist of a hardware platform with scientific and telemetry equipment, carried by a meteorological balloon. Typical trajectories surpass 30km altitude and take two to three hours. After the balloon bursts at maximum altitude, the payload descends with a parachute and is later recovered. These balloons can be considered to share many of the challenges of small satellites, albeit at a much reduced cost: low power, low weight, complete autonomy, extreme temperature and ambient conditions, and resilience to cosmic radiation effects. It is therefore an excellent way to acquire the needed experience towards developing a satellite. At project LAÍ they developed a complete balloonsat payload from scratch, including all electronics, software and radio modules. The platform allows for interfacing with extra sensors or devices to accommodate experiments by third parties. Telemetry down-link is standard APRS protocol on the 144 MHz amateur band. All work was carried out by undergraduate students as part of their end-of-career project.





Experience so far

Four balloonsats have been successfully released, three in 2008 (GS01, GS02 and GS03) and one in 2009 (GS04).

GS02 and GS03 carried a custom-made device for testing cosmic ray effects on new generation RAM chips. This experiment was part of cooperation with TIMA laboratory in Grenoble, France, which specializes in adapting electronics for space conditions.

GS04 is a completely reviewed platform, with custom built radio equipment, new software paradigm and better environmental sensors, and a video link in the 1200 MHz amateur band.

This platform is now considered mature and can be readily used for scientific work. Media and results for these experiments are available at <http://iie.fing.edu.uy/investigacion/grupos/lai>.



The Group of students that participated at GS04, including Victoria Alonsopérez, and professors J. Pechiar and J. Vila, Director of the Electric Institute of the Udelar G. Casaravilla and Cnel. Acosta.

A good partnership with industry, mainly helium and polystyrene suppliers, military and civil aviation authorities has been established as a result, and contact to research groups on climate and also with the radio amateur community. 16 students have been directly involved in the development of the balloonsat platform, including SGAC NPoC of Uruguay, Victoria Alonsopérez.

Uruguayan Astronomy Olympiads (Olimpiadas de Astronomía Uruguayas, OAU)

The 2009 OAU developed in three phases between June and August. More than 1060 high school students participated from all over the country, and 82 teachers were involved in the review of the tests. The first test was conducted online over the internet in June and 151 students were selected to pass to the second test. After the second test, 30 students were selected to participate in the third stage which took place in Montevideo between the 28th and the 30th of August – 50 Olympic

hours. In this third stage, five finalists were selected to participate in the Latin American Olympiad of Astronomy and Astronautics. The students traveled to Rio de Janeiro to receive their silver medals.

At a ceremony done in Montevideo, where the awards were given to the students, SGAC NPoC Victoria Alonsopérez was in charge of handing the award for the second price. She was able to talk to the students and introduced them to SGAC.



Victoria Alonsopérez at the award ceremony with the awarded students and Prof. Mallada.

World Space Week

The World Space Week in Uruguay was held in its capital Montevideo. During that week, several students from different schools and high schools presented projects and were involved in activities related to space. At the closing ceremony, the works of students from secondary and primary education were presented and many experts gave speeches regarding their fields of study. Also, a letter that Victoria Alonsopérez wrote from the Republic Korea was read, where she made reference to her experience atSGC and the UN/IAF Workshop.

Astrobiology School

The Regional Bureau for Science of UNESCO for Latin America and the Caribbean in cooperation with several departments of the Faculty of Sciences of the Universidad de la República (UDELAR, Uruguay) and under the auspices of the Argentine Institute for Radio Astronomy and other national and international organisations, organised the Second Latin American Conference on astrobiology, "*From the Big Bang to Civilization*," which was held from the 7th to the 11th September in Montevideo, Uruguay.

This conference provides students in Latin American and Caribbean countries to be in contact with regional and international scientists, who are leading experts on issues related to astrobiology. Uruguay hosted the Second Graduate School with 60 students and professionals, national and regional and about 15 teachers from various Latin American countries and the US.

The universe in your City

During 2009, the people from the Kappa Crucis Observatory installed the Digital Planetarium Kappa Crucis one week in each departmental capital, where the exhibition *From Earth to the Universe* was displayed, one of the core activities of the IYA.

Taking advantage of the technical possibilities offered by the Digital Planetarium the multidisciplinary team created new presentations dedicated to all levels of primary education, from

preschool to 6th grade, didactically appropriate for each level. Also sessions were done for high school students, for 1st year of bachelor diversified students and special sessions for the general public. The exhibition included 12 backlight panels, with the most spectacular astronomical images, and digital display of 100 photographs that complete the sample.

Plans for 2010

SGAC

SGAC Uruguay will attend several youth events and high schools promoting the organisation. The aim is to encourage young people in aerospace activities and let them know that every field has something to do with aerospace. SGAC Uruguay has been in the country only for a month but already has promoted the organisation in several youth activities as detailed above.

Project LAÍ

In the end of 2009, two student groups began their end of career project directly on satellite-related areas. One group will develop the complete power management subsystem for a cube sat type satellite. A second group will develop a low power horizon sensor for attitude control of low earth orbit satellites. SGAC NPoC Victoria Alonsopérez is part of the last group. The equipment will be tested in a stratospheric balloon.

During 2010, a series of ten balloons will be released for validating the atmospheric models of the faculty's research group on wind energy. There is also interest in using the platform for atmospheric spectroscopy (characterization of greenhouse gases), high altitude wind sampling for civil aviation use, and analysis of fog formation.

There is also a plan to create a radio club as a way to involve all students interested in the project and in radio communications in general.

Venezuela

Highlights

Looking For Comet Lulin, Simon Bolivar University

In February, the university group for astronomical research, professors and students kept their eyes fixed on the skies trying to take a look at the amazing comet Lulin which reached its closest approach to earth on 24th of February. Lulin was a spectacular astronomical event in 2009. One of its special characteristics was the orbit – the comet was actually moving in the opposite direction as the planets.

The first two meetings coordinated by the group to watch Lulin from Simon Bolivar University were not fully successful due to cloudy weather conditions. But GUIA kept trying until it speeded away.



For more information about Comet Lulin visit: <http://www.astrodrayer.com/lulin>

Yuri's Night Party 2009: The First Yuri's Night in Venezuela

On the 18th of June, although late, the first Yuri's Night event in Venezuela ever to be held was organised In Caracas.

The event was celebrated in Area Club, La Castellana, with about 300 people attending and having an incredible dancing night commemorating Yuri. This event emphasized the spirit of Yuri's Night serving as a great opportunity for networking and getting to know other space interested young people. Excellent music, cool surprises and show presentations made of this event a night to remember.



This celebration was possible thanks to the wonderful support of two students of the Simon Bolivar University, Heduardo Rodríguez, who was an enthusiastic volunteer that helped with the management and Monica Sepúlveda who was the photographer.

Special thanks is extended to Paul Acquatella and Carlos Mastalli, SGAC members who were there supporting the Yuri's Night 2009.

Venezuela supports the Blue Marble Project

On 26th of June Ana Alexandra Pérez NPoC from Venezuela organised an educational space activity at the Maria Inmaculada School, Aragua. The main objective of this event was the promotion of the Blue Marble Project as a symbol of international unity in space exploration. The kids seemed really excited when Ana talked to them about the earth, planets, and the Space Generation. We hope these kids will be the next generation of leaders of SGAC.

Visit the website for more information on One Flag in Space: <http://www.oneflaginspace.org/>

Cassini Scientist fFor A Day essay contest

On October 2009, students from Venezuela participated in the *Cassini Scientist for a Day Essay Contest*. It was the first time that this contest was opened to all nations and educational organisations. The winner was Miss Gabriela Machado Moreno from the Emil Friedman School in Caracas. Machado, student of 7th grade, had the best essay of the 21 received and the topic was about Saturn. The essays were judged by Gina Saraceni and Isabel Martin of Simon Bolivar University and also Jose A. Narbona of Rice University.



The coordinator of the Contest in Venezuela was Ana Alexandra Pérez, member of SGAC and current student of the Simon Bolivar University.

Goals for Next Year

- To recruit new members in Venezuela
- To continue celebrating Yuri's Night Party and World Space Week
- To promote the participation of Venezuelan students in international space projects
- To increase astronomical observations in Caracas.



Space Generation Congress 2009, Daejeon, Korea

The Space Generation Congress is SGAC's annual conference held in conjunction with the International Astronautical Congress. Held 8th to 11th of October in Daejeon, South Korea, this year's SGC09 was a resounding success for the organisation. The number of delegates this year (75) was almost doubled in comparison to last year (40), a fact that demonstrates that SGC is becoming stronger with every year, as it gathers together representatives from all corners of the world. Delegates from 32 countries on six continents, divided into five groups, shared their knowledge while discussing pertinent space topics within themes that mirrored those of the IAC. SGAC would like to thank its primary SGC supporters: ESA, Lockheed Martin, NASA and Secure World Foundation.

Topics

Industry Theme: The Industry team focused on international workforce issues and how it varies by region. The team defined the relationship between the space industry and the global youth and made recommendations on how it can be improved.

Agency Theme: The Agency team worked to identify how education and outreach tools can be used in order to increase awareness of Global Navigation Satellite Systems' applications. They also discussed innovative ways to use this technology to help developing countries.

Climate Theme: The SGC09 Climate group investigated how to raise awareness among the general public and decision makers about the relationship between climate change and space technology. In particular, the team focused on how space technology can best contribute to terrestrial technologies in the climate change mitigation efforts.

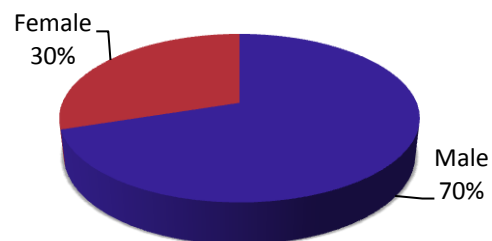
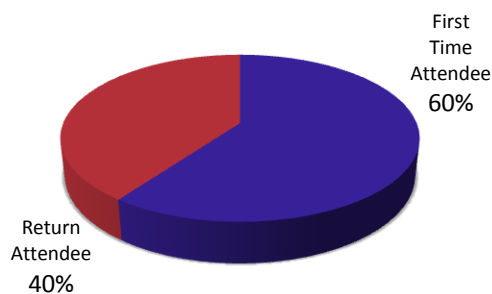
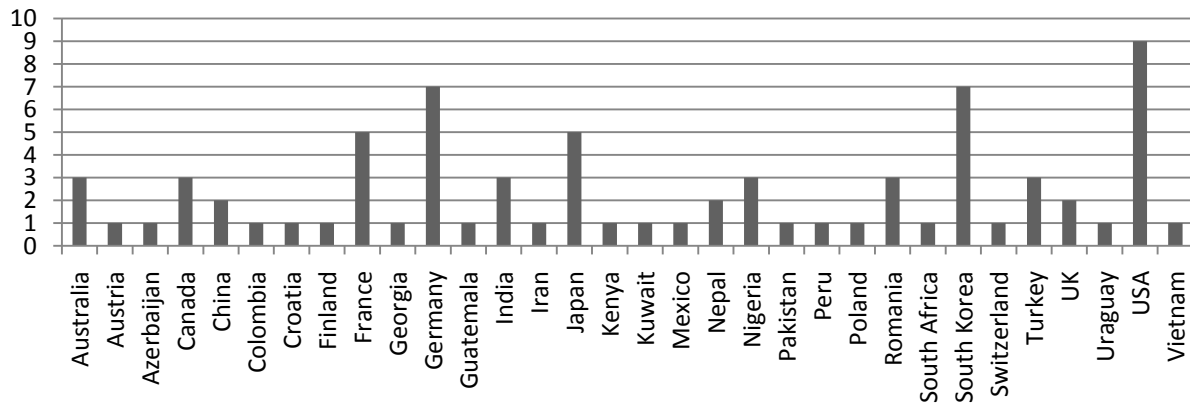
Exploration Theme: The SGC09 Exploration group identified new directions to not only sustain but also generate and enhance general awareness and excitement for space exploration.

Peace Theme: In the Peace session, the team examined new ways to think about the role of space in peace on Earth. The team identified the factors and topics that need to be included in the discussion about peace in space and sustainable use of space in the future.



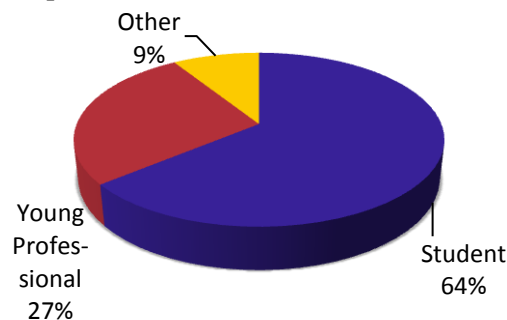
Delegate Statistics

Delegate Citizenship



Prior Delegate SGC Participation

Delegate Gender



Delegate Professional Status

SGC 2009 Evaluation

Of recent conferences, SGC 2009 was one of the most high calibre events that SGAC has produced. First, the delegates that attended were diverse, driven, outspoken and bright. Second, the attendees produced intellectual, substantive and tangible output based on their discussions during the Congress. Third, SGAC's Communication Team's efforts lead to the best coverage of any SGC held to date. 16 articles were written on 16 different media channels, and SGC was covered by the South Korean national news network, YTN. Fourth, SGAC effectively recruited sponsors and provided them with tailored sessions that culminated in a product and many ideas for future work. Finally,



and above all, SGAC helped provide 21 scholarships to the organisation's top performing members to attend SGC 2009. Many of these scholarships were to students from developing countries. This figure is more than double SGAC's previous SGC scholarship record. There is significant room for improvement, but SGAC has established a sound model and structure that can be applied to future events in 2010 and beyond.



10 Year Anniversary Conference

SGAC held a conference on 6th to 7th of June in Vienna, Austria to celebrate, examine, review, and analyze the Council's past, present, and future. Attended well by past SGAC members, current members, and various international supporters, the conference reflected the unique enthusiasm and drive of the organisation.

Reception: Friday 5th of June



The reception to the Space Generation Advisory Council's 10th Anniversary Conference was particularly well attended with COPUOS delegates from Austria, Canada, Colombia, France, Germany, Malaysia, Mexico, Nigeria, Poland, Romania, Ukraine, United States, Venezuela, ESA, ESPI, IAA, NASA, OOSA and SWF, amongst others.

The reception was held at the extensive facilities of the Bösendorfer Klavierfabrik (Bösendorfer Piano Factory) in Vienna to the tune of a blues and jazz band on an original Bösendorfer. The music and dancing accompanied the presentation of the new Executive Director and the Executive Council. The occasion was used to honour Jim and Lin Burke's long-term contributions to SGAC and young people and the space field by presenting them with the SGAC Life Time Honorary Membership Award. The night was over only too quickly to leave the attendees looking forward to the next SGAC event!

Regular blogs of the conference were kept on Twitter and the following websites:

<http://thelaunchpad.xprize.org/>; and <http://nickyjordan.com/>.

Day one: Saturday 6th of June

SGAC's 10th Anniversary Conference was held at the offices of the ESPI in Vienna. The structure of the conference had three sessions each of which consisted of a panel and a working group. One of the sessions was held on the first day and two were held on the second day of the conference.

The conference opened with a welcome by the co-chairs of SGAC, Ben Baseley-Walker and Agnieszka Lukaszczyk, and the director of ESPI, Kai-Uwe Schrogl. They introduced the opening keynote speaker,

Ambassador Ciro Arevalo, who is the present Chair of the UN COPUOS, and honoured his continued support to SGAC. In his speech, Dr. Arevalo, praised the SGAC for the continued and growing work they have been doing in introducing new young people to and facilitating their participation in the space field.

The opening keynote speech was followed by the first panel of the conference, which reviewed the UNISPACE III conference and the recommendations that were then made. The topics that were covered included the history of the UNISPACE series of conferences and the steps preceding UNISPACE III, the participation and involvement of various member states, the Vienna Declaration and its recommendations as well as the implementation of these recommendations. The moderator of the panel, Johannes Ortner, gave direction and insight into the discussions.



Following on from the panel discussion, the first working session of the conference opened. Its aim was to answer the question of how far has the international space policy come since UNISPACE III. The delegates divided in three working groups and their discussion traced the progress that had been made from the past ten years to the present.

Photographs from the day's events can be found at:

<http://picasaweb.google.com/nickyjor/SGAC10YearDayOne?authkey=Gv1sRgCJ2f....>

Day two: Sunday 7th of June

The second day of the conference opened with the introduction of Dr. Adigun Ade Abiodun as the second keynote speaker. He gave a passionate speech on passion, inspiration and the role of young people. In particular, he focused on the importance of passion, ideas and relevance as the cornerstones for a bright future. *"Forward forever, backward never"* was his message to the delegates of the SGAC 10 Year Anniversary Conference. He congratulated SGAC's work in offering solutions for ethnic problems and safety of the space environment as well as for keeping members busy and intellectually stimulated. In his speech, Dr. Abiodun acknowledged the need for financial support in order to continue and enhance the momentum of the council.



The keynote was followed by the second session of the conference, which opened with a panel discussion moderated by Dr. Sergio Camacho on the subject *"Looking Back: The Rationale of the Space Generation Forum."* The panel was formed by former SGF delegates from UNISPACE III who are also referred to as the SGF Dinosaurs by SGAC members in honour of their pivotal role in the founding of SGAC. Many of the Dinosaurs now hold eminent positions in a variety of organisations including the European Commission, NASA and UN OOSA, amongst numerous others. The members of the panel were unanimous that SGF had changed their lives and made them the people they are today. These words were later echoed in the closing speech by the co-chairs of SGAC and were warmly applauded by the SGAC delegates as without SGF there would have been no SGAC and through SGAC, SGF had changed the lives of so many other young people from all continents on Earth.

The panel discussion was followed by the second working group session. It analysed SGF and addressed the lessons that had been learned since then. Members of the three working groups moved between the groups to exchange experiences and expertise.



In the early afternoon began the third and last theme of the conference: the future direction of SGAC. Following the first and second sessions that had focused on the past and present, respectively, the third session addressed the future plans and the way for progress. A presentation of the 2009 SGAC strategic plan was given by the SGAC co-chair, Ben Baseley-Walker, and regional strategic plans were given by SGAC's Regional Coordinators. They thanked their fellow RCs from the

other continents and confirmed their willingness to work together with the aim of uniting youths across borders and continents and transcending existing conflicts. It is hoped that, even if borders change, SGAC will remain as a uniting force between the young people of the world.

The final panel of the conference was moderated by Chris De Cooker from ESA on the subject *"The Way Forward: A Snapshot of Challenges and Opportunities of the Next Decade"*. It was followed by the final working session, which addressed the 10 year perspective on the role of the incoming space generation.

The conference closed with final presentations of the conclusions from the working groups in the three sessions and closing remarks by the co-chairs of SGAC and a representative from ESPI. Photographs of the day's events can be found at:

<http://picasaweb.google.com/nickyjor/SGAC10YearDay2?authkey=Gv1sRgCMDE3Z...>

The conclusions and outcomes of SGAC's 10th Anniversary Conference will be presented on Thursday, the 11th of June, at COPUOS. A copy of this and other UN COPUOS technical session presentations can be found at

<http://www.unoosa.org/oosa/en/COPUOS/2009/presentations.html>.



Appendices

Appendix A: Financial Tables and Details

Profit and Loss Statement for year ending 31st of December 2009

	2006	2007	2008	2009
Revenue				
SGAC Sponsorship	5,920.43	5,997.00	41,441.80	8,750.03
SCG Sponsorship	14,887.30	15,718.47	5,327.73	46,588.30
SGC Registration & Accom. Fees	23,129.25	14,802.26	17,294.67	11,840.80
SGC Fees paid through website	-	-	1,701.13	-
SGAC 10 Year Anniversary event				6,973.74
Interest Earned	0.54	3.47	10.61	14.52
Forgiven Payments	350	3,030.00	440.4	-
Website advertisement	-	-	200	-
Foreign currency adjustment	-	-	380.99	122
Total Revenue €	44,287.52	39,551.20	66,797.33	74,289.38
Less Expenses				
Executive Director's fees	6,000.00	10,500.00	5,250.00	16,400.00
Executive Officer's fees	6,600.00	6,000.00	4,121.82	-
Executive Officer's apartment rent	4,508.00	3,877.00	2,100.00	-
SGAC Operating expenses	-	-	6,303.38	2,069.71
Office Rent	2,979.95	2,938.96	6,433.20	3,600.00
SGC Event Manager	3,030.00	-	-	-
SGC Operating Expenses	6,286.75	7,389.80	8,417.35	28,507.29
Previous year's SGC Expenses	-	-	-	9,736.03
SGAC 10 Year Anniversary event	-	-	-	6,703.40
Sundry Expenses	1,872.25	303.47	523.12	1,004.68
Depreciation	-	237.59	482.43	-
Bad Debt Write Off	-	16,891.52	6,604.55	-
IT Equipment	719.97	-	-	-
Promotional Material	3,287.44	-	-	-
Travel	2,688.02	-	-	-
SGAC USA Loan	-	-	2,767.86	-
Total Expenses €	37,972.38	48,138.34	40,003.66	68,021.11
Net Profit / (Loss) €	6,315.14	(8,587.14)	23,793.68	6,268.27



Balance Sheet as of 31st of December 2009

	2006	2007	2008	2009	Notes
Assets					
Cash at Bank – Bank Austria	-	-	19,616.41	182.44	
Cash at Bank – PayPal	-	702.73	5,113.86	3,574.48	
Cash at Bank – PSK Austria	3,250.17	24.81	-	-	
Debtors	6,000.00	-	656.78	-	
IT Equipment	719.97	482.38	-	-	
SGAC USA Loan	641.52	-	-	25,434.69	4
Total Assets	€ 10,611.66	€ 1,209.92	€ 22,163.20	€ 29,191.61	

Liabilities

Creditors	-	440.4	1,650.00	-	
Loan from Will Marshall	-	2,400.00	-	-	
SGC 2006 event manager salary	3,030.00	-	-	-	
Member Reimbursements	625	-	-	784.28	
SGAC USA Loan	-	-	2,767.86	-	
Total Liabilities	€ 3,655.00	€ 2,840.40	€ 4,417.86	-	

Net Assets

Net Assets	€ 6,956.66	(€ 1,630.48)	€ 22,163.20	€ 28,407.61	
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Member's Funds

Opening Member's Funds	6,41.52	6,956.66	(€ 1,630.48)	€ 22,139.06	
Net Profit / (Loss)	6,315.14	(8,304.38)	€ 23, 793.68	6,268.27	
Total Member's Funds	€ 6,956.66	(€ 1,630.48)	€ 22,163.20	€ 28,407.33	



Notes to and Forming Part of the Accounts

1. Statement of Accounting Policy

The financial statements were prepared in accordance with required accounting principles and applicable legal requirements. They present a true and fair view of the organisation's net assets, financial position and the results of the organisation.

2. Management Committee and staff members

The names of the management committee members who have held office during the year are:

Co-Chairpersons	Ben Baseley-Walker
	Agnieszka Lukaszczyk

Secretary	Maria-Laura Voda
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Treasurer	Michael Brett
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The members of the management committee did not receive remuneration through the year.

Contracted support staff engaged throughout the year were:

Executive Director	Ariane Cornell
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- This figure represents the amount owed to SGAC by SGAC US for joint events held throughout the year.

Committee's Declaration

Statement by the Executive Committee

The members of the Executive Committee of the Space Generation Advisory Council are of the opinion that:

The accompanying Profit and Loss Statement is drawn up so as to give a true and fair view of the operations of the Organisation for the period ended 31st of December, 2009

The accompanying Balance Sheet is drawn up so as to give a true and fair view of the state of affairs of the Organisation at 31st of December, 2009.

As at the date of this statement, there are reasonable grounds to believe that the Organisation will be able to pay its debts as and when they fall due.



Appendix B: Additional SGAC Websites

Facebook

<http://www.facebook.com/group.php?gid=2218401662&ref=ts>

YouTube

<http://www.youtube.com/profile?user=spacegeneration>

MySpace

<http://groups.myspace.com/spacegeneration>

Wikipedia







http://en.wikipedia.org/wiki/Space_Generation_Advisory_Council


Blogs







<http://www.spacegeneration.org/blog>



Appendix C: SGAC 2008 Executive Team

	Title	Name	Location
Co-Chairs			
	Chairperson	Ben Baseley-Walker	US
	Co-Chairperson	Agnieszka Lukaszczyk	Austria
Executive Office			
	Executive Director	Ariane Cornell	Austria
	Treasurer	Michael Brett	Australia
	Executive Secretary	Maria Laura Voda	Romania
	Communications and Public Relations Lead	Oana Sandu	Romania

	Communications and Public Relations Co-Lead	Kerem Köker	Italy
	Projects Coordinator	Alex Karl	Germany
	Intern	Christopher Vasko	Austria
Regional Coordinators			
	Regional Coordinator – Africa	Michael Kio	Nigeria
	Regional Coordinator – Africa	Castory Ntullu	Tanzania
	Regional Coordinator – Asia Pacific	Yohan Ferreira	Sri Lanka
	Regional Coordinator – Asia Pacific	Mohammad Shafiq	Pakistan
	Regional Coordinator – Europe	Marco Gacesa	Croatia

	Regional Coordinator – Europe	Daniela Petrova	United Kindom
	Regional Coordinator – Middle East	Mahasa Taheran	Iran
	Regional Coordinator – Middle East	Aysegul Tansen	Turkey
	Regional Coordinator – North America	Israel Ojeda	Mexico
	Regional Coordinator – North America	Stephanie Wan	US
	Regional Coordinator – South America	Nicole Jordan	Colombia
	Regional Coordinator – South America	Ana Alexandra Perez	Venezuela

Appendix D: SGAC 2009 National Points of Contact

Country	Name
Africa	
Burkina Faso	Daouda Bitié
Cameroon	Hubert Foy Kum
Ethiopia	Bekele Tujuba
Ethiopia	Biniyam Yosef Kebede
Ghana	Abdul-mumin Yussif
Kenya	Laban Maiyo
Kenya	Susan Murabana
Mauritius	Assad Anathallee
Nigeria	Onyema Benigna Ajuogu
Nigeria	Olakanmi Olabode
Tanzania	Mlenge Fanuel
Tanzania	Elijah Kondi
Zambia	Paul Simpemba
Zimbabwe	George Bapete
Asia Pacific	
Afghanistan	Ahmad S. Hakimyar
Australia	Nebojsa Pajkic
China	Maryonsail Dong
Georgia	Catherine Doldirina
India	Athiye Jawad
India	Pradeep Mohandas
Indonesia	Miftachul Hasana
Japan	Yuki Takahashi



Japan	Hiroshi Yamashita
Myanmar	Aung Chan
Nepal	Suresh Bhattarai
Nepal	Rijendra Thapa
New Zealand	Jackson Wood
Pakistan	Muhammad Atteeq
Pakistan	Wajahat Nasar
Sri Lanka	Thiwanka chameera
Thailand	Pathara Limsira
Thailand	Duangkaew Noppornprom
Vietnam	Thu Vu
Europe	
Austria	Alexandra Ruths
Austria	Klaus Kornfeld
Belgium	Pieter Bettybier
Belgium	Pieter Jan Van Asbroeck
Croatia	Marko Gacesa
Germany	Juergen Schlutz
Germany	Oliver Troll
Greece	Nelli Anastasiadi
Italy	Paola Di Maio
Poland	Damian Bielicki
Poland	Michał Moroz
Portugal	Pedro Rodrigues
Romania	Florin Mingireanu
Romania	Maria-Laura Voda
Spain	Maite Trujillo



Switzerland	Cedrick Sapey
Ukraine	Olga Stelmakh
United Kingdom	Rishi Sharda
Middle East	
Iran	Mohammad Rahimi
Iraq	Muthana A. Hassan
Kuwait	Ghanim Alotaibi
Kuwait	Ahmad Shakeeb
Turkey	Cem Karako
Turkey	Aziz Kayihan
North, Central America and the Caribbean	
Canada	Annie Martin
Costa Rica	Andres E. Mora Vargas
Guatemala	Jeffrey Rivera
Jamaica	Marc Cornwall
Mexico	Francisco Mtz Nieto
US	Alan Steinberg
South America	
Argentina	Pablo de Leon
Bolivia	Roger Vasquez
Brazil	Konrad Link
Colombia	Nicole Jordan
Peru	Martín Canales
Uruguay	Victoria Alonsoperez
Venezuela	Ana A. Perez



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