



SPACE GENERATION
ADVISORY COUNCIL

Space Generation Fusion Forum 2014

IN SUPPORT OF THE UNITED NATIONS PROGRAMME ON SPACE
APPLICATIONS

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Space Generation Advisory Council

SGAC is a non-profit organisation that represents 18-35 year olds in international space policy at the United Nations, at agencies, in industry, and in academia

- Founded as a result of the 1999 UNISPACE III conference
- SGAC has had permanent observer status in the UN COPUOS since 2001 and has been a member of the UN Economic and Social Council since 2003
- SGAC has a volunteer network of **more than 4,000 members in over 100 countries**



SGAC Purpose

- Creates a global volunteer base of university students and young professionals in the space sector with passion for making a difference in the space sector and commitment to action
- Connects them to each other and to top space professionals and organisations
- Gives the next generation of space sector leaders a voice in global space policy



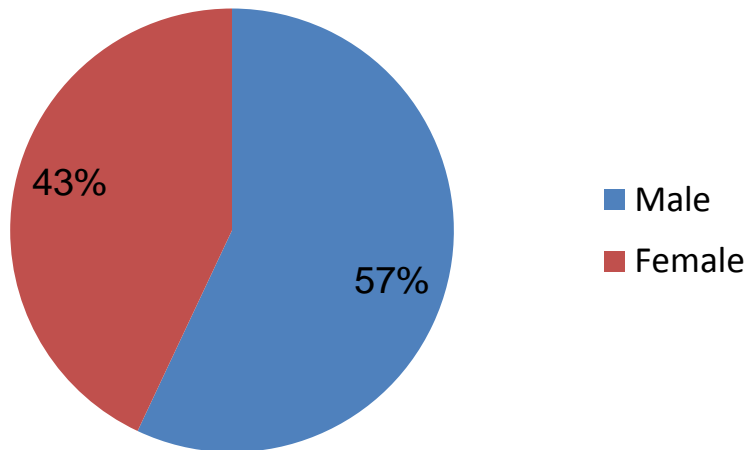
Event Background

- **May 18-19, 2014 in Colorado Springs, Colorado, USA**
- Main Theme: Disruption
- Featured Speakers
- Panel with experts on Entrepreneurship in Space
- 4 interactive panels with delegate panelists & space sector leaders as moderators
- 1 panel during the 30th Space Symposium with summary and initial conclusions

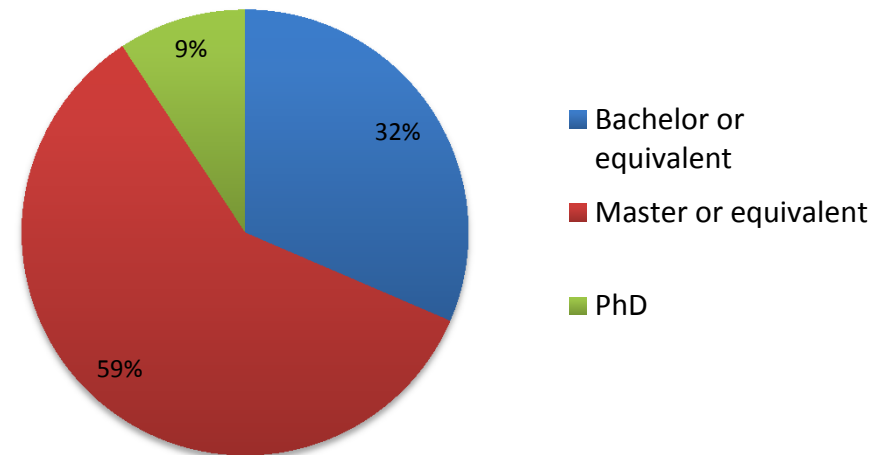


Fusion Forum Statistics

Delegate Gender



Delegate Education Background



- Delegates: 47
- Countries: 18
- Average age: 29 years old

Scholarships



- **5 Global Grants Awardees representing 5 countries**
- **Nearly \$10,000 in scholarships awarded**

Panel 1: Small Satellites: Benefits and Risks



TOPICS

- Increased participation in small satellites:
 - Universities, nations, established companies;
- Commercial Interest in Small Satellites – particularly start-up companies;
- Applications of Small Satellites:
 - Earth observations, communications, technology demonstration/ rapid prototyping, and possibly for planetary exploration;
- Small Satellites Used for Capacity Building:
 - Additional uses for nations new to space; academia;
 - Students have more hands-on experience when entering workforce;
- Challenges of Space Debris Creation and Prevention:
 - New regulations/guidelines needed for small satellites;
 - Also important not to over-regulate – want to encourage further innovation.

Panelists from:

- India
- Germany
- Pakistan
- USA

Moderator:

- Peter Platzner
(*Nanosatisfi*)

Panel 2: Innovating in Aerospace: Barriers and Opportunities



Panelists from:

- UK
- USA
- New Zealand

Moderator:

- Phil Larson (*White House Office of Science & Technology Policy*)

TOPICS

- The role of **government** in fostering new technologies;
- Government as an early customer;
- How to **foster an entrepreneurial industry** and best practices from other industries;
- How to **manage risk** in an innovative industry and—when possible—accept more risk;
- Opening space to **non-traditional players**;
- **Game changing technologies**: What technologies to prioritise and what should be the role of government and industry in each stage of development.

Panel 3: Emerging Spacefarers: New Entrants to Space in Africa, Asia and Latin America



TOPICS

- **Recent trends among developing countries pursuing space activities**

- There is a growth in the demand for space products and across the developing world. Developing countries also supply space-related resources, such as sites for telescopes and other space infrastructure.
- The number of countries with relatively modest space budgets) has grown rapidly in the past decade in every major continent.
- Space activities are now genuinely global. No country, no matter how small it's economy, can afford to ignore developments in space.

- **The trade-offs facing policymakers allocating resources to space in developing countries**

- Space activities compete for scarce public resources with other demands, such education, healthcare, and infrastructure needs.
- Public investment in space often translates into expensive imports of foreign goods rather than local investments.
- Simply advocating for *more* space spending is insufficient. What is necessary is *smart* space spending.

- **The unique added value of space in developing contexts**

- Public spending on space can be a form of investment in building local technical capacity, which may generate long-term social returns.
- Space activities and economic development may be complementary, rather than competing, pursuits.

Panelists from:

- USA
- Mexico

Moderator:

- Carissa Christensen
(*The Tauri Group*)

Panel 4: Human Spaceflight: Potential Architectures and Goals for Exploration



Panelists from:

- Italy
- Spain
- USA

Moderator:

- Sam Scimemi (*NASA*)

TOPICS

- **The ISECG Global Exploration Roadmap (GER).** NASA's building blocks for the GER:
 - Commercial access to LEO;
 - Use the ISS to learn the fundamentals of exploration;
 - Explore deep space & Mars when the capabilities exist;
- Future architectures may **include international partners** in the critical path elements to lower the individual contributor's costs, while increasing the overall available budget;
 - Alternatives also include parallel national efforts and allocation of responsibilities across commercial companies, national agencies, and university partners;
- Deep space exploration vehicles owned and operated by **national space agencies** may need to be serviced by **commercial operators** in cislunar space to keep architecture costs down;
- The **role of universities**, which can offer measured risk, and may soon be able to launch their own missions using commercial transportation providers.

Space Generation Fusion Forum REPORT

Available for Free Download in
Summer 2014 at:

www.spacegeneration.org



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