

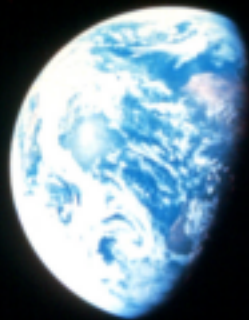
ANNUAL REPORT



SPACE GENERATION
ADVISORY COUNCIL

IN SUPPORT OF THE UNITED NATIONS
PROGRAMME ON SPACE APPLICATIONS

SGAC 2011





SPACE GENERATION
ADVISORY COUNCIL

Schwarzenbergplatz 6
Vienna A-1030
AUSTRIA
info@spacegeneration.org
www.spacegeneration.org
+43 1 718 11 18 30 Fax: +43 1 718 11 18 99

© Space Generation Advisory Council 2012

Table of Contents

ACRONYMS	III
INTRODUCTION	1
ABOUT THE SPACE GENERATION ADVISORY COUNCIL	2
MESSAGE FROM THE CO-CHAIRS	3
MESSAGE FROM THE EXECUTIVE DIRECTOR	4
EXECUTIVE SUMMARY	5
SUSTAINED ORGANISATIONAL GROWTH	11
SPONSORS AND PARTNERS	13
SGAC BACKGROUND	17
HISTORY OF THE SPACE GENERATION ADVISORY COUNCIL	18
LEADERSHIP AND STRUCTURE	19
PROGRAMME	20
THE ORGANISATION IN 2011	21
GOAL ACHIEVEMENT ASSESSMENT	22
ACTIVITY HIGHLIGHTS	26
SPACE GENERATION CONGRESS REPORT	32
UNITED NATIONS REPORTS	41
TREASURER'S REPORT	45
COMMUNICATIONS AND PUBLIC RELATIONS TEAM REPORT	49
PROJECTS	53
OVERVIEW OF PROJECT OUTCOMES AND HIGHLIGHTS	54
YOUTH FOR GNSS WORKING GROUP	56
SPACE TECHNOLOGIES FOR DISASTER MANAGEMENT WORKING GROUP	59
SPACE SAFETY AND SUSTAINABILITY WORKING GROUP	62
NEAR EARTH OBJECT WORKING GROUP	65

Cover Image: This view of the rising Earth greeted the Apollo 8 astronauts as they came from behind the Moon after the fourth nearside orbit. The photo is displayed here in its original orientation, though it is more commonly viewed with the lunar surface at the bottom of the photo. It serves to remind us that we are all on the same journey, around the Sun. Credit: NASA.

SGAC REGIONAL ACTIVITIES	69
MAPS OF SGAC REGIONS AND REPRESENTED COUNTRIES	70
REGIONAL AND NATIONAL REPORTS	71
AFRICA	71
ASIA PACIFIC	87
EUROPE	127
MIDDLE EAST	173
NORTH, CENTRAL AMERICA AND THE CARIBBEAN	187
SOUTH AMERICA	208
APPENDICES	219
APPENDIX A: ADDITIONAL WEBSITES	A
APPENDIX B: 2011 EXECUTIVE TEAM	B
APPENDIX C: 2011 NATIONAL POINTS OF CONTACT	F
APPENDIX D: SGAC 2011 TEAMS	I
APPENDIX E: ADVISORY AND HONORARY BOARDS	K
ACKNOWLEDGEMENTS	M

Acronyms

Acronym	Definition
AAJ	Astronomical Association of Jamaica
AIAA	American Institute of Aeronautics and Astronautics
ADR	Active Debris Removal
APRSAF	Asia-Pacific Regional Space Agency Forum
APSCO	Asia-Pacific Space Cooperation Organisation
ASECNA	Cameroon Civil Aviation Authority
AsMA	Aerospace Medical Association
ASRI	Australian Space Research Institute
ASTROSAT	Astronomy Satellite
AWS	Asian Winter School
AYAF	Australian Youth Aerospace Forum
BEXUS	Balloon Experiments for University Students
BRITE	Bright Target Explorer
BRITE-PL	Bright-star Target Explorer-Poland
CAP	Communicating Astronomy with the Public
CASI	Canadian Aeronautics and Space Institute
CCSDS	Consultative Committee for Space Data Systems
CEO	Chief Executive Officer
CSA	Canadian Space Agency
CSO	Czech Space Office
DASS	Department of Astronomy and Space Sciences
DED	Deputy Executive Director
DLR	Deutsches Zentrum für Luft und Raumfahrt (German Aerospace Centre)
DTI	The Department of Trade and Industry of the Republic of South Africa
EADS	European Aeronautic Defence and Space Company N.V.
EC	European Commission
ECOSOC	Economic and Social Council
EISC	European Interparliamentary Space Conference
EO	Earth Observation
ESA	European Space Agency
ESMO	European Student Moon Orbiter
ESO	European Southern Observatory
ESON	ESO Science Outreach Network
ESPI	European Space Policy Institute
EXA	Ecuadorian Civilian Space Agency
GAIA	Globales Astrometrisches Interferometer für die Astrophysik

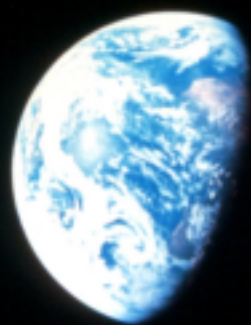
Acronym	Definition
GAM	Global Astronomy Month
GEOSS	Global Earth Observation System of Systems
GIS	Geographic Information System
GISTDA	Geo-Informatics and Space Technology Development Agency
GMES	Global Monitoring for Environment and Security
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
GSA	Galileo Navigation System
GSLV	Geosynchronous Satellite Launch Vehicle
GTTP	Galileo Teacher Training Programme
GWU	George Washington University
IAA	International Academy of Astronautics
IAASS	International Association for the Advancement of Space Safety
IAC	International Astronautical Congress
IADC	Inter-Agency Space Debris Coordination Committee
IAF	International Astronautical Federation
IAT	Istanbul Astronomy Community
ICG	International Committee on GNSS
ICIST	International Conference for the Integration of Science and Technology
ICTP	International Centre for Theoretical Physics
IEEE	Institute of Electrical and Electronics Engineering
IKAROS	Interplanetary Kite-craft Accelerated by Radiation Of the Sun
IKY	Ελληνικά Ίδρυμα Κρατικών Υποτροφιών (Greek State Scholarships Foundation)
ILOA	International Lunar Observatory Association
INTA	Instituto Nacional de Tecnica Aeroespacial
IMF	International Monetary Fund
ISRO	Indian Space Research Organisation
ISS	International Space Station
ISSF	International Space Safety Foundation
ISU	International Space University
IUCAA	Inter-University Centre for Astronomy and Astrophysics
IYA	International Year of Astronomy
JAXA	Japan Aerospace Exploration Agency
JENAM	Joint European and National Astronomy Meeting
KAIST	Korea Advanced Institute for Science and Technology
KARI	Korea Aerospace Research Institute
KOMPSAT 5	Korean Multipurpose Satellite 5
KSAY	Korea Space Association for Young Generation
KSLV	Korea Space Launch Vehicle
KSLV-I	Korean Space Launch Vehicle-1

Acronym	Definition
LEEM	Laboratory for Space and Microgravity Research
LOC	Local Organising Committee
MDG	Millennium Development Goals
MEA	Mexican Space Agency
Mk-III	Mark III
MUSES-C	Mu Space Engineering Spacecraft C
NASA	National Aeronautics and Space Administration
NASO	Nepal Astronomical Society
NASRDA	National Space Research & Development Agency
NAST	Nepal Academy of Science and Technology
NCAC	North, Central America and the Caribbean
NCRT	National Council for Research and Technology
NEO	Near Earth Objects
NGO	Non Government Organisations
NIA	National Institute of Aerospace
NPoC	National Point of Contact
NRF	National Research Foundation
NSCW	National Space Camp Woomera
NZ	New Zealand
OAD	Office of Astronomy Development
OHB	OHB AG
OOSA	Office for Outer Space Affairs
PhD	Doctor of Philosophy
PR & Comm	Communications & Public Relations
PSLV	Polar Satellite Launch Vehicle
PW-SAT	studencki satelita Politechniki Warszawskiej
QZS-1	Quasi Zenith Satellite 1
RASC-AL	Revolutionary Aerospace Systems Concepts-Academic Linkage
RC	Regional Coordinator
RDS	Rocket for Drop Sonde
REXUS	Rocket Experiments for University Students
ROSCOSMOS	Russian Federal Space Agency
SAA	South African Airways
SAASTA	South African Agency for Science and Technology Advancement
SAAO	South African Astronomical Observatory
SANSA	South Africa National Space Agency
SAR	Synthetic Aperture Radar
SASA	South African Space Association
SASS	South Australian Space School
SC	Security Council
SCA	Space Conference of the Americas
SCaN	Space Communications and Navigation
SEDS	Students for the Exploration and Development of Space

Acronym	Definition
SG	Secretary-General
SGAC	Space Generation Advisory Council
SGC	Space Generation Congress
SGF	Space Generation Forum
SH-SSP	Southern Hemisphere Summer Space Programme
SPDC	Special Political and Decolonisation Committee
SPU	Space Policy Unit
SSA	Space Situational Awareness
SSN	Space Surveillance Network
SSP	Space Studies Programme
SSPI	Society of Satellite Professionals International
SSS	Space Safety and Sustainability
STUDSAT	Student Satellite
THEOS	Thailand Earth Observation Satellite
Udelar	Universidad de la República
UK	United Kingdom
UN	United Nations
UN COPUOS	United Nations Committee on the Peaceful Uses of Outer Space
UN GA	United Nations General Assembly
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISEC	Asia-Pacific Satellite Communications Council
UNISPACE	United Nations Conference on the Exploration and Peaceful Uses of Space
UNITEC-1	UNISEC Technology Experiment Carrier-1
UN/IAF	United Nations-Office for Outer Space Affairs /International Astronautical Federation
UNL	University of Nebraska at Lincoln
UN-SPIDER	UN Space-based Information for Disaster Management and Emergency Response
UPC	Polytechnic University of Catalonia
USA	United States of America
VINASAT	Viet Nam Satellite
VNREDSat-1	Viet Nam Natural Resources, Environment and Disaster Monitoring Small Satellite
VSS	Victorian Space School
VSSEC	Victorian Space Science Education Centre
WHO	World Health Organisation
WIA Europe	Women In Aerospace Europe
WPA	Woomera Prohibited Area
WSW	World Space Week
YGNSS	Youth for Global Navigation Satellite Systems
Zero-G	Zero Gravity

Introduction

about the space generation advisory council	2
message from the co-chairs	3
message from the executive director	4
executive summary	5
sustained organisational growth	11
sponsors and partners	13



about the space generation advisory council

The Space Generation Advisory Council (SGAC) in support of the United Nations (UN) Programme on Space Applications is a non-governmental organisation that aims to represent university students and young space professionals to the United Nations, Nation States, space agencies, industry, academia 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's network currently has 4000 university students and young professionals in roughly 90 countries.

message from the co-chairs

Dear members, friends and supporters,

Throughout 2011, the Space Generation Advisory Council has continued to prosper and make great strides in representing the interests of students and young professionals around the world. As Chairs of the organisation, We continue to be inspired by the achievements of our members as they forge their own paths in the space community.

SGAC had an ambitious work plan for 2011, and we have met most of our objectives through the gracious work of our volunteer office bearers. One of the most remarkable attributes of SGAC is the ability of such a diverse group of people, from all over the world, to consistently work together in running the organisation and producing high-quality output. This year's Space Generation Congress (SGC) in Cape Town, South Africa in particular stands out as an example of the impact SGAC can have. The Congress played host to a record number of delegates, delivered a record number of scholarships, and enabled students and young professionals from all over the world to make their mark.

Thank you to everyone who has supported the organisation throughout the year in their own way. Our thanks in particular go to Ariane Cornell and the Executive Office for their tireless work running the day-to-day operations of SGAC – as a volunteer youth organisation, we are grateful to have the capacity to employ full-time staff. Thanks to our financial sponsors, who help provide the means for SGAC to go about its work. Our utmost appreciation also goes to our Advisory Board for their time and continued support and assistance throughout the year.

SGAC will soon be undergoing a number of exciting changes that will allow the organisation to achieve even more. Our long-serving Executive Director, Ariane Cornell, will be leaving us to take on the challenges in the next stage of her life. Ariane has been a driving force behind our successes over the past few years, and we are both sorry to see her go and excited for her bright future ahead. Thankfully, we have an excellent replacement in training with Andrea Jaime Albalat, who is currently learning the role and will soon transition to be the full-time Executive Director in Vienna. Andrea is a pleasure to work with, and we are sure to do well with her at the helm. Along with these staff changes, SGAC is also refreshing our brand to better reflect the organisation. We have embarked on new efforts to better communicate with our members, and we plan to host a new event called the Space Generation Fusion Forum alongside the National Space Symposium in April 2012. It is likely that SGAC will look a little different a year from now, but it will be well-placed to take advantage of future opportunities and have the same drive and energy that have made it such a great organisation to be a part of.

Thank you once again for your continued support, we are looking forward to working with you all in 2012 to help turn raw energy and passion for space into dynamic careers in the space community.

We commend this report to you.



Michael Brett
Chair



Catherine Doldirina
Co-Chair

message from the executive director

Dear all,

2011 was a year of continued development and growth for SGAC. The last few years have seen the organisation build a solid base and steadily rise from it. Three key metrics that SGAC uses to measure its growth - number of Space Generation Congress (SGC) attendees, donation revenue, and value of SGAC scholarships - are all showing fantastic growth. Over the past three years, the number of SGC attendees has risen 30% annually. Reacting well to this development, the space community has generously grown its financial support for SGAC. SGAC's yearly fund raising revenue has increased 50% annually over the past three years. Finally, this in turn has led to a five time increase in the value of the scholarships that SGAC has been able to award annually since 2008. All of these exciting developments can be tracked in the statistics of growth section of the Annual Report. As we look back on the success of the past few years and indeed 2011 as the best of them yet, it is important to recognise the hard work of volunteer young adults that have made this happen. SGAC's whole Executive Office and Executive Council would like to thank our volunteers and we look forward to more growth in 2012!

All the best,



Ariane Cornell
SGAC Executive Director



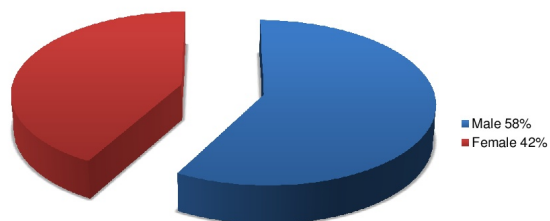
Andrea Jaime
SGAC Deputy Executive Director

ORGANISATIONAL DEVELOPMENT

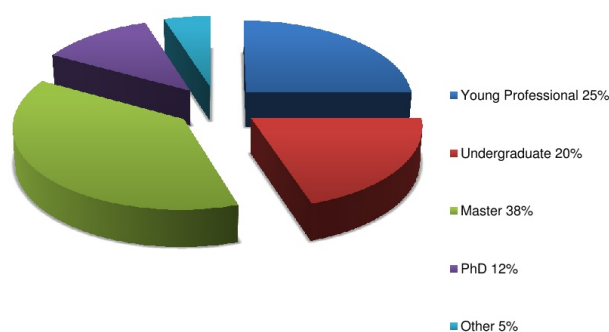
- Team Changes:
 - o Agnieszka Lukaszczyk (Poland/US) became an Advisory Board Member
 - o Tanja Masson-Zwaan (The Netherlands) became an Advisory Board member
 - o Nicolas Peter (France) became an Advisory Board member
 - o Dumitru Prunariu (Romania) became an Advisory Board member
 - o Ambassador Ciro Arevalo (Colombia) became a Honorary Board Member
 - o Yolanda Berenguer (Philippines) became a Honorary Board Member
 - o Chris de Cooker (USA) became a Honorary Board Member
 - o Ben Baseley-Walker (UK) became a Honorary Board Member
 - o Jim Zimmerman (USA) became a Honorary Board Member
 - o Catherine Doldirina (Georgia) was appointed as the new Co-Chair
 - o Cláudia Raposo Correia (Portugal) was appointed as the Membership Manager
 - o Alanna Krolikowski (Canada) and Emmanuelle David (France) were appointed Project Co-Leads
 - o Michael Kretzenbacher (Australia) and Cynthia Chen (Australia) were appointed as the Public Relations (PR) & Communications Co-Lead
 - o Suresh Bhattarai (Nepal) was appointed as the Executive Co-Secretary
 - o Leandro Ricardo (Angola) and Sonja Russell (Australia) was hired as the Executive Office Summer Intern
 - o Andrea Jaime Albalat (Spain) was hired as the SGAC Deputy Executive Director

SPACE GENERATION CONGRESS

- The 10th anniversary of the annual Space Generation Congress (SGC) was held on the 29 September – 1 October in Cape Town, South Africa
- Delegate statistics:
 - o 130 delegates represented a total of 42 countries
 - o The male to female ratio of SGC delegates remained stable at 42% females and 58% males.
 - o 32 of the attendees received SGAC scholarships
 - o SGC was organised by 19 members from 17 countries
 - o SGC delegates with different professional status: master (38%), undergraduate (20%), young professional (25%), PhDs (12%) and others (5%)

SGC STATISTICS

Gender of SGC 2011 Delegates



Professional Status of SGC 2011 Delegates

- This year, five topics were covered in working groups; for more information, see the SGC section below
- SGAC increased its active participation in the IAC and the UN / IAF workshop
- Delegates at the SGC 2011 heard from a wide variety of highly acclaimed speakers from many different companies and organisation, these include:
 - o Charles Bolden, NASA Administrator
 - o Graham Gibbs, Senior Policy Coordinator Government Liaison Office, Canadian Space Agency
 - o Dumitru Prunariu, Chairman of UN COPUOS
 - o Berndt Feuerbacher, President of the International Astronautical Federation
 - o Sandile Malinga, CEO of the South African National Space Agency
 - o Seidu Onailo (S.O.) Mohammed, Director General of Nigeria's National Space Research and Development Agency
 - o Sergei Saveliev, Deputy Head of Russian Federal Space Agency
 - o William Gerstenmaier, NASA Associate Administrator for Space Operations

- o Kevin Govender, Director of the Global Office of Astronomy Development (OAD)
- o Peter Martinez, Head of Space Science and Technology Division at the South African Astronomical Observatory (SAAO)
- o Fritz Merkel, Member of the Executive Board OHB System AG
- o Will Williamson, Executive Director of the Space Frontier Foundation
- o Ray Williamson, Executive Director of the Secure World Foundation
- o Tanja Mason-Zwaan, President of the International Institute of Space Law

Confirmed but unable to attend: Vladimir Popovkin (Head of ROSCOSMOS), Johann-Dietrich Wörner (Chairman of the Executive Board of DLR), Steve MacLean (Canadian Space Agency President)

PROJECTS & UNITED NATIONS WORK

- Youth for Global Navigation Satellite Systems (YGNSS) contributed to a series of conferences and meetings, including the International Committee on Global Navigation Satellite Systems' (ICG's) annual meeting in Tokyo, Japan.
- Near Earth Object (NEO) Working Group: The NEO working group was involved in organising the fourth annual Move an Asteroid student competition over the year.
- United Nations Report: SGAC participated in the UN COPUOS main meeting, the two COPUOS subcommittee meetings, as well as the UN General Assembly.

OUTPUT AT A GLANCE

Throughout the year, SGAC supported a number of scholarships, conferences and papers listed below.

SCHOLARSHIPS (35)

- Ade Abiodun African Space Scholarship
- Australian Futures Award (3)
- Barcelona Zero-G Competition
- German Aerospace Center (DLR) Standout Student Scholarship (3)
- International Association for the Advancement of Space Safety (IAASS) Conference (3)
- Move an Asteroid Competition

- Nigerian National Space Research and Development Agency (NASRDA) Award (2)
- OHB Scholarship Award
- Peter Diamandis Scholarship
- Society of Satellite Professionals International: Satellite Futures (3)
- Space Generation Advisory Council (SGAC) Young Leader Awards (13)
- UN/International Astronautical Federation (UN/IAF) Workshop Scholarships (3)

CONFERENCES AND WORKSHOPS SUPPORTED (3)

- Space Generation Congress (SGC), South Africa
- The Future of Planetary Defence, Romania
- Workshop on Use and Application of the Satellite Tool Kit (STK) Software, Nigeria

PAPERS AND PUBLICATIONS (4)

- SGC reports (5 session reports, plus the congress report and its executive summary)
- Paper titled “Space Safety and Sustainability - The Youth Debate” on behalf of the SGAC Space Safety and Sustainability (SSS) working group
- Youth for GNSS (YGNSS), a public outreach guide to GNSS (Global Navigation Satellite System) and the Youth
- Paper titled “Global Navigation Satellite System: GNSS Interference - The debate rages on,” by Stephanie Wan (USA), in Geospatial World Magazine on behalf of YGNSS

CONFERENCES WITH OFFICIAL SGAC REPRESENTATION AND/OR PRESENTATION (18)

- African Leadership Conference (ALC), Kenya
- Asia-Pacific Regional Space Agency Forum, Singapore
- Compass Summit, USA

- International Astronautical Federation's (IAF) 60th Anniversary and Spring meetings, France
- International Astronautical Congress (IAC), South Africa
- International Committee on GNSS (ICG), Japan
- International Space University (ISU) Symposium, France
- International Symposium for Personal & Commercial Spaceflight (ISPCS), USA
- ISU Southern Hemisphere Summer Space Programme, Australia
- Massachusetts Institute of Technology (MIT) Symposium, USA
- National Aeronautics and Space Administration (NASA) Project Management Challenge Conference, USA
- National Space Symposium (NSS), USA
- Planetary Defence Conference, Romania
- UN/IAF Workshop, South Africa
- United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS, Austria
- Legal Subcommittee of UN COPUOS, Austria
- Scientific and Technical (S&T) Subcommittee of UN COPUOS, Austria
- United Nations International Meeting on the Application of Global Navigation Satellite Systems (GNSS), Austria

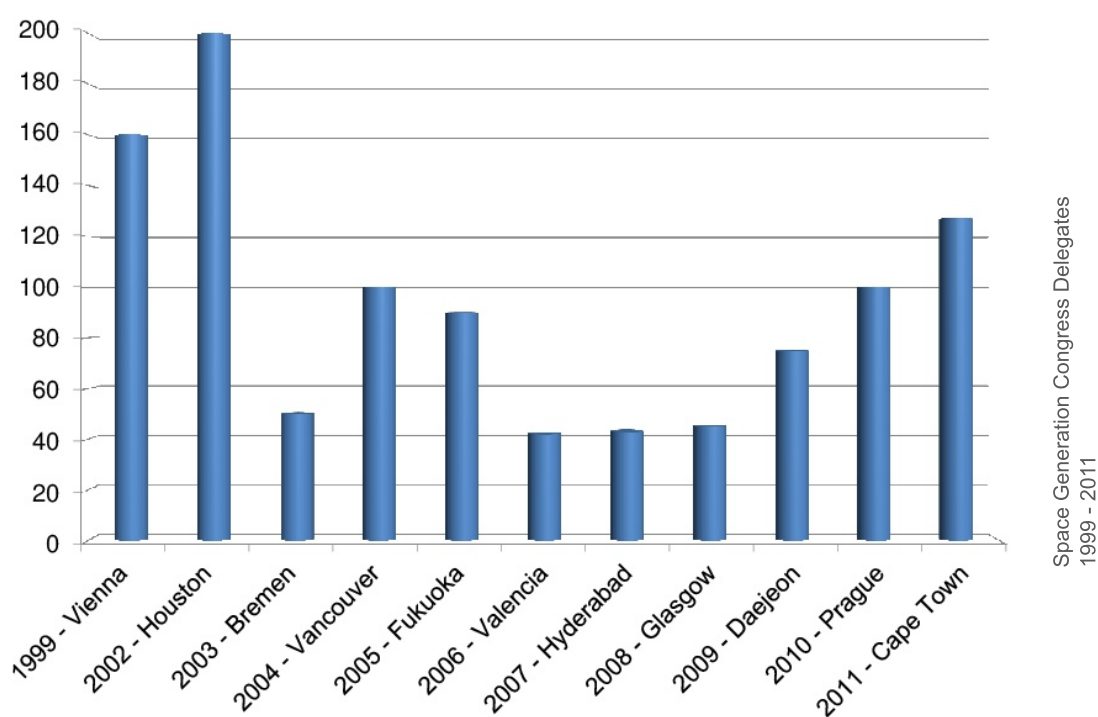
FORMALISED PARTNERSHIPS (8)

- Analytical Graphics, Incorporated (AGI) Educational Alliance Program
- German Aerospace Centre (DLR)
- Institute of Air and Space Law (IASL), McGill University, Canada
- ISU
- Society of Satellite Professionals International (SSPI)

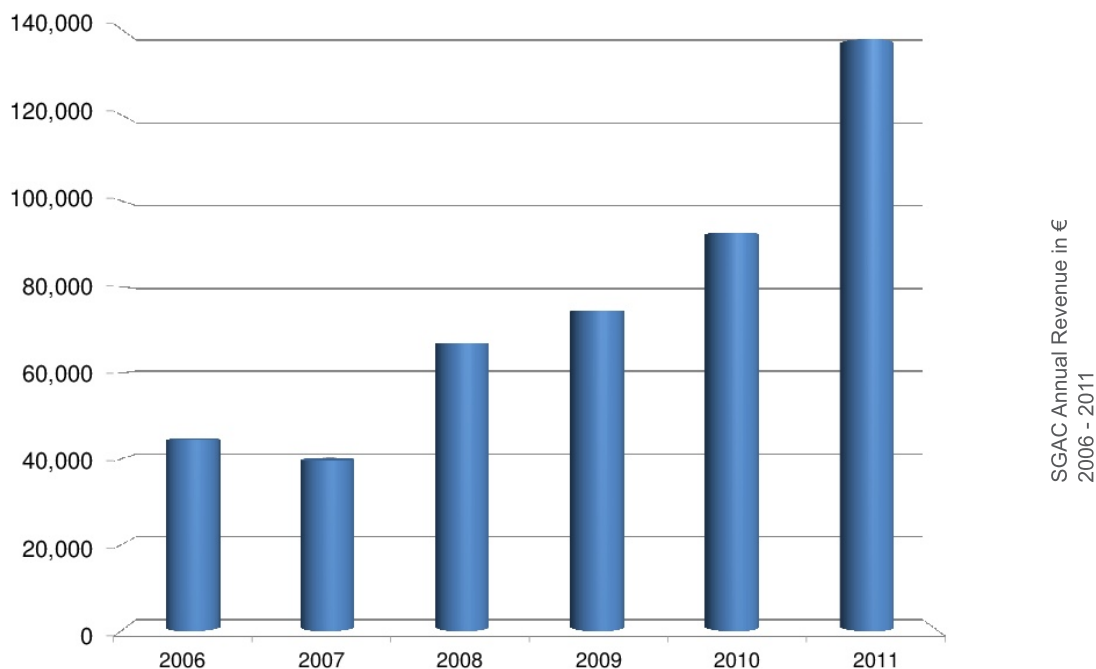
- Space Education and Awareness Working Group at the Asia-Pacific Regional Space Agency Forum
- Women in Aerospace - Europe (WIA-E)
- Yuri's Night

sustained organisational growth

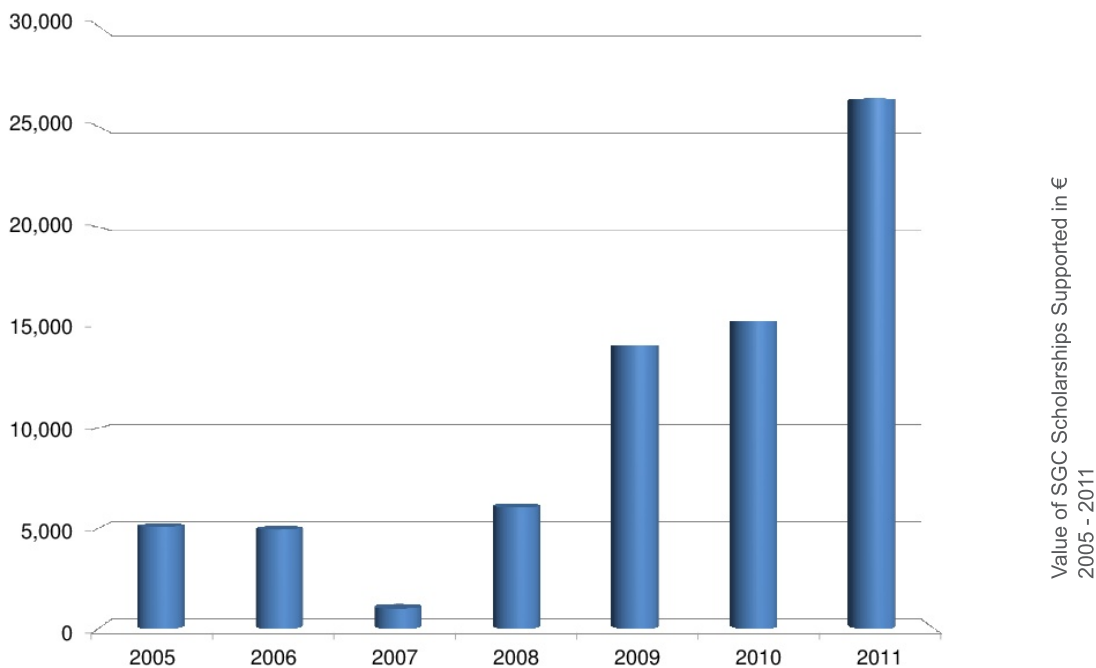
The 10th Anniversary of SGC was an excellent opportunity to demonstrate how both the Congress and SGAC have grown since the organisation's creation in 1999. The number of delegates participating in the Congress has tripled in just three years.



As the quality of SGC and SGAC programming has improved, so has the organisation's ability to attract generous supporters. The revenue has steadily been growing over the past four years.



Another important fact that SGAC is proud to show is the growth in the value of scholarships given. In 2011, an additional 12,000 € were allocated towards scholarships, setting an SGAC record at approximately 27,000 €.



sponsors and partners

The Space Generation Advisory Council is very grateful once again for the generous support of our sponsors and partners. This year our sponsors and partners expanded their financial and intellectual (e.g., data, subject matter experts, speakers, etc.) contributions. Both types of contributions have played important roles in the improved quantity and quality of SGAC's output in 2011. SGAC would like to thank them once again for their contributions to one of the most successful years in SGAC history marked by the celebration of the 10th anniversary of SGC.

PLATINUM SPONSORS



Anonymous Supporter

GOLD SPONSORS



Deutsches Zentrum für Luft-
und Raumfahrt (DLR)
www.dlr.de



Society of Satellite
Professionals International
(SSPI)
www.sspi.org

SILVER SPONSORS



Arianespace, Inc.
www.arianespace.com



Bilim Private Schools of
Ankara, Turkey
www.bilim.k12.tr



Czech Space Office (CSO)
www.czechspace.cz



International Association for
the Advancement of Space
Safety (IAASS)
www.iaass.org



International Space Safety
Foundation (ISSF)



National Space Research &
Development Agency
(NASRDA) of Nigeria
www.nasrda.gov.ng



OHB AG
www.ohb.de

SILVER SPONSORS

SAAOSouth African
Astronomical ObservatorySouth African Astronomical
Observatory (SAAO)
www.saaao.ac.zaSouth African National Space
Agency (SANSa)
www.sansa.org.zaSpace Frontier Foundation
spacefrontier.orgWomen In Aerospace Europe
(WIA Europe)
www.wia-europe.orgMr. Bob & Mrs. Donna Becker
Mr. A.C. Charania
Dr. Peter Diamandis
Mr. Jun Okushi
Mr. Paul Reilly**OFFICIAL SGC 2011 MEDIA SPONSOR**

Space News
www.spacenews.com**OFFICIAL SGC 2011 AIRLINE**

South African Airways
www.flysaa.com

SGC 2011 HOSTED BY

The Department of Trade and
Industry (DTI) of the Republic
of South Africa
www.dti.gov.za

AWARDEES OF THE SPACE GENERATION KEYSTONE SUPPORTER AWARD

In light of SGC's 10th Anniversary, SGAC's leadership felt it was necessary to recognise key individuals and organisations who have consistently and significantly supported SGAC through its growth, particularly during the past few years. SGAC extends its deepest gratitude to its Keystone Supporter awardees for their dedication and commitment to supporting the next generation of space sector leaders.

Cynda Collins Arsenault
NASA

Jim & Lin Burke

Secure World Foundation
Lockheed Martin

SGAC

Background

history of the space generation advisory council	18
leadership and structure	19
programme	20



SPACE GENERATION
ADVISORY COUNCIL

history of the space generation advisory council

As part of UNISPACE III, alumni of the International Space University (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 United Nations (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 from the SGF Technical Report were integrated into UNISPACE III's final report, the Vienna Declaration on Space & Human Development:

- 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

For more information about UNISPACE III please visit:

<http://www.un.org/events/unispace3/>

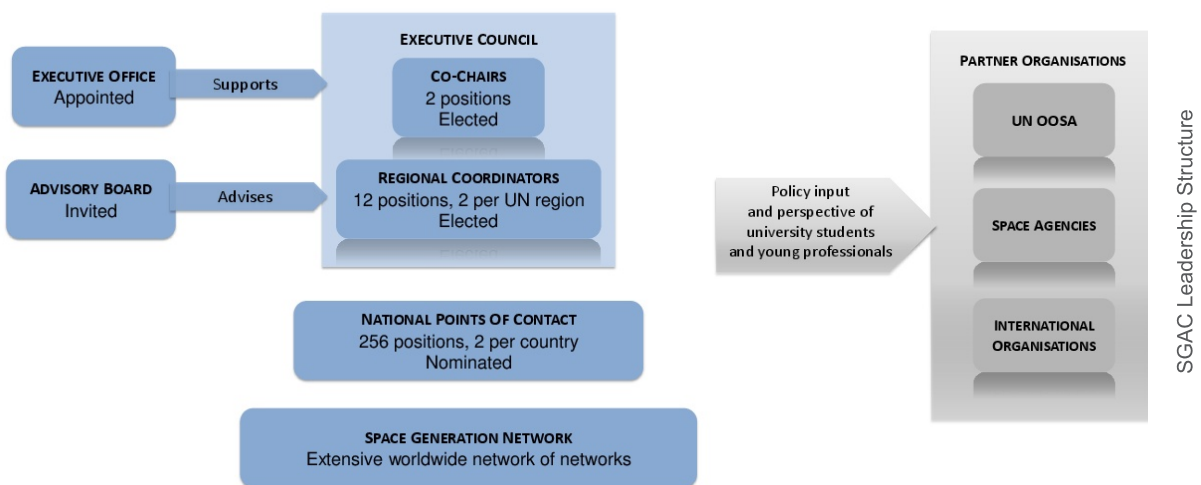
For more information about the International Space University please visit:

<http://www.isunet.edu/>

For more information about the Vienna Declaration on Space & Human Development please visit: <http://www.unoosa.org/pdf/reports/unispace/viennadeclE.pdf>

leadership and structure

SGAC has a clear and solid structure that has been consolidated through the last years.



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 2011, SGAC continued to have an observer presence and provided input to the 48th meeting of the Scientific and Technical Subcommittee in February 2011, the 50th session of the Legal Subcommittee in March 2011, and the 54th Session of COPUOS in Vienna in June 2011.

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, SGAC was able to obtain funding for several students from the developing countries to attend international conferences and workshops in 2011. These included the SGC and IAC with 19 scholarships and 13 SGAC Young Leader Awards.

INTERNATIONAL COOPERATION

International cooperation is more of a deeply embedded philosophy than a programme. SGAC members have worked together advancing space projects more efficiently to save time and money. The global network enabled many proven concepts to be brought from one country to another and enhancement of international collaboration.

SPACE GENERATION NETWORK

The Space Generation continued to expand in 2011 with the addition of many new National Points of Contact (NPoC) around the world. At the end of 2011, 63 of our 90 countries are represented by members of the SGAC.

The Organisation in 2011

goal achievement assessment	22
activity highlights	26
space generation congress report	32
united nations reports	41
treasurer's report	45
communications and public relations team report	49



goal achievement assessment

The SGAC Strategic Plan 2011, published in January, set out nine goals for the year ahead. This section of the Annual Report is the Executive Office's self-assessment of how SGAC performed against these goals. This assessment is intended to provide an additional view on the context of SGAC's activities throughout the year and inform the development of the Strategic Plan for 2012.

1 CONTINUE EFFORTS TOWARDS FINANCIAL STABILISATION

Output: Multi-year contracts or Memoranda of Understanding with sponsors

SGAC operated a strong financial base throughout the year to return a surplus as planned. The organisation grew both its revenue and surplus continuing a positive trend over recent years. All accounts were paid on time and the Executive office has been confident of its ability to operate throughout the year. Changes to SGAC's financial operations throughout 2011 included introducing a new, online bookkeeping system, transitioning a new Treasurer to the team, updating our transaction authorisations to allow for more flexible banking and completing an extensive review of our 501c3 obligations with a new accountant in the USA.

The major goal of securing multi-year contracts with main sponsors was not accomplished. Unfortunately, many of our sponsors are constrained in their ability to enter into such contracts and are only able to support the organisation on a year by year basis. Financial stability will be achieved by maintaining a close and trusted relationship with our major sponsors.

Another aspect of this objective is to save sufficient funds to maintain a balance in excess of SGAC's immediate operational needs – this objective is yet to be realised. Thankfully, there are sufficient funds to support two paid positions until such time as the transition between Ariane and Andrea in the Executive Director position is complete.

2 DATABASE CONSOLIDATION AND MEMBERSHIP DEFINITION

Output: Inaugural results of SGAC membership demographics survey – a short report on SGAC's membership base, its outlook and trends

Throughout 2011, SGAC has conducted a far-reaching redesign of its membership management systems and processes. Members were emailed with a unique confirmation code to confirm their membership throughout November and December, with all non-responsive accounts being deleted. The first assessment and analysis of this database is in very close to completion and is expected to be published in early

2012. In parallel to the database refreshment, SGAC has developed a membership system to keep track of members of our community who are no-longer eligible to be members. The Strategic Plan for 2012 will include the development of a strategy to define how to optimally communicate with these former members, as they are a potentially a highly valuable resource of advice and relationships.

3 NEW YOUNG PROFESSIONALS EVENT IN NORTH AMERICA

Output: Report to the SGAC's members and stakeholders on the feasibility of a new space event for young professionals to be held in the US in 2012

SGAC's executive office did a thorough investigation into US events with which SGAC could hold a new event in 2012. Following the assessment, SGAC found the Space Foundation's National Space Symposium to be the optimal event. In December 2011, SGAC signed an agreement with Space Foundation to hold the 2012 "Space Generation Fusion Forum" in April 2012. This conference will focus on international participation and topics of relevance to our broad membership base, as well as contributing to the achievement of SGAC's other short-, mid- and long-term goals.

4 SPACE GENERATION CONGRESS IN SOUTH AFRICA

Output: Report on a successful event, which is measured on delegate numbers, diversity and contribution

The Space Generation Congress held in Cape Town, South Africa, in October 2011 was an overwhelming success, with a record number of delegates and a strong program of events. The event overcame the number of additional organisational risks to host the first SGC on the African continent. The number of delegates, as well as the monetary value of the scholarships awarded this year were much higher than those for SGC 2010 in Prague (27,000€ in 2011 versus 15,000€ in 2010). The attention generated by the event, particularly from world space leaders, and the support of organisations, greatly contributed to the overall success of SGC 2011. SGC Final Report was completed with a high level of quality which has met our expectations and goals.

5 INCREASED CONTRIBUTION TO SPACE POLICY

Output: Contributions to national, regional and international space policy development published on SGAC website

SGAC members have participated in a number of space-related events, both attendees active participants presenting papers or through other contributions. Through SGAC's scholarships, reports such as the SGC 2011 report, and contributions to the UN Action Team 14 on Near Earth Objects and the International Committee on the GNSS, the next generation of space sector leaders have actively contributed to the development of space policy globally. Full details of SGAC's policy work throughout 2011 can be found on SGAC's website.

Delegates at the Space Generation Congress developed a plan for establishing a new working group focused on space policy and law. This working group will dedicate its work to contributing to raising the awareness regarding space policy and law, as well as formulating and promoting youth's perspective on the matters world-wide.

6 ESTABLISH ENDURING RELATIONSHIPS WITH PARTNER ORGANISATIONS

Output: Formalise the relationship with existing and new partner organisations through Memoranda of Understanding which outline the long term benefits of collaboration

The year 2011 was particularly fruitful in formalising SGAC's relationships with existing and new partners including Memoranda of Understanding with the following organisations:

- Deutsches Zentrum für Luft- und Raumfahrt (DLR)
- Institute of Air & Space Law (IASL)
- International Space University (ISU)
- Secure World Foundation
- Society of Satellite Professionals International (SSPI)
- Women in Aerospace - Europe (WIA Europe)

Cooperation agreements were established with ESPI and AGI. These partnerships provide SGAC with a framework for on-going collaboration regardless of any changes in the leadership team.

7 SUPPORT OF SGAC WORKING GROUPS AND PROJECTS

Output: Annual Reports from the three established, and possibly additional, working groups with additional contributing members and wider dissemination

This year was marked by new energy and willingness to facilitate the work in the current and activate new working groups. Space Technologies for Disaster Management Working Group reassessed their objectives, and alongside new members will have a new website coming out. The NEO Working Group wrote their contribution to the COPUOS S&T, as well as once again successfully organised the NEO competition ran within the framework of SGC, with the winner Alison Gibbings attended SGC and IAC in Cape Town. The YGNSS Working Group organised a GEO-caching event during the IAC in Cape Town. The new Working Group on Space Safety and Sustainability submitted and presented full papers at the IAC in Cape Town, and at the IAASS conference in Versailles, France.

The SGAC's Project Coordinators, together with a group of enthusiastic members, are organising new working groups around topics of industry, space debris and its mitigation, space law and policy, as well as a range of competitions. These new activities are a very positive sign of reactivating some of the old working groups and continuing quality work that volunteers at SGAC are truly devoted to. Further details will be available in the

SGAC 2011 Annual Report, which this year is extended by the reports from the working groups about their activities and achievements throughout the year.

8 RECOGNITION FOR SGAC THROUGH AN AWARD

Output: A report to SGAC's Executive Council on SGAC's eligibility and competitiveness for available awards

SGAC has conducted a preliminary assessment of possible awards in the industry to discover there are very few opportunities available for recognition of an NGO. The Space Foundation's achievement award is one possibility, and further investigation will be conducted during 2012.

9 CONSISTENT AND MODERN BRANDING

Output: A consistent and modern visual identity, including logos, typography, layout, and formatting, across all SGAC media

SGAC engaged professional creative designer and long-term contributor to SGAC, Karen Lau, to assist the development of a refreshed look and feel, to create a consistent and modern brand which will be pervasive throughout all its communications. As 2011 draws to a close, this work is in its final stage and SGAC Executive Committee is very happy to have acquired positive feedback and support of current and former members of the organisation as to the new logo and the general look that it will acquire to further promote its activities and their results. The new look will be rolled out across the organisation progressively from January 2012.

activity highlights

The SGAC organization developed through the addition of new positions and improvement of project and conference outcomes, which puts us on a positive track for 2012. SGAC has also provided more competitions with scholarships that allow more members to attend international conferences. The quality of SGAC's movies, papers, and events has improved throughout the year, and we look forward to continuing this in 2012.

SGAC-WIDE HIGHLIGHTS

- SGAC welcomed a new Co-Chair, Catherine Doldirina (Georgia)
- SGAC welcomed for the first time its new Deputy Executive Director at Vienna Office, Andrea Jaime Albalat (Spain)
- SGAC had two interns during 2011, Leandro Ricardo (Angola) and Sonja Russel (Australia)
- SGAC added new members to its Advisory Board consisting of influential members of the international space community to provide strategic guidance. The new members of the Advisory Board include:
 - o Agnieszka Lukaszczyk, outgoing SGAC Chair and European Programme Manager for the Secure World Foundation
 - o Tanja Masson-Zwaan, Assistant Professor and Deputy Director of the International Institute of Air and Space Law at Leiden University and President of the International Institute of Space Law
 - o Nicolas Peter, Exploration Strategy Officer in the Director General's Cabinet of the European Space Agency
 - o Dumitru Prunariu, Chairman of the UN COPUOS and former Romanian cosmonaut
- SGAC added new members to its Honorary Board. SGAC's Honorary Board new members are people who have already been strong, consistent supporters of SGAC and its goals:
 - o Ambassador Ciro Arevalo, Former Chairman of UN COPUOS
 - o Yolanda Berenguer, Space Education Programme Coordinator for the United Nations Educational, Scientific and Cultural Organization (UNESCO)
 - o Chris De Cooker, former Head of International Relations for the European Space Agency (ESA)
 - o Ben Baseley-Walker, current programme Lead of the Emerging Security

Threats Programme at the United Nations Institute for Disarmament
Research (UNIDIR) & former SGAC Chair

o Jim Zimmerman, President of International Space Services, Inc. and
former IAF President

- SGAC organised its fourth annual Move an Asteroid Competition with the support of A.C. Charania; the winner – Alison Gibbings (United Kingdom) – wrote a paper titled, “A Smart Cloud Approach to Asteroid Deflection”; she also was invited to American National Public Radio (NPR) to discuss her paper
- In 2011, SGAC attracted a record 276 applications for the Space Generation Congress, a 20% increase from last year; this year’s SGC’s 130 delegate slots were sold out and attracted delegates from 42 different countries
- SGAC supported a record breaking 32 scholarships to delegates from 20 countries to attend SGC 2011 in Cape Town; 2011’s scholarship spending increased by approximately 80% from 2010
- SGAC recorded and published on its YouTube channel, for the first time, all SGC speeches to bring the Congress closer to those who were not able to attend
- SGAC announced the first Barcelona Zero-G Challenge, a new competition where the winners are awarded with an aerobatic zero-gravity flight to test their experiments on board
- YGNSS published a valuable public outreach guide for GNSS
- The new SSS project group was created, and published multiple papers at different conferences
- Near-Earth Object (NEO) SGAC Working Group completed a successful Future of Planetary Defense event at the Planetary Defence Conference in Romania
- SGAC achieved its highest participation at the IAC 2011 in Cape Town, South Africa. SGAC’s members presented different technical papers, participated in panels, and organised very successful outreach events, including a Meet & Greet with Pete Worden, the Director of NASA Ames Research Centre, at the main IAC Exhibition Hall

EXECUTIVE OFFICE HIGHLIGHTS

- SGAC Executive Director, Ariane Cornell (USA/France), presented SGAC's general statement in which she covered SGAC’s developments since the last meeting of S&T Subcommittee in February 2011
- SGAC delivered three presentations to the 48th session of the S&T Subcommittee of UN COPUOS

- SGAC contributed to the 54th Session of the UN COPUOS in Vienna. Executive Director, Ariane Cornell (USA/France), gave SGAC's official statement, that explained broadly the activities that SGAC has engaged in during the past year
- SGAC Chair Agnieszka Lukaszczuk (Poland/USA) represented young professionals and university students at the NASA Project Management Challenge Conference in Long Beach, California, USA
- SGAC Chair Agnieszka Lukaszczuk (Poland/USA) was invited to give a guest lecture on space policy at the Leiden Master of Law in Advanced Studies in Air and Space Law Programme in the Netherlands
- Andrea Jaime Albalat (Spain), SGAC Deputy Executive Director, was on a panel on space careers from a young perspective organised by HE Space Operations at IAC Forum, in Cape Town
- Ariane Cornell, Executive Director, and Clay Mowry, Advisory Board member, participated on a panel on "Why Space Matters " at the Compass Summit, USA

AFRICAN REGION HIGHLIGHTS

- A new NPoC, Hosham Galal (Sudan) was approved, increasing SGAC representation to 10 of 55 African countries
- SGC and IAC were held in Cape Town, which marks the first time either event has been held on African soil
- NASRDA offered two scholarships to two young Nigerians to participate in SGC
- Ade Abeodiun African Space Scholarship supported the participation of a special winner, Etim Offiong (NPoC for Nigeria) to attend the SLC, SGC and IAC
- Africa RC Foy Kum Hubert (Cameroon) highlighted the role of SGAC in efforts to develop the space sector within the African community during an interview with Deutsche Welle, an international German radio program on space activities in Francophone Africa
- A series of educational and outreach workshops for students and their teachers were organised in many countries in the region, including the Kenyan Star Party Dinner
- SGAC, together with the African Regional Centre for Space Science and Technology Education in English (ARCSTE-E), held a workshop on the use and application of the Satellite Tool Kit (STK) software in Nigeria

- CJ Nwosa (Nigeria) and Minoo Rathnasabapathy (South Africa) became the co-leads of the new SSS working group
- Misheck Mutuzana, NPoC Zambia, participated in the Space Outreach Program at Mufullira College Education (MUCE), in Zambia

ASIA PACIFIC REGION HIGHLIGHTS

- Michael Brett (Australia) succeeded Agnieszka Lukaszczyk (Poland/USA) as the new Chair of the Space Generation Advisory Council
- SGAC elected Catherine Doldirina (Georgia) as the new Co-Chair of the Space Generation Advisory Council
- Asia Pacific RC, Joyeeta Chatterjee (India) was awarded a full scholarship by the International Space University (ISU) and a travel grant by the Secure World Foundation to attend the Southern Hemisphere Summer Space Programme at the University of South Australia, Adelaide
- Ravit Sachasiri (NPoC for Thailand) was awarded a 2011 IAF Youth Grant to attend the 2011 SGC, UN/IAF Workshop and the IAC in Cape Town, South Africa
- Mohammed Shafiq (Pakistan), So Young Chung (South Korea) and Thu Vu Trong (NPoC for Vietnam) were awarded scholarships to attend the UN/IAF Workshop in Cape Town, South Africa
- Ten of the 32 Space Generation Congress 2011 scholarship winners were from seven countries in the Asia Pacific region
- Chariratha Vyas (India), Ali Butt (Pakistan) and Daichi Nakamura (Japan) were appointed as new NPoCs for their countries

EUROPEAN REGION HIGHLIGHTS

- Andrea Jaime Albalat (Spain) was hired as the new Deputy Executive Director
- Nunzia Paradiso (Italy) was elected as the new Regional Coordinator for Europe
- New NPoCs were appointed in Austria, Belgium, Bulgaria, Italy, Lithuania, Netherlands, Norway, Russia, Ukraine and Ireland
- SGAC in Europe widely celebrated the 50th Anniversary of the First Human Spaceflight. Damian Maria Bielicki (Poland), the European RC, visited Russia to strengthen relations with several Russian aerospace institutions

- Stanislav Fořt (Czech Republic) was selected by the World Space Week Association to participate in zero-gravity flight in Las Vegas in October 2011
- SGAC representatives widely participated in the Planetary Defence Conference, organised by the NEO Group held in May by the International Academy of Astronautics in Bucharest, Romania
- Raycho Raychev, NPoC of Bulgaria, continued his activity during 2011 as a founder/organiser of the Space Challenges Programme, in Bulgaria
- Dmytro Faizullin, NPoC for Ukraine, presented SGAC at the 3rd International Conference “Space Technologies: Present and Future” in Ukraine

MIDDLE EASTERN REGION HIGHLIGHTS

- Behnoosh Meskoob (Iran), Nouf Al-Jaloud (Saudi Arabia) and Remi Kahwaji (Lebanon) were appointed NPoCs for their respective countries, some of those for the first time
- Cem Ozan Asma (Turkey) finished his duty as the Project Coordinator. He is also selected as the Member of the Month for August by the Executive Council
- Mahsa Taheran (Iran), RC for the Middle East, received the WIA-E 2011 Award
- Hasan Aziz Kayıhan (Turkey), RC of the Middle East, received the SGAC 2011 Young Leader Award
- Jamejam Newspaper in Iran accepted an article on SGAC and promoted the upcoming SGC 2012

NORTH, CENTRAL AMERICAN AND THE CARIBBEAN REGION HIGHLIGHTS

- The North Central America and Caribbean (NCAC) SGAC members were well represented at the ISU Space Studies Program in Graz, Austria, including Canada NPoC, Laura Drudi
- NCAC SGAC members, including RC Stephanie Wan, NPoC of Canada Laura Drudi, NPoC of the USA, Paul Gunthrie, and NPoC of Jamaica, Marc Cornwall participated in SGC 2011 in Cape Town, South Africa
- NCAC members continued to attend various space conferences and meetings around the world, such as the International Lunar Exploration Working Meeting
- SGAC held collaborative events with the Children’s Museum of Guatemala and wrote letters to the Mexican Senate in support of the creation of the Mexican Space Agency

- Jorge Vega, NPoC for Mexico, participated in the 4th Consultancy Forum of the Mexican Space Agency
- Ariane Cornell (USA), Jeff Boulware (Executive Secretary), Paul Gauthrie (NPoC for USA) and Brad Cheetam (USA), and some other Advisory Board members participated very actively at the National Space Symposium, USA

SOUTH AMERICAN REGION HIGHLIGHTS

- Lisandro Martinez (Argentina) was appointed as an NPoC for his country
- Lisandro Martinez, Argentinian NPoC represented SGAC at the 6th Argentinean Congress for Space Technology
- Victoria Alonso Perez (Uruguay) was awarded the Peter Diamandis Scholarship to attend the SGC in Cape Town, South Africa
- Nicole Jordan (Colombia), RC for South America, was awarded the SSPI scholarship to attend the SGC in Cape Town, South Africa
- A team lead by Victoria Alonsoperez (Uruguay) was finalist at the Revolutionary Aerospace Systems Concepts-Academic Linkage (RASCAL) forum, organised by NASA and National Institute of Aerospace (NIA)



SGC Report cover

The Space Generation Congress is SGAC's annual conference held in conjunction with the International Astronautical Congress. Held 29 September - 1 October in Cape Town, South Africa, SGC 2011 was a resounding success for the organisation. The number of delegates this year (130) was a considerable increase in comparison to last year (101), which demonstrates that SGC is becoming stronger with every year as it gathers together representatives from all corners of the world. Delegates from more than 40 countries and six continents were divided into five groups and shared their knowledge, while discussing pertinent space topics within themes that mirrored those of the IAC. SGAC would like to thank its keystone supporters: our anonymous donor, NASA, the Secure World Foundation, Lockheed Martin, Lin and Jim Burke and Cynda Collins Arsenault.

As every year after the congress, SGAC publishes the SGC Report that contains not only a summary of all the highlights of the congress, but also the individual project group reports with the valuable recommendations proposed by the delegates. This year, for the first time, SGAC has also published the Executive Summary Report of the Congress, which was very well accepted among the industry and the space sector.

SPEAKERS

Charles Bolden	NASA Administrator
Berndt Feuerbacher	IAF President
William Gerstenmaier	NASA Associate Administrator for Space Operations
Alison Gibbings	PhD Student in the Advanced Concept Laboratory, University of Strathclyde
Graham Gibbs	Canadian Space Agency (CSA) former Washington liaison
Kevin Govender	OAD Director
Andreas Hornig	Aerospace Engineering Masters Student, University of Stuttgart
Sandile Malinga	South African National Space Agency CEO
Peter Martinez	National Research Foundation (NRF)/South African Astronomical Observatory (SAAO)
Tanja Masson-Zwaan	International Institute of Space Law President and Women in Aerospace Europe (WIAE) Director of Legal Affairs
William Watson	Space Frontier Foundation Executive Director
Fritz Merkle	Executive Board Member OHB Systems AG
Seidu Onailo (S.O.) Mohammed	Nigeria's National Space Research and Development Agency (NASRDA) Director General
Dumitru Prunariu	Chairman of the UN COPUOS
Sergei Saveliev	Russian Federal Space Agency (ROSCOSMOS) Deputy Head
Ray Williamson	Secure World Foundation Executive Director

TOPICS

Each year the delegates attending SGC take part in one of five working groups that focus on key space topics listed below. Each working group discusses topics of high relevance to the space industry, which parallel the topics addressed at the IAC. The delegates gain an in-depth understanding of the topics through pre-reading materials and support from subject matter experts. Each working group develops a presentation and a report outlining their discussions and recommendations. These recommendations are presented at conferences in the year following the Congress.

INDUSTRY

The Political and Technological Challenges of Space Debris and Its Mitigation

Supporter: SGAC's anonymous donor

Subject Matter Experts: Minoo Rathnasabapathy, Chijioke Cj Nwosa

This group focused their debates and recommendations on three areas: space situational awareness, better and internationally adopted debris mitigation guidelines, and the challenging topic of active debris removal.

Recommendations and Conclusions:

- Foster collaboration among established and emerging space nations to improve Space Situational Awareness (SSA)
- Encourage investment in infrastructure to broaden coverage
- Establish a neutral center to operate a two-pronged approach to data sharing that would:
 - o Compile voluntarily contributed SSA data into one public catalogue,
 - o Offer a black box solution for compiling sensitive/proprietary SSA data;
- Encourage adoption of the Guidelines on national level supplemented by the Inter Agency Space Debris Coordination Committee (IADC) guidelines for technical specifications
- Promote effectiveness and ensuring compliance with the Guidelines
- Increase awareness of emerging space actors on significance of debris and mitigation issues
- Develop a mechanism to determine which orbital objects to remove and how to manage their removal
- Endeavour to create long-term, stable demand for commercial Active Debris Removal (ADR) services

- Establish domestic and international mechanisms to incentivise and fund the purchase of ADR services
- Focus security and space policy decisions on mitigating irresponsible behaviours rather than prohibiting the development of particular technologies

AGENCY

Radio Frequency Spectra and Satellites: The Technological, Logistical and Political Implications of Regulation

Supporter: NASA SCan

Subject Matter Expert: Stephanie Wan

This group examined interference of essential services at competing socio-economic needs and at public versus commercial uses of spectrum bands. The recommendations were connected with the assessment of emerging capabilities based on experience, the standardisation of emergency services, applications for safety of life and methods to decrease unintentional upward radiation.

Recommendations and Conclusions:

- Consider long-term implications over short-term tactics
- Assess emerging capabilities based on experience
- Standardization of emergency services
- Prioritise lifesaving services
- Use methods that decrease unintentional upward radiation;
- Coordinate strategically spectrum allocation:
 - o Protecting of non-commercial services (e.g. education and medical)
 - o Grouping high-noise applications together
 - o Creating a formula to prioritise conflicting band use

SOCIETY

Integrating Space Technology into Society: Overcoming Societal , Political, Economic, and Logistical Roadblocks

Supporter: Secure World Foundation

Subject Matter Expert: Agnieszka Lukaszczyk

This group based their discussion on the UN Millennium Development goals, and identified lack of awareness as one of the biggest barriers that prevents space

technologies from penetrating society. Their recommendations were to continue investment in research and development, share the results with international bodies that work to identify world problems, involve specialists in communication and outreach from outside the space community, and coordinate development of standard training curricula and best practices dialogue.

Recommendations and Conclusions:

- Encourage application-focused research and development aimed at high-impact economic and development objectives
- Integrate space activities and policies with other mission-oriented bodies and entities (e.g. World Health Organisation, World Bank, International Monetary Fund, and the United Nations)
- Develop outreach and awareness strategies that are appealing and understandable to the public
 - o Reframe dialogue about space to focus on benefits, not features
 - o Make space common knowledge through education and outreach activities
- Create coordinated standard training curricula, best practices dialogue, and technology development agenda which are:
 - o Responsive to new technologies and opportunities
 - o Separate for managers and on-ground personnel

EXPLORATION

Robotic Exploration in Today's Evolving Global Space Sector

Supporter: DLR

Subject Matter Expert: Andreas Hornig

This group focused on two destinations, Near Earth Objects and Europa, and identified ways in which robotic and human exploration can work together with the support of international collaboration. The group also looked at outreach initiatives that could make robotic exploration as exciting as human missions.

Recommendations and Conclusions:

- Robots are uniquely suited for two main types of missions:
 - o Precursor missions to human exploration (e.g. NEOs);
 - o Destinations otherwise inaccessible to humans (e.g. Europa);
- Robots may currently lack human dexterity, autonomy, and inspirational traits but provide benefits in other areas that make them attractive for certain missions. For example:
 - o Higher physical resiliency, enabling riskier and longer missions

- o Less stringent working conditions, saving mass requirements and cost,
 - o Modularization to allow scalable technical contributions, and therefore easier collaboration;
- Robotic and human exploration should be analysed as complimentary instead of competitive approaches to exploration
- International collaboration is encouraged through modularised missions
- Robotic exploration should be incorporated into space outreach activities

OUTREACH

Space for Developing Regions: The African Case Study

Supporter: SAASTA

Subject Matter Expert: Brad Inggs

This group focused its analysis on Africa but its conclusions are meant to be applicable more broadly across other developing regions as well. The group concluded that investing in space technology applications is more beneficial than spending resources on terrestrial applications. For example in terms of telecommunication, space applications could help in distance education, while satellite observations are cost-effective in mapping. The recommendations are meant to address space outreach from a top-down policy approach and a bottom-up grassroots approach.

Recommendations and Conclusions:

For policy makers:

- Establish a liaison between each country's department of education and space-related organisation
- Create a UN resolution, which requires countries to focus on implementation of space related educational activities (e.g., International Year of Space Science 2015)
- Encourage researchers to publicize generated knowledge in a way that is understood by the general public
- Prioritise policies that encourage international and local human capital development
- Work towards the development of individual national space agencies

For young professionals:

- Teach
- Engage by workshops, games and competitions

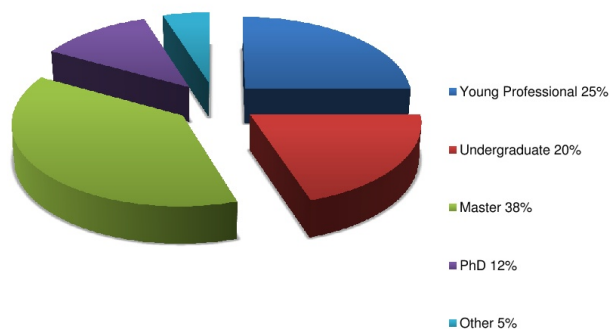
- Form clubs/societies and organise events
- Use social media or mobile phones
- Create entrepreneurial start-ups for grassroots/field teaching, technology development and space advocacy think tanks
- Get involved in policy making
- Create financial start-ups for scholarships to study space-related subjects
- Encourage employers to get involved in initiating scholarships and internships

SGC 2011 EVALUATION

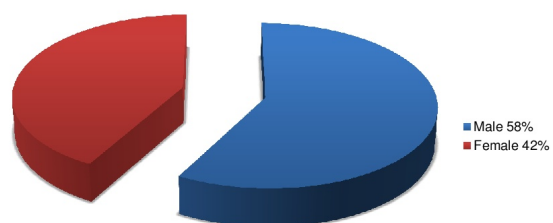
Despite the challenges in organising and logistics, SGC 2010 was a resounding success in terms of the record-breaking 21 scholarships awarded and the content. The organising team of 19 people from 17 countries delivered an even better Congress in 2011. Thirty-two scholarships were awarded this year to delegates from 24 countries. The speaker line-up consisted of the space sector's top international leaders, from the opening speech of OAD Director Kevin Govender through to the closing speech of NASA Administrator, Charles Bolden. Last, but certainly not least, SGC produced reports that were improved in intellectual quality thanks to the preparations of SGC's staff. SGC 2011, SGC's tenth anniversary, looked to lessons learned from SGC 2010 to continue the Congress' positive development.

A total of 130 delegates participated in the SGC 2011. Of those 130, a ground-breaking 32 participants from 24 countries were given scholarships with the help from SGAC and its partners to attend SGC 2011 in Cape Town. The gender distribution demonstrated relative equality of men (58%) and women (42%), which is uncommon for the space sector. The delegate roster was composed of 20% undergraduate students, 38% masters students, 12% PhD students, 25% young professionals, and a 5% remainder from other backgrounds. We believe these numbers demonstrate how significantly SGAC's reach has improved. This gives SGAC the momentum to build a stronger and more representative network of young space professionals and university students.

Finally, SGAC is proud to have secured broad national and regional representation: SGC 2011 attendees came from more than 40 countries and six continents. This international diversity is the key to the development of the substantial and truly international voice of space generation for which SGAC strives.

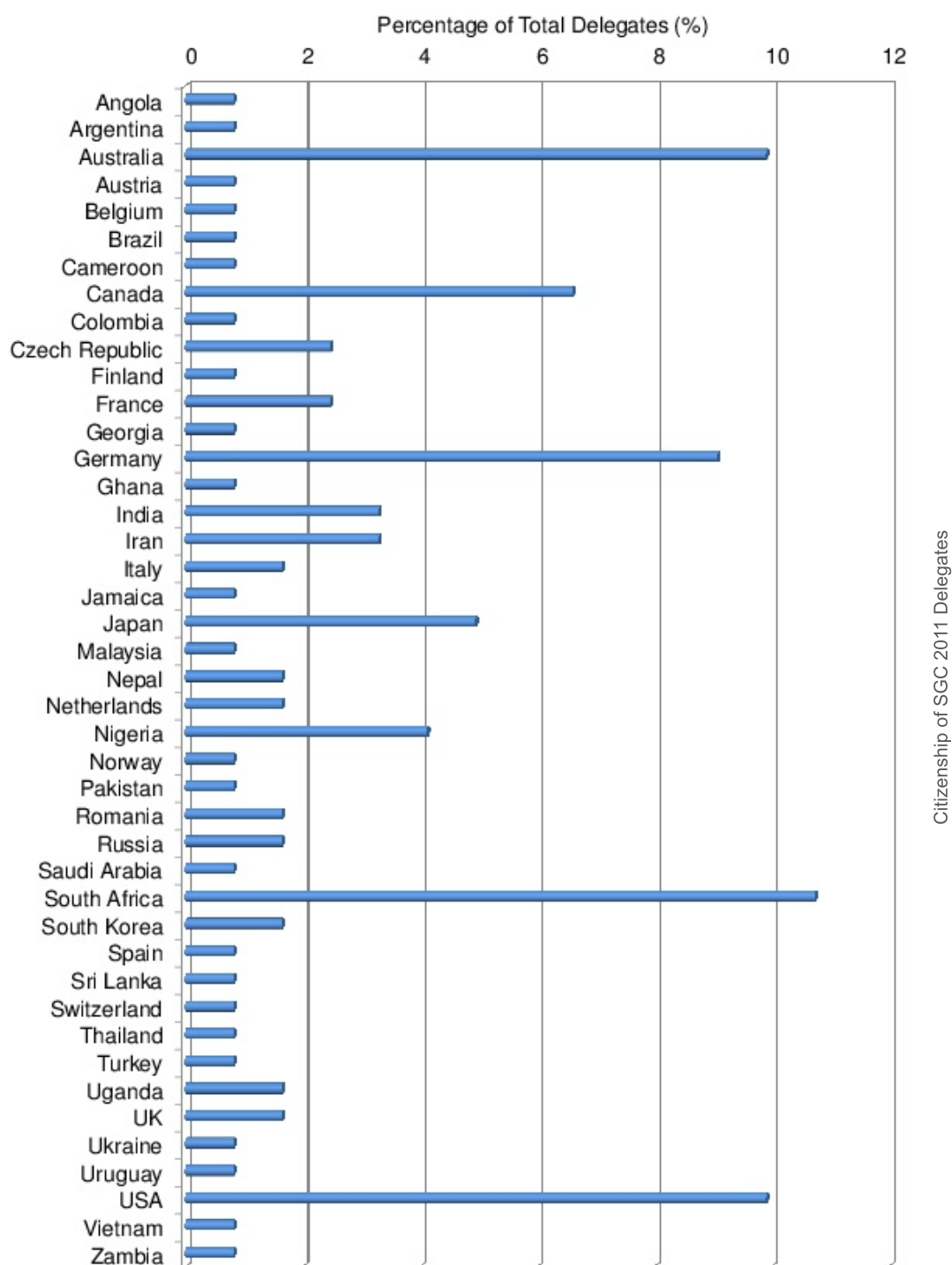
PROFESSIONAL STATUS OF SGC 2011 DELEGATES

Professional Status of SGC 2011 Delegates

GENDER OF SGC 2011 DELEGATES

Gender of SGC 2011 Delegates

SGC 2011 DELEGATE CITIZENSHIPS



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 fourth session in Vienna, Austria, from 1 - 10 June. Executive Director, Ariane Cornell, gave the Space Generation's statement. The central issues of the 2010 statement were the number of scholarships that SGAC has provided for its members to attend conferences; the NEO, disaster management, and YGNSS projects' work that SGAC members have achieved; the development of SGAC's Advisory Board; and the gratitude SGAC has for its committed sponsors and partners.

At the 54th session of the UN COPUOS, SGAC contributed a presentation and an Advisory Board Meeting. In the board meeting, board members discussed the history, status and strategy of SGAC. The presentation, by Ariane Cornell, covered the recommendations put forward by the 2010 SGC in Prague, Czech Republic.

SCIENTIFIC AND TECHNICAL SUBCOMMITTEE

The Subcommittee convened for the forty-eighth time in February 2011. SGAC international delegation included Executive Director Ariane Cornell (France/USA), Middle East Regional Coordinator H. Aziz Kayihan (Turkey), Greek NPoC Angeliki Kapoglou (Greece), and Intern Sonja Russell (Australia). Ariane Cornell presented SGAC's general statement that covered the highlights of SGAC's successful 2010, and Aziz Kayihan and Angeliki Kapoglou presented the recommendations from the Space Generation Congress 2010. Additionally, SGAC's ten minute film "Space Generations:

"From Sputnik to Today to Tomorrow" was shown at the UN. The film tells a brief but concise history of space exploration in a montage of images and videos of the most significant moments of outer space exploration since 1957 and was produced in partnership with the Space and Telecommunications Law Program of the University of Nebraska-Lincoln.

LEGAL SUBCOMMITTEE

The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its Fiftieth session in Vienna from the 28 March to 8 April, 2011. SGAC did not make a statement during this session of the subcommittee. The SGAC Executive Director, Ariane Cornell, was present.

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 specialised agencies, functional commissions and five regional commissions. The Council also receives reports from 11 UN funds and programmes. The ECOSOC 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. The following report is by SGAC members Wajahat Nassar and Jose I. Rojas who followed the United Nations Meetings in 2011.

REPORT ON 2011 UNITED NATIONS MEETINGS

Wajahat Nassar & Jose I. Rojas, SGAC ECOSOC Representatives

No relevant differences are observed after review of the space-related resolutions and documents issued by the UN System in 2010 and 2011. The most remarkable statements remain virtually unchanged from one year to the other. For instance, the UN General Assembly (GA) recognises the common interest of all mankind in the exploration and use of outer space for peaceful purposes, and reaffirms that these shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of development. Also, the growing use of outer space increases the need for greater transparency and better information on the part of the international community.



UN Headquarters, New York. Photo by Jose I. Rojas

Again in 2011, the UN GA stated that it is deeply convinced of the important role science and technology play in promoting sustained economic growth and sustainable development. Space science and technology use and applications in areas such as telemedicine, tele-education, disaster management, environmental protection, and other earth observation (EO) applications, contribute the objectives in various aspects of economic, social and cultural development, and welfare, particularly poverty eradication and mitigation of the consequences of disasters. It is necessary to continue to examine how space science and technology and their applications could contribute to achieve the UN MDG, since space tools are indispensable not only in areas linked to disasters, but also in climate change, food security, opportunities for education, and global health.

In 2011, 12 April was declared as the International Day of Human Space Flight to celebrate anniversary of the space era for mankind. This day also reaffirms the important contribution of space science and technology for sustainable development goals and well-being of States and peoples, as well as ensuring the realisation of their aspiration to maintain outer space for peaceful purposes.

We congratulate SGAC people working on the project YGNSS, as their contribution [8] to the 2011 HLS AMR of the UN ECOSOC was accepted for distribution to all participants of the HLS in Geneva, July 2011. In a written statement, the YNSS team informed the HLS AMR that SGAC “is focused on cultivating the next generation of space leaders and increasing awareness of the educational and societal benefits of space technology” and that “within SGAC, the project YGNSS aims to present to youth the benefits of GNSS and how various such systems applications are able to benefit a nation’s economy and society”. Also, it is mentioned that “YGNSS has supported the educational outreach of GNSS applications”, that YGNSS has spread “the word that GNSS can be used for precision timing, agricultural and disaster management, and a wide variety of items that need accurate positioning, navigation, and timing”, that YGNSS has recommended “that the international community continue to foster the education of GNSS and the utilities of space technology”. Finally, the written statement informs that SGAC “is committed to providing a network for university students and young professionals in the international space sector to collaborate and contribute their international knowledge and skills to foster development”.

As per the report from the IAF GEOSS Workshop, Space Sensors for Climate Monitoring [9], it is worth noting that satellite data are required to effectively monitor, characterize, and predict changes in the Earth system, particularly the climate. EO satellites are essential as they provide the only realistic means to obtain the necessary global coverage. With well-calibrated measurements, e.g. using in situ data, space-based sensors will become a critical contribution to global observations for climate.

REFERENCES

- [1] UN Document A/65/L.67: <http://documents.un.org/mother.asp>
- [2] UN Document A/RES/65/68: <http://documents.un.org/mother.asp>
- [3] UN Document A/RES/65/44: <http://documents.un.org/mother.asp>
- [4] UN Document A/RES/65/97: <http://documents.un.org/mother.asp>
- [5] UN Document A/C.4/66/L.2: <http://documents.un.org/mother.asp>
- [6] UN Document A/66/20: Report of the UN COPUOS:
<http://documents.un.org/mother.asp>
- [7] UN Document A/RES/65/271: <http://documents.un.org/mother.asp>
- [8] UN Document E/2011/NGO/106 (SGAC written statement for the HLS AMR in Geneva, July 2011): <http://documents.un.org/mother.asp>
- [9] Report from the IAF GEOSS Workshop, Space Sensors for Climate Monitoring, UNESCO, Paris (France), 23 March 2010:
http://www.iafastro.org/docs/2010/2010_GEOSS.pdf
- [10] UN Journals issued in 2011-Oct-12, 2011-Oct-13, 2011-Oct-15, 2011-Oct-18 & 2011-Oct-19: <http://www.un.org/ga/search/journal.asp>

treasurer's report

PROFIT AND LOSS STATEMENT

SPACE GENERATION ADVISORY COUNCIL PROFIT AND LOSS STATEMENT FOR
YEAR ENDING 31 DECEMBER 2011

Note: Euro (€)	2008	2009	2010	2011
Revenue				
SGAC Sponsorship	41,441.80	8,750.03	19,662.78	27,696.14
SGC Sponsorship	5,327.73	46,588.30	65,389.21	128,725.73
SGC Delegate Fees	18,995.8	11,840.80	7,152.00	6,391.72
10 Year Anniversary event	-	6,973.74	-	-
Foreign currency gains	380.99	122.00	375.67	875.34
Interest earned	10.61	14.52	28.74	50.60
Refunds on payments	-	-	-	800.82
Forgiven Payments	440.4	-	-	-
Website advertisement	200.00	-	-	-
Outreach event sponsorship	-	-	-	4,988.34
Total Revenue	66,797.33	74,289.38	92,608.40	169,528.69
Less Expenses				
Accounting and Bookkeeping	-	-	-	2,480.82
Bad Debt Write Off	6,604.55	-	7,044.62	-
Bank fees	-	-	1,303.50	3,070.11
Creative Design	-	-	-	3,302.88
Depreciation	482.43	-	-	-
Office Rent	6,433.20	3,600.00	5,577.60	6,360.00
Executive Dir. Living Allowance	2,100.00	-	-	-
SGC Operating Expenses (for previous year's conference)	-	9,736.03	2,704.94	8,436.48
SGAC 10 Year Anniversary event	-	6,703.40	-	-
SGAC Operating expenses	6,303.38	2,069.71	2,650.04	12,297.84
Loan to SGAC USA	2,767.86	-	-	-
SGC Operating Expenses	8,417.35	28,507.29	34,839.37	33,107.97
Sundry Expenses	523.12	1,004.68	-	-
Travel	-	-	2,736.02	1,338.65
Wages – Dept. Executive Director	-	-	700	6,084.90
Wages – Executive Director	9,371.82	16,400.00	24,000.00	30,120.00
Wages – Interns	-	-	1,500.00	3,000.00
Website development & support	-	-	5,448.70	1,872.57



Note: Euro (€)	2008	2009	2010	2011
Expenses				
Outreach event sponsorship				4,891.96
<i>Total Expenses</i>	40,003.66	68,021.11	88,504.79	116,364.18
Net Profit	23,793.68	6,268.27	4,103.61	53,164.51

BALANCE SHEET

SPACE GENERATION ADVISORY COUNCIL BALANCE SHEET AS AT 31 DECEMBER 2011

Note: Euro (€)	2008	2009	2010	2011
Assets				
Cash at Bank – Bank Austria	19,616.41	182.44	8,929.19	13,198.47
Cash at Bank – PayPal	5,113.86	3,574.48	-	3,792.82
Cash at Bank – PSK Austria	-	-	-	-
Cash at Bank – Bank of America			14,022.47	61,526.73
Accounts Receivable	656.78	-	18,745.27	25,114.11
SGAC USA Loan	-	25,434.69	-	-
<i>Total Assets</i>	<i>22,163.20</i>	<i>28,407.61</i>	<i>32,510.94</i>	<i>103,632.13</i>
Liabilities				
Accounts Payable	1,650.00	-	-	4,790.85
Member Reimbursements owing	-	784.28	9,185.99	13,165.83
SGAC USA Loan	2,767.86	-	-	-
<i>Total Liabilities</i>	<i>4,417.86</i>	<i>784.28</i>	<i>9,185.99</i>	<i>17,956.68</i>
Net Assets	22,163.20	28,407.61	32,510.94	85,675.45
Member's Funds				
Opening Member's Funds	-1,630.48	22,139.06	28,407.33	32,510.94
Net Profit / (Loss)	23,793.68	6,268.27	4,103.61	53,164.51
<i>Total Member's Funds</i>	<i>22,163.20</i>	<i>28,407.33</i>	<i>32,510.94</i>	<i>85,675.45</i>

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	Michael Brett Catherine Doldirina
-----------------	--------------------------------------

Secretary	Suresh Battharai Aafaque Kahn
-----------	----------------------------------

Treasurer	Christopher Vasko
-----------	-------------------

The members of the management committee did not receive remuneration through the year.

Contracted support staff engaged throughout 2011 were:

Executive Director	Ariane Cornell
Deputy Executive Director	Andrea Jaime Albalat
Intern	Sonja Russell
Intern	Leandro Ricardo

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:

- a) 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 31 December, 2011
- b) 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 31 December, 2011
- c) 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.

On behalf of the Management Committee:

Original signed



Michael Brett – Chairperson
Brisbane, Australia: 28 February, 2012

Original signed



Catherina Doldirina – Co-Chairperson
Montreal, Canada: 28 February, 2012

communications and public relations team report

During 2011, the Public Relations & Communications (PR & Comm) Team continued to provide consistent support to SGAC, its executives, and members. The highlights of the year are detailed below.

SGAC NEWSLETTER AND WEBNEWS

The SGAC continued to inform members of the latest news about the organisation in monthly newsletters. Extra content of interest to SGAC members, such as articles written by our members or anyone within our network, are included in this newsletter. Webnews are published every 3-4 days with the latest news about the Executive Office, members, opened positions, etc.

MEMBER OF THE MONTH

The Member of the Month section was initiated by the SGAC Executive Council in December 2009 to acknowledge one member per month for his or her outstanding work, accomplishments and contributions to SGAC. It was kept up-to-date by the PR & Comm team in cooperation with the SGAC Chair. A full list of the Members of the Month can be accessed through website.

PRESS RELEASES

Several press releases were issued during 2011 on topics such as Move an Asteroid competition and the presence of NASA Administrator at SGC 2011. In addition to press releases, the PR & Comm Team also issued several web news reports and promoted them on SGAC mailing lists, the SGAC Facebook page, and Twitter.

MEDIA RELATIONS

The PR & Comm team handled several media requests about Near Earth Asteroids from a Romanian news TV station and a French TV station. The team also helped in negotiations with *Space News*, which offered SGAC members a discount for subscriptions, supported the collaboration for the Zero-G Challenge competition, and wrote a PR analysis of a potential partnership with *Aviation Week*. Finally, the team started an internal monthly report of media coverage for SGAC.

Commencing in February 2010 the PR & Comm team added a group of translators to its arsenal that started translating the most important SGAC press releases into the six UN languages, as well as Turkish. This group continued to be active in 2011.

The team also supported members by translating the SGAC presentation into their native language or by offering advice in regards to local media relations.

SGC MEDIA COVERAGE

A special PR effort went into the promotion of SGC 2011 and the team's efforts led to a thorough coverage of the congress in Cape Town, with written on different media channels. The SGC 2011 PR & Comm Team's efforts focused on promoting the Congress towards its different target groups by several means.

Prior to the event, the goal of communication was to increase SGC 2011 delegates' applications and inform potential candidates on the development of the event. At this stage, communication was addressed directly to students and young professionals in the space sector. Announcements on the SGC 2011 website and articles in the monthly SGAC newsletter were published on topics such as SGC 2011 team selected, website launch, selection of the venue, and the opening of applications. These were followed up with emails to SGAC's multiple mailing groups and announcements on its social media platforms, such as Facebook and Twitter. Apart from SGAC's own communication channels, this type of information was pushed forward via Facebook groups, LinkedIn groups, event listing websites, etc. Communication was done via emailing prior to the end of the application period.

Another targeted group prior to the event was media and key stakeholders for the organisation. For these groups, the main aim was to inform them of the top level speakers at the event in order to raise awareness of SGC as the global space congress for university students and young professionals interested in today's key space issues. At this stage, furthermore, we also communicated the topics on agenda at SGC to raise interest in participation and support from other key top professionals and sponsors.

Following the same goals, SGAC ran a half-page, color advertisement in *Space News* printed magazine, which reached important readers from the space sector.

These efforts contributed to a remarkable increase in the number of applications compared to last year.

On the starting day of the congress, the SGC 2011 PR Team sent out to the media a kick off press release. This news item was distributed to global media, as well as to the local media via help from local space sector organisations. As a result, a local TV channel for adolescents came at the event and interviewed several delegates on topics such as: what inspired them to join this sector, what opportunities are there for young people in this area etc. The SGAC Executive Director was also interviewed on the goals of the organisation. During the Congress, the team produced real time event updates via the SGAC Twitter account (#SGC2011), daily summaries on the website based on inputs from SGC rapporteurs, and posts on the SGAC Facebook group.

During the event, SpaceRef journalist and SGC Communication Co-Lead, Farnaz Ghadahki, wrote a report on the event.

Another highlight of this year were the YouTube movies of the plenary speakers key notes that SGC Communication Co-Coordinator, Christopher Vasko made available later in the same day on SGAC's YouTube channel. Examples can be seen here: http://www.youtube.com/watch?v=k_jwwJ5Ut_o

Photos taken by SGC Communication Co-Coordinator Julio Aprea were also uploaded in real time.

At the end of the event a press release cumulating the main conclusions of the congress, including the SGC gala event attended by high-level people in the space sector, was disseminated to the public.

Remarks from Administrator of NASA, Charles Bolden can be found here: http://www.nasa.gov/pdf/593460main_Bolden_IAC.pdf

Press releases are available on the SGC 2011 website: <http://spacegeneration.org/index.php/eventstopics/sgcnews>

Example of SGC 2011 media coverage:

<http://swfound.org/events/2011/2011-space-generation-congress>
http://www.linkedin.com/osview/canvas?_ch_page_id=1&_ch_panel_id=1&_ch_app_id=2000&_applicationId=2000&_ownerId=0&appParams=%7B%22event%22%3A%22710005%22%2C%22page%22%3A%22event%22%7D&trk=
http://www.sspi.org/?Orb_Oct11_SGAC
<http://hobbyspace.com/nucleus/?itemid=32508>
<http://www.spaceref.com/news/viewnews.rss.html?id=1576>
<http://www.alienguidetoplanetearth.com/space-generation-congress-sgc-2011>
<http://www.scoop.int/t/good-news-from-the-stars/p/242445608/nasa-administrator-returns-to-speak-at-the-space-generation-congress-2011>
<http://www.jupitertoday.com/calendar/calendar.html?pid=6740>
<http://www.portaltotheuniverse.org/blogs/posts/view/151221/>
http://nasahackspace.com/2011/10/space-generation-congress-review.html?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+na+nahackspace+%28NASA+Hack+Space%29
<http://www.astronautical-news.com/index.html?entry=44597>
<http://www.linkedin.com/groups/Charles-F-Bolden-Jr-NASA-52924.S.58172923>
http://aerospaceresearch.net/constellation/forum_thread.php?id=122
http://www.nasa-academy.org/newsletters/NAAA_newsletter_2011_Issue1.pdf
<http://www.free-press-release.com/news-the-10th-space-generation-congress-opens-its-doors-for-the-first-time-in-africa-1317283611.html>
<http://spaceref.com/news/viewpr.html?pid=34098>
<http://www.sspi.org/news/76833/The-October-2011-Orbiter.htm>

<http://marketing-on-web.net/?tag=open>

<http://www.space.gov.au/Pages/AYAA-SGACScholarshipWinners.aspx>

<http://publications.mcgill.ca/droit/2011/11/09/notes-from-outer-space/>

http://wn.com/Space_Generation_Congress__Saturday_1st_October_2011

<http://www.emmetfletcher.com/2011/10/the-space-generation-advisory-council-holds-impressive-10th-anniversary-congress-space-ref-press-release/>

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF THE SGAC PR & COMM TEAM

For 2012, the PR & Comm team has, amongst its objectives, an upgraded feature of the newsletter, both in terms of content and layout, an update of SGAC's Wikipedia page, a better use of social media channels to connect and interact with our target groups, as well as continuing the dissemination of press releases and web news about the activities of the organisation and its members.

Projects

overview of project outcomes and highlights	54
youth for gnss working group	56
space technologies for disaster management working group	59
space safety and sustainability working group	62
near earth object working group	65



overview of project outcomes and highlights

SGAC's mission and mandate guide the activities of its Working Groups. Each focused on a topic of special interest to the organisations members and implemented a wide range of concrete projects that reflect and support SGAC's strategic vision. There are currently four on-going, formally active Working Groups: the Space Safety and Sustainability (SSS) Group, the Near Earth Object (NEO) Group, the Space Technology for Disaster Management (STDM) Group, and the Youth for Global Navigation Satellite Systems (YGNSS) Group. In addition, this year saw the formation of a new group for the organization of a technical paper competition on space entrepreneurship, the Entrepreneurship Paper Competition Group. These groups vary in size and scope of activities, but are all led by highly committed Project Leads and coordinated by SGAC's Project Coordinators, who assumed their current roles in August 2011.

The year 2011 saw SGAC's Working Groups not only continued successful activities from years past but also initiated new projects. Following the 2011 SGC in particular, SGAC saw a blossoming of interest in and new ideas for projects. This new enthusiasm and momentum owes to the important achievements of Working Groups this year, which we highlight in this report.

THE NEO GROUP

- Organised the 5th annual Move an Asteroid Competition, an event that led to a broadcast of an interview with the competition winner on U.S. National Public Radio
- Participated in the 2nd Planetary Defence Conference, organised by the International Academy of Astronautics, and, in connection with the conference, led a highly successful outreach event for university students in Romania
- Represented SGAC at UN COPUOS as a participant with Action Team 14 on Near Earth Objects

THE SSS GROUP

- Reached an agreement with Analytic Graphics Inc. to conduct a technical project using the company's Space Tool Kit software, to yield results in 2012
- Organized a working session at the 10th Space Generation Congress on the "Technical and Policy Challenges of Space Debris Mitigation and Removal"
- Represented SGAC as a participant in the UN COPUOS Working Group on the Long term Sustainability of Outer Space Activities

THE STDN GROUP

- Recruited new members and outlined a redefined agenda and new goals

THE YGNSS GROUP

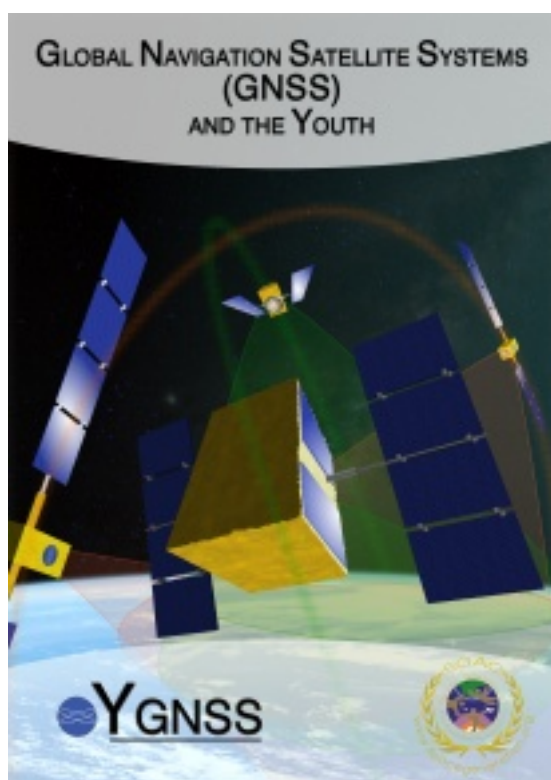
- Represented SGAC at major international conferences focused on global navigation satellite systems
- Published a valuable public outreach guide for GNSS

In 2012, SGAC's Project Coordinators will work with the Project Leads and Working Groups toward three goals. The first of these is the consolidation of initiatives begun in 2011, which means ensuring that, in 2012, they culminate in the deliverables decided earlier this year. The second goal for the Project Coordinators is to encourage and guide the development of long-term strategies by Project Leads with implementation programs for their groups. The third objective that the Project Coordinators will pursue, in collaboration with new Project Leads, is to guide and support the establishment of new working groups in new areas. In doing so, the Project Coordinators and Leads will enable SGAC to seize upon the growing enthusiasm for project work among its membership while ensuring that new activities are feasible, sustainable and supportive of the organization's larger mandate and mission.



YOUTH PROMOTING COOPERATION AND EDUCATION IN GLOBAL NAVIGATION SATELLITE SYSTEMS

It was another successful and activity-packed year for the YGNSS project group. The group is making progress in our efforts to educate youths about the use and application of GNSS, and promote cooperation among youth all over the world. During this past year, we produced and distributed the YGNSS brochure, entitled “Global Navigation Satellite Systems (GNSS) and the youth.” The brochure highlights what GNSS is, how it works, and its applications. It also discusses the compatibility and interoperability of the different GNSS systems, training, and capacity building opportunities for young adults. The brochures were distributed free of charge during the IAC 2011.



YGNSS brochure cover

PRESENTATIONS AT IAC 2011

YGNSS presented two papers during IAC 2011. The first paper was titled “YGNSS project: GNSS education through youths, for youths”. This paper highlighted the different projects and activities of the group, and the importance of GNSS education among youth and the public, especially in developing countries. The second paper, written in collaboration with the Disaster Management group, was titled “Exploring GNSS technology for disaster management in developing countries.” The paper highlighted outputs from the agency session on “GNSS applications for disaster management” at SGC 2010, and provided an outlook for how developing countries with high rates of disasters could utilise GNSS technology for disaster management. The paper also stressed the need for capacity building in developing countries, strategic applications and synergy between disaster management and space communities.

ACTIVITIES AT SGC 2011

YGNSS Project lead Stephanie Wan acted as the subject matter expert for the Agency project group on Spectrum Management during SGC 2011. The NASA Human Exploration and Operations Mission Directorate (HEOMD) Associate Administrator, Bill Gerstenmaier, presented on the effects of spectrum frequency interference to the SGC delegations.

YGNSS also proposed a geocaching event during SGC 2011, but this could not hold due to lack of resources. If planning begins early in 2012, the event can take place in SGC 2012 in Naples next year.

ARTICLE PUBLICATIONS

YGNSS project lead, Stephanie Wan, contributed an article to the GeoSpatial World magazine. The 3-page article titled “GNSS interference: The debate rages on” discussed the current issue in the United States on an upcoming broadband company vying for spectrum near the GPS frequencies that would cause interference to GPS receivers, and the potential international impacts from the US decision.

PARTICIPATION IN ICG-6

YGNSS continued to participate in an expert capacity in the work of ICG Working Group C on Information Dissemination and Capacity Building in Tokyo, Japan. YGNSS will participate in the ICG meeting coming up in December 2011.

PLANS FOR 2012

- Continue development of educational portal: With the completion and launch of the brochure, efforts will now be challenged towards the development of the educational portal.

- GNSS model: We intend to complete the development of an interactive model that visualizes the compatibility and interoperability of GNSS systems.
- Increase partnerships and cooperation (eg., Young Surveyor's Network [of International Federation of Surveyors])
- Presentations at conferences: YGNSS will continue to share youth perspectives on GNSS at conferences including IAC 2012 and ICG

space technologies for disaster management working group



SGAC GROUP ON SPACE TECHNOLOGIES FOR DISASTER MANAGEMENT

In mid-2009, the SGAC group on Space Technologies for Disaster Management was initiated to create greater awareness of space technologies and space-derived information in disaster relief efforts. Initially intended to support the work of UN-SPIDER (United Nations Platform for SPace-based Information for Disaster Management and Emergency Response), this group has broadened its scope to support the work of other organisations and agencies around the world.

PROJECT OVERVIEW

The group's main objectives are summarised as follows:

- To inform the general public on how space technologies and space-derived information are valuable in disaster management.
- To provide a channel for new perspectives that contribute to the research efforts on space technologies used in disaster management.
- To provide a forum to those who have an interest in disaster management and space activities, and their impact on society.

Members of the Group include students and young professionals from industry, academia, and governmental agencies that have come together to research disaster management and emergency response practices and to explore links with space technologies. Although most volunteers are members of SGAC, some subject matter experts from outside the SGAC membership have offered guidance and show interest in being informed of on-going activities.

ACCOMPLISHMENTS IN 2011

NEW GROUP PLAN

Due to a drop in volunteer base, the focus of this year's efforts was to re-think the mandate of the Group and re-establish its priorities and the group proposed a new plan to the SGAC administration, which was accepted for implementation. The group's efforts are directed toward the outlined objectives. The group's website serve as an information hub for anyone interested in the subject to draw in new members. The group

aims to publish four papers in the coming year, increase the public's awareness of the group using social media, and other online tools, and making a presentation at a conference at least once in 2012.

VOLUNTEER RECRUITMENT

In order to strengthen the volunteers for this project, the group has made efforts to reach out to students and young professionals, and to offer opportunities to volunteer for the group. Emails inviting interested persons to volunteer were sent to the SGAC and Group mailing lists. A presentation was made at the SGC in South Africa and recruitment flyers were distributed at the IAC. A new Project Co-Lead was recruited, along with Social Media and Research Paper Coordinators.

WEBSITE OVERHAUL

The website for the group was redesigned to offer a fresh new look and more resources to the online community. These resources include news articles, research papers, tutorials, images, and useful links.

LOOKING AHEAD - THE PLAN FOR THE FUTURE OF SPACE TECHNOLOGIES FOR DISASTER MANAGEMENT WORKING GROUP

Goals	Tasks	Deadlines	Point(s) of Contact	Performance Indicator
Inform the general public	Update the website with news and multimedia content	Beginning of each month	Sandra Cabrera Alvarado & Mitch Parish	New material added each month in 2012.
Inform the general public	Manage the presentation of a paper and/or poster at a conference	December 2012	Mario Ciaramicoli	At least one paper is presented at a relevant conference or workshop.
Contribute to research	Manage the writing of four articles per year	March 2012 June 2012 September 2012 December 2012	Sandra Cabrera Alvarado	Four articles are produced in 2012 and made available on our website.



Goals	Tasks	Deadlines	Point(s) of Contact	Performance Indicator
Contribute to research	Provide resources on space technologies via the website which could be used by researchers	Beginning of each month	Mario Ciaramicoli	New material added each month in 2012.
Provide a forum	Maintain the mailing list & social media	February 2012	Mitch Parish	Attract 200 subscribers to the mailing list. Channels are set up on Twitter, Facebook, and YouTube so that we are ready to broadcast news and updates.
Obtain funding to facilitate participation in conferences	Sign an agreement with a sponsor	March 2012	Mario Ciaramicoli	Agreement signed with sponsor.

Interested in volunteering? Check out our website for more information and contact details. We would love to hear from you!

<<http://www.spacegeneration.org/index.php/activities/current-projects/space-technologies-for-disaster-management>>



SPACE SAFETY & SUSTAINABILITY WORKING GROUP

The Space Safety and Sustainability (SSS) Working Group was established in December 2010 under the Space Generation Advisory Council and provides a forum for enthusiastic students and young professionals to participate in global deliberations on the safety and sustainability of space activities. It comprises of members from established and emerging space countries, and an advisory team of professionals in the field, and identifies and exchange ideas concerning critical issues threatening the sustainability of space activities.

OBJECTIVES

- To examine key aspects of the long-term sustainability of space activities, taking into account the interest of established and emerging space actors.
- To encourage active participation.
- To present recommendations on operating procedures, standards and policies.
- To afford current industry stakeholders access to a pool of young space enthusiasts.

ACCOMPLISHMENTS IN 2011

- Successful partnerships with International Association for the Advancement of Space Safety (IAASS), International Space Safety Foundation (ISSF), and Analytical Graphics Inc (AGI) Education Alliance Programme that have thus far led to both technical and policy projects.
- The Group co-hosted the IAASS paper competition and the three winners were sponsored to present their research output, related to space safety and sustainability, at the 5th IAASS conference in Versailles.
- Participation in the 1st IAASS/ISSF Workshop on Creating an Academic Certificate Programme in Space Safety.
- In accordance with the UN COPOUS Working Group on the Long-term Sustainability of Outer Space Activities, the SSS Working Group presented its recommendations, experiences and practises relating to long-term sustainability of space activities at the

49th Session of the Scientific and Technical Subcommittee.

- Conference papers and presentations at the
 - UN/ESA/Austria Symposium on small satellites for sustainable development
 - 62nd IAC
 - 5th International Association for the Advancement of Space Safety (IAASS) conference
- Organisation of a dedicated space sustainability workshop session at the 10th Space Generation Congress during which delegates brainstormed on the “Technical and Policy Challenges of Space Debris Mitigation and Removal”
- Development of frameworks for on-going policy and technical space sustainability projects

**LOOKING AHEAD-PLANS FOR THE FUTURE OF THE SSS WORKING GROUP
TECHNICAL PROJECTS**

Current technical projects using AGI's STK software will be concluded in early 2012, the results of which will be included in expected SSS publications. In addition, new technical projects are currently being developed.

POLICY PROJECTS

Frameworks of policy-based projects developed in 2011 will be implemented in 2012. These include:

- SSA Data Sharing policies
- Space Salvage (from Maritime Salvage)
- ECO tax for space debris removal
- How emerging space nations can be involved in Space Safety and Sustainability

PUBLICATIONS AND PRESENTATIONS

The Group is currently compiling a literature review series in its thematic areas (Space Debris, Space Situational Awareness, Space weather and its effects on Spacecraft, and Space Safety) to aid outreach efforts by providing a comprehensive reference document for people who are new to the field. Dissemination of the Working Group's output will be in the form of peer-reviewed publications (such as the Space Policy Journal). In addition, accepted poster presentations of the Working Group's technical project using the AGI Satellite Tool Kit (STK) will be presented at the 16th ISU Annual International Symposium “Sustainability of Space Activities: International Issues and Potential

Solutions” in February 2012.

COMPETITION

The SSS Working Group is currently looking into developing a technical paper competition. The competition will focus on one of the key areas of space safety and sustainability. The winner will be awarded a scholarship to attend and present at the Space Generation Congress.

APPOINT SSS MEDIA/AWARENESS COORDINATOR

The Working Group will appoint a dedicated media coordinator. The role will include notifying the group members of latest news and developments regarding issues of space safety and sustainability, upcoming conferences, publications etc.

near earth object working group



NEAR EARTH OBJECT WORKING GROUP

The NEO working group is dedicated to helping the worldwide planetary defense community to meet one of nature's greatest challenges. The group provides a youth perspective to planetary defense through annual reports, competitions, conference attendance, and public outreach projects related to Near Earth Objects. The three main goals of the group are as follows:

- To ensure that the opinion of the youth is heard by the worldwide community on matters relating to NEOs,
- To promote the work of students and young professionals to the planetary defence community and encourage others to get involved, and
- To present honest and balanced facts on the dangers posed by NEOs to the general public in a non-technical form.

ACTIVITIES IN 2011

“FUTURE OF PLANETARY DEFENSE” PUBLIC EVENT OUTREACH

In conjunction with the 2nd Planetary Defense Conference organized by the International Academy of Astronautics' (IAA), SGAC's NEO WG hosted a public outreach event, titled “Future of Planetary Defense” at the Polytechnic University of Bucharest on Sunday, 8 May. The event's featured speakers included:

- Bill Ailor, Director, Center for Orbital and Re-entry Debris Studies at the Aerospace Corporation
- Marius-Ioan Piso, Director General of the Romanian Space Agency (ROSA)
- Rusty Schweickart, Apollo 9 Astronaut, Co-Founder of the Association of Space Explorers (ASE), and Chairman of the B612 Foundation
- Dumitru Prunariu, Soyuz 40 cosmonaut, Chairman of the UN Committee on the Peaceful Uses of Outer Space, and SGAC Advisory Board Member



Future of Planetary Defense Panel

The event featured speeches on NEOs and what is being done both in terms of scientific research and international policy to respond to their threats. A highlight of the afternoon was the 30-minute film on NEOs produced by the NEO Working Group – “Near Earth Objects and Planetary Defense: A Film about Defending the Earth.” The film was lauded by Apollo 9 astronaut, Rusty Schweickart, as being one of the most accurate films out today on Near Earth Objects. The successful event was very well received by the 150 students who attended and it was covered by several national Romanian media outlets.

PLANETARY DEFENSE CONFERENCE STUDENT COMPETITION

The NEO Working Group assisted with the promotion and judging of the student competition for the second International Academy of Astronautics Planetary Defense Conference entitled "From Threat to Action". The competition called for students from all over the globe to send in their entries. Winning entries came from the UK, US and Japan.

MOVE AND ASTEROID 2011: TECHNICAL PAPER COMPETITION

The NEO working group continued its successful Move an Asteroid technical paper competition series, which has been held annually since 2008 with a broadened focus in 2011. Students and Young Professionals were tasked to come up with original ideas that address the challenges involved with either the safe deflection of an earth-bound NEO, the detection of NEOs, or a global asteroid impact-warning system. The winner was Alison Gibbings, a PhD student at the University of Strathclyde, with a paper entitled “A Smart Cloud Approach To Asteroid Deflection”. In her paper, Alison suggests the use of a cloud of a large number of low mass nano-size spacecraft with high velocity to deflect an asteroid. Her prize was a scholarship to present her work at the 2011 SGC and IAC. This outreach project is intended to encourage technically minded individuals to apply

their skills at addressing one of the greatest challenges that humanity may one day have to face.



Alison Gibbings (right) presenting her winning paper at SGC 2011.
At left is SGAC Executive Director, Ariane Cornell.

UN COPUOS AT14

SGAC is a member of the United Nations Committee for the Peaceful Uses of Outer Space (UNCOPUOS) Action Team (AT) 14 on Near Earth Objects. The NEO WG actively takes part in the meetings of AT14 and supports the recommendations put forward for an international response to the near-Earth object impact threat. The NEO WG further reports its annual activities to the Chairman of AT14 to be included in the AT14 report to the Science and Technology Subcommittee Meeting of the UNCOPUOS taking place every year in February

SEARCH FOR NEW MEMBERS

The Working Group remained open for new members to join and was able to further expand the number of active members.

PLANS FOR 2012

COMPETITIONS

The next technical competition, following on from the success of Move an Asteroid and Asteroid Warning System, is well underway. An additional competition is in the planning stages with a non-technical theme aimed at introducing Planetary Defence issues to the general public.

WEBSITE ENHANCEMENTS

An upgrade to the website is planned that will include links to educational material on NEOs for teachers and a repository that will showcase the past entries to the 2008, 2009, and 2010 technical paper competitions.

SGAC

Regional Activities

maps of sgac regions and represented countries	70
regional and national reports	71
africa	71
asia pacific	87
europe	127
middle east	174
north, central america and the caribbean	188
south america	209



maps of sgac regions and represented countries



regional and national reports

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



AFRICA

SPACE DEVELOPMENTS IN AFRICA

Africa, a region with potential benefits from space applications and a hotbed for space activities, had new space developments ranging from national to regional efforts. In 2011, Hubert Foy of Cameroon and Prosperity Simpemba of Zambia served the last year of their two-year mandate as Regional Coordinators. Throughout the year, the Coordinators organized monthly teleconferences via Skype, as a forum to discuss developing space issues across the continent particularly the investigation of measures to increase African participation in the Space Generation Congress and the International Astronautical Congress in Cape Town, South Africa.

Regional participation in these monthly meetings was very good, usually with 90% SGAC Africa NPoC participation,. The discussions generated ideas that SGAC and IAC local organizing members explored to successfully plan and organize these events. In Cape Town during the congress, Africa organised a side meeting that brought together 12 participating delegates from Africa. Mr. Simpemba chaired the meeting, and discussions explored several issues related to space education and outreach including ways to recruit more volunteers. A major activity during the meeting was an award ceremony to recognised members for their significant contribution. For example, Etim Offiong, NPoC of Nigeria and Scientific Officer at the African Regional Centre for Space Science and Education received SGAC Award of Recognition for his extensive contribution to the promotion of space education in Nigeria and Africa. Looking forward, participants discussed measures to lobby African diplomats to contribute to the drafting and endorsement of a UN resolution that urges countries to focus on implementing space related products on education. For example, declare the year 2015 as the International Year of Space Science.

In November, an international German radio program on Space Activities in francophone Africa, Deutsche Welle, interviewed Hubert Foy on the prospects of space activities in Africa. The 12-minute interview includes discussions on capacity building and political will, which are two key elements to strengthen access to space applications from a developmental and economic standpoint. The discussion also looked on the vision of an African Space Agency and the role of Pan African University in space science and policy. Mr. Foy highlighted the opportunities SGAC provides young professionals and space

enthusiasts to develop important leadership skills in the field of space policy.

Besides activities, there were also developments in the structure of SGAC in Africa. Two new NPoCs were approved – Pierre Van Heerden of South Africa and Jean Pierre Imanishimwe of Rwanda. Disappointingly, Kevin Mohee of Mauritius requested the executive to take him off the NPoC position, stating that his personal commitment impeded active participation in both regional and global SGAC activities. At the regional level, there has been a modest increase of active volunteers and space activities. RCs and NPoCs contributed stories on national events to the monthly SGAC Newsletter. Example workshops that were organized include STK workshop in Nigeria and Star Party Dinner in Kenya. These events, inter alia, promoted SGAC goals in the area of education. Details about local events can be found under each country's annual reports.

More Africans participated in international conferences and workshops in 2011. One reason for this is an increase in the number of scholarships offered by SGAC partner organizations aimed towards delegates from developing countries. For the first time, NARSDA introduced two scholarships and Dr. Ade Abiodun introduced one. In the broader scheme of things, the 10th Space Generation Congress, the 21st United Nations International Astronautical Federation Workshop, and the 62nd IAC, all held in Cape Town, South Africa, were major SGAC forums and offered a good case to analyse Africa's participation in global events. South Africa topped country participation with 11 delegates and other participating African countries included Angola, Cameroon, Ghana, Nigeria, South Africa, Uganda, and Zambia. Through SGAC efforts and from its partner organizations, five SGAC members won scholarships. The awards, in some cases, covered the full cost of attendance and participation. Winners of 2011 scholarships from Africa were as follows:

- Chidi Anyina of Nigeria – NARSDA Award
- Nsiah Mirabel Kum of Cameroon – UN-IAF Scholarship
- Etim Offiong of Nigeria – Ade Abiodun African Space Scholarship
- Minoo Rathnasabapathy of South Africa – SGAC Young Leader Award
- Leandro Ricardo of Angola – SGAC Young Leader Award
- Adebawale Shadare of Nigeria - NARSDA Award

Overall, 21 delegates represented Africa -- 4 from Nigeria, 11 from South Africa, and the rest represented Angola, Cameroon, Ghana, Uganda and Zambia.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC SOUTH AFRICA

- Despite diverse challenges that impede regional efforts to expand SGAC representation and activities to most of the 54 African sovereign states, the future of space development in Africa is promising. SGAC education and public outreach project will remain the major focus in 2012. RCs and NPoCs plan to build on past successes and explore novel processes to effectively implement the region's strategic plan. In order to achieve this goal and others, the region has identified a few tasks and plans to pursue in 2012, including:

- RCs-NPoCs monthly regional Skype conferences to encourage and support NPoCs to organise local events.
- Encourage industry and universities to cooperate with students and faculty of International Space University on the Team Project about Africa and Space.
- Expand SGAC network on the continent in order to develop space sector growth.
- Increase space outreach and lectures at universities to encourage the formation of the next generation of space professionals.
- Strengthen collaboration with the International Academy of Astronautics and UN Economic Commission in Africa to increase continent-wide participation in workshops and seminars.
- Organise seminars and workshops on topical issues to contribute to the formulation of regional space policies.
- Encourage higher-level participation of diplomats and agency professionals in SGAC activities, which would take place within and outside Africa
- Recruit more NPoCs in Africa in order to expand SGAC's network of contacts to more than 25 countries, less than half the countries in Africa.
- Organise competitions in secondary schools, award certificates of participations, and involve the teachers and parents in space activities.
- Encourage NPoCs to contribute knowledge to SGAC from African perspective by conducting research and participating in conferences.
- To collaborate with space advocacy groups including the International Space University Africa Alumni Association (ISUAAA) and the African Space Science and Policy Institute (ASPI).

AFRICA NATIONAL REPORTS

ETHIOPIA

SGAC AND SPACE SCIENCE RELATED ACTIVITIES IN 2011

SGAC Ethiopia has carried out some activities in the year 2011 through its members and National Points of Contact. Compared to last year, this year's activities are a little less and this is mainly due to the lack of resources and funding. SGAC NPoCs get little support from local organisations and it is the hard work of the national points of contacts and some dedicated SGAC members that made the following activities possible. Some of the activities are:

ETHIOPIAN NPOC PARTICIPATES ON RUN ACROSS ETHIOPIA

Ethiopian NPoC Bekele Tujuba participated on run across Ethiopia from 10 – 21 January 2011. The run across Ethiopia is a fundraising event to build schools to improve the life of residents of part of southern Ethiopia. More than 30 participants consisting of philanthropists from Michigan, Ethiopian athletes and volunteers run all the way from Addis Ababa to Yirgachafe covering 420 kilometers.

ETHIOPIAN NOPC LED TEAM TO ICWIP 2011 IN STELLENBOSCH, WOUTH AFRICA

Ethiopian NPoC Bekele Tujuba was assigned team leader of Ethiopian International Conference for Women in Physics (ICWIP2011) participants. The ICWIP conference's objective is to enhance an idealized environment for women around the world who are physics professionals to present their research papers and also to discuss the problems facing them. Bekele Tujuba and his team presented the experience of Ethiopian women physicists, tried to identify problems and proposed possible solutions.



Delegates of the 4th International Conference for Women in Physics

SGAC ETHIOPIA ORGANISED YURI'S NIGHT IN ADDIS ABABA

SGAC NPoCs Bekele Tujuba and Bezaye Tesfaye commemorated the first human space flight at the Russian center in cooperation with Russian center for science and culture. The ambassador of Russia to Ethiopia and other distinguished guests participated on the event. Both Beza and Bekele talked about the activities of SGAC to the participants. Other participants presented their work on space science and finally a closing speech was made by the Russian ambassador to Ethiopia.

ETHIOPIAN AND INDIAN NPOC INTRODUCE SGAC TO SCHOOL OF TOMORROW

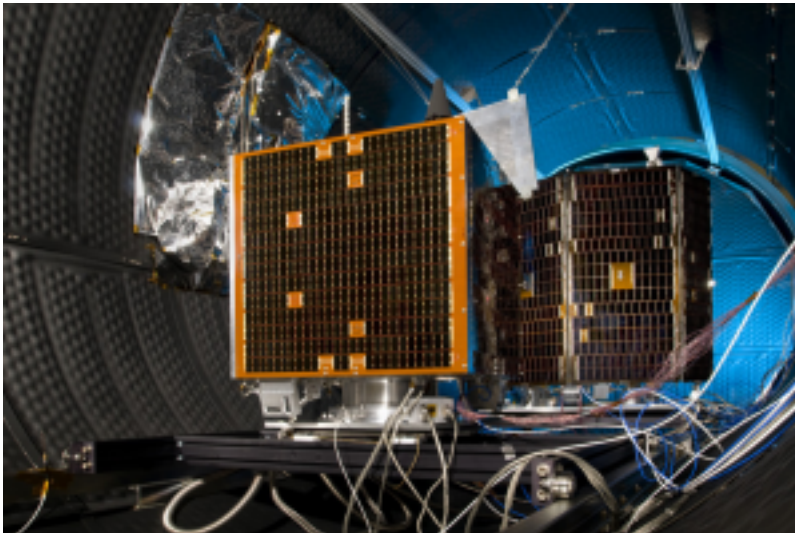
SGAC India NPoC Athiye Jawad and SGAC Ethiopian NPoC introduced SGAC to School of Tomorrow students. Athiye Jawad was in Addis Ababa for voluntary work where she met Ethiopian NPoCs Bekele Tujuba and Beza Tesfaye. The NPoCs talked about what SGAC is, what it does and what benefits for members.

LOOKING AHEAD – TENTATIVE PLANS FOR THE FUTURE OF SGAC ETHIOPIA

- Find more people to join Ethiopia SGAC
- Increase Ethiopian member's activities and participation in SGAC
- Create national, continental, and international symposiums and discussion forums
- Connect Ethiopians with the rest of the world through SGAC
- Establish stronger relationships with other NPoCs within SGAC

NIGERIA

Nigeria's space program, launched a few years ago, is progressing. On 17 August, 2011, two Earth Observation satellites, NigeriaSat-2 and NigeriaSat-X, were launched. NigeriaSat-2, part of the African Resource Management satellite Constellation (ARMC), is a replacement for NigeriaSat-1 whose payload expired in 2008 but remains in orbit. NigeriaSat-X is a step-forward in the development of indigenous capability of Nigeria. The satellite was designed and developed by young Nigerian scientists and engineers, with support from her technical partners.



NigeriaSat-X

In 2009, Nigeria lost its communication satellite, NIGCOMSAT-1 due to technical problems. A replacement, tagged NIGCOMSAT-1R, launched in December 2011. Both satellites were designed and constructed by Nigerian partners in China.

Every year, the African Regional Center for Space Science and Technology Education in English Language (ARCSSTE-E) celebrates the World Space Week. This year, the week was held at the Obafemi Awolowo University campus, Ile-Ife. The three-day event comprised of workshops for primary and secondary school students and teachers on using GPS receivers, quiz competition, and science project exhibitions. ARCSSTE-E also held its first Annual Lecture with the title "Space in the revitalisation of Nigeria's economy" was delivered by Dr. Adigun Ade Abiodun, former chairman of the UN-COPUOS and a member of SGAC board of advisers.

ACCOMPLISHMENTS IN 2011

James Chibueze and Etim Offiong represent Nigeria as NPOCs. The focus of our activities in 2011 was to forge collaboration between SGAC and the National Space Research and Development Agency (NASRDA), activity centres of NASRDA, and universities in Nigeria.

STK WORKSHOPS

On 2 June, 2011, SGAC, in collaboration with the ARCSSTE-E organised a hands-on training on the use and applications of Systems Tool Kit (STK) software. Analytical Graphics Inc. (AGI), developers of STK, donated the educational licenses that were used for the training.

On 14 July, 2011, another workshop on STK was held at the Center for Space Research and Applications (CESRA), Federal University of Technology, Akure with the support of AGI and ARCSSTE-E.

ARCSSTE-E has been a long-standing partner of SGAC. A formal agreement between the two space organisations will occur by the signing of MoU.



Pictures from STK workshop at
ARCSSTE-E

ASTRONOMY WORKSHOP

On 15 August, 2011, SGAC held a workshop on astronomy and cosmology at the University of Nigeria, Nsukka. This was held in partnership with the Center for Basic Space Science (CBSS), an activity centre of the National Space Research and Development Agency (NASRDA). Participants were introduced to optical and radio telescopes. They also visited the site of the 25m radio telescope project of NASRDA.

As in other workshops, participants were introduced to SGAC and her activities.

Due to the success of the workshop, the director of CBSS, Professor P.N. Okeke,

proposed that SGAC organise another workshop in 2012. He suggests a national workshop involving all Nigerian universities. His premise is hinged on the fact that astronomy is the foundation of space science and technology.

NASRDA/ARCSSTE-E/SGAC ESSAY COMPETITION

With the support of NASRDA and ARCSSTE-E, a national essay competition was organised for students and young professionals in Nigeria. The winners were Chidi Anyina and Adebowale Shadare. The prize was sponsorship to attend the Space Generation Congress (SGC) 2011, which was held in Cape Town, South Africa. Unfortunately the winners could not make the congress but will hopefully participate in SGC 2012 in Naples, Italy. We hope that the essay competition will be an annual event.

OTHER SGAC WORKSHOPS

Mr. Chijioke Nwosa, was one of the winners of the SGAC-IAASS Space Safety Paper Competition. As a result, he received sponsorship to present his paper at the 5th International Space Safety Conference, in Versailles, France.

Ms. Adeyinka Fagbemi, was one of the recipients of the IAF Youth Grant Awards 2011. The award enabled her to participate in the African Leadership Conference (ALC) 2011, in Mombasa, Kenya (26-28 September), Space Generation Congress (SGC) 2011, and International Astronautical Congress (IAC) 2011. At IAC, she participated in the plenary session of the African Heads of Space Agencies. Past recipients of the award include Mr. Etim Offiong (2009) and Ms. Funmi Erinfolami (2010).

Mr. Etim Offiong received the Ade Abiodun Space Scholarship Award. The scholarship was named after Dr. Adigun Ade Abiodun – a pioneer and advocate for space development in Africa. With this award, Mr. Offiong participated in ALC 2011, SGC 2011 and IAC 2011. At SGC 2011, he was one of the moderators of the outreach project group. The theme of the project group was “Space for developing regions: The African Case Study.” At IAC 2011, he participated in the plenary session of the African Heads of Space Agencies.

SGC 2011

The Space Generation Congress was held for the first time in Africa. Several delegates from Nigeria and other African countries participated.

OTHER OUTREACH ACTIVITIES IN 2011

On 9 June, 2011, students of the Department of Physics and Astronomy, University of Nigeria (UNN), Nsukka, Nigeria, visited some space-based institutions located on the Obafemi Awolowo University (OAU), Ile-Ife, Nigeria. One of the institutions visited was the African Regional Center for Space Science and Technology Education in English (ARCSSTE-E). Mr. Etim Offiong, was on ground and introduced SGAC to the visitors.

At the first anniversary of Organisation of Women in science for the developing world (FUTA chapter), NPoC for Nigeria was invited to speak about youth and space. This opportunity was used to introduce SGAC to the young people.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC NIGERIA

- Organise workshops on Matlab at University of Ilorin and Obafemi Awolowo University, Ile-Ife
- Celebrate Yuri's Night
- Organise national workshop on astronomy
- Mobilise young people to participate in the Second Mission to Mars Conference in Nigeria
- Organise workshops on space medicine

SOUTH AFRICA

DEVELOPMENTS IN THE SOUTH AFRICAN SPACE SECTOR

The growing space sector in South Africa gained much momentum during 2011, as the local space community prepared to open its doors to the global space community for the International Astronautical Congress 2011 (Cape Town, 3-7 October), Space Generation Congress (Cape Town, 29 September - 1 October) and other, related events.

This year, the South African National Space Agency (SANSA) grew by incorporating the Hermanus Magnetic Observatory (a facility of the National Research Foundation) under its banner as SANSA Space Science Directorate. Over the next few years, several other national research facilities and national efforts in the space sector will be consolidated under the SANSA banner.

The South African Council for Space Affairs (SACSA) launched a national registry of space objects, which may be found at <http://www.sacsa.gov.za/registry/sumbandila.php> and lists all space objects owned by South African organisations. 2011 also saw the end of SumbandilaSat and the start of a plan to build a replacement Earth observation satellite.

ACCOMPLISHMENTS IN 2011

SOUTH AFRICA HOSTS THE 10TH SGC

2011 marked the tenth anniversary of the Space Generation Congress (SGC) and for the first time, SGAC organised its annual conference in Africa emphasising the importance for developing nations to use space science and technology to benefit people on the street. South Africa was proud to be the host nation for SGC in Cape Town and with the help of the South African SGAC Local Organising Committee; SGC 2011 brought together 130 delegates from 42 countries.

SAASTA AND SGAC THINK-TANK BRUNCH

SGAC was invited to review and give input into SAASTA's South African space outreach plan. The brunch was a successful way to share the new generation's perspective on an important and actionable policy.

SPACE SUIT WALK AROUND CAPE TOWN CITY CENTER

South African SGAC members organised outreach activities during the International Astronautical Congress (IAC) to bring the world of space to the public, creating awareness of the modern uses of space applications in everyday life. During the Extra Vehicular Activities (EVA) walking activity, members volunteered to dress as astronauts and mingle with Cape Town's locals.



Space suit walk around Cape
Town city centre

PUBLIC OUTREACH AT SOUTH AFRICAN ASTRONOMICAL OBSERVATORY

Representatives of each of the five SGC Working Groups presented the SGC preliminary result presentations, which included the challenges and recommendations on key issues in the current space industry. After the presentations, the volunteer SGAC members worked with children to build Galileo scopes and stargaze.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC SOUTH AFRICA

We intend to grow the SGAC network in South Africa by advertising to existing and emerging science clubs. This effort will be focused on, but not limited to, university clubs and societies. The South African Space Association (SASA) is busy creating university chapters across the country and through SASA we have an opportunity to reach a large and growing number of students. The first order of business is then to strengthen relations with SASA and the existing SASA university chapters and, where necessary, offer assistance in the creation of new chapters.

The year 2012 also offers many opportunities to raise awareness of space activities in South Africa and the Africa region as well as careers and study opportunities in the space sector. These activities will be carried out in conjunction with organisations that are known to be involved in outreach and have interests in space - such as the South African Agency for Science and Technology Advancement, South African Space Association, South African Astronomical Observatory, MeerKAT/SKA and iThemba LABS.

REFERENCES AND LINKS

- For more information about SANSA please visit: [<www.sansa.org.za>](http://www.sansa.org.za)
- For more information about SASA please visit: [<www.spacesa.org>](http://www.spacesa.org)
- For more information about SAAO please visit: [<www.saao.ac.za>](http://www.saao.ac.za)
- For more information about Space School Africa – NYDT please visit: [<www.nydt.org>](http://www.nydt.org)

SUDAN

CURRENT STATE OF SPACE AFFAIRS IN 2011

The space activities in Sudan have grown very slowly with hard attempts from active individuals and small bodies. The promises of some governmental bodies to promote the idea of Sudanese satellite is becoming harder due to the unstable conditions of the country.

ACCOMPLISHMENTS IN 2011

Last year Space Generation in Sudan spent a lot of efforts contacting persons in the space field; a very slow and tough process due to highly scattered individuals and unknown groups with undefined responsibilities.

SGAC started by visiting secondary schools and universities. It was discovered that the Sudanese Astronomy Society was created by Khartoum university students SGAC hopes for future possible collaboration and presentations about SGAC to increase SGAC membership.



SGAC presentation for high school students about Geoinformatics

VISION OF SGAC SUDAN

SGAC Sudan has a lot of ideas for the future years and fruitful ideas for year 2012 continuing our activities of the last year and learning from our failures to avoid repeating them.

- Plan to visit 5 university and 15 school from the Khartoum state every 4 months.
- Encourage more students and young professionals in Sudan to join SGAC.
- Present at high-impact conferences and workshops.

- Find additional NPOC to support SGAC activities. Individuals have been identified, and are currently completing the administrative process.
- Develop activity proposals that enable Sudan SGAC members to work together to efficiently achieve SGAC goals.



SGAC meeting with high school students



SGAC, visit with governmental body

ZAMBIA

Space Generation Advisory Council of Zambia recorded successful activities in the year 2011. In order to increase its membership and awareness, SGAC Zambia has continued to promote its activities through outreach projects. The activities included the formulation and launching of Space Generation Clubs in schools and colleges.

ACCOMPLISHMENTS IN 2011

OUTREACH PROJECTS IN SCHOOLS AND COLLEGES

On 11 March 2011, SGAC-Zambia NPoC Misheck Mutuzana explained on the activities and vision of SGAC during an outreach programme at Mufulira College of Education (MUCE) and successfully formed a Space Generation Club and encouraged the trainee teachers to formulate similar clubs in schools when they graduate from the college.



Zambia NPOC- Misheck Mutuzana at
Mufulira College of Education



Africa RC – Prosperity Simpemba launching
the Space Generation Club

On 17 October, 2011 the SGAC Regional Coordinator of Africa Mr. Prosperity Simpemba officially launched the MUCE Space Generation Club at about 16:10 in the college main hall.

The launch was well attended by students and some lecturers. During the official launch of the club, Mr. Simpemba showed the students a movie about astronomy and explained in detail the importance of having such a club at a teacher training college. He also challenged students to continue participating in space science activities. Apart from the outreach programme in colleges, two more secondary schools have successfully formulated Space Generation clubs.

YURI'S NIGHT

Pupils at Butondo High School participated by reading articles about Yuri Gagarin on computers. The articles included Yuri Quick Fact table, history of Yuri Gagarin, astronomy of the 20th century table and space exploration.

WORLD SPACE WEEK COMMEMORATION

Pupils and students took part in the commemoration of World Space Week in October held at Mufulira College of Education. The activities on this day included the browsing of the space websites, navigating the celestial software and a presentation on the importance of World Space Week.



Part of the audience of students and pupils who attended the official launch of SGC at Mufulira College of Education

At the Copperbelt University, physics, science teachers, lecturers, and students came from different schools to participate in the 50 years of Human Spaceflight seminar. The activities on this day included a debate and presentations including:

- Space Solutions to African Problems (Challenges)-presented by Prosperity Simpemba.
- Human Space Flight presented by Siantuba, Muma, Mukamba, and supervised by their lecturer Baliga. G.T
- Planetary Sessions on Space Missions presented by Mr. Sikapizye
- Radiative Processes in Space presented by Mr. W. Miyoba
- Activities of SGAC – by Mr. Misheck Mutuzana
- Space Tourism presented by Dr. Moola S. Mutondo Chafilwa
- Flight Mission to the moon by Mr. Fungamwango
- Relevance of Astronomy – group discussions by participants
- Are Aliens, Fiction or Reality? – Debate by Copperbelt University Students

During lunch break, groups were divided to discuss “African involvement in space mission,” and afterward presented written reports. At the close of the commemoration, Copperbelt University students debated on the motion “Are Aliens fiction or reality?”

SGC 2011

Prosperity Simpemba, the Regional Coordinator of Africa, attended the SGC 2011 in Cape Town, South Africa and met other international students, young professionals and other professionals.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC ZAMBIA

- Global Astronomy Month (GAM) held in April 2012
- Yuri's Night – 12 April, 2012
- World Space Week 4-10 October, 2012

ASIA PACIFIC



SPACE DEVELOPMENTS IN ASIA PACIFIC

The Asia-Pacific region has experienced a fabulous year filled with exciting activities and opportunities. It has been a very active and busy period for space enthusiasts and advocates across the region, representing SGAC at a plethora of national and international events.

It was a very proud moment for the region when Michael Brett (Australia) and Dr. Catherine Doldirina (NPoC Georgia) were elected as the SGAC Chair and Co-Chair respectively. Also selected to the Executive Committee were Suresh Bhattarai (NPoC Nepal), Andrea Boyd (NPoC Australia), Cynthia Chen (Australia) and Michael Kretzenbacher (Australia) as SGAC's Co-Executive Secretary, Editor and PR & Communications Co-Leads respectively.

CHANGES TO SGAC ASIA PACIFIC

WELCOMED TO SGAC

During 2011, Charitarth Vyas and Daichi Nakamura were welcomed to the Asia Pacific team as the NPoC for India and Japan.

FAREWELL

In 2011 we bade farewell to Pradeep Mohandas (NPoC India), Wajahat Nassar (NPoC Pakistan), Muhammad Atteeq (NPoC Pakistan), Yuki Takahashi (NPoC Japan) and Thiwanka Jayasiri (NPoC Sri Lanka). We thank them all for their dedicated service to SGAC.

2011 REGIONAL HIGHLIGHTS

MEMBERSHIPS

- SGAC's application for Associate Membership in the Space Education and Awareness Working Group (SEA WG) of the Asia-Pacific Regional Space Agency Forum (APRSAF) was approved in January. The application was discussed at APRSAF 17 held in Melbourne, Australia. SGAC was represented by Michael Brett (Chair).

SCHOLARSHIPS

- Joyeeta Chatterjee (RC Asia Pacific) was awarded a full scholarship by the International Space University and a travel grant by the Secure World Foundation to attend the ISU Southern Hemisphere Summer Space Programme at the University of South Australia, Adelaide.



APRSAF 17 Group Photo

- Ravit Sachasiri (NPOC Thailand) was awarded a 2011 IAF Youth Grant to attend the 10th Space Generation Congress, UN/IAF Workshop and the 62nd IAC in Cape Town, South Africa.
- Mohammed Shafiq of Pakistan (Former RC Asia Pacific), So Young Chung of South Korea and Thu Vu Trong (NPoC Vietnam) were awarded scholarships to attend the UN/IAF Workshop in Cape Town, South Africa.



Joyeeta Chatterjee & Yohan Ferreira (Asia Pacific RCs) with Thu Vu Trong (NPoC Vietnam) at the SGAC Booth at IAC 2011 in Cape Town

- 9 of the 32 Space Generation Congress 2011 scholarship winners were from 7 countries in the Asia Pacific region. They include Suresh Bhattarai (SGAC Co Executive Secretary & NPoC Nepal), Joyeeta Chatterjee (RC Asia Pacific), Cynthia Chen (Australia), Kristian Grayson (Australia), Michael Kretzenbacher (Australia), Sreeja Nag (India), Mohammed Shafiq (Pakistan), Thu Vu Trong (VietNam) and Yohan Ferreira (RC Asia Pacific).



SGC 2011 Asia Pacific Delegates with the Blue Marble flag

SGAC REPRESENTATION

- Ali Butt (Pakistan) was a member of the Space Education and Awareness (SEA) Working Group at the 18th session of the Asia-Pacific Regional Space Agency Forum (APRSAF) in Singapore in December. SGAC is an Associate Member of the SEA Working Group.



APRSAF 18 SEA WG



APRSAF 18 Group Photo

- Yeongju Kim (NPoC South Korea) presented about SGAC and its activities at the 1st Annual General Meeting of the IAF's Asia-Pacific Regional Group in Daejeon, South Korea in December.



Yeongju Kim (NPoC South Korea) presents at the IAF Asia-Pacific Regional Group Meeting in Daejeon, South Korea

- Together with several other SGC 2011 delegates, Suresh Bhattarai (SGAC Co Executive Secretary & NPoC Nepal) and Yohan Ferreira (RC Asia Pacific) attended a Think Tank Session on South Africa's 3 Year Space Science Outreach Implementation Plan, organised by the SAASTA in Cape Town.
- Several Asia Pacific SGC & IAC 2011 delegates participated in an educational and public outreach event at the South African Astronomical Observatory (SAAO) in Cape Town during the IAC.
- Yohan Ferreira (RC Asia Pacific) of Sri Lanka was one of five SGC delegates who dressed up as astronauts and interacted with the public at different locations in Cape Town, to promote IAC's Open Day, SGAC and generate public interest about space.



Yohan Ferreira (RC Asia Pacific) speaks to members of the public about Space during IAC 2011 in Cape Town



Yohan Ferreira (RC Asia Pacific) with South African Science Teachers in Cape Town

MEMBER OF THE MONTH

The Asia Pacific region was delighted to see Muhammad Shafiq (Former RC Asia Pacific), Andrea Boyd (NPoC Australia & SGAC Editor) and Thu Vu Trong (NPoC Vietnam) recognised as the SGAC Member of the Month for January, February and March respectively for their tireless efforts.



Thu Vu Trong (NPoC Vietnam) speaks with 2 IAC delegates about Space projects in Vietnam

YURI'S NIGHT AND WORLD SPACE WEEK

Many events were held across countries in the Asia Pacific region to celebrate the 50th anniversary of Yuri Gagarin's historic spaceflight in April and World Space Week in October.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC ASIA PACIFIC

With over 60% of the world's population living in the Asia Pacific region, SGAC Asia Pacific looks forward to 2012 with the following goals:

- Increasing awareness of SGAC in the region
- Increasing membership and involvement in SGAC projects
- Expanding the NPoC network to include more countries
- Increasing public awareness about the benefits of space technology and spinoffs
- Supporting outreach projects and events

ASIA PACIFIC NATIONAL REPORTS**AFGHANISTAN**

SGAC in Afghanistan paves the way for future space and astronomy activities among young people, as well as pooling Afghan talents and building international collaborations. The goal of our efforts is to encourage people to join the space sector, know the importance of astronomy and space education, and understand that astronomy and space applications are the key factors of the current and future technological advancements. SGAC in Afghanistan seeks to encourage students, young professionals, and the government to help initialise astronomical societies throughout the country, include astronomy in school curriculums. One day we aim see another Afghan astronaut in space to follow the footsteps of Abdul Ahad Momand, the first Afghan astronaut in space who spent nine days aboard the MIR Space Station in 1988.

Although space is never a priority in war-torn countries like Afghanistan, the SGAC NPoC, has been trying for more than four years to initialise space-related activities and projects throughout the country. So far, as stated in earlier reports, the space-related work in Afghanistan is done through individuals and no professional space societies currently exist in the country. In 2011, Ahmad S. Hakimyar, the NPoC, was the only representative of SGAC and as such, the representative for the entire space sector in Afghanistan.

LOOKING AHEAD –THE PLAN FOR SGAC AFGHANISTAN

The SGAC NPoC for Afghanistan would be seeking to find any type of possible support, both in individual and governmental/organisational levels, to further promote space and astronomy in his country.

AUSTRALIACURRENT STATE OF SPACE AFFAIRS

2011 saw a record number of Australians participate in both the SGC and IAC, an Australian winner of an IAF Youth Grant, an increase in the number of programs run by student and young professionals and a greater public and government awareness of the importance of space for the nation. Australia has had a long history as a player in space, and despite perhaps a few too many sabbaticals and no space agency, we were the fourth nation to put a satellite in space and one of the original members of COPUOS. Woomera was of course a major part of early rocket launches and is still active today. The major universities offer undergraduate and postgraduate courses in space science and engineering and undertake cutting edge research and development. For the first time in 2011, the ISU had a Southern Hemisphere Summer Space Program. Now is an exciting time for space in Australia! Following the 2008 Senate Space Inquiry, the Space Policy Unit (SPU) of the Department of Innovation, Industry, Science and Research (DIISR) was founded in 2009, making significant progress towards a whole-of-government space policy, and the Principles for a National Space Policy were released in September 2011 by Senator the Hon Kim Carr, Minister for Innovation, Industry, Science and Research. The final rounds were announced of the SPU Australian Space Research Program (ASRP) Grants with over \$34M awarded over two years for education development and project grants. The Australian Space Industry Innovation Council a year on from its formation continued to provide strong form and represented Australia internationally as well as implementing major visits from overseas to Australia for space affairs. The Council brings together local experts in policy, industry, and technical subject matter to champion the local space sector and provide strategic advice on innovation priorities to the Prime Minister. A central website for all things space in Australia also can be viewed at www.space.gov.au. There are now ever increasing opportunities, projects and educational programs for Australians to be involved in space on home soil.

ACCOMPLISHMENTS IN 2011

- ISU SHS-SP, Adelaide (5 January – 4 February): The inaugural Southern Hemisphere Summer Space Program (SHS-SP) was launched in January 2011 by the University of South Australia (UniSA) in partnership with the International Space University (ISU). The SHS-SP was an intensive, five week, live-in experience in the southern hemisphere summer, involving the international, intercultural, and interdisciplinary educational philosophy for which ISU is renowned. The program was open to Australian and international students. Three free public lectures for Education, Australian Space Future and an International Astronaut Panel were held on 6, 11, and 25 January respectively. The event was a resounding success and SHS-SP12 preparations were well underway in December 2011 ready for the new class in January 2012.
<http://www.unisa.edu.au/itee/spaceprogram/>

- Australian International Aerospace Congress (AIAC), Melbourne and Geelong (28 February - 3 March): The Australian International Aerospace Congress (AIAC) series is the pre-eminent aerospace forum in the region, held in Melbourne every two years during the week of the Australian International Airshow at Avalon.
<http://www.airshow.net.au/avalon2011/conferences/aiac.html>
- Avalon Airshow, Geelong (1-6 March): Industry-only trade sessions were held Tuesday to Thursday and Friday was both a trade and public day. The exposition was open each day from 9am until 5pm. The public were not admitted during the industry-only trade sessions, which were restricted to accredited industry, defence and government professionals, however several student aerospace groups were permitted access. The show was open to the public on Friday 4 March (from 9am to 6pm), Saturday 5 March and Sunday 6 March (from 8am to 6pm). Associated industry and technology conferences, seminars and symposia were held at Avalon and in Melbourne and Geelong during show week. A major Careers and Skills program for teachers, careers professionals and students was conducted at Avalon during the event. Free tickets were provided for students by the Raes for the Airshow.
- Yuri's Night, Nationwide (12 April): The World Space Party! Parties were held all over the nation – Sydney had an excellent followup to the 2011 party which launched Space Beer (aka Vostok, 4Pines Stout), which has since been flight tested in microgravity! Adelaide University AIAA Student Group hired out the entire Rhino room venue for a costumed, music filled, night of fun.
<http://yurisnight.net/>
- Spaceward Bound Expedition, Pilbara Region (April): The mission of Spaceward Bound is to train the next generation of space explorers by having students and teachers participate in the exploration of scientifically interesting but remote and extreme environments on Earth as analogs for human exploration of the Moon and Mars. The US and Australia collaborate on this, and teachers from both countries are involved. Western Australian desert was used in April 2011.
<http://quest.arc.nasa.gov/projects/spacewardbound/australia2011/index.html>
- Aerospace Futures Conference, Melbourne (June): University Undergraduate and Postgraduate Student Aerospace Careers Conference. The followup to the inaugural 2011 space conference was expanded and well received with 150 students converging on Melbourne to learn of career opportunities and network with like minded peers. This year included a media observer from New Zealand and video presentations from the US and Europe along with the inhouse speakers.
<http://ayaa.com.au/AeroFutures>
- Northern Territory Space School, Darwin (24-27 June), Year 10 Students participated in a residential program to pursue their interest in Space Science, Technology and Engineering. They visited the Darwin Airport control tower, Australian Defence Force, completed rocketry and other hands on activities, had astronomy nights and guest presentations.

<http://www.yassa.com.au/NTSS.html>

- 25th General Assembly of the International Union of Geophysics and Geodesy, Melbourne (28 June - 7 July): The Organising Committee for the 2011 IUGG General Assembly, on behalf of the Australian and New Zealand scientific communities, met with researchers world-wide in Melbourne, Australia in 2011, to participate in an exciting, multi-disciplinary conference on cutting edge science, presented by the eight scientific associations of the IUGG. A General Assembly of approximately 3,500 participants from over 91 countries was something very special and the organisers hope it will have an enduring legacy. The scientific program comprised of 4758 presentations including 2831 oral and 1926 poster presentations from leading scientists from around the globe.

<http://www.iugg2011.com/>

- South Australian Space School, Adelaide (13-15 July), Year 10 Students were selected to participate in the three day residential experience which included Adelaide University laboratories, hands on activities, the planetarium, building their own rockets and launching them, special guest lectures, RAAF base and DSTO visits along with telecons to past Australian ESA candidate and the 2011 Australia-NASA prize winner live from Ames.

<http://www.spaceschool.com>

- Victorian Space School, Melbourne (13-15 July), Year 10 Students visited several Universities to participate in an Astro Tour, work in laboratories, meet researchers and listen to leading Australian presenters in the space field. They completed a Mission to Mars at VSSEC, as well as a Mission to the Orbiting Space Laboratory, hands on rocket building and launching and a telecom with the 2011 Australia-NASA prize winner live from Ames.

<http://www.vssec.vic.edu.au/events/victorian-space-school/>

- Australian Youth Aerospace Forum (AYAF), Brisbane and Melbourne: Year 12 Students met up for an interactive high level conference and participation in activities to gain a head start in their careers and studies by investigating pathways in the aerospace industry. University options and industry careers were showcased to students over five days.

<http://ayaa.com.au/events>

- Australian Mars Exploration Conference (AMEC), Perth (23–24 July), All students, industry professionals and interested public were invited to attend the conference consisting of lectures and industry presentations of comparisons of environments on Earth and Mars.

<http://www.vianet.net.au/~mhchost/AMEC2011.html>

- Conference of the Australian Science Teachers Association (CONASTA), Darwin (10–13 Jul): CONASTA is the annual Conference of the Australian Science Teachers Association (ASTA).

<http://www.conasta.edu.au/>

- VSSEC Engineering and Science Careers Expo, Melbourne (18 August): Yr 10, 11 & 12 Students attended the free event along with staff and representatives from university and TAFE students and young professionals as well as volunteers. The VSSEC Engineering and Careers Expo is an annual event held in association with National Engineering Week and National Science Week. It brought together university and industry representatives to showcase the diverse range of study and career paths available across a broad range of fields. Students explored interactive displays and listened to presentations from engineers and scientists from a wide range of disciplines.
<http://www.vssec.vic.edu.au/events/vssec-engineering-and-science-careers-expo-2/>
- 11th Australian Space Science Conference (ASSC), Canberra (26–29 September), The ASSC is the primary annual meeting for Australian research relating to space science. This year it was held at the Australian National University in Canberra. This was the fifth ASSC jointly sponsored and organised by the National Committee for Space Science (NCSS) and the National Space Society of Australia (NSSA). It welcomed space scientists, engineers, educators, and workers in Industry and Government. For the first time it run in conjunction with an Italy-Australia Space Symposium on the afternoon of 28 September.
<http://www.nssa.com.au/ocs/index.php?cf=13>
- Star Voyager: Exploring Space on Screen, Melbourne (22 September 2011 – 29 January 2012): The Australian Centre for the Moving Image (ACMI), Melbourne, presented the world premiere of Star Voyager: Exploring Space on Screen, a major exhibition charting the history and future of space exploration as experienced through the moving image. As part of this exhibition, ACMI offered an extensive Public Program. As a visitor I was very impressed by the comprehensive setup and depth of the displays and presentations. It drew the public attention to space and ignited interest in Australia and our place in the industry. Even the seasoned space professional could learn quite a bit!
www.acmi.net.au
- National Space Camp, Melbourne: held at VSSEC, (4-8 October), Mission to Mars and Mission to the Orbiting Space Laboratory were conducted and the Camp included special guest ESA Astronaut Hans Schlegel, who also presented two free public talks.
- October long weekend: Australian Space Research Institute (ASRI) Zuni rocket launches, Woomera: The payloads included University student projects.
<http://www.asri.org.au/launchvehicle/zuni>
- World Space Week events, Nationwide including Hans Schlegel's presentations, excellent events at the Powerhouse Museum as always, CSIRO lectures, Sydney and Ballarat Observatory viewings, Planetarium openings and student activities.
www.worldspaceweek.org

- AIAA Region VII-AU Student Conference student papers conference, Melbourne (24 – 25 November), for final year undergraduate Australian University students who were undertaking an aerospace project for their project or thesis. The American Institute of Aeronautics and Astronautics (AIAA) sponsors student conferences in each AIAA Region as a means to encourage students in aerospace related fields to discuss research, exchange knowledge, and generate interest in the field of aerospace engineering. This year was held at RMIT Bundoora West Campus and three prizes were awarded to first, second and third prize papers.

<https://region7au.aiaastudentconference.org/>

- Cassini Scientist for a Day applications, Nationwide, (close of applications 26 October), Yr 5-12 students were invited to submit a 500 word essay. The Cassini Scientist for a Day Essay Contest is an opportunity for students around the world to learn about the Cassini mission to Saturn and earn the chance to ask the scientists working on the mission about their work. The winning entries will receive a certificate and participate in a web-based videoconference with Cassini scientists. Australian category winners will earn the opportunity for their class to speak to an Australian Astronomer or Astrophysicist! (Yr 5/6 VSSEC Star Search Video conference, Yr 7/8 AAO speaker, Yr 9/10 CSIRO Astronomy and Space Science, Yr 11/12 All expenses paid trip to the Mt Stromlo Observatory and the Advance Instrumentation and Technology Centre at the Australian National University)

<http://www.vssec.vic.edu.au/events/competitions/cassini-scientist-for-a-day-2011/>

- Royal Institution of Australia Public Lecture: Dr Andy Thomas, Adelaide (27 October) Dr Andy Thomas spoke at RiAus, Adelaide, from 1:30pm to 2:30pm on Thursday 27 October 2011. The RiAus offered free seats to South Australian students in Years 8-10 who had an interesting question they wanted to ask Dr Thomas. This event was also streamed live to schools and students watching could submit questions via their teacher.

<http://riaus.org.au/>

- Australian Space Design Competition, Nationwide, (21 November), All current secondary school students had an opportunity to form teams of students, or individuals, to prepare a 40 page response to a “Request for Proposal” (or tender) for a major infrastructure project in space, eg. a space station to house 40,000 people located in the asteroid belt off Mars. In preparing the response, students developed skills and experience in research, technical analysis, design, team work, report writing and project management. The best 8 submissions will be invited to the Australian Final in January 2012 and the winning national team will represent Australia in Texas in July 2012. In July 2011, 13 students representing four different schools travelled to the ISSDC and after two weeks of preparation visiting sites such as Kennedy Space Centre (Florida) and the Smithsonian Institute (Washington D.C.), the Australian team joined over 100 other students from countries such as Uruguay, England, India and Pakistan to compete. Although unsuccessful in taking out the major prize, the team did exceptionally well, gaining a great deal from the experience and this will no doubt continue to boost the high standard of the local competition.

<http://www.vssec.vic.edu.au/events/competitions/australian-space-design-competition/>

- VSSEC-NASA Australian Space Prize (now also encompassing the EA Undergraduate Thesis Prize in Space Engineering), Ames Research Centre, Applications were due 5 Dec and the winner will be announced soon: Offering an Australian university student the opportunity to attend one of three 10 week NASA Academy programs, or participate in a NASA affiliated summer program, and work with a lead scientist or engineer on a current NASA project. The VSSEC-NASA Australian Space Prize is open to all Australian undergraduate students completing their final or honours year at an Australian University in 2011. Applications for 2012 closed on 5 December. Last year's winner Emily Bathgate had an amazing experience and was able to participate in several teleconferences back to Australia from Ames to interact with other students and young professionals.

<http://www.vssec.vic.edu.au/tertiary/vssec-nasa-australian-space-prize/>

INDIA

In 2011, India has progressed rapidly towards its goal of self-reliance in space science and technology. Indian Space Research Organization (ISRO) is extremely focused in developing second-generation lunar mission, Chandrayaan 2, and has ambitious plans for human space flights to Moon. Apart from that various universities and amateur astronomy groups have contributed to various activities in the space science related areas.

ISRO 2011 ACTIVITIES

PSLV-C16 successfully launched RESOURCESAT-2, an advanced remote sensing satellite (built by ISRO), YOUTHSAT, an Indo-Russian satellite for stellar and atmospheric studies and X-SAT, a microsatellite for imaging applications (built by Nanyang Technological University (NTU), Singapore) on 25 April, 2011. Advanced communication satellite, GSAT-8, was successfully launched by Ariane-V launch vehicle of Arianespace from Kourou, French Guiana on 21 May, 2011. PSLV-C17 successfully launched India's communication satellite GSAT-12 on 15 July, 2011. PSLV-C18 successfully launched MEGHA-TROPIQUES satellite on 14 October, 2011, to study the water cycle and energy exchanges in the tropical region which is a joint endeavour of ISRO and the French National Space Agency (CNES). Along with it three co-passenger Satellites (a) JUGNU (India's first Nano Satellite) from IIT, Kanpur (b) SRMSat from SRM University, Chennai and (c) VesselSat-1 from Luxembourg were also launched.

HIGHLIGHTED ACTIVITIES FOR 2011

- 21st UN/IAF Workshop 30 September - 2 October, 2011:
Aafaque Khan, Executive Co-secretary of SGAC, presented a research poster on 'ISRO Telemedicine: Initiatives for health care delivery to remote and rural areas' at the 21st UN/IAF Workshop on "Space for Human and Environmental Security", Cape Town, South Africa. He was supported by the Developing Countries Support Programme to attend the UN/IAF workshop and IAC 2011.
- Chander Devgun, President of Science Popularization: Association of Communicators & Educators (SPACE), got his picture featured in Astronomy Picture of the Day (APOD) on 14 December, 2011.
- SPACE has brought the 'internettelescope' project for the first time in India in collaboration with IASC (International Astronomy Search Collaboration), USA and first pilot project was successfully conducted by observing various deep sky objects and asteroids through 10 inch telescope physically located in Arizona, USA via computer interface.
- In collaboration with IASC, SPACE conducted All-India Asteroid Search Campaign 2011 where two students Vaibhav Sapra and Sharanjeet Singh of Bal Bharati Public School, Delhi discovered Main Belt Asteroid "2011QM14." The asteroid belt will be given

their name.

- SPACE started year long project Paridhi on Autumn Equinox to measure the circumference of the Earth using the Sun shadow with other colleague in Nepal, Pakistan, Sri Lanka, China and Kazakhstan.
- Bangalore Astronomical Society (BAS) started Telescope library for the members to use it non commercially.
- Varahmihir Institute of scientific heritage and research, Ujjain, a Non-Profit Non-Government organization started "Space education and outreach Initiatives" to inspire the students in local community by various outreach events. They have already reached over 2500 students in different schools in the region.
- A GIS and Remote Sensing working group was officially setup in Maulana Azad National Institute of Technology, Bhopal under the Department of Civil Engg. (Geomatics Engineering Division) on "Use of GIS and RS by Students to serve local community".
- Project Aryabhat Quiz (August - September 2011), was organized by Amit Smriti (Bhopal, India). It is an Annual space science and astronomy competition, for young school students of Class 7 to 10 (age 12-15). The winners of this competition get trip to eminent observatories and research and interact with the scientists and researchers in these facilities to prepare small research projects and presentations on topic of their interest.
- Student satellite team 'Parikshit' at the Manipal university is developing a nano satellite with the support of ISRO to be completed in a one and a half year time.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC INDIA

- To organise Asia-Pacific regional meetings to create stronger bonding and relation between SGAC-AP community.
- To collaborate with Community Science Centres (CSCs) across India, which are governed by Department of Space. Such collaboration would create a strong youth network in the country and popularize SGAC vision and goals.
- To publish a book on observational astronomy with the help of professionals and amateurs from India and abroad. The soft copy would be circulated free of charge, with a nominal charge for hard copies.
- To establish continuous contact with ISRO to provide future space leaders across India a platform to communicate their ideas.

JAPAN

This year, SGAC Japan focused on communicating with each member, the participants of past SGCs, and the space enthusiasts of the present and next generation. We try to keep handing down the great experiences in SGAC to the next generation to create something new together.

ACCOMPLISHMENTS IN 2011

SGAC JAPAN NEW YEAR'S PARTY, JANUARY



SGAC Japan New Year's party

A new year's party was held in Tokyo by SGAC Japan members. We are now trying to reunite participants of past SGC as an alumni organisation. We had a great time at the party and this was the first step for reuniting. We each related an amazing experience of past SGC and talked over the future activities of SGAC Japan.

YURI'S NIGHT JAPAN 2011, APRIL

At Sagamihara, ISAS, JAXA
4 April 2011

Yuri's Night Japan 2011 was held in the campus of ISAS, JAXA. Some space specialists were invited to make a presentation and communicate with the participants. This event also offered an opportunity for kids where they experienced acquisition of a signal from a satellite by using the antenna they made by their own.

SPACE DEVELOPMENT FORUM 2011, SEPTEMBER

At University of Tokyo
17-18 September, 2011

The SDF is an event to think about space development from the viewpoints of international relation, business, and law. Some SGAC Japan members participated in this event. The goal is to acquire knowledge outside one's specialities and to further educate students. The social party allowed SGAC Japan members to communicate with other enthusiasts.

SPACE SQUARE SUMMIT 2011, SEPTEMBER

Tsukuba Space Center, JAXA
19-21 September, 2011



Space Square Summit

Some of SGAC Japan members are holding a space camp every year which is called Space Square Summit. About thirty university students from all over Japan who loved space got together this year at Tsukuba Space Center, JAXA. They experienced some programs related to space science. They worked on “The Astronaut Training Program” and had group discussion to think about space development from the international point of view.

PRE-SGC PARTY IN TOKYO, SEPTEMBER

Shibuya, Tokyo
4 September, 2011



Pre-SGC party

The pre-SGC party was held in Tokyo with a great guest from SGAC USA, Stephanie Wan. Four members who were going to attend their first SGC were given some tips for upcoming SGC for Cape Town by Stephanie and other SGAC Japan members.

SGC 2011, CAPE TOWN, SEPTEMBER-OCTOBER

Cape Town, South Africa
29 September - 1 October, 2011



Dinner at SGC 2011, Cape Town

Six space enthusiasts from Japan participated in the SGC 2011. They contributed to their own working group and were stimulated by other participants from all over the world.

I SPACE

At University of Tokyo
Every other Sunday

Some of SGAC Japan members are holding an event called “i space”. This is a place to exchange opinions among a wide range of people about a wide range of study, not only about space. Each member makes a presentation about their specialties in rotation. Space Education, Closed / Controlled Ecological Life Support System, Ultra-small Satellite, Business etc. were the subject presented this year.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC JAPAN

We will keep spreading the word about the great experiences in SGAC and SGC to the space enthusiasts in Japan. An SGC 2011 report meeting will be held in December 10, Tokyo.

MALAYSIA**LANGKAWI INTERNATIONAL MARITIME AND AEROSPACE EXHIBITION**

The Langkawi International Maritime and Aerospace (LIMA) Exhibition 2011 was declared the most successful in its series, gaining itself an entry into the Malaysia Book of Records for the largest aerospace exhibition ever organised in the country. An estimated 120,000 visitors flocked to the biennial event. This was a significant increase over the 71,000 who attended LIMA 2009. Thousands of visitors waited on the tarmac to witness a 15-minute airshow given by thirteen of the RMAF's top pilots. They soared past in a variety of aircrafts including a MiG29, F5E Tiger II, Hawk 108 and F18 Hornet.

100 YEARS OF AERONAUTICS

The year 2011 marked one-hundred years of aviation in Malaysia. The country's first recorded flight was conducted in 1911 by G.P. Fuller, who landed his Antoinette Monoplane at a race course in Jalan Ampang, Kuala Lumpur. Before that, in 1898, a Malayan balloonist had attempted to fly. He lifted off from the top of a government building in Jalan Tuanku Abdul Rahman in Kuala Lumpur, but crashed at the edge of the Selangor Padang Club.

INTERNATIONAL MILESTONES

Due to its excellent aviation safety and security records, Malaysia became an elected member of the ICAO Council in 2007. As a contracting state, Malaysia is committed to the strategic objective of the ICAO to reduce its impact on the environment. The continuous descent approach (CDA) is a flight procedure imposed on all aircrafts arriving at KLIA airport. The CDA requires a smooth descent at a consistent angle, which helps reduce fuel consumption, thus reducing carbon monoxide and greenhouse gas emissions as well as noise. Malaysia was the first in the world to implement such a mandatory procedure. The flight procedures at all airports in Malaysia are being redesigned for the same purpose.

Passenger traffic in all airports throughout the country hit a record high with an average increase of 12% over the previous year. Malaysia also attained a Category I certification in an international aviation safety audit by the FAA.

2011 also marked another great year as Cheah Kean How, who was selected from among ninety other students and young professionals to participate in the 62nd International Astronautical Congress in Cape Town. Currently a PhD candidate at the University of Nottingham – Malaysia Campus, Cheah's research is focused on the development of propulsion systems for micro and nanosatellites. The research covers design, fabrication and testing of a MEMS micropropulsion system that uses ceramic matrix composites as the structural material. His goal is to develop a cost effective yet reliable propulsion system that could further fulfill the enormous potential of nanosatellites. It is also his belief that space activities need not to be expensive to be

Malaysian NPoC Dr. Mohd Harridon Mohamed Suffian, along with two UniKL students (Muhamad Zaim Ismail and Muhammad Zaim M.), received a special award from the Japanese Space Agency (JAXA) and the National Space Agency of Malaysia (ANGKASA) on 15 October, 2011 at Planetarium Negara. The award was given to the team because they will represent Asia in a parabolic flight that is scheduled to take place in Japan in March of 2012. The award was also given in conjunction with the fourth anniversary of ANGKASA. A celebration commemorating this event was held at the ANGKASA headquarters in Putrajaya. To honor the anniversary, the Minister of Science and Technology, along with the help of the Utilisation Office for Asia (KIBO) and JAXA, launched the Malaysian Space Seed and Space Science Education Portal. Mr. Shigeki Kamigaichi of Japan gave ANGKASA Director-General Mustafa Din Subari a Malaysian chili seed sprout that was brought back from the ISS.

NEPAL

Mr. Rijendra Thapa and Mr. Suresh Bhattarai, NPoCs for Nepal remained very active during their first tenure and now continuing their second term which will end in 2013. During 2011, the government of Nepal has decided to launch space science curricula for M.Sc. from 2012 and drafted a 25 year road-map for space science in Nepal. 2011 remains another successful year for SGAC Nepal with more events with substantial impact in the society.

NATIONAL ACCOMPLISHMENTS IN 2011

16TH SOCIETY, ENVIRONMENT & TECHNOLOGY (SET) EXHIBITION 2011

A team of SGAC members Suresh Bhattarai (NPoC), Shekhar Phuyal, GD Pudasaini, Utsav Kandel, was led by Rijendra Thapa, NPoC, and supported by Nepal Astronomical society (NASO) to put a stall entitled "Promoting Space Science Education and Astronomy in Nepal" for SET Exhibition on 19 February, 2011 at St. Xavier's College. About 1500 participants visited the stall.

During the event, visitors learned about the present status of space science and astronomy in Nepal, and academic institutions, governmental and non-governmental organisations contributing in the related field. They also knew the importance of space science technology for the overall development of the nation, and ways how they can contribute in developing the field through formal and informal education by working individually or in groups in collaboration with national and international organisations. About 100 video messages were recorded to be launched in the outer space in a rocket through My Universe Album project. Also, they observed sunspots through an 8 inch Dobsonian Telescope and gained detail information about our life giving star sun (structure, composition, life, birth and death of the sun). Many posters on the physical data related to sun were explained.

50TH ANNIVERSARY OF HUMAN SPACE FLIGHT

Celebration the first human space flight by Russian cosmonaut Yuri Gagarin, an organising committee consisting twenty three members and chaired by Prof. Dr. Prakash Chandra Adhikari, Member Secretary Nepal Academy of Science and Technology (NAST) has been announced today in the meeting at Russian Centre for Science and Culture (RCSC), Kathmandu.

At the meeting, H.E. Sergey Velechkin, Ambassador of Russian Federation in Nepal and Co-chair of the organising committee shared his memorable moments with the legendary cosmonaut Yuri Gagarin. The committee, incorporated with eminent personalities in science and technology in Nepal, will be organizing various events for a whole year 2011. Dr. Rishi Shah, Academician-NAST, President-Nepal Astronomical Society (NASO), has introduced the programme proposal for the year of celebration as a collaborative work between RCSC and NASO. Mr. Suresh Bhattarai, NPoC for Nepal,

was also present during the meeting for the discussion on programs during 2011.

TALK ON ASTRONOMY AND SPACE SCIENCE

At Martin Chautari

1 May, 2011

A programme was organised as a collaboration of Nepal Astronomical Society (NASO) and Martin Chautari (MC) under the research seminar series of MC as a celebration of Global Astronomy Month 2011 (GAM 2011) in Nepal. During the programme, Rishi Shah, Academician-Nepal Academy of Science and Technology (NAST); president-NASO presented a talk on "Promoting Space Science and Astronomy Education in for the Development of Society in Nepal". The talk was followed by short documentaries on Space Science and astronomy. The talk was coordinated by Mr. Suresh Bhattarai, NPoC for Nepal.

GHOUGTTP:INTERACTION PROGRAMME

During EurAstro Mission-2011

30 October, 2011

An interaction programme on "Importance of Astronomy and Space Science for the Development of Our Society" had been organised at Nagarkot, Bhaktapur. GHOU-Nepal Chapter along with Nepal Astronomical Society (NASO) organized the programme during the EurAstro Nepal Mission 2011. NASO executives, teachers including N-PABSON executives, EurAstro mission members and communicators participated in the programme. During the event, Mr. Suresh Bhattarai, founder secretary of NASO, NPoC for Nepal and executive secretary of SGAC presented his views on Space Science and Astronomy in Nepal. Mr. Riway Pokhrel, Subeg Bijukchhen, SGAC members and Rijendra Thapa, NPoC for Nepal and executive members of NASO were the rapporteurs of the event. The meeting was drafted by Nagarkot Resolution which will be available soon.

SGC 2011 AND IAC 2011

Cape Town, South Africa

29 September - 7 October, 2011

Mr. Suresh Bhattarai, NPoC for Nepal and executive secretary for SGAC executive office won SGAC Young Leaders Award 2011 to attend 10th annual Space Generation Congress 2011 (SGC 2011) during 29 September - 1 October, 2011 at Cape Town, South Africa. As in the previous years, Mr. Sudeep Neupane won the IAF Youth Grant Award 2011 under students' category to attend SGC 2011 and International Astronautical Congress 2011 (IAC 2011), an annual congress of International Astronomical Federation (IAF) in Cape Town, South Africa during 3-7 October, 2011.

INTERVIEW ON ASTEROID 2005 YU55 CLOSEST FLYBY

On Avenues TV
8 November, 2011

As the world was waiting for the closest flyby of asteroid 2005 YU55, Mr. Suresh Bhattarai, SGAC executive secretary & NPoC for Nepal was interviewed by Avenues TV, one of the leading news channels in Nepal, on 8 November, 2011. During the interview Mr. Bhattarai had explained about the asteroid and the possible consequences if it fell to the earth.

INTERACTION PROGRAM “DISCOVERING STARS AND PLANETS”

11 November, 2011

Nepal astronomical Society (NASO) and Russian Centre of Science and Culture (RCSC) jointly organised an interaction program to mark 50th anniversary of first man in space: Yuri's Gagarin and friendship initiation of NASO and Moscow Astronomy Club, Russia. During the program Mr. Suresh Bhattarai, SGAC executive secretary and NPoC for Nepal presented a talk on SGAC which was followed by SGAC production video: “From Sputnik, to today, to tomorrow” which remained one of the key attractions of the event. The interaction program was followed by an observation session for the participants.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC NEPAL

- Drafting a mechanism for the annual meeting of all the SGAC members from Nepal every year which is supposed to increase the quality of networking in the country involving creative and innovative youths.
- Liaisons with different existing organisations of Nepal for better involvement of youths in the areas involving space application.
- Celebrating Yuri's Night 2012 and World Space Week with more events in different parts of Nepal.

PAKISTAN

2011 was a significant year for Pakistan's space programme. Major milestones include the newly approved "Space Vision 2040" plan and the launch of communication satellite PakSat-1R. The new vision sees Pakistan as self-reliant in space technologies so more events, conference, and workshops are expected in the coming years.

Apart from Pakistan's national space agency, several local astronomy societies in Pakistan held gatherings and events to promote space awareness. Seminars, symposia, workshops, and courses by these societies had a notable impact.

SGAC provides a unique platform for young astronomers and space enthusiasts throughout the world. The goal for 2012 is to get Pakistan youth involved and give them the opportunity to get exposed to the international community.

INSIGHT - 2011

WORLD SPACE WEEK



World Space Week

The inaugural ceremony of WSW 2011 was held in Karachi at Suparco HQ. This marked an important ceremony as Suparoc celebrated its 50th year anniversary. A seminar was held in which various speakers stressed on the importance of space technology in Pakistan. Later that week, a competition for school children was held. The theme for this contest was '50 Years of Human Spaceflight' - students from 28 different public and private schools participated. A specially designed education bus, equipped with multimedia, visited Sindh – a province of Pakistan. On 5-8 October, the bus went to schools in small towns and villages throughout Sindh to create awareness through lectures, multimedia presentations and videos. The WSW has always been a significant event for creating space awareness in Pakistan and 2011 was no different. Various activities were held in six cities across the nation. Both the Pakistan national agency and

local astronomy societies participated in the WSW. In Karachi, (KaAS) six telescopes of various designs were open to the public for two days.

EVENTS AND CONFERENCES

The following workshops were held by local universities in collaboration with the national space agency (Suparco):

- Integrating Ground Based Methods and Spatial Techniques for Environmental Monitoring – October 2011

This covered various topics such as Impact Assessment, Introduction to Satellite System and their Application, GIS for Water Resources, Snow and Glacier Monitoring and Modeling and Environmental problems of Pakistan and their Solutions

- International Conference on Aerospace Science & Engineering – December 2011

This three day biennial event was organised by the Pakistan Institute of Space Technology. More than 100 national/international participants and delegates attended this conference and shared research. Members from the Pakistan Academy of Science, including its President Professor Attaur Rehman, also attended the conference and gave several keynote lectures. The development of pico-satellite by local universities was emphasised

Significant astronomy related meetings were also held by local societies:

- Star party –‘Al-Biruni’Badhra Summit Rutjuga on 7 May 2011
- 10th Astrofest (Daswaan Falakyati Mela) on 8 October 2011

SOUTH KOREACURRENT STATE OF SPACE AFFAIRS*KARI MPS*

Korea Aerospace Research Institute (KARI) got good result with two Multi-Purpose Satellites (MPSs) named 'Arirang 3' and 'Arirang 5'. 'Arirang 3' passed test phase, developed the structure model and finished construction. Then, the ground integrated system was tested at operation level. 'Arirang 5' also passed an examination and has finished the RFC test. KARI did the Mongolia revision site spot survey for this, and it is in PSR. On 7 July, the head of KARI, Seung-jo Kim announced that KARI officially received the member eligibility, through the signature ceremony of entry to International Charter-the international cooperation programme with space application.

KASI EVENTS

KASI had many events in 2011. One of the events is a special seminar for space environment highlighting precautions against the solar max on 17 March. Several professionals from several countries were invited and explained the effect of solar max on the space environment and how to respond. KASI also held visitation days twice, on 24 January and 2 August. On 9 April, KASI held 'Kkumdori Star Festival' which was the festival that people were able to participate and make small paper models of the astronomical observatory. This event encouraged everyone but especially children to be interested in space. On 14 May, there was the '2011 Korea Star Festival' which was to make astronomy more accessible.



Kkumdori Star Festival

SGAC KOREA ACCOMPLISHMENTS IN 2011*SGC 2011*

Cape Town, South Africa

Two Korean members were delegates to SGC 2011 in Cape Town. Both of them attended the Agency group session.

PRESENTATION AT IAF ASIA-PACIFIC GENERAL MEETING

Yeongju Kim at IAF Asia-Pacific
GM

One of the NPoCs of SGAC Korea, Yeongju Kim, presented about SGAC at IAF Asia-Pacific General Meeting on 13 December. He presented the history, the purpose, the products and current projects of SGAC.



Presentation at IAF Asia-Pacific
GM

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC SOUTH KOREA

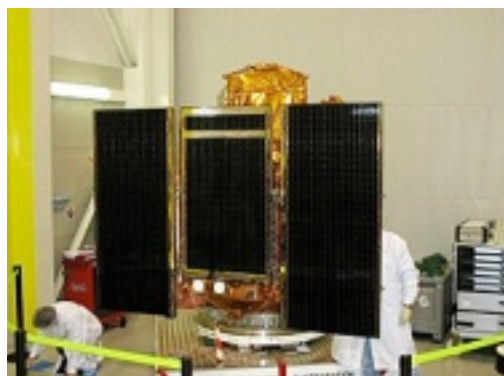
- To increase SGAC membership in Korea, and we will further publicize activities using Facebook and our personal networks among universities.
- This year, we will make an effort that SGAC will be able to give a great contribution to hold Yuri's Night.
- Before the start of applications for SGC 2012, we will host a meeting with all SGAC members in Korea. We will be able to inform them of SGC 2012, in the hopes of encouraging more delegates from Korea to apply.

THAILAND

CURRENT STATE OF SPACE AFFAIRS

Thailand has benefited enormously over the past decades from space-related technologies. Earth observation, one of the main actors, has been increasingly employed to monitor and support the utilisation of natural resources. The Thai Government has deployed a “two-pronged grand strategy” which values both creation and social benefits for space technology development. Today, Geo-Informatics and Space Technology Development Agency (GISTDA) wishes to extend its current goal of being a data provider to “Delivering values from Space” and in order to fulfil this vision, GISTDA is planning the development of Thailand’s second earth observation satellite (THEOS-2) to ensure data continuity as well as to optimise the utilisation of THEOS.

Parallel to the development of THEOS-2, a second mission was to establish the Space Kreation Park (SKP) by 2013, a place where creativity and innovation comes together. GISTDA aims to expand THEOS Ground Control Station at Siracha, Chonburi to be the epicenter of the SKP. This aims to increase the level of competitiveness at both domestic and international level. Collaborating with global players such as Japan Aerospace Exploration Agency (JAXA), and Swedish Space Cooperation (SSC), GISTDA plans to develop specific concepts for future mission that will enable and support SKP’s work in advancing technologies.



Left: THEOS satellite
Right: THEOS receiving station

ACCOMPLISHMENTS IN 2011

There were several events of interest in Thailand this year. GISTDA conducts several yearly Youth Space Camps in remote parts of Thailand in order to provide outreach to under privileged children. Ravit Sachasiri, NPoC Thailand, participated in the 17th Youth Space Camp in Pathum Thani as well as Education, Outreach and Career Guidance program at the Prince of Songkla University, Phuket. This year, GISTDA also hosted a Youth Space Camp across an international border, in LAOS.

Thailand also hosted the 11th Asia-Pacific Regional International Astronomical Union Meeting (APRIAM) meeting in July at Chiangmai, which many leading experts and

SGAC members attended. Side meetings of SGAC members were also held. SGAC had two informal yet very important meetings in Thailand with the agenda of introducing SGAC to the youth of the participants' countries, discussing SGAC projects, SGC 2011, and possible activities on Transit of Venus 2012. The first meeting was held at Chiangmai during the APRIM 2011. Those in attendance include Dr. Rishi Shah, academician of Nepal Academy of Science and Technology (NAST) and president of Nepal Astronomical Society (NASO), Mr. Thilina Heenatigala, project co-coordinator of Astronomers Without Borders (AWB) and founder of Astro Book Drive, Sri Lanka, Ms. Avivah Yamani, Langitselatan, Indonesia, Mr. Riway Pokhrel, executive member of NASO and recipient of IAF Youth Grant 2010, Ms. Mariam Naqdy, member SGAC-Iran, Ms. Behnoosh Maskoob, NPoC for Iran, Mr. Sudeep Neupane, vice president of NASO and IAF Youth Grant recipient for 2011 and Mr. Suresh Bhattarai co-executive secretary of SGAC and secretary of NASO. Discussions ranged from familiarising each person with one another to the difficulties each member faced in playing the role of NPoC.

Other activities include

- Cassini Scientist for a Day Essay Writing competition, where students had the chance to participate in an international competition host by NASA JPL
- TSR-2, Near Space High-Altitude balloon research team composed solely of students

Two members of Thailand's SGAC team also participated in the IAC 2011 in Cape Town as well as the SGC 2011. The Thai members each presented a technical paper in the Earth Observation Symposium at the IAC and contributed in the working groups of SGAC.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC THAILAND

One of the biggest projects in preparation is the GISTDA Youth Ambassador Project. GISTDA is currently allocating budgets to host a scientific competition that selects students to be ambassadors for the organisation. The competitions will all be space technology-related, with the grand prize an educational visit to a leading space agency.

Another project that we carry from last year is the Cassini Scientist for a Day – Thailand Edition. We will work to make the competition better suited for Thai students, and perform more outreach activities including the GISTDA Youth Ambassador program.

Thailand will host the Asia-Pacific Advanced Network (APAN) meeting in February 2012 where one of the main working groups is the "Earth monitoring Workgroup." During this event, a session will be dedicated to use of Thailand's earth observation satellite data, especially in the environment monitoring and disaster monitoring and recovery. The meeting will provide an excellent opportunity for students in Thailand and the Asia-Pacific region to showcase their projects and research. It would also be an opportunity for students to learn about existing projects and work of senior researchers.

Towards the end of the year, Thailand will also host the 33rd Asian Conference on Remote Sensing 2012 (ACRS) in Pattaya. The ACRS is the main event of the year for showcasing projects in Remote Sensing, GIS, GPS and Earth Observation Satellite Technology. Annually, there is a special session for all satellite operators in the Asian region to provide status updates on the satellites and space programmes. Thailand is very proud to be the host country for the fifth time.

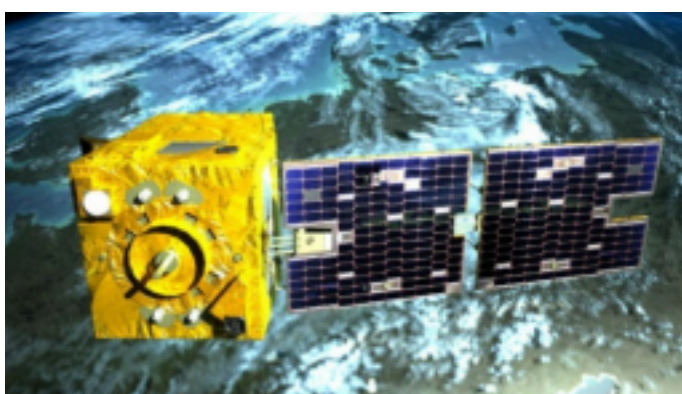
VIETNAMACCOMPLISHMENTS IN 2011

Lockheed Martin Commercial Space Systems signed a contract to build Vietnam's Vinasat 2 telecommunications satellite under a contract signed in May with the Vietnam Post and Telecommunications Group (VNPT). Vinasat 2 will be a Lockheed Martin A2100A satellite bus, as is Vietnam's first telecommunications satellite, Vinasat 1. Vinasat 1 is already 80 percent full and is expected to be operating at nearly full capacity in 2012.



Vinasat

VNREDSat-1 (Vietnam's first Earth observation satellite) project kicked off in Toulouse on 8 March, 2011. During the project, 15 Vietnamese engineers were trained by the Astrium team. The 130 kg satellite will image at 2.5 m in panchromatic mode and 10 m in multi-spectral mode (four bands) with a 17.5 km swath, and will orbit at 600–700 km in a sun synchronous orbit.



VNREDSat-1

The government of Vietnam has announced an agreement to manufacture a new environmental observation satellite for launch in 2016, in cooperation with a consortium of Belgian companies including QinetiQ Space of Kruibeke in East Flanders, and Spacebel of Liège and Hoeilaart. Feasibility studies are currently under way, with a formal contract expected to be signed in March 2012.



VNREDSat-1B

The VNREDSAT-1B satellite will include remote sensing, high-resolution, multispectral and hyper-spectral imaging, to be used for regular and rapid monitoring of the environmental situation in South-East Asia.

United Nations/Vietnam Workshop on Space Technology Applications for Socio-Economic Benefits was held in Hanoi from 10-14 October, 2011. The workshop was a follow-up to the workshop on the same subject held in 2010 in Turkey. Discussions continued on the benefits of space technology, such as maritime and land transportation, urbanization, mapping and surveying, human health, disaster management, environmental monitoring and natural resources management in order to increase the awareness at national, regional and international levels.



UNations/Vietnam Workshop on Space Technology Applications for Socio-Economic Benefits

The team from FSpace laboratory, FPT University has completed the Flight Model of F-1 CubeSat and the satellite has been delivery to the US for final checks. Launch is currently planned in June 2012 marks the first satellite made in Vietnam.



FSpace Laboratory team

SGAC ACTIVITIES IN 2011

YURI'S NIGHT EVENT

SGAC Viet Nam organized a wonderful Yuri's Night in Hanoi with more than 50 attendants, more than twice the number of last year! The event was a success with presentations about Yuri's life and his flight, the important of space research and applications as well as a live demonstration of receiving signal from the NOAA 17 meteorological satellite that passed over Hanoi that night. During the party a small space exhibition room was also opened to the public, displaying space related items such as model rockets, F-1 CubeSat prototype, space-theme stamp collections, meteorites collections, astronaut photos collections, and much more. These displays attracted lots of attention.



Yuri's Night event in Hanoi, April
12st 2011

PONGSATS EXPERIMENT

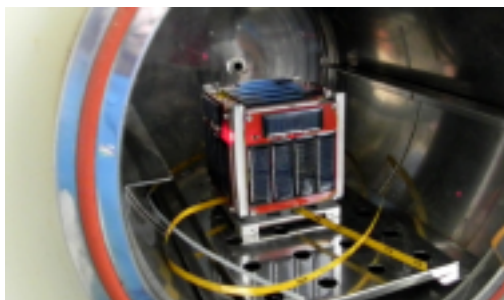
7 May, 2011. Three PongSats – small experiments the size of a table tennis ball each, built by the Vietnamese team at FSpace laboratory was flown to near-space onboard a balloon built by the American JP Aerospace team in Nevada desert. Each PongSat consists of a small electronic circuit powered by a small battery to perform an experiment in near-space environment (maximum altitude was 100,000ft – about 30km).



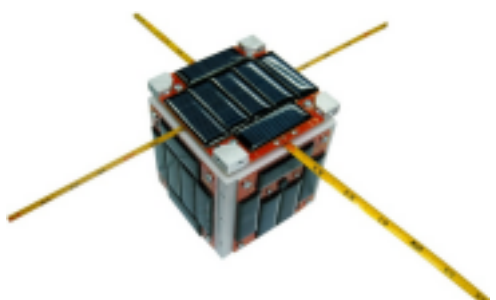
Vietnamese PongSats flew to near space

F-1 CUBESAT PROJECT

Going into the third year, F-1 CubeSat project has finally come to the final stage with development of F-1's Flight Model. The team performed many tests to ensure the satellite meet reliability and launch vehicle requirements. The project continues to attract space enthusiasts and students to learn about aerospace engineering. Each cubesat (or picosatellite) measures 10x10x10 cm, weighs 1kg, F-1 carries a small camera to take photos of the Earth, a magnetic and some temperature sensors to study space environment.



Left: Testing solar cells for F-1 cubesat
Right: F-1's vibration test

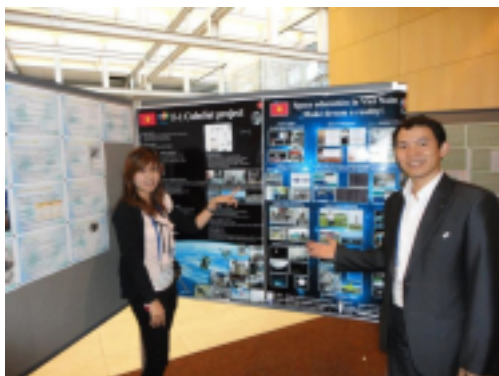


Left: Fine-tuning F-1's antenna
Right: Flight Model of F-1 CubeSat



Left: A young member of F-1 CubeSat team
Right: Send your name to space onboard F-1 CubeSat campaign attracted many participants

SGAC VIETNAM ATTENDING INTERNATIONAL SPACE CONFERENCES



Left: Attending UN/IAF workshop before the IAC
Right: Attending Space Generation Congress in Cape Town, South Africa



Tri, Dinh Quoc from FSpace laboratory and second NPOC for Vietnam attended the 18th APRSAF (Asia Pacific Regional Space Agencies Forum) in Singapore,

OTHER YOUTH-ORIENTED SPACE ACTIVITIES IN VIETNAM IN 2011



Talks with Prof. Trinh Xuan Thuan, an astrophysicist and professor of Astronomy at the University of Virginia



Meeting with man from Mars - SGAC Vietnam and HAS organized a talk with Virgil Pop, commander of the Romania team which participated in a Mars exploration mission simulation at the Mars Desert Research Station in Utah USA.



Star observing party in Hanoi by HAS (Hanoi amateur Astronomy Society) 2011 lunar eclipse photo by HAAC (Hochiminh Amateur Astronomy Club)



4th astronomy camp in Hochiminh city (by HAAC)

WORLD SPACE WEEK

World Space Week 2011 – 50 Years of Human Spaceflight was organized by FSpace laboratory and HAS in Hanoi and in several cities around Viet Nam in October, 2011. Activities included presentations, talks about space topics and water rocket launching competition.



Space quiz and present for the winner



Launching water rocket

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC VIETNAM

With the second NPoC registered in 2011, SGAC Viet Nam aims to expand our network and continue our tradition by organising Yuri's Night and World Space Week events in big cities including Hanoi, Danang and Hochiminh city with the goal of attracting more attendants than 2011.

We would also like to reach out to the growing community of young space professionals in the country by participating exhibitions and organizing talks at local schools and universities on space topics. Closer cooperation and integration with international organisations to promote space activities is also our key strategy. 2011 was the third successful year for SGAC Viet Nam and we look forward to growing on this success in 2012.

EUROPE



REVIEW OF 2011

The European Region was very active in 2011. All major goals set for the year were successfully met. Emphasis was put on consolidating the internal structure of the region by improving communication between members and expanding representation, especially to previously unrepresented countries. New Regional Coordinator Nunzia Paradiso was elected and several National Points of Contact were recruited, thus expanding SGAC's presence in Europe.

This year the exiting Regional Coordinator, Damian M. Bielicki, provided strong support to the newly elected SGAC European representatives and helped them establish stronger local and regional links. During the global celebrations of the 50th Anniversary of Human Spaceflight, he represented SGAC at events in Russia, Poland and the United Kingdom. He also hosted several European teleconferences that were useful for strengthening communication and relations among RCs and NPoCs.

Nunzia Paradiso also represented SGAC in several places, including the IAF 60th Anniversary Celebration in Paris, the Charles Bolden's Conference in Rome and the IAC in Cape Town. In order to start organising the next SGC, she established contact with the Italian Space Agency (ASI), several representatives of the Italian space industry, and the local organising committee of the next IAC in Naples. She helped organise the SGAC/ASI meeting that was held in Cape Town during the IAC.

Europe was very well represented at the 12th Space Generation Congress in Cape Town. Thanks to Juergen Schlutz, an extremely active SGAC NPoC, Germany was the most represented country. There were also delegates from Italy, France, Austria, Norway, Spain, Czech Republic and Belgium.

PLANS FOR 2012

Plans are being made to ensure every country in Europe with an NPoC is represented at the next SGC in Italy. Regional Coordinators are already focusing on fundraising to allow people from the region to attend the congress. They are also trying to create expectations for the congress – a series of events, conferences and debates.

EUROPE NATIONAL REPORTS**AUSTRIA**

The awareness of the SGAC increased this year thanks to many cooperations SGAC Austria was able to contract. This organisations including ÖAW (Austrian Academy of Sciences) for the first time sought the help of the Austrian NPoCs for organising Yuri's Night 2011 and the Cassini Scientist for a Day contest.

Concerning students and young professionals, the situation in Austria also changed dramatically, since the country has to fight the economic crisis and this caused a cut in financial support for many scientific institutions including the famous Erwin Schrödinger International Institute for Mathematical Physics and all universities, making promoting the study of sciences and engineering a real challenge for people like the NPoCs. For now it is somewhat of a fight between scientists wanting to ensure Austria's location for science and politicians fighting for saving money. Austrians increasingly recognise the importance of science and want the politicians to give more money for education.

In 2011, there were many public events concerning the awareness of sciences, engineering and the connection to the political agendas.

ACCOMPLISHMENTS IN 2011***YURI'S NIGHT***

This year was the biggest Yuri's Night ever thanks to the 50 Years of Human Spaceflight celebrations worldwide. It was special, because for the first time there was a programme for the whole day, so this time it was unofficially called "Yuri's Day 2011." The day began around 10 a.m. with presentations and talks by Gerhard Thile (ESA/ESPI Astronaut), Manuel Valls (ESA/ESTAC), Ulrich Köhler (Institut for Planetary Sciences of DLR) and Alexander Soucek (ESA Frascati and Austrian Space Forum). They talked about the importance of spaceflight for intercultural collaboration, the ISS, an important factor in international politics, the importance of landing on the moon and the financial problems the space industry has to fight with. Also some guests of amateur clubs were invited to talk about their current projects, involving art and media projects. Around 5 p.m., an open discussion about "spaceflight as cultural effort" was started. In the evening the movie "Always remember Yuri Gagarin" was shown. After a short break, a virtual journey through the ISS was presented by Norbert Frischauf (Austrian Space Forum). The visitors were also connected to Innsbruck per video conference and were updated about the status of the Mars-simulation of the Austrian Space Forum, which took place in Rio Tinto, Spain. At the end a live TV discussion was shown with Norbert Frischauf, Eigen Reichl, Alexander Souces and Franz Viehböck, the only astronaut Austria ever had. After the official program, the party didn't end before 1 a.m. next morning.

Compared to the other Yuri's Nights in the last years, we could manage to get a bigger

room at the Museumsquartier, which is the eight largest cultural area in the world, and so could invite more guests and people interested. The main organiser was again Maria Pflug-Hofmayr, who organises it for several years now.

LANGE NACHT DER FORSCHUNG 2011 (THE LONG NIGHT OF RESEARCH)

This Night is a very successful effort of the Austrian Ministry of Sciences together with public institutions and also with the help of bigger countrywide clubs and societies. SGAC Austria took part in it with the collaboration of the University Observatory Vienna. Besides showing interesting scientific experiments we also could give the visitors some informations about SGAC. People in general were very interested in it.

This big event took place in all the big cities and with the help of all relevant institutions involved in engineering or natural or humanistic sciences. It seems that this year the people wanted to see more than we could offer them. This is a good sign for the public interest in sciences.

CASSINI SCIENTIST FOR A DAY – CONTEST

Recently a member of the Austrian Academy of Sciences contacted SGAC Austria for asking, how to organise this contest, since it was done by SGAC Austria the last year. Together we worked on a coordination plan to create a jury and how to contact the schools about. Luckily because of the contacts of the Academy, it was more easy to get to the schools through people responsible for school education. They welcomed our ideas. This contest currently is in execution in Europe.

With the latter contests the one thought of Klaus Kornfeld was confirmed. Sometimes it is very difficult to establish contacts and so the smaller planned projects in Austria didn't have a chance to be executed because of the bad answering morale of possible collaborators.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC AUSTRIA

The public awareness increased, but there is still a long way to go, especially concerning new collaborations and the inclusion of politicians.

Despite the national problems, Austria is collaborating with more international partners than ever before and that means a lot of chances for young professionals. Austria is not very famous for groundbreaking science, but we are positive, that this will change in the next years.

Like the last year, one of the highlights will be Yuri's Night 2012 and possibly another Long Night of Research, if the Ministry is willing to organise it nationwide. The Austrian NPoCs were also contacted by many individuals to help to organise SGAC-specific events. This could lead to a bigger SGAC Austria group in the future. For now, we look very positively to the future and hope to mobilise more young people to get involved.

BELGIUM

Belgium is a very blessed country when it comes to space related activities, and has two astronauts. Dirk Frimout embarked on a 10-day mission with the Space Shuttle in 1992. In 2002, Frank De Winne became the second Belgian in space with a 10-day mission to the ISS followed by a 6-month stay on board the ISS in 2009 where he became the first European commander of the Station. As a consequence, there is much interest and awareness from the public, and the government has an active space education policy. Belgium has many space enthusiast organizations along with SGAC Belgium. Because there are many high quality public and private initiatives, events organised by both professional and non-professional organisations, the SGAC Belgium understands its main task is to aid existing organisations with help in promoting events to reach more people.

CURRENT STATE OF SPACE AFFAIRS

- Euro Space Society: founded by Belgium's first astronaut Dirk Frimout, this society brings space closer to all youth. The ESS awards the ODISSEA-Prize to one or more university students each year for their outstanding space related thesis.
<http://www.eurospace.be/default.aspx>
- Space Center: Belgium has its own Space Center, a permanent exposition and indoor theme park for families to visit and learn about all aspects of space. The center also organizes Astronaut, Rocket and Space camps, stargazing events, and other family and youth activities.
<http://www.eurospacecenter.be/hoofd.html>
- Euroavia: This European aerospace student organization has a Belgian branch in Leuven/Brussel. It organizes lectures and offers visits to aerospace companies in and outside Belgium.
<http://leuven.euroavia.eu/>
- Planetaria and observatories: Belgium is very fortunate to have an enormous number of star-observatories that offer activities most weeks, with National Stargazin Days each year in February and March, as well as during the annual Perseid Meteor Shower in August. Most stargazing opportunities, such as last year's lunar-eclipses, are announced in the media several days in advance, which creates a lot of awareness in all layers of society.

ACCOMPLISHMENTS IN 2011

2011 has been one of the most active years for SGAC in Belgium. As the number of SGAC members living in Belgium has been increasing for some time, the SGAC found hosted two of its own events in the second quarter of 2011. , The NPOCs worked along with volunteers to organise the first national Yuri's Night in Brussels to celebrate the 50th year anniversary of Yuri Gagarin's first manned space flight. The event was split up into

two parts with an party aimed at young space enthusiasts on the 12 April in the European quarter of Brussels. Videos relating to Yuri's Night were projected during to event, with to main goal being to foster and develop connections between space enthusiasts in Belgium. The second part of the event was an outreach part to the general public on the 21 April in the Planetarium of Brussels. Frank De Winne, Belgian's second astronaut, gave presentations in Dutch and French, about his last six-month mission in the ISS in 2009. The audience had the opportunity to view his pictures and film clips. During a Q&A section, he graciously answered many of the public's questions, especially those from the children. There was a rocket launch-workshop for children hosted by Technopolis, the Flemish technological-educational museum, and in the main hall several videos were projected and we were able to provide refreshments to everyone thanks to our sponsors. About 300 people attended the events, which attracted media attention.



Left: The Yuri's Night 2011 Beer label
Right: The Yuri's night 2011 Brussels organizing team

Another development during the second quarter of 2011 was the end of Pieter-Jan Van Asbroeck's final term as NPoC of Belgium, and the appointment of space law graduate Sarah Moens as second National Point of Contact for Belgium begin July.

Summer marks the beginning of Space Camps held in Transinne and the Perseids Meteor Shower in the middle of August, which is always an opportunity for astronomy societies to host events. Unfortunately the weather was not that suitable for viewing the meteor shower, so participation and interest were rather limited this year.



Brussels symbol "Manneke Pis" dressed as a cosmonaut for Yuri's Night 2011



Belgian Astronaut Frank De Winne and part of the organizing team a public outreach event

On 20 October the two NPoCs cooperated with the Belgian UN-Youth Society (VVN) to organise a lecture and debate evening in Leuven entitled "The UN and space". Three speakers were invited: Prof. Dr. N. Sybesma, professor of International Law at the University of Brussels (VUB), Mr. E. Duhamel, head of Strategic Security and Partnerships Development Office, European Space Agency and Belgian astronaut Frank De Winne. Under the guidance of moderator Dr. Cedric Ryngaert the speakers each made a short presentation before answering and debating the questions and remarks raised by the audience. The Belgian UN-Youth Society hosted a reception following the presentations. The NPoCs used this event to raise awareness about SGAC in Belgium and upcoming the SGC 2012 in Naples.



Left: The speakers and moderator "UN and Space" debate
Right: An overview of the "UN and Space debate"

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC BELGIUM

As discussed above, the NPoCs are connecting with other SGAC members in Belgium, mostly via social media, which will hopefully lead to closer cooperations between these members, and eventually form a basis for hosting and creating more events in Belgium to expand the network of SGAC in Belgium and create awareness.

Of course the NPoCs continue aiding all space related activities and organisations in Belgium that continue to bring space in all its aspects closer to the public, and continue creating an exhaustive list of resources. The NPoCs will also continue to develop specific tasks as representatives of the premier linking space organisation for youth, as of ambassadors of Belgium in the SGAC community.

BULGARIAACTIVITIES IN BULGARIA IN 2011 – SPACE CHALLENGES PROGRAMME

Currently, Bulgaria is represented by two NPoCs, Raycho Raychev and Rada Popova. The local SGAC team was responsible for hosting Space Challenges 2011 (www.spaceedu.net). The programme included live lectures, workshops and video-conferences with representatives from the global space community – NASA, ESA, UN OOSA, CNES, Stuttgart Technical University, MIT, Singularity University, Oxford University and the University of Copenhagen.

Core topics presented at the lectures included infrared astronomy, human spaceflight, synthetic biology in space, space medicine, small satellites, launching systems, new propulsion concepts, planetary physics, space law and space applications of exponential technologies. There were also presentations about the Galileo and Copernicus programmes currently going on within ESA. International cooperation was emphasised.

Among the lecturers were US astronaut Dr. Story Musgrave and Prof. Hans-Peter Röser of the Institute for Space Systems at the Stuttgart University of Technology. Prof. Röser attended the opening ceremony of the programme and gave two lectures. The programme took place at the most well equipped multimedia hall at Sofia University – “St. Kliment Ohridski”.

OTHER INITIATIVES

Our team initiated an educational development project in cooperation with the European Space Centre in French Guiana. On 12 April, the Space Challenges core team also organised Yuri's Night in Sofia.

The Space Challenges programme team successfully started a space book design project (<http://ultimatespacebook.wordpress.com/>). The project hopes to initiate bids for building space laboratories (ground stations, concurrent design facilities and ground support labs) in Bulgaria for educational purposes.

Currently, we are preparing the launch of Space Challenges 2012 and a TEDx presentation about the importance of space and space applications in modern society.

ESA AND BULGARIA

In June 2011, ESA's Council decided to grant Bulgaria observer status alongside nine other states that are members of the EU but not part of ESA. These countries include Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia.

As an observer, Bulgaria is invited to attend the ESA Council and its subordinate bodies' meetings for those matters of common interest between ESA and the EU. The new

status allows Bulgaria to follow discussions within an ESA context on ESA–EU matters and to learn firsthand about the processes involved in ESA decision-making.

MEDIA SUPPORT

Our initiatives in 2011 were broadly covered in the Bulgarian media. Some of the leading science magazines, including BBC Knowledge, the Bulgarian National Radio and other leading news media published information about the Space Challenges programme and in this way popularised the aims and results from our efforts to raise awareness about the importance of space activities and space technologies in the modern world

CZECH REPUBLIC

ACCOMPLISHMENTS DURING 2011

SPACEMASTER SCIENTIFIC CONFERENCE

The Czech Technical University in Prague (CTU) offers a special master's level programme called SpaceMaster that focused on space science and technology. CTU teachers in charge of this course organised the first SpaceMaster Scientific Conference and invited students from abroad, as well as from CTU, to take part in the conference. The Department of Control Engineering hosted the conference in the electrical engineering building. The conference gave students an opportunity to network with other students and researchers. Many students not directly involved in the conference stopped to look at the posters and to talk to participants, thus this event raised interest about space related topics. For more information about the programme, please visit its webpage at <http://dce.fel.cvut.cz/studium/smconf.aspx>



Opening of the SpaceMaster Scientific Conference.
Credit: Department of control engineering.

BEXUS BANEX PROJECT

A BEXUS (Balloon borne EXperiments for University Students) and BANEX (BALloon Navigation Experiment) team from CTU has been invited to present their project to ESTEC (European Space Research and Technology Centre) in Noordwijk, the Netherlands. If the team is chosen, they will get to fly another experiment on BEXUS.



Logo of the BEXUS BANEX team

SPACE RELATED WIKI

The Department of Control Engineering has created a special space-related wiki page. This wiki is intended to serve as a starting point for those who wish to know more about research that is being conducted at our universities. Space enthusiasts can figure out what kinds of projects are going on and what types of activities are being offered. The wiki is also meant to inspire visitors to start new projects. It is located at <http://rttime.felk.cvut.cz/wiki/index.php/Space>.

SGC 2011 AND IAC 2011 IN CAPE TOWN

Both NPoCs attended the SGC 2011 in Cape Town. Ondrej Bruna was a rapporteur for the Exploration working group and helped contribute to the final report. Pavel Paces delivered a paper regarding classes at CTU and presented a reaction wheel device that was designed, developed and build at CTU



Outreach activities in Cape Town
at IAC 2011

SSTL INTERNSHIP

NPoC Pavel Paces spent three weeks at Surrey Satellite Technology Limited (SSTL) as a trainee. He worked on parts of the ESMO project and on other research activities.



Pavel Paces, local NPoC at SSTL building

SPACE-RELATED LECTURES

Space related lectures were conducted at CTU. These lectures are accessible for students and the general public at: <http://measure.feld.cvut.cz/groups/lis/seminare.php>

YURI'S NIGHT

SGAC Czech Republic managed to organise an event to celebrate the 50th anniversary of human space flight. People from different backgrounds came and enjoyed Czech beer.

LITTLE MOLE, CZECH CARTOON, TRAVELS TO SPACE ON BOARD STS134

The Czech space office was proud to host American astronaut Andrew Feustel and his family. Mr. Feustel took a toy, little Mole, onboard the Space Shuttle. This toy is well known in the Czech Republic and in other European countries. Feustel's visit received a lot of attention. Many kids were interested to hear about the little Mole in space.



Andrew Feustel and US ambassador for Little Mole.
Credit: Czech Space Office



Logo of the Little Mole for travel on STS134
Credit: Czech Space Office.

GOALS FOR 2012

We would like to achieve the following goals:

- Continue working on the ESMO project
- Get support and funding for a CTU CubeSat project
- Promote SGAC
- Participate in SGC 2012 and IAC 2012

CTU wishes to continue working on a European Student Moon Orbiter, which will increase the university's technology readiness level and open the possibility of a student CubeSat mission. CubeSat is a great way to get students excited about technology because it brings many people together and lets them work on space. While working on the CubeSat project, students can learn about SGAC and become members. CubeSat is an easy entry point to the space-related world. By working on CubeSat and ESMO projects, we hope have material to present at IAC 2012.

FRANCE

Despite the world economic crisis, many space events and projects were accomplished in France in 2011. Other interesting space activities, which are in connection with SGAC, are expected in 2012.

ACCOMPLISHMENTS DURING 2011

- The Paris Le Bourget International Aerospace Show is the world's biggest air and space show. In 2011, it brought together aerospace industry professionals from around the world so that people could see the latest technological innovations in space. Displays and major announcements included:
 - o A model of an EADS project called ZEHST, which stands for zero emission high-speed transport. It is both an aircraft and a rocket, and could travel from Paris to Tokyo in 2 hours and 30 minutes instead of 15 hours.
 - o EADS Astrium presented a revolutionary Earth observation satellite project called GO 3S.
 - o An announcement of a contract between Thales Alenia Space and the European Space Agency concerning the development and deployment of a ground segment specifically designed to become Galileo's security centre.



Paris Le Bourget International Aerospace Show 2011

- The 17th Air and Space Forum, organised by the GIFAS, was held at the Paris Le Bourget International Aerospace Show on the 24 - 26 June, 2011 at Espace Métier Formations. This trade fair offered opportunities to find employment, activities and training in the space and aeronautics sectors. Aeronautics and space construction companies, the GIFAS, air transport companies, engineering firms, the military, training institutes and associations were available to the general public, high school pupils

students and young graduates interested in careers guidance, training, internships or jobs.



Espace Métiers-Formations

- The finals of the International Rocketry Challenge, organised in France by the Planète Sciences association and the GIFAS, took place on Friday 24 June, 2011 at the Paris Le Bourget International Aerospace Show 2011. Students built their mini-rockets, which had to carry an uncooked egg that had to remain intact during the landing. French, American and English teams launched their mini-rockets from the exhibition site in order for the judges to determine the winner of this international contest. The US team's rocket won with a height of 227 metres and duration of 43 seconds, whereas the UK team came in second and the French team in third.



Finals of the International Rocketry Challenge

- On 7 June (the 4th suborbital day), participants of the fifth Student Aerospace Challenge presented papers at the Museum of Air and Space in Le Bourget. Papers consisted of student work on suborbital aircraft. More information can be found at: http://www.studentaerospacechallenge.eu/site/index.php?option=com_content&view=category&layout=blog&id=1&Itemid=37&lang=en

- The Space Generation Congress 2011, which was held from 29 September - 1 October in Cape Town, South Africa, attracted 130 university students and young professionals from 43 countries including France. Among the members of the organising team was Executive Director, Ariane Cornell of France. This year no scholarships were provided to France.
- 2011 also marked the 50th anniversary of CNES (the French space agency) and the 10th anniversary of the Master 2 Programme in Space Activities and Telecommunications Law at the University of Paris XI in Sceaux, France.

Other interesting events connected to space took place as well. In France, over the course of 2011, the following occurred:

- “The Millimeter and Submillimeter Sky in the Planck Mission Era”, Paris, France, 10-14 January, 2011, Cité des Sciences
<http://www.planck2011.fr/>
- 15th ISU Annual International Symposium : “The International Space Station: Maximizing the Return from Extended Operations”, 15-17 February, 2011, International Space University, Strasbourg, France
http://www.isunet.edu/index.php?option=com_content&task=blogcategory&id=36&Itemid=146
- ECSL Practitioners’ Forum, 18 March, 2011, ESA Headquarters, Paris: "Manned Spaceflight Safety Issues: Legal & Policy Aspects"
- The International Space University’s Executive MBA – Module A (Core Lectures), 7-19 March, 2011, Central Campus, Strasbourg, France
<http://www.isunet.edu/index.php/emba>
- The International Space University’s Executive Space Course, 4-8 April, 2011, Central Campus, Strasbourg, France
<http://www.isunet.edu/index.php/escsoi/executive-space-course-programs-208>
- The 9th European Space Power Conference ESPC 2011, which was organised by CNES & ESA, at Saint-Raphaël Conference Centre, Saint-Raphaël, Côte d’Azur, France, 6-10 June 2011
- “Yuri Gagarine, a Revolution” exhibition, Palais de la découverte, Paris, France, 5 April - 28 August, 2011
- Euroconsult’s World Satellite Business Week, 12-16 September, 2011, Paris, France
<http://www.satellite-business.com/>

- The AeroSpaceDays, 12 - 13 October, 2011, Paris-Orly Airport, France
<http://www.aerospacedays.com/UK/index.php>
- “In the heart of Space”, an exhibition which took place from 1 December, 2011 to 8 January, 2012, at the Museum of Arts and Trades in Paris
- “The Earth as an Objective: The Satellite Revolution”, an exhibition that is taking place at the Cité des Sciences et de l’Industrie in Paris.

LOOKING AHEAD – PLANS FOR THE FUTURE OF SGAC FRANCE

Among the main goals of France, which are in connection with the aim of SGAC:

- 16th ISU Annual International Symposium: “Sustainability of Space Activities: International Issues and Potential Solutions”, 21 - 23 February, 2012, International Space University, Strasbourg, France
http://www.isunet.edu/index.php?option=com_content&view=category&layout=blog&id=36&Itemid=88889218
- "Edoardo Amaldi," the third mission of the Automated Transfer Vehicle (ATV), is scheduled to fly early in 2012 thanks to the Ariane 5 launcher and the Guiana Space Centre in Kourou
- The next European Centre for Space Law (ECSL) Practitioners' Forum will be held on Friday the 16 March 2012, in Room A of the European Space Agency Headquarters in Paris, France. The theme will be provided soon
http://www.esa.int/SPECIALS/ECSL/SEM0MNGHZTD_0.html.

GERMANY

2011 saw Germany's space sector collect feedback on the 2010 National Space Strategy. The administration is still in the process of formulating an integrated national space programme based on this strategy. Germany remains a major contributor to the European Space Agency and is currently pursuing other bilateral partnerships in addition to its own national space programme. The airplane-based infrared telescope SOFIA is one example of a NASA-DLR partnership. SOFIA visited Germany for the first time in 2011 and allowed the public to get a glimpse of the project in Cologne and Stuttgart. The German radar satellites TerraSAR-X and Tandem-X continue to provide excellent data and are enabling the development of a three-dimensional Earth model of unprecedented accuracy.

In November, the inactive ROSAT satellite safely re-entered the atmosphere above the Indian Ocean. The uncontrolled re-entry required orbital debris and public outreach management.

SGAC ACTIVITIES IN 2011

Germany is currently represented by two National Points of Contact – Oliver Troll and Juergen Schlutz. SGAC continues to develop a strong partnership with the German aerospace centre (DLR). This relationship is mutually beneficial.

SGAC-DLR SIGN MEMORANDUM OF UNDERSTANDING

Juergen has been in close contact with DLR and negotiated a Memorandum of Understanding. This will ensure the continuous support of SGAC activities and allow German participants to attend SGAC events such as the SGC. The MoU was finalised throughout the first months of the year and was signed into action in April of 2011. DLR held a national event at their Oberpfaffenhofen site in July 2011 to celebrate this occasion. SGAC also worked closely with DLR to organise this event. All DLR-sponsored SGC participants were invited.

YURI'S NIGHT 2011 – WORLD SPACE PARTY

Multiple cities throughout Germany celebrated the 50th anniversary of Gagarin's flight into space. Among them were Rostock, Darmstadt, Frankfurt, Stuttgart, Bremen, Munich, Mainz, Hamburg and Cottbus. Through the German website www.yurisnight.de, Juergen coordinated event activities, announcements, provided support and managed material distribution to local organisers. A 5-minute movie trailer on the history of human spaceflight was produced, distributed and shown at virtually all event locations in Germany. Furthermore, Juergen provided Yuri's Night shirts and stickers to events in Brussels (Belgium) and Toulouse (France).



Yuri's Night events across Germany

GERMAN NPOC REPRESENTS SGAC AT DGLR SPACE CONFERENCE

At the local DGLR Space Conference on 30 May 2011 in Stuttgart, Juergen set up a booth to inform local students and expert participants about SGAC and its activities. The booth highlighted Yuri's Night as a featured SGAC project while also showcasing SGAC videos and informational material. Several visitors signed up for the SGAC newsletter and expressed interest in SGC 2011



Juergen Schlutz representing SGAC at the DGLR Space Conference in Stuttgart, Germany

SPACE GENERATION CONGRESS 2011, CAPE TOWN, SOUTH AFRICA

SGC 2011 in Cape Town saw immense participation from Germany with a total of fourteen German participants. Three of the delegates were funded through a partnership with DLR in the form of full-paid scholarships to attend both SGC and IAC. These scholarships were awarded to Pascal Renten, Anja Frey and Philipp Maier. These winners and other German SGC delegates met with Prof. Jan Woerner, head of DLR, during the SGC closing dinner.

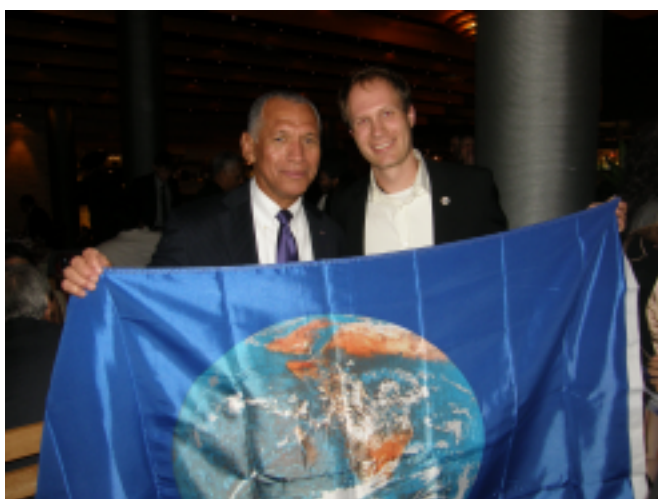


Left: German participants at SGC 2011 in Cape Town meet Prof. Woerner



DLR scholarship winners at SGC/IAC 2011 (from left to right: Christian Blank, Johannes Weppeler, Christine Hill, Andreas Fink) together with NPoC Juergen Schlutz

Juergen also took the opportunity to introduce and promote the “One Flag in Space” initiative, which aims to promote a unique symbol to represent human spaceflight. Blue Marble flags were given to Charles Bolden (current NASA administrator) and Sergei V. Saveliev (Roscosmos), while patches were given to astronauts and cosmonauts.



German NPoC Juergen Schlutz presenting the Blue Marble Flag to the NASA Administrator Charles Bolden at SGC 2011

OTHER YOUTH-ORIENTED SPACE ACTIVITIES IN 2011

- The 60th German Aerospace Conference was held in Bremen on 27 - 29 September. This event included a dedicated session for students and young space professionals (21st DGLR-Nachwuchstagung)
- The successful launch of the REXUS 9/10 rocket flights took place in February 2011. The BEXUS 12/13 balloon flights also took place in October 2011. SGAC-Newsletters have previously reported on the EXPLORE project. Other student experiments from Germany and Europe can be found at www.rexusbexus.net.
- DLR also launched a new hands-on programme for university students called Studentische Experimental-Raketen (STERN). This programme allows a team of students to develop a small telemetry payload that will be carried by another student designed rocket.



REXUS 9/10 Teams in Kiruna during Launch Campaign in Feb. 2011

GREECECURRENT STATE OF SPACE AFFAIRS

Due to the current difficult financial conditions in Greece, the Greek space programme still fights to maintain its momentum. The government appointed Stamatis Krimigis, one of the world's most distinguished space scientists, (Honorary Director of the Space Department of the Applied Physics Laboratory at John Hopkins University, Chief researcher in various NASA space missions (Voyager 1 and 2, Cassini – Huygens etc.), to spearhead Greece's drive for research and technology breakthroughs. During its first months of operation, the National Council for Research and Technology appointed directors to pending positions in various research centers. Most of these positions were pending for more than a year including the National Experts Committee for Space Research and the committee of the Greek delegates to ESA-SPC which used to be in a transitional period, thus inactive. Apart from Professor Krimigis, Professor Nicholaos Spyrou of the Department of Physics at the Aristotle University of Thessaloniki is also another strong supporter of the Greek (and European) involvement to space programmes and activities. Professor Nicholaos Spyrou used to act as the National Delegate of Greece for ESA at the Directory of Human Spaceflight, Microgravity and Exploration for more than six years. As a result he now works in conjunction with the European Space Council and the European Parliament towards the creation of a European Research Infrastructure which will prioritise the research conducted at ISS's Columbus science laboratory.

ACCOMPLISHMENTS IN 2011

After the success of the first International Conference in Space Technologies, organised in Thessaloniki in 2009, the second one took place in Athens on 15 - 17 September, 2011. The general chairman of the event was Prof. Helmut Suess (DLR). The Conference opened with the keynote presentation by Prof. Jim Newman, NASA Astronaut and Professor at Goddard Space Center. Keynote speeches were given also by Prof. Zink (DLR) on microsatellite formations and Dr. Trakas, Chairman of OGC, on international standards for space technology. There were also invited talks on the James Webb Space Telescope by Dr. Greenhouse of the Goddard Space Flight Center and by Dr. Martinez-Galarce of Lockheed Martin on recent advances in optics for solar physics. In addition, there was a special Industry session where OHD, Astrium and 16 Greek Industries working on Space technology. The conference was sponsored by DLR, Astrium, OHD, EVIDITE (Greek Space Industry Association), IEEE, IET Hellas, the Technical University of Athens, the University of Patras and ITI-CERTH.

Another great development for the Greek space community was the fact that ESA's earth observation teaching tool for secondary students and teachers has finally expanded and extended to Greece. For many years, ESA's Eduspace website has been a window to the world, providing an invaluable introduction to Earth observation and its applications. The site has now been updated and improved with new case studies and a Greek version which was welcomed by the Greek school communities. It provides

teachers and students with examples, background information, exercises and ideas on how to introduce Earth observation from space into the classroom.

During 2011, the Greek NPoC also put efforts into enabling Greek students to become active supporters of the Galileo Satellite programme. The Galileo programme is about to launch 27 satellites that will form a constellation orbiting at more than 20.000 km from Earth. A satellite will receive the name of a child from a member state of the European Union which will be chosen from a competition. To enter this competition children had to create a picture that represented space and aeronautics. The winner will be invited to an award ceremony where they will be presented with a certificate and a trophy that represents the satellite that will be named after them. Additionally, the NPoC translated into Greek the Benefits of Sponsoring Space Generation Congress from the official site of the Space Generation Congress.

During May the Greek NPoC participated in a Mars Analogue simulation in Utah, US. The Mars Desert Research Station is the second of four planned simulated Mars habitats (Mars Analogue Research Stations) maintained by the Mars Society. Due to the NPoC's involvement in this project Greek media were very interested and some major US websites too. Questions were asked about the role of National Point of Contact for Space Generation and what Space Generation Advisory Council represents. The interview was on the front page of the biggest Sunday newspaper in Greece, two popular magazines and various websites. Moreover, as mentioned during the european teleconference, the NPoC was invited to participate in the regional TED conference in Athens in 2012 where the opportunity will be used to raise more awareness about SGAC in Greece. At the same time the NPoC worked on a collaborative effort to put together an FP7 project proposal for the first European Mars Analog Station which was presented at the European Mars Society Conference (EMC11) in Switzerland. The consortium includes many important industrial partners and two famous universities, the University College London which the NPoC attends and the Florida Institute of Technology. A Greek research laboratory is also participating. The European Mars Analogue Research Station (Euro-MARS) hopefully will be the third Mars Analogue Research Station based in Italy.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC GREECE

As a result the NPoC has a desire to try to establish an affiliation between SGAC and Mars Society and maybe even find sponsors to have a crew rotation only for SGAC members. Interested parties should contact the NPoC where contact details can be found in the relevant sections of the SGAC website.

Another organisation with which collaboration is sought is X Prize. The NPoC is aware of the huge effort that X Prize puts into educational programs and since Peter Diamantis has a Greek origin a close collaboration with the educational manager of X Prize would be fitting. Discussions have taken place with the SGAC Executive Director and the NPoC is looking forward to the next steps in the process.

SGC 2012 in Napoli is also of high priority. Greece is very close to Italy and large participation from Greek students and young professionals is desirable. The NPoC is currently doing a second MSc at the Space and Climate Physics Department at UCL in London. The NPoC would be happy to provide contacts to organize events at UCL and in various universities in Greece. The NPoC also has access to many high school and elementary schools in Greece. Scholarships for SGC will be a key issue for Greek participation within the current economic situation in Greece.

Additionally, input is welcomed for TEDxAthens to make the TEDxAthens presentation as effective as it can be. TED's success is based on the extraordinary effect of bringing together the world's most remarkable people. The result is unexpected connections, extraordinary insights and powerful inspiration. The NPoC strongly believes that this is a huge opportunity to advertise Space Generation in Greece (and maybe worldwide).



Mars Analog Expedition
More photos at the link below:
<http://www.flickr.com/photos/capoglou/sets/72157626477760322/>

IRELAND

2011 was a successful year for space related research in Ireland. Ireland successfully participated in numerous space related programmes and competitions including the Rexus-Bexus competition run by ESA. A number of presentations took place throughout the year from NASA astronauts and a Russian Cosmonaut. The Irish NPoC continued raising the awareness of the SGAC to schools, colleges within Ireland. Science week, Engineering week and Yuri's Night were some of the highlights. Aside from space, Ireland elected a new president Michael D.Higgins. In addition, Ireland welcomed the visit of Queen Elizabeth and the President of the United States of America, Barrack Obama.

ACCOMPLISHMENTS IN 2011

ESERO IRELAND

Highly anticipated ESERO Ireland homepage was launched in the first quarter. The European Space Education Resource Office (ESERO) Ireland promotes space as a theme to inspire and engage young people in STEM subjects (science, technology, engineering and mathematics). ESERO Ireland makes space themed resources accessible to teachers as a tool to engage their pupils. In addition, a very useful website was created by Discover Science and Engineering which contains relay useful resources for primary school students and teachers. <http://www.primaryscience.ie/>

REXUS/BEXUS

A team of Irish students from Dublin Institute of technology were selected to fly their experiment as part of the Rexus-Bexus competition organised by ESA. Their telescopic probe system for taking experimental measurements was launched on Rexus sounding rocket. The Telescope team were in attendance for the launch in Sweden that took place on the 24 February. It was a tremendous achievement for the Dublin Institute of Technology space research group led by Dr. Marek Rebow.

IRELAND'S FIRST OFFICIAL YURI'S NIGHT CELEBRATION

Dublin City University held an audience of over 1,000 people for a presentation from Russian cosmonaut, Mikhail Kornienko in Dublin. It was the highlight of numerous events organised throughout the country to celebrate Yuri Gagarin's 50th anniversary for the first manned space flight. The event was organised to excite and engage the general public with space, to nurture the next generation of scientists and to generate greater awareness about space exploration. Dublin's tourist hotspot Temple Bar was the leading venue for Ireland's celebration of the 50th anniversary of human spaceflight. Events in Dublin started at the exact moment that Gagarin lifted 50 years ago (7:07am). "The Space Generation" was an event where young space professionals, including Ireland's NPoC for SGAC were available to talk to students and early professionals about study and career opportunities in space Ireland and abroad.

ISU'S SPACE STUDIES PROGRAMME

11 July - 9 September

A small number of Irish participants attended the International Space University's Space Studies Programme' which was held in TU Graz in Austria.

ALPBACH SUMMER SCHOOL 2011

19-28 July

A number of Irish participants attended the Alpbach summer school in Austria in July 2011. It is a ten day intensive course of lectures, workshops and projects which provides in depth teaching on space science and space technology subjects. This year's theme was "Star formation across the universe".

IRELAND'S NPOC BLOG

The objective of the blog which was released in quarter three is to increase the number of active Irish members within the SGAC and enhance the awareness of space and the organisation. The blog is about how space and space studies can play a key role in generating interest for future engineers. To read the blog check out the following link:

<http://energyinnovation.ie/2011/08/space-studies-can-play-a-key-role-in-sparking-the-imagination-of-a-future-engineer/>

SPACE OUTREACH

Ireland's NPoC continued the outreach of space and the SGAC in Ireland throughout 2011. Multiple opportunities were taken to promote space. Patrick presented at numerous events including Electricity Supply Board (ESB) Internationals Future power day programme, third level engineering competitions and also recently presented to a class of female students from different parts of Dublin who are attending a school in Belgium in 2012 to participate in a student space project. ESB International and Engineers Ireland run multiple one-day educational events throughout the year which enables Patrick to present to students from various schools across the country. The SGAC, space education, upcoming space events were all discussed in entertaining presentations which two included a video of the final flight of Atlantis.

SCIENCE WEEK

Science week was held in the last quarter. There were numerous events held throughout the country. Blackrock Observatory at Cork Institute of Technology was the focal point for the celebrations. They held workshops, astronomy nights and lectures from NASA astronauts which was a great treat for aspiring scientists and space enthusiasts.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC IRELAND

Collaborate with all space associated parties in Ireland to build the SGAC Ireland homepage as a focal point for space information and networking in Ireland.

Increase the number of active Irish members within the SGAC.

Promote space and SGAC to second and third level students in Ireland and enlighten them that space related subjects can relate to almost any subject in which they hold an interest. This includes spreading awareness of employment opportunities in the space industry and highlighting scholarships available for space related education for Irish students.

Have an Irish representative at SGAC events for the first time building a relationship and working collectively with members of the SGAC on promoting the peaceful uses of outer space with other.



Ireland's NPoC presentation at the interval of the Sustainable Design and Research Awards competition held at Dublin Institute of Technology

ITALY

In 2011, a new NPoC was appointed for Italy, Matteo Emanuelli from Milan. His goals were to achieve important agreements with Italian space institutions and to increase awareness of SGAC among students through conferences and events.

ACCOMPLISHMENTS IN 2011

- The SGAC delegation was in Italy for space-related conferences.
- The SGAC delegation participated in the Heinlein Contest “Flight into the future” in Moscow at the end of July 2011. It gave the chance to meet young students from Russia, Ukraine, Kazakhstan and India who have been informed about SGAC and opportunities arising from joining our non-profit organisation.
- The SGAC delegation participated in the Heinlein Contest “Flight into the future” in Moscow at the end of July 2011. It gave the chance to meet young students from Russia, Ukraine, Kazakhstan and India who have been informed about SGAC and opportunities arising from joining our non-profit organisation.
- Contacts were also made with an organisation of space enthusiasts.

EUROPEAN STUDENT MOON ORBITER (ESMO)

Italian members of SGAC took part in the European Student Moon Orbiter (ESMO) as a leading team for Attitude and Orbit Control System (AOCS). They worked with the English subcontractor company, Surrey Space Technology Ltd., programming the software in charge of orbital control. For more information:

<http://aocs4esmo.blogspot.com/>.

ESMO project isn't the only satellite in which Italian students are working on as there are a number of ongoing projects in universities involving students, as detailed below:

- ALMASat-1
http://www.almasat.unibo.it/02_projects/almasat-1/almasat1.htm
- Unisat Program
http://www.gaussteam.com/index.php?option=com_content&view=article&id=85:unisat-program&catid=29:unisat&Itemid=145
- E-St@r
<http://areeweb.polito.it/ricerca/E-STAR/#>
- AtmoCube
<http://www2.units.it/atmocube/>

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC ITALY

- 2012 is going to be an important year for SGAC in Italy as the annual SGC will be held in Naples, Italy. It's a great occasion to spread SGAC's active role in the space community and all the efforts of the NPoCs are driven by this.
- A future goal will be to collaboration with the Italian Space Agency as ongoing efforts in space public outreach continue.

NETHERLANDS

In February 2011, the first National Point of Contact (NPoC) for the Netherlands was selected.

ACCOMPLISHMENTS IN 2011

The Netherlands is currently represented by a single NPoC, Lex Meijer. He is also a board member of the Netherlands Space Society (NVR) and an employee of Dutch Space in Leiden. The Netherlands Space Society aims to bring together young space professionals and students by increasing knowledge and interest in space in the broadest sense.

The key events of 2011 are listed below:

YURI'S NIGHT 2011, SPACE EXPO, NOORDWIJK

On 12 April, the fiftieth anniversary of the first human space flight blasted off in the Space Expo. Over 400 people attended this massive event.



Yuri's Night 8th of April 2011 @ the Space Expo

ISU DEBATE, INTERNATIONAL INSTITUTE OF AIR AND SPACE LAW (IIASL), LEIDEN

Former ISU President Mike Simpson visited the Netherlands in April and gave a short speech about the next generation of space leaders. The event included a panel discussion involving several ISU alumni.

SPEED DATE, FACULTY OF AEROSPACE ENGINEERING, DELFT UNIVERSITY OF TECHNOLOGY

In November, a “speed date” event with fifteen students and a similar number of space professionals was successfully held at the DUT. The event was co-organised by the Space Department (RVD) of the VSV 'Leonardo da Vinci' and the NVR.

MOVIE NIGHTS, IIASL, LEIDEN

In 2011 several movie nights were organised by the Netherlands Space Society and the IIASL.

SPACESHIP EARTH

In November, Spaceship Earth began. Spaceship Earth is a project that is being coordinated by the Netherlands Space Office (NSO), Science Center NEMO, ESA and WWF. The project will run until May 2012 and was created to promote the space flight of ESA astronaut André Kuipers. The goal is also to teach the Dutch public about André's mission and highlight the Netherlands' role in space.

OUTLOOK 2012

A major objective for SGAC Netherlands in 2012 is to extend its back-office with a second NPoC. The goal is to broaden SGAC recognition in the Netherlands, foster involvement, create more outreach for SGAC conferences, increase sponsorship, find additional scholarships, participate in more projects, and provide networking opportunities for the next generation of space leaders.

PORTUGAL**STATUS OF THE SPACE SECTOR IN PORTUGAL**

In December 2011, Portugal celebrated its tenth year of participation in the European Space Agency (ESA). A study on returned value to the country's space sector during 2009 was conducted and it was revealed that Portugal got a geographical return (roughly the ratio between the income of projects and the country's contribution) from ESA of around 99%. This means that, for the first time, the Portuguese space community is absorbing the investment that the government is making on ESA. These projects are split between industry (90%) and academia (10%).

The space industry in Portugal has grown considerably. Although its size is not comparable to other larger European space players, the number of companies has increased 7 times over the past ten years and the number of contracts with ESA has grown from 4 (in 2000) to 58 (in 2009), representing a value of more than 17 million euro. There is considerably more people employed in the space sector and the division of labour has grown in software, consulting, services and hardware.

This trend reflects itself in academia as well. Research and development institutions have increased the number of projects being conducted, although not as much as in industry. Universities are opening more vacancies for space related subjects and even creating space-dedicated degrees in different academic colleges.

ACCOMPLISHMENTS IN 2011***SGAC EVENTS AND ACTIVITIES***

SGAC Portugal recruited a new National Point of Contact. The new NPoC is very motivated and attempted to spread several ideas about new activities in 2011. Unfortunately, no public SGAC events or activities were organised in Portugal because this person was absent from the country for most of the year.

JOINT EUROPEAN AND NATIONAL ASTRONOMY MEETING (JENAM) 2010

The Joint European and National Astronomy Meeting is organised each year and hosted by a country in the European Astronomical Society. JENAM 2010 took place in Lisbon. It was the 18th Annual Meeting of the European Astronomical Society and the 20th Annual Portuguese Meeting of Astronomy and Astrophysics.

SEMANA MUNDIAL DO ESPAÇO 2010

World Space Week 2010 was celebrated throughout Portugal. Events ranged from mounting a telescope and star gazing activities, to rocket launching, to conferencing and round table sessions for youngsters.

An aerospace exhibit was organised by APAE (Associação Portuguesa de Aeronáutica e Espaço). It consisted of workshops for engineering students and presentations from industry.

4TH PORTUGUESE SPACE FORUM 2010

With the participation of the Portuguese Ministry of Science, Mariano Gago, and ESA's Director General, Jean-Jacques Dordain, this forum celebrated ten years of Portuguese participation within ESA. A study on impact of this relationship, together with policies for the future, was presented. The event included an open area for companies and research centres. The National Point of Contact for Portugal attended the event.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC PORTUGAL

This will be the first year of actually having resident National Points of Contact in Portugal. Therefore, the range of activities that can be carried out is wider and their effectiveness is also higher. We try to be as realistic as possible. Grow slowly but solid and steady. Below are the first steps that we propose ourselves to take.

CREATE THE INFRASTRUCTURE

The first step is to create a modern and effective way of communicating with all the students and young professionals interested in space. Following the example of SGAC Global, platforms like Facebook or Twitter will be explored to reach as many people in Portugal as possible. This has already been discussed and we are working on the details of synchronizing all platforms.

PRESENT OURSELVES TO THE COMMUNITY

Select a few of the most relevant entities that work on the space sector. From groups organising science events for children to offices monitoring space activities in industry and academia, propose partnerships and discuss how to work together to take the most benefit out of everyone.

BUILD UP THE NETWORK

Get students, enthusiasts, professors and companies together. Maximise the usage of the platforms created. Create regular discussion topics on Facebook. Bring people together around space issues.

MONITOR THE SPACE SECTOR

Attend events, interact with companies and students, be aware of the status, trends and evolution of the space sector in Portugal and report that to SGAC.

ROMANIA

The Romanian Space Agency (ROSA) accomplished several of its missions this year. Most importantly, Romania signed an agreement with the European Space Agency (ESA) for full membership. It also coordinated the development of several international cooperative agreements. ROSA intends to establish an independent research and development programme.

On behalf of the Romanian government, ROSA has solidified cooperative agreements with international organisations such as ESA and the Committee on Space Research (COSPAR), as well as bilateral governmental agreements. Together with the Ministry of Foreign Affairs, ROSA represented Romania in front of the United Nations Committee on the Peaceful Use of Outer Space (COPUOS) and its subcommittees.

NATIONAL ACTIVITIES

- Romania was selected to participate in ESA's Cosmic Vision programme. ROSA and the Romanian Institute for Space Science will assist in the construction of the Euclid space shuttle, which aims at researching the accelerated expansion of the universe. The mission is intending to launch in 2019.
- The GEOSS Summer School took place in July 2011. The main goal of this year's programme was to spread knowledge about the current uses of earth observation data to circumvent crisis situations. Additional topics included image information mining techniques and monitoring processes to help assess and prevent the harmful impact of natural and man-made disasters.
- In September, the International Meteor Conference took place in Sibiu, Romania.
- On 17 November, 2010, leaders of 30 space agencies from around the world gathered in Washington DC, USA for the IAA Heads of Space Agencies Summit. A follow-on event took place during the 62nd International Astronautical Congress held in Capetown, with the participation of ROSA head Marius Ioan Piso.

SGAC ACTIVITIES

- Former Romanian NPoC Virgiliu Pop helped coordinate this year's World Space Week festivities. This year over 100 World Space Week events took place across Romania, making the country an international hot spot for WSW. WSW representatives in Romania developed a blog where photos and even 3D movies from different events can be found. See <http://wswromania.blogspot.com>
- An SGAC NEO event was organised in Bucharest in May.
- Romania was represented at both the Space Generation Congress and the International Aeronautical Congress in 2011.

- Astroclub Bucharest is the meeting point of the passionate Romanian astronomy community. It is comprised predominately of students and young professionals. Oana Sandu, SGAC Public Relations & Communication Lead, is part of this organisation. Activities developed within the Astroclub include debate forums, discussions, contests, summer camps within the country, Galilean Nights, an online astronomy library, astronomy blogs and guides on how to use astronomical instruments. Perhaps the most important task of this organisation is to liaison and network. Astroclub hopes to grow its affiliations and connections with other similar groups around the planet.

GOALS

- A more active involvement in SGAC tasks
- A more effective sponsoring process in order to give as many people as possible the opportunity to attend SGAC events
- A more comprehensive strategy to increase SGAC visibility, in coordination with the other European countries

RUSSIA

The year 2011 has been a Year of Cosmonautics in Russia.

And the most important and exciting space events were devoted to the 50th anniversary of the first human space flight. The celebrations started on 12 April and continued all year long.



Y. Gagarin [1]

“Soyuz TMA-21”, which was called “Gagarin”, was successfully launched from Baikonur in April.

Gagarin’s portrait, his slogan “Poechali!” and a dedication “Гагарин. 50 лет полету Гагарина в космос”, were inscribed on the side of the rocket. [2]

Many people were involved in this celebration.



Soyuz TMA-21 [3]

Many scientific events were organized in Russia this year: conferences, forums and space meetings.

Young people and children had many chances to challenge themselves by participating in different contests – from painting to serious scientific research.

This year also marked the 65th anniversary of one of the most important space companies, S.P. Korolev Rocket and Space Corporation (ENERGIA).

GLONASS was completed and now embedded devices can use this GNS system. At the same time, this year was not easy on the Russian space community. Some problems with launches resulted in major changes within national space agency

ACCOMPLISHMENTS AND EVENTS

First off, we are proud to congratulate the winners of two international contests. A team from the Moscow Aviation University won the Robert Heinlein Flight into the Future Contest that is held only once every two to three years. Dmitry Rachkin and Anna Kapitsa (Solyankina) were also awarded IAF grants. We look forward to seeing great achievements from these individuals.

A very exciting and important educational event took place this year. The Bauman Moscow State Technical University held a seminar called “Korolev’s Readings”, which was devoted to the 50th anniversary of Yuri Gagarin’s space flight. [4]

Also the Moscow House of Social Organisations held “Gagarin’s Readings”. This was a particularly interesting event because it included a number of lectures given by leading Russian space scientists. [5]



Left: Roscosmos booth in Ramenskoye [6]
Right: Mars-500 final crew [9]

Even in summer the Russian space sector was full of activity. The All-Russian Exhibition Centre organised the Ninth All-Russian Youth Science and Technology Exhibition in June. [7]

A science competition was held and the most successful students were selected to join a Moscow Aviation Institute summer course. The course is part of the International Aerospace School and took place in Crimea this year.

In August, the International Aviation and Space Salon took place in Zhukovsky, Ramenskoye [6] and in September there was a special programme organised in Kolomna by the International Satellite Navigation School. [8]

In cooperation with many international space agencies, the Russian Academy of Science and Star-City held a large space forum in October. This was to celebrate the success conclusion of the Mars-500 project. It was incredible work and a very important step towards future missions to Mars.

SGAC ACTIVITY

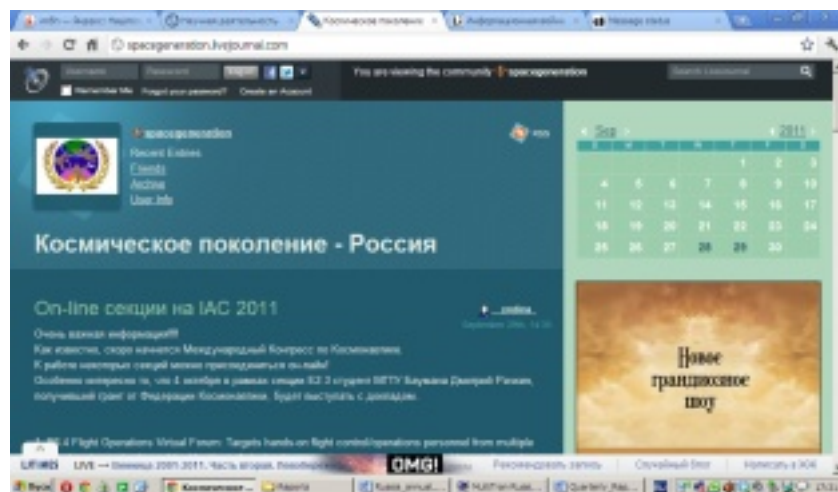
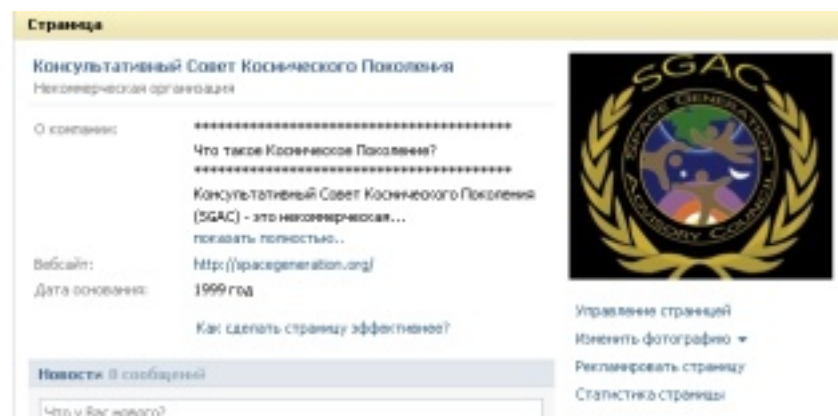
SGAC became an official partner of the Flight to the Future contest. Additional information about this partnership can be found on the SGAC website. Russian SGAC members have also begun promoting events through social network sites such as facebook. NPoCs for Russia organised an SGAC page on the largest Russian speaking social network, www.vkontakte.ru. This page translates SGAC news into Russian and broadcasts information about upcoming events in the space world.

NPoCs for Russia organised Yuri's nights in Moscow. We are also working closely with the United Youth Organisation in Russia to advertise for SGAC and recruit members. One of our new members, Aleksandr Khokhlov, is very energetic and experienced so we hope he can help us. He has created a new Internet community dedicated to Space Generation in Russia: <http://spacegeneration.livejournal.com/>.

We are actively advertising and spreading information about SGAC contests and grant programmes. Positive results have brought a great deal of satisfaction to those involved. We were exceptionally happy to see an official Russian representative at SGC again this year.

LOOKING AHEAD: PLANS FOR THE FUTURE OF SGAC RUSSIA

We plan to continue our dialog with Roscosmos and other space organisations in Russia. More time will be given to work with student communities. Currently we hope to move forward with one of the most popular student newspaper. We are waiting for results from our collaboration with the United Youth Organisation of Russia and are looking forward to expanding SGAC. So far we have seen good feedback from the Youth Forum. That is why we strongly recommend designing templates for posters and brochures. That way, this information can be translated to other languages, as it was at the Youth Forum. Language localisation is very important for promotion.



SGAC Russia web-pages

REFERENCES

- [1] Postcard "Гагарин. 12 апреля 1961 г." (For anniversary of the first human space flight). L.Kotlyarov, 1961.
- [2] <http://ria.ru/science/20110405/361116340.html>
- [3] [<http://www.energia.ru/>
- [4] <http://www.bmstu.ru/news.php?newsid=574>
- [5] http://www.kosmoskva.ru/kos/ru/cosmos/o_17129
- [6] <http://www.airshow.ru/airshow/index.php>
- [7] <http://nttm-expo.ru/>
- [8] <http://er.ru/news/2011/9/19/mezhdunarodnaya-shkola-po-sputnikovoj-navigacii-nachala-rabotu-v-kolomne/>
- [9] http://mars500.imbp.ru/en/index_e.html

SLOVENIACURRENT STATE OF SPACE AFFAIRS

Recently Slovenia signed an European Cooperating State (ECS) agreement with the European Space Agency (ESA), which allows Slovenia to participate in the Plan for European Cooperating States (PECS). Slovenia is also a part of COPUOS. In March 2011, the Slovenian Ministry of Higher Education, Science and Technology published the second public call for project proposals related to the PECS. In May 2011, the aforementioned official, the ESA and the Chamber of Commerce and Industry of Slovenia organised an info-day where representatives of companies, research and educational institutions interested in cooperating with ESA were able to obtain relevant information concerning the second public call for PECS projects, which is now underway.

ACCOMPLISHMENTS IN 2011

SGAC Slovenia was established in mid-January. Since then, it has managed to establish contact with two key players in the Slovenian space science and policy sectors. The first one is a Slovenian research centre called Space-SI. The second one is the Slovenian Ministry of Higher Education, Science and Technology, which is the highest Slovenian authority responsible for cooperation with the ESA.

LOOKING AHEAD

The main goals of SGAC Slovenia are to recruit Slovenian students who are interested in space related areas and motivate them to become active members. Slovenia will also host the Small Satellite Systems and Services (4S) Symposium in June 2012, which is seen as a great chance to raise SGAC awareness in Slovenia.

SPAIN

Abigail Calzada holds the position of National Point of Contact from Spain since February 2011. During these months her main goal was to promote the organisation among students and young professionals in Spain. The increase of the awareness related with Space sector in high schools and universities in another of the goals in which this organisation has worked during this year.

ACCOMPLISHMENTS DURING 2011

One of the main challenges facing this organisation in Spain is the development of a well-structured organisation. At the beginning of the year, there was not any database with the members (Spanish citizens or other nationalities living in Spain temporarily) which complicated the communication with and among the members.

During this year a database was developed counting to date 20 members, 8 of them currently living abroad. Furthermore a survey was distributed to all of our members to know their interests and their level of participation. This questionnaire was really helpful in order to develop a strategy for the next months.

From the survey we obtain that the average SGAC member in Spain is an engineering student that finds in the organisation a way to meet other Spanish with similar interests in Space. They want to keep abreast of news related to space exploration and aerospace engineering. They want this organization promotes more working groups in this country and to receive more information about jobs, conferences and studies.

In October, this organisation started communication with Juan Ureña, National Point of Contact for the 7th Framework Program- Space. Since that, our members receive every week a newsletter from the Centre for the Industrial Technical Development that provides with the latest information related with working group calls, studies and events worldwide.

We also establish communication with Cayetano Santana Gil, President of The Mars Society Spain (TMSE). He is very interested in collaborate with SGAC and to keep our members informed about all the events that they will carry out.

Besides these communications, SGAC Spain form part of the Aeronautical Forum which comprises a large number of space and aeronautic companies and organizations in Spain. This forum represents a useful way to publicize SGAC in our country, especially among young professionals. Every week we receive the latest news related to engineering and space.

From February to May an outreach campaign took place in the North West region of Spain, including several talks in high schools: I.E.S. Aramo and I.E.S. Fleming in the city of Oviedo and I.E.S. Nº 5 in the city of Avilés. Also in April there was a meeting with the Association of Students of Sciences at the University of Oviedo, where the NPoC and a

group of students representatives arrange a future collaboration.

LOOKING AHEAD: PLANS FOR THE FUTURE OF SGAC SPAIN

Currently we are studying the possibility of creating a website for SGAC in Spanish, maybe using a social network, such as Facebook or Twitter, or maybe developing our own blog or website.

During the next months, we will continue our efforts in strengthening our organisational structure with the aim of SGAC Spain becomes a reference for young people interested in space in our country.

Also, we will work together with other organisations such as TMSE and the Laboratory for Space and Microgravity Research (LEEM) to place Spain at the forefront of the global space sector.

SWEDEN

The launch of the small rocket Plutnik in 1961 marked the beginning of the Swedish space age. Since then Sweden has been an important part of the space industry with satellites such as Viking, Freja, Astrid 1 and 2, Odin and the recently launched Prisma.

The Swedish Institute of Space Physics (IRF) is a governmental research institute which conducts research and postgraduate education in atmospheric physics, space physics and space technology. It has participated with instruments on the Swedish satellites Viking, Freja, Astrid 1, Astrid 2, Munin and Prisma, as well as on many international satellite missions.

Another good example of Swedish space activities is Esrange Space Center which was founded in 1966 and offers an exclusive opportunity for atmospheric sciences and micro gravitational research. It is one of the busiest civilian satellite ground stations and over 500 rockets have been launched since the founding. Esrange Space Center is a part of the Swedish Space Corporation, SSC.

Sweden has also been a member of the European Space Agency, ESA, since it was founded in 1972. Sweden even has its own astronaut, Christer Fuglesang who has spent 26 days in space. He has flown two missions to the International Space Station, ISS and with 32 hours of spacewalk he is the most experienced astronaut of ESA.

CURRENT STATE OF SPACE AFFAIRS***REXUS/BEXUS PROGRAMME***

Each year, two REXUS rockets and two BEXUS balloons are launched from Esrange Space Centre in Kiruna, Sweden. Payloads are student experiments from ESA membership countries. This year, a team from the Royal Institute of Technology (KTH) launched their experiment on REXUS 10 and another Swedish team from Luleå University of Technology (LTU) launched an experiment on BEXUS 13. Both the Swedish NPoCs have been part of the student team from LTU.

For more information about the REXUS/BEXUS programme, please visit: <http://www.rexusbexus.net/>

For more information about the student project from LTU, please visit: <http://marvel.rymdteknik.com/>

REMOTE SENSING DAYS

Seminar on Remote sensing in Stockholm, 14 - 15 March.

For more information, please visit: <http://www.snsb.se/en/>

INTERNATIONAL SCIENCE FESTIVAL IN GOTHENBURG

With hundreds of activities and over 100,000 visitors The International Science Festival in Gothenburg is one of Europe's leading popular science events and the only one of its kind in Sweden. Gothenburg, 13 - 15 May.

For more information, please visit: <http://vetenskapsfestivalen.se/english/>

HUMAN SPACEFLIGHT AND EXPLORATION

Summer University with the aim to educate the participants about human spaceflight and exploration from a European perspective, Kiruna, 1 - 19 August.

ASTRONOMY DAYS 2011

During the Astronomers Days, professional and amateur astronomers meet to discuss the latest research results and the future development of astronomy. Lund, 29 September – 1 October.

SPACE FORUM 2011

Conference held at IRF, Kiruna, 22 - 23 November. Representatives from the entire Swedish space sector met to discuss the current situation of space affairs in Sweden. In primary focus was the continued work on "Advantage Space", which is collected information about the space related accomplishments in Sweden and why decision makers should invest in the Swedish space sector.

For more information about "Advantage Space", please visit: <http://rymdagendan.se/>

ACCOMPLISHMENTS IN 2011

Two NPoCs for Sweden, Liselott Strand and Christian Semne Olsson, were selected in December 2010. Both study the Space Engineering Master Programme at LTU.

- The NPoCs have informed all the students of the Space Engineering Programme at LTU and the International Erasmus Mundus Space Master Students, about SGAC through several e-mails and pamphlets spread around Space Campus in Kiruna.
- An oral presentation has been held to 80 eighth graders from northern Sweden who participated in a technology oriented competition, called Teknik8an. The objective of the presentation was to inspire a younger generation towards a career in the space business.
- Contact has been kept with Lars Eliasson, head of the Swedish Space Forum, during the year. He has been very enthusiastic about SGAC and during the Space Forum 2011 in Kiruna, both the NPoCs participated and distributed SGAC trifold pamphlets.

- Liselott Strand participated in the 20th ESA Symposium on European Rocket and Balloon Programmes and Related Research (PAC) in Hyères, France, the 22 - 28 May 2011. At this symposium she met a lot of young people participating in the REXUS/BEXUS programme. Liselott informed the ones that had never heard about SGAC about its opportunities.



View of the student project Marvel from the BEXUS 13 gondola. The little LEGO man belongs to a child from Stockholm, who won a competition to fly the LEGO man into "space"

- Liselott Strand and Christian Semne Olsson have also held a short presentation about SGAC to the new Space Engineering Master students at LTU. Approximately 60 new students, enthusiastic about space exploration, who had never heard about SGAC sat in the audience.



Presentation of SGAC to new Space Engineering students at LTU

- Liselott Strand and Christian Semne Olsson participated in a Summer Space School at the Samara State Aerospace University in Samara, Russia, the 14 - 28 August 2011. Participants of the summer school came from all over Europe, and we tried to inform as many as possible about SGAC.



The participants of the Summer Space School in Samara, Russia, 2011

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC SWEDEN

- Continue to inform about SGAC at university, industry and public level.
- Continue to inspire a younger generation towards a career in the space business.
- Continue the work towards cooperation with Swedish Space Forum.
- Try to organise some sort of space related competition/activity for young people with the objective of creating enthusiasm for space exploration.

MIDDLE EAST



STRATEGIC GOALS IN 2011

The following strategic goals and activities were prepared by the Middle East Regional Coordinator and NPoCs.

- Use of SGAC website capacity, resources and brand
 - o Country pages were updated
 - o NPoC of Iran made a proposal to translate the website into Farsi to attract more people in Iran, which is under discussion with the web team.
- SGC outreach
 - o NPoCs used email, magazines and newspapers to advertise. The regional coordinator was even featured on a television programme.
 - o Promoting started very early and led to an increase in the number of Middle Eastern delegates at the SGC. Delegates came from Iran, Turkey and Saudi Arabia.
- Attract members to SGAC projects
 - o The NPoC of Iran has been focusing on creating a new project called Venus Transit 2012.
 - o The NPoC of Saudi Arabia and the RC helped translate the “First Orbit” movie script into Arabic, Kurdish, and Farsi.
- Strengthen internal communication
 - o Monthly telephone conferences took place.
 - o There was continuous email communication between NPoCs.
- Strengthen the regional presentation
 - o The region has new representatives from Lebanon and Saudi Arabia.

EFFECTIVENESS

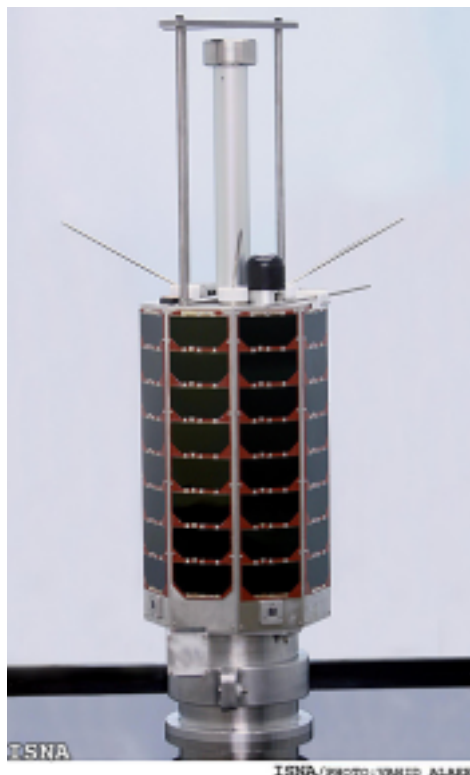
- Increase in members
- Attending the SGC
 - o 5% of SGC delegates were from Middle East region.
- Activities of NPoCs in writing articles
 - o Behnoosh Meskoob, NPoC of Iran wrote an article on SGAC activities and her experience at SGC 2011. This was published in popular science magazines.

- Frequency and number of regional calls between RCs and NPoCs
 - o Unfortunately, calls could not be made every month due to scheduling conflicts and difficulties using Skype. Monthly conferences were carried out until June. Since that time, communication has been through email.

MIDDLE EAST NATIONAL REPORTS

IRAN

Iran has played an important role in development of space science and aerospace engineering in the Middle East. Iran has established several outreach programmes to improve the public's knowledge about space and to help professionals from the industry come together. Many youth groups exist to support public awareness. Organisations like the Iranian Space Agency (ISA) and the Aerospace Research Institute (ARI) make noticeable efforts to advance Iran's space agenda. Iran recently announced it had successfully launched a mouse, turtle and worm farm into space. Iran also launched the Kavoshgar-5 and Rasad-1 satellites.



Rasad Satellite Launch

Rasad, which was built by the nation of Iran, means “observation” in English. It successfully reached orbit with the help of a Safir missile on Wednesday the 15 June. It was the second Iranian satellite to be put into orbit. The first, Omid, was launched in 2009.

Iran's space programme has expressed a goal of putting a man in orbit within ten years, despite the expense and technological challenges involved.

ACCOMPLISHMENTS

At the beginning of the year, Behnoosh Meskoob became a NPoC for Iran.

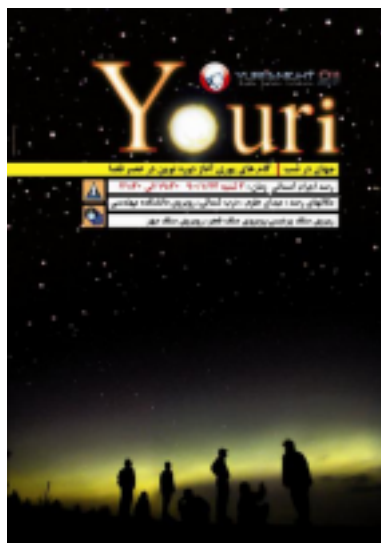


(from right to left: Leila Qasemzadeh- Farnaz Ghadaki- Safura Tanbakuui- Ali Alizadeh- Behnoosh Meskoob [NPoC])

There were five Iranian delegates at SGC 2011 in Cape Town. This year was also the first year of Iranian Space Agency and Aerospace Research Institute had a presence at the IAC.



(from right to left: Leila Qasemzadeh- Farnaz Ghadaki- Safura Tanbakuui- Ali Alizadeh- Behnoosh Meskoob [NPoC])

ACTIVITIES*YURI'S NIGHT IN 2011*

Yuri's Night, Iran

This year's Yuri's Night celebration was held in the following cities by the following groups:

- Yazd - Yazd Amateur astronomy society
- Taft - Taft astronomy society and the Astronomy Group of Taft Azad University
- Mashhad - Amateur astronomy society of Ferdowsi University of Mashhad
- Isfahan - Amateur astronomy society of Isfahan

ASTRONOMY DAY 2011

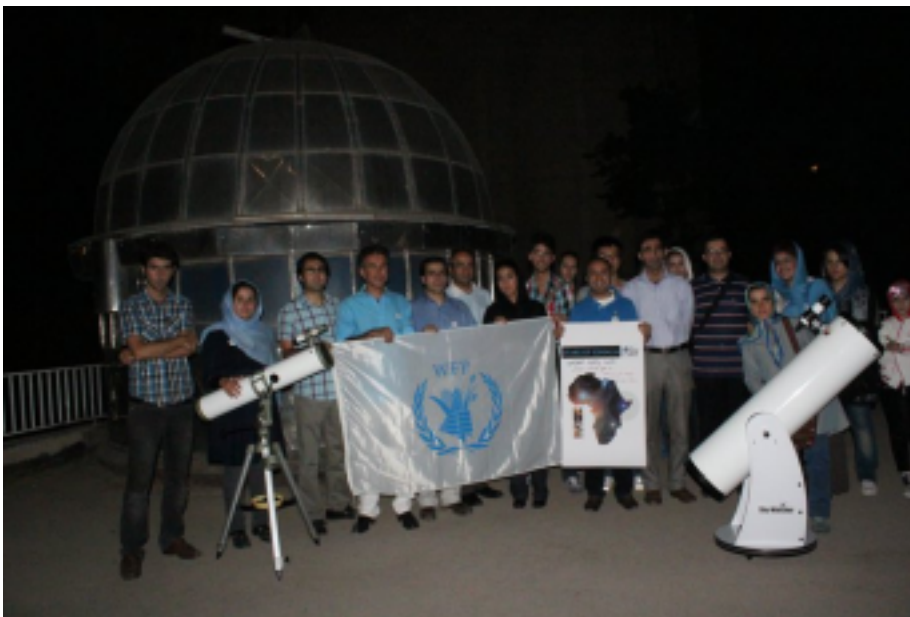
Astronomy day celebrations were held in Arak, Ardabil, Rasht, Isfahan and Tehran on the 12- 13 May. Each city had at least one booth dedicated to space science and technology. Rocket models of Iranian satellites and rockets were distributed to participants.



Astronomy Day 2011

STARS OF SOMALIA

Stars of Somalia is a fundraiser setup to help Somalian children. Several cities throughout Iran (Tehran, Bushehr, Shiraz, Zahedan and Sa'adat Shahr) held this event after sunset on 12 August. The United Nations World Food Programme (WFP) is one of the largest agencies fighting hunger and sending donations to people in need. A "Star Peace" project was held in order to provide an opportunity for Iranian astronomy societies and UN Humanitarian Programmes to collaborate. The donations collected during this stargazing event were presented to WFP as a gift from Iranian astronomers to the Stars of Somalia. Behnoosh Meskoob (NPoC for Iran) took part in this event. She used her telescope to show people the beauty of the night sky and raise awareness about SGC.



Board Members of StarPeace and WFP and SGAC members and NPoC of SGAC (Behnoosh Meskoob)

SCAG SIDE MEETING

An SGAC side meeting took place during and after the 2011 Asian Pacific Regional IAU Meeting (APRIM) in Thailand on 27, 30 and 31 July. This was planned by three NPoCs (Behnoosh Meskoob of Iran, Ravit Sachasiri of Thailand and Suresh Bhattarai of Nepal). Participants included IAF granted members and other SGAC members. Although the discussion was brief, there was an intense amount of energy. Emphasis was given to the upcoming Transit of Venus event that will take place in June 2012. It was decided that SGAC should make additional preparations and integrate more SGAC activities into the Transit of Venus event. Information about SGC was also passed on to participants of the meeting.

There was a conference at Shiraz Payam nur University to celebrate "50 years of Space". At the conference, Shahram Yazdanpanah gave a speech about space stations and astro-chemistry. More than 200 people took part in the convention, which took place on 15 April.



50 Years of Space Conference

The Regional Workshop on the Use of Space Technology for Human Health Improvement took place. This workshop was in cooperation with the United Nations, Iranian Space Agency and APSCO.



Regional Workshop on the Use of Space Technology for Human Health Improvement

A space law conference was held at Tehran University as a part of World Space Week. This was in association with the Iranian Space Agency and faculty of the Law and Politics Department.



Space Law Conference

World Space Week took place in fourteen different locations. Several public events, such as educational tours, competitions, exhibitions, radio and TV shows, workshops and childrens programmes were available during this week. Different universities, institutes and research centres around the country were involved in programme.



World Space Week, Iran

Astronaut Victor Gorbatco was invited to talk about his memories of space. This event was one of the premier programmes of the Aerospace Research Institute.

LOOKING AHEAD

- Continue collaborating with the Aerospace Research Institute
- Make a shared group mailing list with announcements for Iranian members of SGAC
- Invite student groups from universities to join SGAC
- Work on Transit of Venus 2012 integration
- Start spreading knowledge about SGAC projects in Iran
- Make national SGAC website in Persian language

KUWAITMARCH AND APRIL 2011

The secrets of astronomy and cosmos course:

The course was presented by Dr. Saleh Almershed, he discussed the main topics about astronomy and cosmology like the big bang model, star birth and death, the expansion of the cosmos and the atom. There were about six persons who attended the course which was presented on the Palms hotel.

MEETINGS WITH DECISION MAKERS TO ESTABLISH A SPACE PROGRAMME IN KUWAIT:

A meeting between Maraym Aljoan a young space enthusiast and The Amir of Kuwait Alshekh Sabah Alahmad has been held in Kuwait, Maryam offered the idea to his highness and his response was encouraging by directing Maryam to the president of the Kuwait Foundation for the Advancement of Science "KFAS" to offer the idea as a nation project.

The next step depends on the young space enthusiasts in Kuwait, they are willing to offer a proposal for KFAS for establishing a space program in Kuwait.

MAY 2011

A star Party has been organised by the Department of Astronomy and Space Sciences. This star part is considered one of the biggest parties ever organized. About 60 persons attended in Alabraq area. Another Star Party was organised by the Department of Physics at Kuwait University where 20 parsons attended.

JUNE 2011

One of the activities of the Department of Astronomy and Space Science is to motivate students to study astronomy. This year the department has arranged an astronomy course for the Department of physics at the Kuwait institute of applied science. 20 students have attended the course for a period of two months. The course include and introductory level in astronomy, how to use telescopes and some other interactive activities.

The Kuwait Science museum arranged a summer program for the audience to introduce Space and Astronomy for the public Audience. The program includes movies at the planetarium and lectures.

OCTOBER 2011

Several lectures were presented on the topic of the history of space exploration and history of Islamic astronomers. Beside the lectures, a movie about the Space Hubble

Telescope was presented on the planetarium of the Department of Astronomy and Space Science.

DECEMBER 2011

A new joint master programme has been announced by the college of Science at Kuwait University titled as environmental studies. The program includes advanced subjects in Remote Sensing, so that graduates students from the program can complete their PhD in Space Sciences.

SAUDI ARABIA

According to Prince Sultan who flew as a Payload Specialist on STS-51G Discovery, "The Arab world is at a turning point. We have gone through the phases of oil, money and early technological development. The new generation is looking forward to joining the rest of the world by obtaining the most important things in that turnaround: opportunity and education. Together they are the keys that open the door for our future. My space flight is just a crack in that door."

** Prince Sultan Bin Salman Al Saud flew as a Payload Specialist on STS-51G Discovery. He represented the Arab Satellite Communications Organization (ARABSAT) in deploying its satellite, ARABSAT-1B.

ACTIVITIES AND ACCOMPLISHMENTS IN 2011***SAUDI ARABIA SGAC***

In February 2011, Nouf Al-Jaloud, a new NPoC, was appointed for Saudi Arabia. During 2011, SGAC welcomed Saudi Arabia from the Middle East region. Accordingly, Nouf Al-Jaloud received a recognition letter for this achievement from Prince Mohammad Bin Fahd Al-Saud, the governor of the Eastern Province of Saudi Arabia.

YURI'S NIGHT CELEBRATION 2011

Nouf Al-Jaloud, SGAC NPoC for Saudi Arabia, organised the first ladies Yuri's Night party in Saudi Arabia. The event was a success and was supported by Prince Mohammad bin Fahd University and Prince Sultan Centre for Science and Technology (Scitech).

SAUDI ARAMCO CULTURAL SUMMER PROGRAM 2011 (ISPARK)

The Saudi Aramco Cultural Program is a series of events including arts, culture, heritage, education, sports and entertainment. Taking place in Dhahran, the Saudi Aramco and King Abdulaziz Centre for World Culture teamed up with the California ScienCenter to bring the fun science "ispark" hands-on program, making "living in space" a learning experience that kids will never forget.

The "living in space" program leads the kids discover how the laws of physics affect getting into space and introduce to them the International Space Station. Also, they will have the chance to learn about environmental challenges of living in space as well as its effects on the human body. Towards the end of the program, they will have the chance to build their own space stations and present them to their families.

“One Planet” is a documentation of the story behind the first Arab- Moslem astronaut experience in space during June 1985. As a payload specialist on board the Space Shuttle Discovery STS-51-G, Prince Sultan Bin Salman Al-Saud, manifested the launching of an Arab Satellite (Arabsat 1-B), which represented the 22 Arab Countries. While in space, the Saudi astronaut conducted several scientific experiments set by a Saudi scientific team. The book documents this mission and its impact and future on the Arab World. In addition, it covers several aspects of space technology, space exploration including chronological achievements in space flights and many major events occurred through-out the space age.

For more information: www.oneplanetbook.com

SPACE GENERATION CONGRESS 2011

The NPoC for Saudi Arabia was selected to attend the Space Generation Congress 2011 in Cape Town, South Africa. This was the first participation for Saudi Arabia at the SGC.

LOOKING AHEAD: PLANS FOR THE FUTURE OF SGAC SAUDI ARABIA

The goals for 2011 in Saudi Arabia are the following:

- Encourage more members from Saudi Arabia to participate in SGC 2012
- Hold more space related events like Yuri’s Night and World Space Week
- Connect Saudi Arabia space-related universities, institutes, and associations with SGAC.

TURKEY

SGAC EVENTS AND ACTIVITIES

Turkish NPoC H. Tuğça Şener-Şatır was chosen to help the staff of SGC 2011. Tuğça was part of the logistics team and acted as a co-coordinator. Unfortunately, the number of Turkish delegates in attendance at the Cape Town SGC decreased to just one (down from two in 2010). Middle East RC H. Aziz Kayıhan was there to represent Turkey. His efforts have helped communication flow to the Middle East region.

IAC YOUTH PLENARY

Middle East RC H. Aziz Kayıhan was part of the IAC 2011 Youth Plenary. He was chosen to speak and address questions about earth observation. He is the first Turkish person to have the chance to speak on one of these plenary events.

The purpose of the Youth Plenary is to get ideas from young people. Aziz specifically addressed a problem in Turkey regarding earthquakes on the North Anatolian Fault. He mentioned that there is a lack of education about earth observations technology. The full video of IAC 2011: Next Generation Visions for Earth Observation in 21st Century Youth Plenary Event can be found on the following youtube link: <http://youtu.be/HC-tIIAohe4>



IAC Youth Plenary 2011

TÜBİTAK 14TH NATIONAL OBSERVATION NIGHTS

Every year the Scientific and Technological Research Council of Turkey (TÜBİTAK) organises an observation event in TUG, Antalya. This year the festivities took place between 8 – 10 July 2011.

TÜBİTAK also organised the 8th Plenary Session on Earth Observations. It took place in Istanbul on the 16 - 17 November. The meeting, while covering global issues on earth observations, also discussed an environmental project that involves the Black Sea and a recent earthquake that occurred in the Turkish province of Van.



The 8th Plenary Session on the Group of Earth Observations

İLK TELESKOBUM (MY FIRST TELESCOPE)

The “İlk Teleskobum” project which is created and executed by Nurcan Ötügen Gök, to supply every school in Turkey with a telescope has been growing rapidly. The projects tries to reach schools in 81 provinces of Turkey. A video about the project can be found on the following address: http://youtu.be/Uv6wX88D_1w.

NORTH, CENTRAL AMERICA AND THE CARIBBEAN

The North, Central America and Caribbean (NCAC) region has always been active in space activities due to the US space programme, and Canada's involvement with the International Space Station. However, the year 2011 also showed an increased in space activities in Central America and the Caribbean. While connections in the United States and Canada have been relatively

long standing, the efforts of SGAC members in other countries are leading to new relationships. In the Caribbean outreach efforts were strong though connections with the Astronomical Association of Jamaica (AAJ). In Mexico, SGAC has been better integrated into existing collegiate clubs in the country. Meanwhile, in Costa Rica, SGAC is working with the Asociacion Centroamerica de Aeronautica (ACAE) to bring together young students from a variety of backgrounds to work on space related projects.

ACCOMPLISHMENTS IN 2011

There have been increased activities in the NCAC region within SGAC, these include the following.

YURI'S NIGHT 2011

Once again Yuri's Night activities took place in many of the countries within NCAC. In the United States, over 120 Yuri's Night events were available to the public across the country. In Jamaica, the event exists as a hosted Star Party by the AAJ. Meanwhile in other SGAC countries the events are independent, but on an international level continue to work to engage youth.

INTEGRATION AND INTERACTION IN 2011

Integration of SGAC into existing groups is a strong model for success in NCAC countries. In Canada, the Canadian Aeronautics and Space Institute held once again the Canadian Student Summit on Aerospace in September 2011 at Ryerson University. In the United States, many SGAC members attend and present at the National Space Symposium. In Mexico, SGAC worked with SAE's collegiate club "Kukulcán" from the National Polytechnic Institute of Mexico. In Costa Rica, SGAC is working with ACAE to organize a national satellite-design competition for university students. In Jamaica, SGAC operates in conjunction with the AAJ to reach out to youth through an established medium.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC NCAC

The goals for 2011 in the North, Central America and the Caribbean region are the following.

- Increase SGAC regional activity in North, Central America and the Caribbean
- Continue to strengthen relationships with other space outreach organisations across the region
- Further attendance and participation at national and international space conferences
- Foster competitions and events across the region that can prove the benefits of the use of space applications for the benefit of society
- Help to develop space material according to the countries in the region, to do space outreach and foster space education

NORTH, CENTRAL AMERICA AND THE CARIBBEAN NATIONAL REPORTS**CANADA**

Canada continues to be an important player in the international space industry. Since 1962 with Alouette I, Canada's first satellite, and the development of the Canadian Space Agency (CSA) in 1989, Canadians have initiated great innovations. Young professionals and students continue to share their passion and increase their knowledge through conferences across Canada and internationally by studying space-related topics in renowned universities. Canadians can benefit from various activities and forums where all the generations meet to influence the future of Canada in space. This century, marked by globalisation, exploration and environmental concerns, will see a new generation of explorers emerging with a new vision for space and a continuous enthusiasm for inspiring the future of the Canadian space industry.

CANADIAN SPACE AGENCY IN THE NEWS

Canadian astronaut, Dr. Chris Hadfield, will launch aboard a Soyuz spacecraft to reach the ISS November 2012 where he will be the first Canadian Commander on Expedition 34/35 for 6 months. This is a milestone for Canadian space exploration.

Also, Canada's newest astronaut candidates, Dr. David Saint-Jacques and Jeremy Hansen were involved with NASA's Extreme Environment Mission Operations (NEEMO) where Dr. Saint-Jacques was a crew member in the world's only undersea laboratory located 19m below the surface in the Florida Keys. Jeremy Hansen was CAPCOM supporting his Canadian colleague on NEEMO expedition 15.

Finally, Canada is going back to Mars with Curiosity, a Canadian geology instrument that will enable the rover to determine if Mars ever had an environment that once supported life by determining chemical compositions of rocks and soil.

It is evident, that Canada is making bold steps to the future of the Canadian space industry and the international space industry as the endeavours to space exploration continue.

ACCOMPLISHMENTS IN 2011

Canada is currently represented by one National Point of Contact (NPoC), Laura Drudi. She is actively pursuing her goal of pursuing aerospace medicine, as a medical student at McGill University in Montreal, Quebec, Canada. She is the founder and president of the Aerospace Medical Club at McGill University, the Vice President of Program Administration at NASA Academy Alumni Association, the editor in chief of the Aerospace Medical Student and Resident Organization Orbiter Newsletter, and a mentor to many students wishing to pursue a career in the space industry.

*CANADA'S REPRESENTATION AT THE INTERNATIONAL SPACE UNIVERSITY 2011
SPACE STUDIES PROGRAM IN GRAZ, AUSTRIA*

There were twenty Canadians represented at the International Space University's Space Studies Program (SSP) held in the summer of 2011 hosted by the Technical University of Graz in Graz, Austria. Canada was the second largest delegation represented at the SSP. The program was a huge success with many graduates presenting their team projects at the 2011 International Astronautical Congress.



Canadians at the Space Studies Program in Graz, Austria with Canadian ISU founder, Dr. Bob Richards

CANADA'S REPRESENTATION AT THE 2011 INTERNATIONAL ASTRONAUTICAL CONGRESS (IAC)

The Canadian Space Agency (CSA) was once again supporting Canadian students and young professionals through the International Student Educational Board (ISEB) to attend the 2011 International Astronautical Congress (IAC) held in Cape Town, South Africa. Canada's space participation at the international level was evident with the breadth of Canadian students and young professionals represented at the IAC. The CSA hopes to continue their involvement in the ISEB Student Grants supporting young Canadians to attend future IACs.



Some Canadians at the 2011 International Astronautical Congress

2011 SPACE GENERATION CONGRESS IN CAPE TOWN, SOUTH AFRICA

The Space Generation Congress (SGC) was well supported by Canada. Graham Gibbs, representing the Canadian Space Agency as Counsellor of Space Affairs spoke to students and young professionals about the limitless possibilities in the space industry. He further emphasized the importance of the today's students and young professionals in the development of the space industry and the role we will play as leaders.

2011 CANADIAN STUDENT SUMMIT ON AEROSPACE

The Canadian Aeronautics and Space Institute held once again the Canadian Student Summit on Aerospace in September 2011 at Ryerson University. This programme was a once again a tremendous success.

2011 NASA ACADEMY PROGRAM

NASA Academy is a unique summer institute of higher learning whose goal is to help guide potential future leaders of the Space Program by giving them a glimpse of how this interactive system works. One goal of the Academy is to provide insight into all of the elements that make the NASA missions possible, while at the same time assigning the student participants to some of the best researcher groups where they can contribute to ongoing missions. The student participants are selected through a combination of mentor and agency sponsor endorsements, scoring panels, interviews and selection by a national panel. <http://www.asc-csa.gc.ca/eng/youthstudents/177program.asp>

This year, the Canadian Space Agency continued to sponsor Canadians to attend the Goddard Research Centre as part of the CSA student learning grants.

2011 CANADIAN SPACE SUMMIT

The Canadian Space Summit hosted by the Canadian Space Society will be held on 23 - 25 November, where professionals and students from the space industry will meet and network with Canadian leaders who have shaped the scope of today's Canadian space industry.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC CANADA

- **ASTRO 2012:** The Canadian Aeronautics and Space Institute will be holding the ASTRO conference, which is held every two years. It will be held in Quebec city in mid April 2012. Applications for student scholarships and abstract submission are already available on the website: <http://www.casi.ca/conferences.aspx>
- **2012 International Astronautical Congress:** The IAC will be held in October 2012 in Naples, Italy preceded by the 2012 Space Generation Congress. Updates can be followed at the following website: <http://www.iafastro.org/index.html?title=IAC2012>
- **Aerospace Medicine Elective:** The Canadian Space Agency sponsors medical students and residents to attend the aerospace medical elective at Johnson Space Centre and the Introduction to Aerospace Medicine Short Course at the University of Texas Medical Branch (UTMB). Applications can be made through the Canadian Space Agency website: http://www.asc-csa.gc.ca/eng/astronauts/osm_training_elective.asp

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.

ACCOMPLISHMENTS IN 2011

Another exciting new project called Daedalus is being carried out by the “Asociacion Centroamerica de Aeronautica y del Espacio”, ACAE (Aeronautics and Space Central America Association, in Spanish) [3]. This project pursues bringing together young students from a variety of engineering and physics backgrounds to build a platform that would allow the study of atmospheric phenomena perform remote sensing tasks and the development of the technologies necessary to obtain these data. The first step towards the deployment of such platform was the development and testing of an atmospheric balloon as part of the Aether project, under the sponsorship of Ad Astra Co [1],[4]. This balloon allowed the students participating in the project, understand design concepts, launching and recovery techniques for space probes. A video showing the successful launch of this balloon can be accessed at [5].

The NPoC and ACAE are now working together to organize a national satellite-design competition. In this competition, university students will create their own multidisciplinary teams and come up with an entire mission to be launched as a small payload in the format of a Can-Sat. This competition will be the first step towards the development of a larger scale satellite, completely designed, tested and made by Costa Ricans.

These projects intend 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.

OTHER YOUTH-ORIENTED SPACE ACTIVITIES IN 2011*CINESPA*

CINESPA

The “Centro de Investigaciones Espaciales” (Space Research Center) of the Universidad de Costa Rica (UCR, University of Costa Rica) is a center which carries multiple astrophysics projects with two very clear focus: those aimed to understand different astrophysical phenomena and those to reach out to the society. Among the first kind, a space exploration project using a radio astronomical antenna combined with NASA’s X-Ray Polarimeter Explorer satellite can be mentioned. Outreach programmes are ran with the combined effort of UCR’s Planetarium and intend to familiarize the general public with issues such as LEO and GEO satellites and their effects on societies daily life and how to photograph celestial bodies.

For further information: www.cinespa.ucr.ac.cr

ACODEA



ACODEA

ACODEA, Costa Rican Astronomy Association (Asociación Costarricense de Astronomía, in Spanish), is a NGO (Non-Governmental Organization) founded in 1987 dedicated to educate the general public how to use telescopes, their characteristics, how to find celestial bodies in the sky and also how to take pictures of such bodies. It also informs the general public of upcoming eclipses, comet showers, etc. On its website (www.acodea.org), people who are interested in any of these topics are able to find the necessary resources to explore the stars through their forums and other links readily available.

ACODEA also hosts different events such as “Telescopios en la Acera” (Telescopes on the Sidewalk), as shown at the picture on the left. This event consists on teaching Costa Ricans on topics such as stars, our Moon, and other celestial bodies and how to look at them through the use of telescopes.



Telescopios en la Acera
(Telescopes on the Sidewalk)

The Universidad de Costa Rica's (UCR, in Spanish) Planetarium was created in 2004 and opened its doors to the public in middle 2005 and by then it was the only of its kind in Central America.



UCR Planetarium

Its main activities include various shows using its dome; it also hosts short-term lessons and workshops on astronomy, Sun clocks, telescopes and conferences. It also works as an “astronomy outreach center” for students and the public in general; this helps the visitors understand better space topics they may not be familiar with. Further information can be found at www.planetario.ucr.ac.cr

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC COSTA RICA

The NPoC's term is coming to an end, and others are sought to take over this important role.

It is critical to continue the current efforts to organise the Can-Sat competition, thus the current NPoC will work together with his/her successor to accomplish this task. With the help of ACAE, other SGAC members, and SGAC's large network, this project can reach great success.

REFERENCES OF INTEREST

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

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

[3] ACAE, Asociacion Centroamericana de Aeronautica y del Espacio,
<http://acae-ca.org/Default.aspx>

[4] Project Aether, <http://www.projectaether.org/about.html>

[5] Successful aerostatic balloon's launch, <http://tinyurl.com/4odyeau>

JAMAICA

2011 was another active year of astronomy and space outreach events in Jamaica. This was driven by the local efforts of the Astronomical Association of Jamaica (AAJ). The AAJ, Jamaica's premier astronomy group, is the local SGAC liaison for space and science education and outreach. The AAJ took part in several projects, some of which have come to fruition and others which are still progressing.

YURI'S NIGHT

Yuri's Night was successfully introduced in 2008 by SGAC. Since that time it has become an annual party which is hosted every year by the AAJ. The 50th anniversary event was staged at Campion College, despite being preluded by cloudy skies. Two telescopes were set up – one a converted Galileoscope, and the other a 6" Newtonian Reflector. Patrons – who included AAJ members, members of the recently launched Campion College Astro Club, teachers and their friends and colleagues – were treated to a lunar menu as the Moon stood out of the patchy sky. Many were awed by the view of the Moon through a telescope (most seeing it for the first time), particularly as the power of the eyepieces was increased throughout the night. As the resolution of the eyepiece improved, more features of the moon were revealed. Additionally, the patrons – about thirty in total – were treated to a Yuri's Night special greeting from the International Space Station. Hearing from Expedition 27 provided a unique opportunity for those who did not know that humans have a permanently manned outpost several hundred kilometres above our heads. Attendees were then treated to a further look into deep space when Saturn came into view. They were treated to fantastic views of the rings and some of its moons. The event finished earlier than planned as clouds gathered, but was certainly worth reaching out to the people who now have a greater appreciation of what occupies the vast darkness that we see above. The universe has not just the Moon and stars, but planets with rings and moons, the International Space Station and people that actually live in space.

GLOBAL ASTRONOMY MONTH

Just seven days after the Yuri's Night event, the AAJ was involved in another event called Global Astronomy Month. This was co-hosted in the foothills of the Blue Mountains by Mrs. Robin Baston, the Principal of Campion College. This is where Jamaica's first Astro Club was founded. The event was located close to The Cooperage, a small cottage that has had a history of astronomy since it was built. It lies across the road from the once-famous Blue Mountain Inn, which had a reputation for its fine cuisine and great ambience. It has cool mountain breezes, a flowing stream and a natural waterfall. Featured telescopes were an eight-inch Newtonian Reflector and a modified Galileoscope. Guests enjoyed characteristic island refreshments of coconut water, the Jamaican national dish Ackee & Salt Fish, hard dough bread and hot chocolate (Jamaican style straight from the tree). This was mixed with spectacular views of the planet Saturn and its rings. Later, people were treated to sites of some mountains along craters of a crescent Moon, and then on to several star clusters. The Lyrid Meteor



Global Astronomy Month - The Telescopes

Shower, which was due to peak the following day, also put on a good show.

INTERNATIONAL OBSERVE THE MOON NIGHT

During World Space Week the AAJ participated in the International Observe the Moon Night (InOMN), which took place on 8 October. InOMN is a coordination of scientists, educators, Moon enthusiasts from government, non-profit organisations and businesses from across the globe. InOMN is an outreach event aimed at sparking a renewed



Global Astronomy Month - Guests Young and Forever Young

interest in our largest and crucial natural satellite. The AAJ observations can be found on Flickr by searching for “Campion Jamaica”.

SGC 2011

Also, in 2011 the NPoC for Jamaica, Marc Cornwall obtained an SGAC Young Leader Scholarship to attend the 2011 Space Generation Congress in Cape Town, South Africa. Marc was a participant in the Exploration Working Groups at SGC the Output of which can be found in the full report of the 10th SGC. Attending SGC allowed the forging of new connections and the strengthening of existing ones with current and future leaders in the global space arena.

ACKNOWLEDGEMENTS AND OUTLOOK

The NPoC for Jamaica would like to acknowledge the valued partnership forged with the AAJ through which the goals of space outreach and education are being achieved in Jamaica. 2012 promises to be one of growth both for the SGAC-AAJ partnership and other outreach initiatives. The expansion of the Astro Club will ensure that many more students, teachers and laymen are introduced to the wonders of space and the science that allows us to understand it.

MEXICO

SGAC Mexico NPoC Jorge Vega Rodríguez attended the Mexican Space Agency's "Human Resources Training" consultancy forum that was held in Puerto Vallarta. Puerto Vallarta is an important port on Mexico's Pacific shore and is vital to the region's industrial development. In this forum, Jorge presented to an audience consisting of important members from academia and the Mexican aerospace industry. He discussed the structure and goals of the Space Generation Advisory Council and how SGAC can be useful to form a strong leadership attitude that is focused on youth oriented space affairs.



Jorge Vega, NPoC for Mexico on the Mexican Space Agency forum of Puerto Vallarta

A few months later, SGAC Mexico was strengthened when Carmen Felix, Co-NPoC, joined the council. Carmen is a young space professional who was working as a NASA internship prior to joining SGAC, and who also participated on the consultancy forum organised by the Mexican Space Agency.

CURRENT STATE OF SPACE AFFAIRS

The Mexican Space Agency has been working with the Mexican Congress to determine a national agenda to promote the country's science and technology development. Mexico finally has a voice on the world's space stage through its first general director of the Mexican Space Agency, PhD Francisco Javier Mendieta Jiménez. SGAC Mexico is looking forward to future work with the Mexican Space Agency.



Left: Javier Mendieta, AEM's first director
Right: Mexican Space Agency Government Board

SGAC IN MEXICO

In addition to the consultancy forum, both Mexican NPoCs attended an event organised by the Federal Commission on Electricity (AEM) at the Museum of Technology in Mexico City. Important guests like Rodolfo Neri Vela, the first Mexican astronaut, also attended the event.



Carmen Felix, NPoC for Mexico with Carlos Salicrup, deputy government board member and Rodolfo Neri Vela, first Mexican astronaut



Alejandro Farah, researcher at UNAM Astronomy Institute and Jorge Vega, NPoC for Mexico

This year SGAC Mexico worked to integrate with existing collegiate clubs to develop prototypes and working groups. For example, SGAC worked with SAE's collegiate club "Kukulcán" from the National Polytechnic Institute of Mexico. This team of college students designed and built a RC controlled airplane to participate in SAE's Aero Design Competition held in Brazil. Without funding and with limited materials and tools, they came in 27th place among over seventy other teams, most of which were Brazilian engineering students.



Mexican Collegiate Club "Kukulcán" at SAE Aero Design Brazil 2011

Closing the year, SGAC's Mexican NPoC, Jorge, attended the 4th anniversary of the founding of the Aeronautical University in Queretaro. The collegiate club "Kukulcán" was invited to give a speech about their work with unmanned aerial vehicles and to serve as judges on an aeromodelling contest the college organised.



Mexican Collegiate Club "Kukulcán" at the 4th anniversary event on the foundation of the UNAQ

LOOKING AHEAD

Having accomplished its 2011 goals, SGAC Mexico hopes to develop a series of activities, symposiums, conferences and competitions to increase space application awareness amongst Mexican youth. To achieve this goal, SGAC Mexico plans to work side by side with institutions such as the IPN, the UNAM Astronomy Institute, the UAM, the Mexican Space Agency and other major academic entities.

UNITED STATES OF AMERICA

The United States plays a major role in the international space arena. While the country's human space flight capabilities are in transition, with the end of the Space Shuttle program with the successful landing of Atlantis at the Kennedy Space Center on 21 July, 2011, other aspects of the U.S. space program are still going strong. In September 2011, the Space Launch System, a newly planned heavy-launch vehicle was announced. The United States continues to be a strong participator onboard the International Space Station, and has been co-ordinating with Russia to get Americans to the station. In 2011, the United States was part of an international milestone as from 26 February 2011 to 7 March 2011, four of the governmental partners (United States, ESA, Japan and Russia) had their spacecraft (NASA Shuttle, ATV, HTV, Progress and Soyuz) docked at the ISS, the only time this has happened to date. A highlight of civil science activities occurred on 26 November 2011, as NASA's Mars Science Laboratory successfully launched the "Curiosity" rover which is scheduled to land on the surface of Mars in August 2012, whereupon it search for evidence of past or present life on Mars.

The United States continues to lead the world in commercial space activities, and the framework of future commercial space transportation continues to evolve among NASA, legislators, and commercial companies. NASA's Flight Opportunities Program is a proactive initiative to support a market for reusable commercial suborbital vehicles. Companies like Virgin Galactic, XCOR, and Space Adventures all announced additional deposits for future human flights on their development vehicles. SpaceX's Dragon capsule orbited the Earth and returned safely in December of 2011, the first privately developed vehicle to do so. Additional commercial ISS demonstration flights are preparing for launch.

ACCOMPLISHMENTS IN 2011

The United States is currently represented by two NPOCs, Paul Guthrie and Alan Steinberg. Alan is currently working on his Ph.D. in political science, and has an interest in space policy which was manifested in his recently published article exploring government responsiveness to public opinion on NASA funding. Paul is a senior analyst at Washington, DC-area consulting firm The Tauri Group, and is an internationally known and well-published expert in both emerging commercial space markets, and space technology investment management. He will receive his second Masters degree, in Applied Economics, in the spring.

SGAC YOUNG PROFESSIONAL EVENT IN THE US

Senior SGAC leadership has been in discussions for a large SGAC young professional event in collaboration with one of the major US space conferences. The details of the event will be announced in the spring. SGAC will provide programming support and promotion to, in collaboration with conference partners, help establish an authorities young professional event in the country. The intention is to strengthen connection between young and senior US professionals, and provide opportunities for international

students to gain experience, contact, and reference points within the United States space industry.

YURI'S NIGHT 2011 – WORLD SPACE PARTY

Over 120 Yuri's Night events took place across the United States in 2011. Both of the NPoCs used the Yuri's Night events to promote space at their current cities. The different Yuri's Night activities were coordinated through the international Yuri's Night website and in direct interaction with the local organisers. Additionally, Alan Steinberg currently serves on the Yuri's Night Global Executive Team.

YURI'S NIGHT 2011, HOUSTON

In 2011, the city of Houston held a SpaceFest, which was a week-long event from 10 - 17 April celebrating Houston's space heritage and exciting future. The events included: SpaceFest Education Day at Discovery Green in Downtown Houston which was free and open to the public. The 18th IAA Humans in Space Symposium, which was a professional event took place the same week, The Houston Museum of Natural Science hosted a free Space Tweetup, Dr. Neil deGrasse Tyson provided a free public lecture at the University of Houston, SpaceFest happy hours were scheduled at two different locations around town, a 5K Fun Run took place at Challenger 7 Memorial Park, and the Final celebration was the Yuri's Night party at the House of Blues with a live band, interactive space exhibits, and a screening of the movie *Orphans of Apollo* with director Michael Potter.



Images from Houston Space Fest & Yuri's Night
Houston

SPACE GENERATION CONGRESS 2011, SOUTH AFRICA

SGC 2011 was again well supported by the United States where many American participants attended the SGC in South Africa. US student members presented three of the four working group results to a distinguished audience that included NASA Administrator Charlie Bolden.



Upper: Ashley Bander, Stanford University. Middle: Paul Guthrie, Charlie Bolden,
Lower: Robert Thomas, Randolph-Macon College

The 2011 IAC, included papers from a large number of US based young professionals, including Stephanie Wan, Ariane Cornell, Paul Guthrie, Gregor Hanuschak, Amanda Stiles, Jason Hay, Tiffany Chow, David Vaccaro, Nikki Herriman, Nicole Jordan, and Brad Cheetam.

OTHER SPACE ACTIVITIES IN 2011 FOR YOUNG ADULTS

27TH NATIONAL SPACE SYMPOSIUM

SGAC leadership came from around the world 11-14 April to represent the organisation at one of the world's largest annual space conferences, the National Space Symposium hosted by SGAC partner, the Space Foundation. Current leaders in attendance included, Chair, Michael Brett (Australia), Executive Director, Ariane Cornell (France/USA), Executive Secretary, Jeff Boulware (USA), South American Regional Coordinator, Nicole Jordan (Colombia), Nigerian National Point of Contact, Etim Offiong (Nigeria), and US National Point of Contact, Paul Guthrie (USA). SGAC Advisory Board members at the Symposium included Lance Bush, Agnieszka Lukaszczyk, and Clay

Mowry. Also in attendance were SGAC members Brad Cheetham (USA) and Iulia Jivanescu (Romania), who both served as Master Moderators during two of the four days of programming.

In conjunction with advertising SGAC, fostering new partnerships, and recruiting new members, SGAC attendees at the National Space Symposium supported the Space Foundation's New Generation programming. This year's Symposium offered a continued focus on the Space Foundation's New Generation Initiative. In addition to the various speakers and panels of the conference, special side events were held which were aimed directly at the up and coming generation of the space sector in attendance. The Space Generation Advisory Council was proud to be an official supporter of the National Space Symposium as well as these New Generation Initiative events. SGAC looks forward to developing this collaboration for years to come for the benefit of the international space sector.

HONORS AND CONFERENCE PARTICIPANTS

Stephanie Wan (USA), SGAC's project lead for the Youth for Global Navigation Satellite Systems (YGNSS) project and Regional Coordinator (RC) for activities in the North, Central American and Caribbean region, published her article "Global navigation satellite system: GNSS Interference – The debate rages on," in the Geospatial World magazine . She subsequently addressed the topic at SGC 2011 in Cape Town.

Steven Pifko (USA) was one of the winners of the 2nd SGAC-IAASS Space Safety Paper Competition. He is currently at Stanford University and his paper is titled, "A Probabilistic Approach to Modeling and Predicting the Risk of Meteoroid Impact to Satellites in Earth Orbit". He presented his paper at the 5th International IAASS Space Safety Conference in Versailles-Paris, France (17-19 October, 2011).

The United States welcomes young professional, and SGAC stalwart Nicole Jordan, originally of Colombia, as a permanent resident.

LOOKING AHEAD – THE PLAN FOR THE FUTURE OF SGAC IN THE UNITED STATES

While there are many organizations that exist in the United States that promote space interest, SGAC is looking to continue to expand its impact and presence in the country. Some specific goals include:

- Encourage more members from the United States to participate in SGC 2012
- Hold more space related events like Yuri's Night, World Space Week, etc.
- Work to better report on activities to the SGAC membership



SOUTH AMERICA

The South American Region has always been a very active and enthusiastic group within the Space Generation Advisory Council. In recent years, the visionaries and leaders of this region have created a strong foundation for the core values and milestones of the group. Recently however, the region has experienced many changes, and it is therefore necessary to strengthen and redefine these goals and milestones. While there is a lot of work to be done within the region, we have narrowed our action plan to three areas of focus:

- Recruit new NPoCs and general members
- Implement the use of a Latin American SGAC region blog
- Organise a South American Regional Event

REGIONAL SGAC ACTIVITIES AND HIGHLIGHTS

- The region found a new NPoC for Argentina – Lizandro Martinez.
- On 10 June, 2011 Argentina launched SAC-D/Aquarius from Vandenberg Air Force Base. This was a cooperative earth science effort between the Argentinean National Space Agency and NASA.
- The Fourth Congress in Space Technology took place in Argentina. SGAC was represented by the Argentinean NPoC.
- Victoria Alonsoperez, SGAC NPoC for Uruguay, was awarded the Peter Diamandis scholarship to attend the Space Generation Congress in Cape Town, South Africa.
- Nicole Jordan, Regional Coordinator for South America, was also awarded the SSPI scholarship to attend the SGC.
- A group of students from a consortium of several universities in Uruguay worked on an Earth-Mars transportation system project for which they became finalists of on forum that was organised by NASA, NIA and RASC-AL. SGAC was represented at this event by the Uruguayan NPoC.

ACTIVITIES IN COLOMBIA

- o The Sergio Arboleda University was able to send delegates to the International Astronautical Congress.

- o The Sergio Abodeda University hosted several monthly astronomy seminars. More information for this can be found at www.astropuerta.com.co
- o The AI Espacio, a new Latin America space industry magazine, was created by a former Colombian NPoC.

ACTIVITIES IN URUGUAY

- o The second Uruguayan Yuri's Night event was celebrated with a party organised by SGAC Uruguay and the IEEE Student Branch at the Universidad de la República.
- o Several students participated in E-Scientia, a programme organised by the IEEE Uruguay Section to encourage high school students to pursue engineering careers. A symposium was organised in Montevideo to show people from around the world how the E-Scientia programme was set up.
- o Several groups of university students from the Universidad de la Republica worked on different modules for the first Uruguayan satellite.
- o High school students from all over the country participated in the Astronomy Olympiads.

ACTIVITIES IN VENEZUELA

- o A Yuri's Night event was held in Venezuela. Representatives of Humboldt's Planetary organised some activities, which included astronomy observations and a small party for local people. This took place during in mid-April.
- o Ana Alexandra Pérez, NPoC for Venezuela, was a SGAC representative for the NewSpace Conference 2011 organised by the Space Frontier Foundation at NASA Ames, California from 28 - 30 July to 30.
- o The National Astronomy Meeting was held at Humboldt Planetary from 14 - 16 October.

CHANGES IN THE REGIONS:

This year the region had its biannual Regional Coordinator elections. Victoria Alonso Perez was elected as the new RC and Nicole Jordan was reelected for her second term of service. We want to take this opportunity to thank Ana Alezandra Prez, for all her hard work during her past two years as RC.



Nicole Jordan, Victoria Alonsoperez International Astronautical Congress, Cape Town 2011

LOOKING AHEAD FOR 2012

- Implement the new Latina America blog to comply with SGAC requirements as well as satisfy the current members in the region.
- Recruit new member as well as qualified NPoCs
- Promote Yuri's Night Events and World Space Week celebrations.
- Connect South American space universities and associations with SGAC in order to receive more funding and bring more Latin American members to SGC 2012 in Naples.

SOUTH AMERICA NATIONAL REPORTS**COLOMBIA**

Most of the space initiatives and activities that take place in Colombia are thanks to the Colombian Space Commission (CCE - <http://www.cce.gov.co/web/guest/inicio>). This commission acts as the national space agency of Colombia. The CCE is a high level body, chaired by the Colombia Vice President and comprised of the Ministers of Foreign Affairs, National Defense, Agriculture and Rural Development, Interior of Justice, Transport, the Colombian Air force Commander, directors of the National Planning department, the Augustin Codazzi Geographic Institute (IGAC) and the Presidential Agency for Social Action. The CCE was created by Presidential Decree 2442 on July 2006 as a result of multiple requests regarding the establishment of an institutional mechanism for the development and use of space technologies. This year the institution started the process of turning the commission into a full space agency. The Colombian Space Agency will be the nation's first national space agency. The CCE currently conducts research in the fields of Telecommunications, Satellite Navigation, Earth Observation Astronautics, Astronomy and Aerospace Medicine.

This year the country focused on five different projects:

- Satellite development research programme and applications in earth observation
- National Geographic data recovery
- National Image Bank (BNI)
- Geographic Information System for territorial planning (SIGOTN)
- Colombia Air Force propulsion laboratories

SGAC ACTIVITIES IN 2011

There were no SGAC related activities in the country. However, Nicole Jordan, the NPoC for Colombia, attended both the Space Generation Congress in Cape Town as well the International Astronautical Congress. She also represented the organisation in various conferences, including the National Space Symposium and the Space Conference of Las Americas.

Throughout the year, some conversations were started between SGAC executives and the Colombian Space Commission. The purpose of these dialogs was to allow the commission to nominate one of the NPoCs for Colombia. Currently an MOU has been drafted is waiting on the Colombian Space Commission legal department for approval.

The Colombian Space Commission finished the first step of Mission X, which is a programme being held in conjunction with NASA and ESA. It gives students the

opportunity to learn about space related applications through workshops and school curriculums. For more information please see: <http://www.cce.gov.co/web/mision-x-colombia/la-mision-x>

PLANS FOR 2012

- Seal the MOU with the Colombian Space Commission and recruit a second National Point of Contact who is local in the country and can be more active in local youth oriented space activities.
- Coordinate a SGAC Latin America region summit in conjunction with Colombia's Sergio Arboleda University and the International Astronautical Federation (IAF).
- Get SGAC to be part of Mission X in conjunction with the Colombia Space Commission.

URUGUAY

In Uruguay, many aerospace related activities are youth oriented. This year there were many activities to encourage young students to pursue science careers. Like in previous years, some students also participated in international competitions.

SGAC ACTIVITIES IN 2011

2ND URUGUAYAN YURI'S NIGHT

Yuri's Night was celebrated for the second time in Uruguay. It was organised by Uruguay's SGAC National Point of Contact, Victoria Alonsoperez, and the IEEE student branch from the Universidad de la Republica. The IEEE Uruguay section funded the event. The party was a great opportunity to promote space to young people.



Yuri's Night Uruguay

URUGUAYAN STUDENTS AT NASA

This year, as well as last year, students on a Uruguayan team were finalists at a forum organised by NASA, the National Institute of Aerospace and the Revolutionary Aerospace Systems Concepts - Academic Linkage (RASC-AL). It took place from June 6th to 8th in Cocoa Beach, Florida, USA. There, fourteen teams of undergraduate students had the possibility to present projects to a panel of NASA experts.

The Uruguayan team was the only international participant. This year they developed a theoretical Earth-Mars transportation system in collaboration with the University of Clarkson in New York. They named the project "YVY PITAH", which means "Red World" in Guaraní, one of Uruguay's native languages. The project got great reviews from the judges and the team was congratulated on their presentation. It was a great experience for the Uruguayan students, who could interact with people from NASA and other American aerospace companies. The organising committee was pleased with the Uruguayan participants and invited them to return the following year.

Victoria Alonsopérez, National Point of Contact from Uruguay, was part of this team. Upon arrival in Uruguay, she was interviewed by Uruguay's most popular radio show.

This gave her the opportunity to speak about her experience and promote SGAC.



The Uruguayan students together with the US students at Kennedy Space Center.

E-SCIENTIA

E-Scientia is a programme developed by the IEEE Uruguay Section in collaboration with the IEEE Educational Activities Board. The purpose of this programme is to encourage high school students to pursue studies in the field of electrical engineering. The aim of the programme is to show to students how exhilarating engineering can be by having them work on simple but exciting circuits. They also hear thrilling examples of real life engineering projects. The students enter a mocked up space base and after a training session on electricity, they must assemble circuits on the base.

This type of unique educational experience has been very successful and already many countries want to implement it. At the beginning of July, there was a symposium where people from around the world came and saw how everything worked. Victoria Alonsopérez volunteered to help with this programme and was selected to be a captain on one of the missions. She very much enjoys seeing new passion for engineering come from high school students.

PARTICIPATION IN CONGRESSES AND PRESENTATIONS

Victoria was also part of the SGC team, acting as a projects co-coordinator. She was able to attend the 2011 SGC thanks to the Peter Diamandis Scholarship. In Cape Town, she was rapporteur for the Agency working group and participated in several outreach activities. One such event included a walk around Cape Town's waterfront dressed in an EVA suit. The aquarium on the waterfront was full of kids that Victoria could speak with. She asked them who wanted to be an astronaut and most of them raised their hands. Many took pictures with her and afterwards she went back to the convention center where she stayed at the SGAC booth and gave out leaflets for a Pete Worden's talk that was organised by SGAC. The following day she went with people from NASA to a

morning radio show, 94.5 KFM Breakfast, where host Ryan O'Connor took pictures with her and a moon rock. At the IAC, Victoria also presented two papers that she helped co-author.

This year, Alonsopérez was a participant at the ISU Space Studies Program where she made a presentation about SGAC, specifically about the work done at the SGC. She also participated at the UN/ESA/Austria Symposium on Small Satellite Programs that took place in Graz, Austria. There she could interact with others from SGAC and present her experiences building the first Uruguayan satellite.

BARCELONA ZERO-G AEROBATICS CHALLENGE



Victoria dressed in the EVA suit at the SGAC Booth during IAC and around Cape Town.

Victoria Alonsopérez, together with two friends, Jeffrey Osborne and David Ferrer, were winners of the Barcelona Zero-G Aerobatics Challenge. The experiment that they designed was flown on a Zero-G flight as part of the prize. The study they created focused on examining the effects of mental stress under various gravitational environments.

FIRST URUGUAYAN SATELLITE – LAI PROJECT

The objective of Project LAI is to put the first Uruguayan cubesat into orbit. Professor Juan Pechiar, who sees aerospace activity as a way to get students involved with engineering, leads this project. It is being conducted at the Institute of Electrical Engineering at the Universidad de la República (UdelaR) and is the result of work and research done entirely by undergraduate students.

Many students worked on this project. Victoria, together with two friends, designed the attitude determination system. Currently there are three groups of students working on different subsystems and the aim is to launch the satellite in 2013.

During an exhibition at UdelaR, Victoria promoted SGAC in addition to presenting her thesis. She told people who passed by her booth and handed out SGAC pamphlets.

OTHER YOUTH ORIENTED ACTIVITIES IN URUGUAY IN 2011*URUGUAYAN SPACE AGENCY*

There are plans to create a Uruguayan Space Agency. Martha Gaggero from CIDA-E made a point of this at the GRULAC meeting during IAC 2011 in Cape Town. There are currently meetings planned in order to make this a reality.

URUGUAYAN ASTRONOMY OLYMPIADS (OLIMPIADAS DE ASTRONOMÍA URUGUAYAS, OAU)

Once again, this year students from all over the country participated in the OAU. Five student finalists participated in the Latin American Astronomy Olympiads that took place in Brazil.

PLAN FOR 2012

SGAC Uruguay will continue to attend several youth events to promote the organisation. The aim is to keep encouraging young people to pursue aerospace activities and let them know that every field has something to do with aerospace.

Continuing last year's successful experiences with international aerospace contests, there are plans to participate in several student competitions again this year.

VENEZUELA

For the past years Venezuela has been increasing its participation in space related activities. SGAC as an international organisation has been a tool for those Venezuelan students and professionals who want to be involved in the space field.

In 2011, space related activities for youth included astronomy observations, aeronautical projects and space education activities in schools. These events are developed in order to educate public about the benefits of space and also to show them the opportunities offered by space agencies and associations.

ACCOMPLISHMENTS DURING 2011

WORLD SPACE WEEK

World Space Week was again celebrated in the María Inmaculada School, Aragua. Every year this school opens its doors and allows the organisation of these types of space events. Special thanks to Sandra María Valencia, a teacher who has supported SGAC through the years and has made all the activities possible.

ASTRONOMY NATIONAL MEETING – ENCUESTRO NACIONAL DE ASTRONOMÍA 2011

From 14 - 16 October the astronomy research centre of Venezuela organised a Venezuelan Astronomy Meeting which gathered university students and young professionals from all over the country to share their achievements in astronomy. This event is regularly organised every year in the installations of the Humboldt Planetarium and it has the participation of many astronomy and space local groups from all over the country.



ENA official photograph

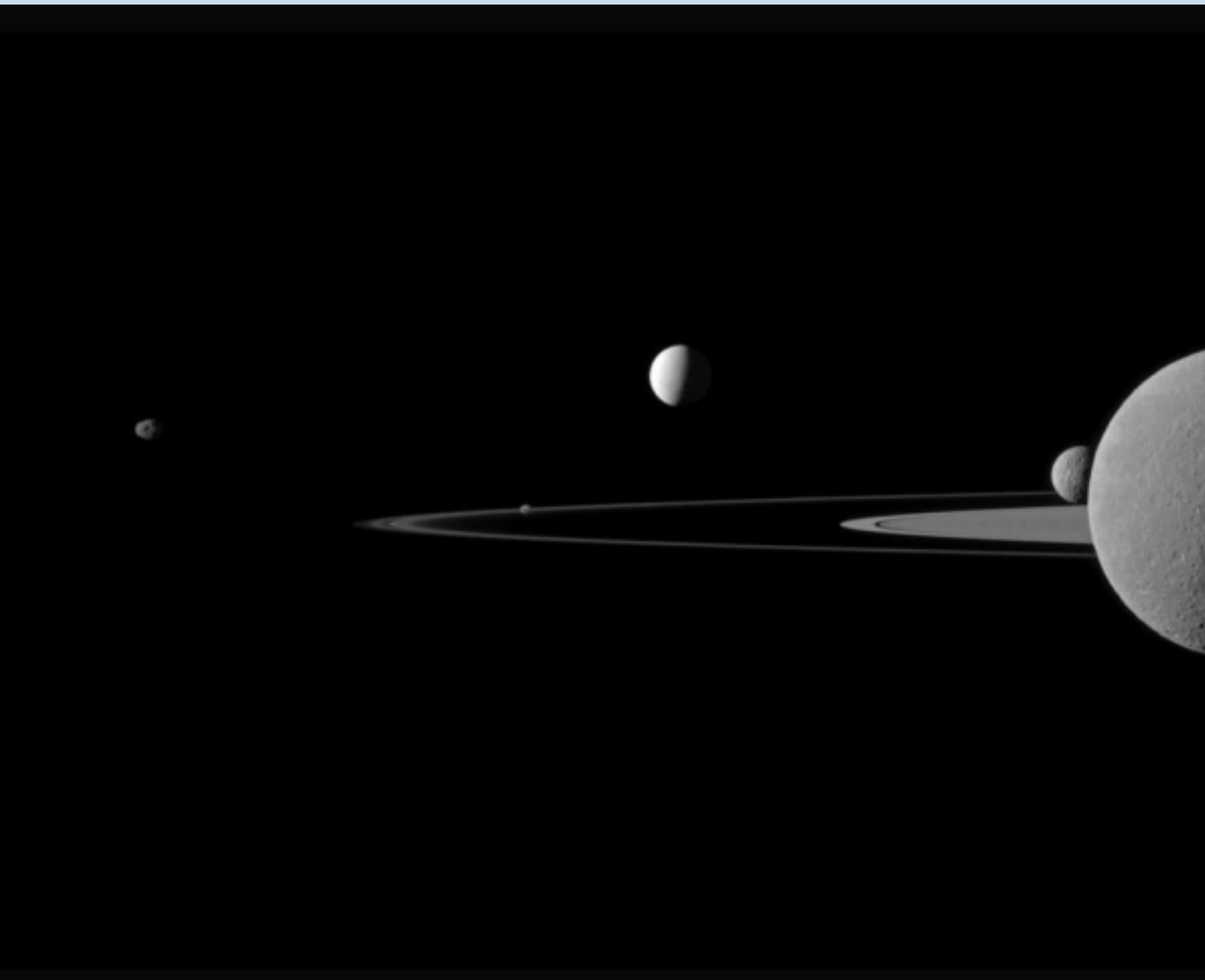
The process of creating a SEDS chapter (Students for the Exploration and Development of Space) started in 2011, thanks to Ana Alexandra Pérez, NPoC for Venezuela. In 2012, this chapter of SEDS will be formally incorporated if sanctioned by the Simon Bolivar University.

LOOKING AHEAD: PLANS FOR THE FUTURE OF SGAC VENEZUELA

- Find two new representatives for the country
- Continue participation in annual space celebrations, as they are excellent opportunities to raise awareness
- Continue promoting space by educating people
- Encourage regular exchanges between the NPoCs of Venezuela and university astronomy groups by using SGAC blogging tools.

Appendices

appendix a: additional websites	A
appendix b: 2011 executive team	B
appendix c: 2011 national points of contact	F
appendix d: sgac 2011 teams	I
appendix e: advisory and honorary boards	K



appendix a: additional websites

SGAC OFFICIAL WEBSITE

<http://spacegeneration.org/>

FACEBOOK

<http://www.facebook.com/spacegeneration>

YOUTUBE

<http://www.youtube.com/profile?user=spacegeneration>

WIKIPEDIA

http://en.wikipedia.org/wiki/Space_Generation_Advisory_Council

TWITTER

<http://twitter.com/#!/SGAC>

appendix b: 2011 executive team

Chairpersons



Title: Chairperson
 Name: Michael Brett
 Nationality: Australia



Title: Co-Chairperson
 Name: Catherine Doldirina
 Nationality: Georgia

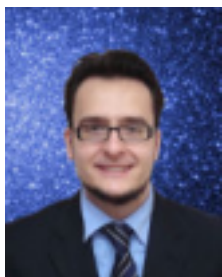
Executive Office



Title: Executive Director
 Name: Ariane Cornell
 Nationality: France/USA



Title: Deputy Executive Director
 Name: Andrea Jaime Albalat
 Nationality: Spain



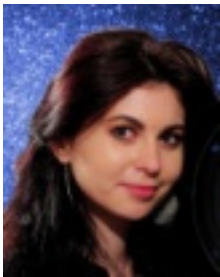
Title: Treasurer
 Name: Christopher Vasko
 Nationality: Austria



Title: Executive Co-Secretary
 Name: Romain Loubeyre
 Nationality: France



Title: Executive Co-Secretary
 Name: Suresh Bhattarai
 Nationality: Nepal



Title: Communications & Public Relations
 Lead
 Name: Oana Sandu
 Nationality: Romania



Title: Project Coordinator
 Name: Emmauelle David
 Nationality: France



Title: Project Coordinator
 Name: Alanna Krolkowski
 Location: Canada



Title: Membership Manager
 Name: Claudia Raposo Correia
 Nationality: Portugal

Regional Coordinators (Executive Council)



Title: Regional Coordinator – Africa
 Name: Prosperity Simpemba
 Nationality: Zambia



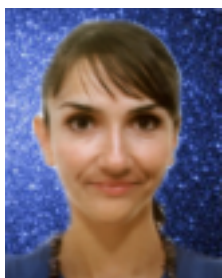
Title: Regional Coordinator – Africa
 Name: Hubert Foy Kum
 Nationality: Cameroon



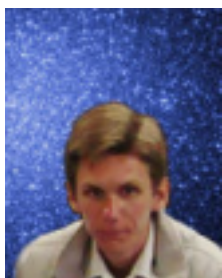
Title: Regional Coordinator – Asia Pacific
 Name: Joyeeta Chatterjee
 Nationality: India



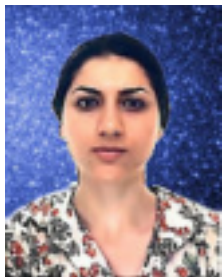
Title: Regional Coordinator – Asia Pacific
 Name: Yohan Fereira
 Nationality: Sri Lanka



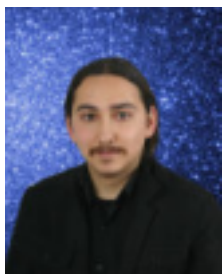
Title: Regional Coordinator – Europe
 Name: Nunzia Paradiso
 Nationality: Italy



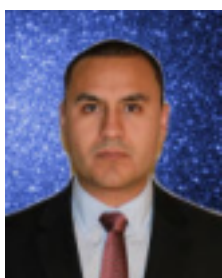
Title: Regional Coordinator – Europe
 Name: Damian Maria Bielicki
 Nationality: Poland



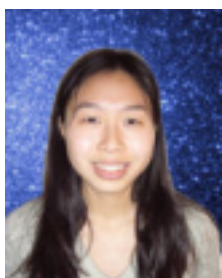
Title: Regional Coordinator – Middle East
 Name: Mahsa Taheran
 Nationality: Iran



Title: Regional Coordinator – Middle East
 Name: Hasan Aziz Kayihan
 Nationality: Turkey



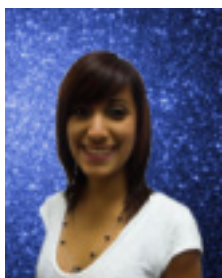
Title: Regional Coordinator – North, Central Caribbean
 Name: Israel Ojeda Coronado
 Nationality: Mexico



Title: Regional Coordinator – North, Central America and the Caribbean
 Name: Stephanie Wan
 Nationality: USA



Title: Regional Coordinator – South America
 Name: Nicole Jordan
 Nationality: Colombia



Title: Regional Coordinator – South America
 Name: Ana A. Perez
 Nationality: Venezuela

appendix c: 2011 national points of contact

Name	Country
Africa	
Hubert Foy Kum	Cameroon
Bekele Tujuba	Ethiopia
Beza Tesfaye	Ethiopia
Abdul-Mumin Yussif	Ghana
Michael Afful	Ghana
Susan Murabana	Kenya
James Okwe Chibueze	Nigeria
Etim Offiong	Nigeria
Minoo Rahnasabapathy	South Africa
Pierre van Heerden	South Africa
Hosham Galal	Sudan
Shahd Yousif	Sudan
Misheck Mutuzana	Zambia
Asia Pacific	
Ahmad S. Hakimyar	Afghanistan
Andgie Boyd	Australia
Shannon Ryan	Australia
Yuqian Dong	China
Athiye Jawad	India
Charitharth Vyas	India
Hiroshi Yamashita	Japan
Daichi Nakamura	Japan
Ahmad Kassim	Malaysia
Harridon Mohd	Malaysia
Rijendra Thapa	Nepal
Suresh Bhattarai	Nepal
Julie Rowe	New Zealand
Ali Butt	Pakistan
Wajahat Nasar	Pakistan
Heejin Jeong	South Korea
Yeongju Kim	South Korea
Pathara Limsira	Thailand
Ravit Sachasiri	Thailand
Thu Vu Trong	Viet Nam
Tri Dinh Quoc	Viet Nam

Name	Country
Europe	
Klaus Kornfeld	Austria
Christopher Vasko	Austria
Artiom Anisimov	Belarus
Pieter Bettybier	Belgium
Sarah Moens	Belgium
Raycho Raychev	Bulgaria
Rada Popova	Bulgaria
Pavel Paces	Czech Republic
Ondrej Bruna	Czech Republic
Lucie Crescenzo	France
Melanie Vincent	France
Juergen Schlutz	Germany
Oliver Troll	Germany
Angeliki Kapoglou	Greece
Patrick Crowley	Ireland
Vanessa Passoni	Italy
Matteo Emanuelli	Italy
Norah Patten	Ireland
Patrick Crowley	Ireland
Laurynas Maciulis	Lithuania
Lex Meijer	Netherlands
Tale Sundlisæter	Norway
Michał Moroz	Poland
Aleksandra Partyka	Poland
Pedro Rodrigues	Portugal
Vera Alves	Portugal
Maria-Laura Voda	Romania
Ekaterina Rezugina	Russia
Guzel Kamaletdinova	Russia
Ziga Valic	Slovenia
Abigail Calzada	Spain
Christian Olsson	Sweden
Liselott Strand	Sweden
Rishi Sharda	United Kingdom
Eamon Scullion	United Kingdom
Dymtro Faizullin	Ukraine

Name	Country
Middle East	
Daniel Rosenberg	Israel
Behnoosh Meskoob	Iran
Ghanim Al-otaibi	Kuwait
Nouf Al-Jaloud	Saudi Arabia
Metehan Sezgin	Turkey
Remi Kahwaji	Lebanon
H. Tuğça Şener Şatır	Turkey
North, Central America & Caribbean	
Laura Drudi	Canada
Andres E. Mora Vargas	Costa Rica
Diego Castillo	Guatemala
Roberto Saraviao	Guatemala
Marc Cornwall	Jamaica
Jorge Vega Rodriguez	Mexico
Carmen Felix	Mexico
Alan Steinberg	USA
Paul Guthrie	USA
South America	
Lisandro Martinez	Argentina
Nicole Jordan	Colombia
Victoria Alonsoperez	Uruguay
Ana A. Perez	Venezuela

appendix d: sgac 2011 teams

The SGAC Communications and Public Relations Team

Name	Country	Position
Oana Sandu	Romania	Communications & Public Relations Lead
Marc Cornwall	Jamaica	Graphics Lead
Alexandra Ruths	Austria	Newsletter Lead
Beata Mäihäniemi	Poland	Reporter

Translation Team

Ana A. Perez	Venezuela	Spanish Translator
Assad Anathallee	Mauritius	French Translator
Klaus Kornfeld	Austria	German Translator
Ghanim Alotaibi	Kuwait	Arabic Translator
Yuqian Dong	China	Chinese Translator
Rosie Shaddock	UK	Spanish Translator
H. Tuğça Şener Şatır	Turkey	Turkish Translator

Web Team

Hasan Aziz Kayihan	Turkey	Web Editor
Christopher Vasko	Austria	Web Editor
Iram Meer	India	Web Editor

Name	Country	Position
ECOSOC Representatives		
Wajahat Nassar	Pakistan	ECOSOC Representative
Jose Rojas	Spain	ECOSOC Representative
FP 7 Fundraisers		
Magdalena Jecz	Poland	FP 7 Fundraiser
Alessandra Badino	Italy	FP 7 Fundraiser

appendix e: advisory and honorary boards

The SGAC Advisory Board

Name	Title
Adigun Ade Abiodun	Founder of the African Space Foundation
Lance Bush	President and CEO at Challenger Center for Space Science Education
Sergio Camacho	Secretary General of the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean (CRECTELAC)
Agnieszka Lukaszczyk	Former SGAC Chairperson and European Programme Manager for the Secure World Foundation
Tanja Masson-Zwaan	President of the International Institute of Space Law
Clay Mowry	President of Arianespace, Inc.
Nicolas Peter	Exploration Strategy Officer in the Director General's Cabinet - European Space Agency (ESA)
Dumitru Prunariu	Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS)

The SGAC Honorary Board

Name	Title
Barbara Adde	SCaN Policy & Strategic Communication Manager at NASA
Ciro Arevalo	Former Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS)
Ben Baseley-Walker	Programme Lead, Emerging Security Threats Programme & Former SGAC Chair
Yolanda Berenguer	Former Head of United Nations Educational, Scientific and Cultural Organization (UNESCO)
James D. Burke	Former US Naval Aviator, International Space University faculty member and NASA Jet Propulsion Laboratory
Caroline Burke	Teacher and Arts in Space Advocate
Chris De Cooker	Former Head of International Relations for the European Space Agency
Gernot Grömer	Professor and researcher at the University of Innsbruck in Austria
Johannes Ortner	Former president of the Austrian Space Agency and of the International Astronautical Federation
Kai-Uwe Schrogl	Former Director of the European Space Policy Institute and Head ESA Policies Department
Loretta Whitesides	Flight Director for ZERO-G
Jim Zimmerman	President of International Space Services, Inc. and Former IAF President

Acknowledgements

The SGAC 2011 Annual Report was compiled and edited by Marc Cornwall (Jamaica) and Andrea Jaime (Spain), with the assistance of Ariane Cornell (France/USA), Laura Drudi (Canada), Justin Park (USA/Switzerland), Kristyn Rodzinyak (Canada) and Laura Rose (USA) in editing. The SGAC Executive Committee is grateful to the editors for donating their time. Members of the Space Generation Advisory Council worldwide were the primary contributors to the content of the report.

The material, content, images and photography used in this Annual Report were either provided specifically for the use of compiling this report or are available online for use with mention of the copyright or trademark owner. These materials are used for purely non-commercial purposes. Any purported infringement is entirely unintended. In the event of any disallowable use, the authors will gladly remove such material upon investigation and verification.



SPACE GENERATION
ADVISORY COUNCIL

Schwarzenbergplatz 6
Vienna A-1030
AUSTRIA
info@spacegeneration.org
www.spacegeneration.org
+43 1 718 11 18 30 Fax: +43 1 718 11 18 99