



## INFORMATION NOTE

### United Nations Expert Meeting on Space for Women

Organized jointly by  
**The United Nations Office for Outer Space Affairs and UN Women**

**New York, United States of America**

**4 – 6 October 2017**

#### **1. Introduction and background**

The first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE I) was held in 1968. The year 2018 will mark its 50<sup>th</sup> anniversary (UNISPACE+50), and this will be a fitting time to take stock of the contributions of all three UNISPACE conferences, held in 1968, 1982 and 1999 respectively, to global governance of space activities.

At its 59<sup>th</sup> Session in June 2016, the Committee on the Peaceful Uses of Outer Space endorsed seven thematic priorities for the implementation of UNISPACE+50, including Thematic Priority 7 (TP7) “Capacity-building for the twenty-first century”, which is the most cross-cutting aspect of the thematic priorities. Member States seek to define new innovative and effective approaches to overall capacity-building and development needs as a fundamental pillar of global space governance. Under TP7 the United Nations Office for Outer Space Affairs (UNOOSA) has been tasked to place a special emphasis on activities targeting the needs of women in developing countries; in that regard the thematic priority foresees by 2018 the elaboration and initiation of a dedicated “Space for Women” Project.

UNOOSA has therefore joined forces with UN Women to jointly organize a ‘Space for Women’ Expert Meeting with the goals of sharing ideas and expertise regarding space and women, enhancing existing partnerships and forging new ones, strengthening and delivering targeted capacity-building and technical advisory activities, and promoting efforts to encourage women and girls’ involvement in science, technology, engineering and mathematics (STEM) education.

#### **The United Nations Office for Outer Space Affairs: Space for Women Project**

The vision of the Office for Outer Space Affairs is to bring the benefits of space to humankind. The Office for Outer Space Affairs is committed to ensuring that those benefits reach women and girls, and that women and girls play an active and equal role in space science, technology, innovation and exploration. This will be the focus of the Office’s Space for Women project.

#### **2. Objectives**

The Sustainable Development Goals (SDGs) seek to change the course of the 21<sup>st</sup> century, addressing key challenges such as poverty, inequality, and violence against women. Women’s empowerment is a pre-condition for this.

Women have a critical role to play in all of the SDGs, with many targets specifically recognizing women’s

equality and empowerment as both the objective, and part of the solution. Goal 5 on gender equality is known as the stand-alone gender goal because it is dedicated to achieving these ends.

SDG 5 targets include ensuring women's empowerment – including at decision-making levels in leadership – in political participation, economic empowerment, ensuring a life free of violence and elimination of harmful practices, control over reproductive health and rights, and reforms to give women access to economic resources including natural resources.

Importantly, one of the targets (5b) calls for enhancing the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

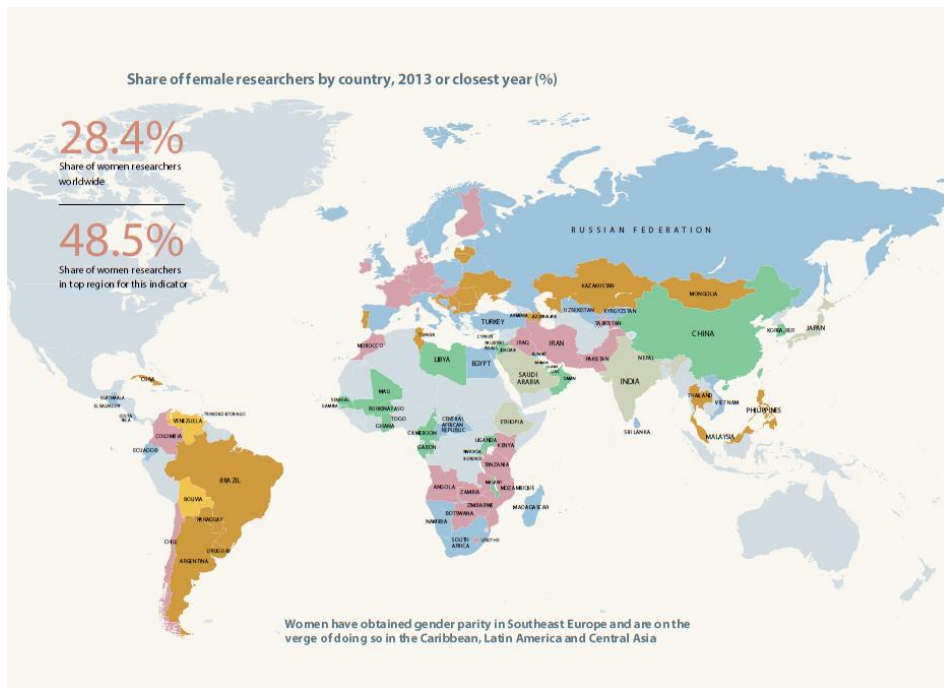
In order to achieve gender equality and empower all women and girls, the Office for Outer Space Affairs wishes to address Sustainable Development Goal 5 in an all-inclusive manner and especially promote space technology in line with target 5b.

Space matters when it comes to the right of women to benefit from science and technology and also as a dimension of achieving the SDGs. Space-related science, technology, innovation and exploration will contribute to bettering humankind and the sustainability of our planet within many areas such as agriculture, climate change, disaster response, transportation, health, communication, and many more spinoffs and applications. We must strive to ensure that women have access to these benefits, which unfortunately is now not a given. Moreover, we must also ensure that needs specific to women's and girls' empowerment and gender equality are also prioritized and addressed.

Finally, STEM and the space sector specifically offer economic and career opportunities for women. These disciplines tend to be high paying and many represent high growth industries where a skilled workforce is in demand. These opportunities – including at leadership levels – need to be made available to girls and women.

Currently women in STEM sectors are highly underrepresented, particularly in decision-making positions. The “leaky pipeline” can be seen from as early as middle school, when girls start self-selecting out of STEM subjects or are discouraged from going into these studies. This continues through to enrolment in tertiary education and employment in private and public sectors, as well as funding for research, venture capital for entrepreneurship, and in publications and representations in professional bodies. While women do reach parity in some STEM areas, this often does not extend to “hard” sciences, including physics, engineering and computer science. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), only 28% of the world's science researchers are women, although some countries in developing regions are showing a positive trend towards equality. In the space sector gender parity is still not achieved; according to the AeroSpace and Defence Industries Association of Europe (ASD Eurospace), women represented about 20% of space industry employees in 2015.

However, the space sector is built on the achievements of women such as Valentina Tereshkova and Peggy Whitson, just to name a few. It is important to bring greater attention to the significant contributions of women past and present. In the Indian Space Research Organisation, women engineers made a crucial contribution to the Mars Orbiter Mission, yet in 2014 only 20% of positions in the space agency were occupied by women. In Brazil, where women represent around 37% of the employees of the Brazilian Space Agency, the Brazilian National Council for Scientific and Technological Development notes that over the last 15 years the number of university scholarships awarded to women has more than doubled, but that in the STEM fields the female share was 30%. The first female taikonaut, Liu Yang, noted that many female-associated characteristics such as “patience, sensitivity and sympathy” mean that women are “more likely to avoid conflicts, especially in cramped conditions of most spacecraft”, and thus in her opinion “women will play a more important role when spending a long time in space.”



*Share of female researchers by country. UNESCO Science Report 2015.*

While space benefits matter for women, women’s participation in the space sector is critical to its own success. Studies in both private and public sectors have shown that a diversity of skills and perspectives leads to greater innovation and to greater success. At the macro-level it is obvious that we should be more actively embracing all of the world’s talent.

### **3. Expected outputs and contributions to UNISPACE+50**

While UNOOSA is the gateway to space in the United Nations, many United Nations and other entities – both governmental and non-governmental – have expertise, skills and experience in both the empowerment of women and encouraging women in STEM. It is important and valuable for UNOOSA to develop partnerships with such entities to benefit from their expertise and build projects at the intersection of our respective mandates.

In order to consolidate this existing knowledge, create partnerships and elaborate targeted capacity-building for the 21<sup>st</sup> century, as well as align capacity-building with the 2030 Agenda for Sustainable Development and deliver recommendations for the “Space for Women” Project, UNOOSA is working with UN Women to organize a Space for Women Expert Meeting.

The two and half day event will bring together decision makers and experts from international organizations, governments and non-governmental organizations as well other high-ranking officials and representatives of the private sector and research institutions to discuss the scope and goals of a Space for Women project and make recommendations for the project. It will include the presentation of lessons learned and new ideas focusing on the project along the tagline “Space for Women and Women for Space”, including :

- Let’s make space work for the empowerment of women
- Let’s make space in the aerospace industry and STEM fields for women
- Let’s make the Space for Women project together

## **2018: UNISPACE+50 years of space cooperation and development**

UNISPACE+50 will take stock of the contributions of the three UNISPACE conferences (UNISPACE I, held in 1968, UNISPACE II, held in 1982 and UNISPACE III, held in 1999) to global space governance. In line with the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, UNISPACE+50 aims to chart the future role of the Committee on the Peaceful Uses of Outer Space (COPUOS), its subsidiary bodies and the United Nations Office of Outer Space Affairs at a time of an evolving and more complex space agenda when more actors, both governmental and non-governmental, are increasingly involved in space activities. More detailed information is available at the website of the Office for Outer Space Affairs:

<http://www.unoosa.org/oosa/en/ourwork/unispaceplus50/index.html>

The expected outcomes of the Space for Women Expert Meeting include:

- Development of the basis for the “Space for Women” project in support of the implementation of the UNISPACE+50 thematic priority on capacity-building for the 21<sup>st</sup> century as well as addressing Sustainable Development Goal 5, including understanding of opportunities, challenges, gaps and ways forward;
- Identification of mechanisms for integrating gender equality issues and women’s active participation throughout the UNISPACE+50 process and Space2030 agenda;
- Strengthened capacity-building activities amongst multiple stakeholders focusing on women’s perspectives and specific needs in developing countries, and using space science, technology and innovation to address goals and targets enshrined in the interlinked 2030 agendas, namely the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction 2015-2030, and the Paris Climate Agreement. This includes elaboration of activities under the Space for Women project to help governments to equip themselves with the technical and policy capabilities to integrate gender responsive space technology and applications in their strategic planning towards the implementation of these global development frameworks; and
- New and innovative approaches to address the targets set out in the 2030 Agendas such as the provision of technical assistance, expert assistance, and support for research and advisory services for enhanced operational activity under the Office’s Space for Women project.

### **4. Preliminary programme of the Expert Meeting**

The Expert Meeting is aligned with the objective of UNISPACE+50 to strengthen international coordination and cooperation in the use and applications of space science and technology. In particular, the Expert Meeting expects to contribute mainly to thematic priority 7: capacity-building for the 21<sup>st</sup> century. The programme is designed to cover these objectives. Sessions may be added or modified, depending on the speakers.

The programme will include plenary sessions and time for discussions among participants to identify the priority areas where a pilot project/s could be launched and examine possible partnerships that could be established. The preliminary programme is as follows:

## Thematic Sessions

### I. Let's make space work for the empowerment of women

*Target 5b of Sustainable Development Goal 5 calls on the international community to “enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women” in order to achieve gender equality and empower all women and girls.*

*This thematic session will focus on existing programmes and activities both internal and external to the United Nations and their potential with regard to the development and diffusion of applications of space technology for the empowerment of women. Many different capacity-building initiatives have been implemented in the past and it is therefore important and invaluable for UNOOSA to develop partnerships between existing UNOOSA and the United Nations programmes, benefit from partners' expertise, and build projects at the intersect of the respective mandates.*

#### Technologies:

- Which areas of space science and technologies are creating positive spinoffs and applications to support Agenda 2030?
- What currently exists and what is the broad future potential?
- How do we spark imagination and wonder within space exploration and technology?

This will focus on technology disciplines themselves (e.g. satellite technology and Earth Observation, materials science, medicine, nutrition, ICTs, etc) and their strong connection to the development of space technology at large.

#### Applications:

- What are the applications of space science and technology across the areas of economic, social, and environmental justice that are of highest priority for women and girls?
- What are the gender dimensions of technologies that benefit all humankind?
- Are these considerations an afterthought or can we integrate “gendered innovations” from the outset?
- Are there any exponential applications on which we should focus?
- How can the innovation process behind space technology be used to support women's empowerment, particularly economic empowerment?

This will focus on the development imperatives to which space technology and science is applied (e.g. agriculture, climate change, natural resource management, health, transport, humanitarian and disaster response, safety, economic innovation, etc).

#### Accessibility:

- How do women and girls access technology in general and space-related technology and applications in particular?
- Do they have the requisite inputs, general knowledge, and control over technology?
- Do they have access to policymaking and public comment on these decisions?
- Do current technology transfer mechanisms sufficiently address women's needs?
- What are the challenges for developing countries in particular?

### II. Let's make space in the aerospace industry and STEM fields for women

*A second important component of SDG 5 is the empowerment of women in the context of leadership and economic development. Notably, this includes the ability of girls and women to pursue their passions and*

*careers in STEM and the space sector, including into leadership and decision-making positions.*

*This session will focus on the existing gaps and the issues that have to be overcome for the empowerment of women in the aerospace industry and STEM fields.*

Stereotypes:

- How do we overcome broad-based and pervasive stereotypes around women and girls' participation in STEM fields and the space sector?
- How do we combat stereotype threat (self-perception)?
- What is the role of the media, parents, community, educational institutions, space sector?
- How do we engage men as key partners (e.g. 'HeForShe')?

Skills and education:

- What are the skills needed to enter into the space sector?
  - Includes STEM areas (math, aeronautics, physics, engineering, biology, earth science, etc), 21<sup>st</sup> century skills (creativity, collaboration, problem solving, curiosity, adaptability, etc), ancillary disciplines (innovation management, policymaking, law, journalism, marketing, education, etc), and application areas (e.g. environment).
- Where are there gaps and why?
- What are successful strategies for overcoming these?
- What is specific to the space sector as opposed to STEM more broadly (e.g. possible perceptions that this is tied to military uses, which is male dominated)?
- What are the different incentives/interests for space-faring, emerging space-faring or non-space-faring nations?

Leadership and leaky pipeline:

- What is the employment picture for women in the space sector?
- Are we seeing women entrepreneurs in the space sector (“*astropreneurship*”)?
- How are women represented in leadership positions in the private and public sector?
- Do women have access to funding for space-related work, whether for public or private sector efforts (research & development, venture capital, scholarships)?
- Where is the pipeline leaking for women in the space sector?
- What are some of the successful strategies for propelling women in the space sector (e.g. role models, mentors and sponsors, targets or quotas, engagement of men, grant incentives, flexible working arrangements and parental leave, recruitment and promotion practices, culture and implicit bias, etc)?

**III. Let's make the Space for Women project together**

*This session will focus on consolidating existing knowledge, creating partnerships and elaborating targeted capacity-building, as well as aligning capacity-building with the 2030 Agenda for Sustainable Development and addressing new thematic areas with the general goal of delivering outputs for a unique “Space for Women” project.*

Vision:

- What is our inspiring and forward looking vision?
- How do we maintain a balance between tapping the excitement of space exploration and cutting

edge technology while also grounding it to respond to our basic needs on Earth?

- Crafting of the unique “Space for Women” project under UNOOSA leadership with strong support of external partners and supporters.

#### Innovation for Space for Women:

- How can we use innovative processes within the space sector to also inform our work and strategies around promoting women in space and space for women?
- Capacity-building for the 21<sup>st</sup> century.

#### Programmatic work:

- *UNOOSA leadership:* How do we best use UNOOSA leadership in the United Nations system, programmes and bodies (e.g. scientific and technical, and legal subcommittees, regional education centres, UN-SPIDER, technical advisory services, applications programme, etc)?
- *Complementary roles:* How can we complement and build on existing initiatives around girls and women in STEM? What entry points, projects and mechanisms already exist (e.g. within the United Nations system: UN Women’s Empowerment Principles and Virtual Skills School; UNESCO Women in Science programme; UNEP gender programme; Equals (focus on ICT))? What are the spheres of influence amongst stakeholder groups?
- *Mainstreaming:* How do we mainstream into space sector conversations and then mainstream these issues and opportunities into other development conversations and SDG implementation?
- *Action plan:* Where are there gaps in programmatic attention and investment? What are quick wins and medium and longer term strategies?

#### Learning and networking:

- How do we promote greater knowledge sharing and learning on these topics?
- How do we best target and engage women in the space sector (e.g. NASA’s Women Influence Network)?

#### Outreach:

- How can we work together to more actively outreach to and engage the public (especially women) around these issues and to support space science, technology, innovation and exploration (e.g. space and society)?
- Why does this matter to people in different contexts?
- How can we better engage youth and also work with middle school girls who will be the young space professionals in 2030?

## **5. Working methods**

Participants of the Expert Meeting are requested to deliver a presentation paper and materials covering the topics of the Thematic Sessions. Each speaker is allocated 10 - 20 minutes for the presentation. It is also necessary to submit an abstract of the presentation with a maximum of 600 words, including the following details: Paper Title, Author(s) Name(s), Affiliation(s), and e-mail address for the presenting author.

Presentations made at the Expert Meeting will be published on the website of the Office for Outer Space Affairs ([www.unoosa.org](http://www.unoosa.org)) approximately two weeks after the Expert Meeting.

## **6. High-Level Panel**

UNOOSA is working in cooperation with the Permanent Mission of Austria to organize a Panel Session as a high-level event on Friday 6 October 2017 in the Secretariat Building of the United Nations. High-level participants will be engaged to address the Thematic Sessions of the Expert Meeting.

## **7. Sponsorship of the Expert Meeting**

The Office for Outer Space Affairs and UN Women are responsible for organizing the Expert Meeting.

**Sponsorship of the Expert Meeting is open to other interested entities.**

## **8. Target audience and expected participants**

The Expert Meeting is being planned for a total of 50 – 60 participants including practitioners, scientists, engineers, university educators, policy and decision makers, and experts from the following groups: international, regional, national and local institutions, United Nations agencies, intergovernmental and non-governmental organizations, research and development institutions, and industry.

## **9. Language of the Expert Meeting**

The working language of the Expert Meeting will be English.

## **10. Financial support**

Within the limited financial resources available, a limited number of selected participants will be offered financial support to attend the Expert Meeting. This financial support will defray the cost of travel (a round trip air ticket – most economical fare – between the airport of international departure in their home country and New York, United States of America) and/or the room and board expenses for the duration of the Expert Meeting. The co-organizers of the Expert Meeting will jointly select participants on a competitive basis. Successful applicants will be notified of the outcome within two weeks after the deadline.

## **11. Deadline for submission of applications and abstracts**

The completed application form together with the presentation abstract should be submitted online, to the Office for Outer Space Affairs, **no later than Sunday 16 July 2017**. Only complete applications with all the requested information and signatures will be considered by the Expert Meeting organizing committee. Please note that the online application form is available on the website of the Office for Outer Space Affairs at the following address:

<https://register.unoosa.org/civicrm/event/info?reset=1&id=74>

## **12. Life and health insurance**

Life/major health insurance for each of the selected participants is necessary and **is the responsibility of the candidate or his/her institution or Government**. The co-organizers will not assume any responsibility for life and major health insurance, nor for expenses related to medical treatment or accidents.

## **13. Further information and contact details**

For information regarding the submission of nominations for attendance and funding, programme, presentations/abstracts and speakers, please contact Mr. Markus Woltran ([markus.woltran@unoosa.org](mailto:markus.woltran@unoosa.org)) of the United Nations Office for Outer Space Affairs, and Ms. Jennifer Breslin ([jennifer.breslin@unwomen.org](mailto:jennifer.breslin@unwomen.org)) of UN Women.