

space & global health network

Uniting for effective collaboration among diverse space & global health stakeholders

2023 Annual report & 2024 Activities Plan

Space and Global Health Network

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network



The Space and Global Health (SGH) Network is an open and flexible network of governmental institutions, international organizations, non-governmental entities, individuals and other relevant stakeholders.

January 2024

Introduction

At its sixty-first session, held from 20 to 29 June 2018, the Committee on the Peaceful Uses of Outer Space welcomed the introduction of a new item entitled “Space and global health” on the agenda of the Scientific and Technical Subcommittee and the establishment of the Working Group on Space and Global Health under the item. At its sixty-second session, held from 12 to 21 June 2019, the Committee endorsed the multi-year workplan of the Working Group (2019–2022). On 12 December 2022, the General Assembly adopted its resolution 77/121 on international cooperation in the peaceful uses of outer space, in which it took note of the report of the Working Group on the work conducted under its multi-year workplan, noted with satisfaction the establishment of the Space and Global Health Platform, based in Geneva, to promote effective collaboration on space and global health issues among Member States and United Nations system entities, in particular the World Health Organization (WHO) and the Office for Outer Space Affairs, as well as international organizations and relevant actors, and welcomed the establishment of the Space and Global Health Network (SGH Network). The SGH Network is hosted and supported in its operational activities by the Geneva Digital Health Hub.

The various activities of the SGH Network are promoted and consolidated through the Space and Global Health Platform (Implementome), a dedicated, cooperative, globally accessible, multifaceted platform for information and community management.

I Report of past activities: 2023 in review

A. February 8 and February 10, 2023: Meetings of SGH Network during the 60th session of the scientific and technical subcommittee

Two meetings of the SGH Network were held in the margin of the STSC session online and at the Vienna International Center, with the support of UNOOSA. The participants revised and finalized the “Statement of Intent for Participation to the Space and Global Health Network”. It was agreed to launch a set of activities to be launched in 2023 in order to increase the visibility, reach and impact of the SGH Network.

B. June 2, 2023: Official Signing Ceremony of the Space and Global Health Network

The signing ceremony took place in Vienna in the margin of the Sixty-sixth session of COPUOS with of Ambassador Alexandra Baumann, Head of the Prosperity and Sustainability Division at the Swiss Federal Department of Foreign Affairs FDFA, Natália Archinard, Deputy Head of the Science, Space and Arctic Section at the Swiss Federal Department of Foreign Affairs FDFA, Antoine Geissbuhler, Coordinator of the Space and Global Health Network, Vice-rector at the University of Geneva and Niklas Hedman, Acting Director of the United Nations Office for Outer Space Affairs (UNOOSA).

This was an opportunity to launch the Space and Global Health Network with the associated community of practice and to present the status of development of the dedicated, cooperative, globally accessible, multifaceted [platform](#) based in Geneva, which had been recommended by the United Nations General Assembly resolution 77/120 (§11). This platform, called Implementome, had been developed by the Geneva Digital Health Hub. Stakeholders were invited to join the Network and to sign the corresponding Statement of Intent.



C. UN/ WHO Space and Global Health Conference (Geneva, 1–3 November 2023)

Objectives

The International Conference on Space and Global Health was co-organised by the United Nations Office for Outer Space Affairs, the World Health Organization and the United Nations Conference on Trade and Development in collaboration with the Government of Switzerland and the Space and Global Health Network, which is hosted by the Geneva Digital Health Hub (gdhub), and with the support of the European Space Agency (ESA).

Held in Geneva from 1 to 3 November 2023, the conference aimed to raise awareness, build capacity and foster collaboration between the space and global health sectors. This high-level conference brought together various participants including decision-makers and practitioners from both sectors to share their experiences and insights related to a series of essential and break-through topics.

Outcomes

- **998 individuals** applicants in total (in Geneva and on-line).
- **132 countries represented**
- Speakers from Geneva-based organizations (the **Group on Earth Observations and the SGH Network**) and from six space agencies (ASI (Italy), CONAE (Argentina), ESA (European), GISTDA (Thailand), NASA (United States) and SUPARKO (Pakistan)) also presented during the conference.
- **232 individuals** (104 women and 118 men) were selected by the programme committee and invited to participate.
- **171** participants attended the event at the end. 17 participants (11 women and 6 men), with funding provided by the Office for Outer Space Affairs and funding from ESA.
- **Statement of Intent:** All stakeholders including representatives of international organizations, governmental institutions, on-governmental entities, private entities and individuals were encouraged to join the Network using the Statement of intent.
- A total of **31** Statements of intent were signed after the event.
- Positive feedback on the level of discussions, logistics and programme of the event were shared by the participants.

Sessions

The programme was divided into four main sessions:

Session# 1: Telehealth including a session on space solutions in support of telemedicine and telehealth and another one on space and digital solutions supporting health.

Session #2: Space solutions in support of tele-epidemiology and environmental health with two subsessions, tele-epidemiology and environmental health.

Session #3: Space life sciences and especially space exploration and suborbital flights.

Session #4: Space solutions in support of disaster and health emergency management.

Each session was followed by discussions related to the implementation of the resolution on space and global health.

A wide range of stakeholders from both the space and health sectors, including representatives of national health authorities, space agencies, academia, international organizations, governmental institutions, non-governmental entities, and other stakeholders contributed actively to the different discussions.

Some examples of the various topics discussed include: use of remote sensing data and geographic information systems and their role in preventing and forecasting health issues and supporting decision makers, with concrete examples in areas such as urban heat, air pollution and vector-borne, waterborne and soil-related diseases. In addition, the use of machine learning, AI (artificial intelligence) and data modelling techniques were also discussed during the conference.

The detailed report of the conference ([A/AC.105/1306](#)) is available on the six official languages of the United Nations. Detailed report of each session can be found here in the **report** on the United Nations/World Health Organization International Conference on Space and Global Health.

Reception

In the evening of November 1, a reception was hosted at the Campus Biotech by the Government of Switzerland with the presence of Ambassador Alexandra Baumann, Head of the Prosperity and Sustainability Division at the Swiss Federal Department of Foreign Affairs FDFA.

This event was an opportunity to network, continue the discussions initiated during the day and was a catalyst for the various exchanges between participants for the rest of the conference.

Selection of key recommendations

Detailed summary of observations and recommendations can be found in the [report](#) of the conference. Below a selection of key recommendations with concrete action points for the Space and Global Health Network and the various stakeholders of the conference.

Collaboration and knowledge sharing

76. Participants **encouraged space agencies and health authorities to proactively engage with the Space and Global Health Network by providing updates on and insights into their collaborative projects and endeavours for incorporation in the Space and Global Health Platform, and to make that information available to the members of the Network**, thus enriching the collective expertise of the Network and fostering an environment conducive to innovation and enhanced cooperation.

81. The importance of cooperation and knowledge exchange between entities in the space and health sectors was emphasized by participants, and it was recommended to **continue pursuing and sharing cooperative activities and initiatives as a foundational resource for ongoing dialogue and development within the Space and Global Health Network**. A/AC.105/1306

Policy and Governance

83. Examples of national-level legal and ethical issues were presented and participants expressed **the need to advance policy and governance mechanisms**, including to address concerns regarding **health data privacy, data-sharing, data standardization and liability**, at transnational, national and local levels, triggering further discussions and highlighting the complexity of these topics. In that regard, **participants were encouraged to liaise with relevant United Nations entities**.

Technical Operability

84. The identification of issues and concerns, as well as existing policies and regulations, could be taken as a first step towards establishing mechanisms to facilitate the development of space-based technologies in support of global health. Participants recognized the need to advance further in terms of **organizational and technical interoperability**.

Raising awareness on Space industry and health

88. Participants recommended **organizing an event devoted to the space industry and health** at a future session of the Scientific and Technical Subcommittee or of the Committee on the Peaceful Uses of Outer Space **to raise awareness among Member States**.

Need assessment of spatial resolutions

86. Acknowledging that the applications presented during the Conference made use of existing and mostly freely available sensors, it was recognized **that a thorough needs assessment should be conducted to understand the appropriate spatial resolution for each application** and to identify potential needs for very high-resolution data in some applications.

Risk monitoring of key variables

87. Variables such as temperature, humidity, particulate matter, carbon monoxide and dioxide concentration, land cover and use, and other environmental data were identified as important for risk assessment. Along the same lines as the essential climate variables, **it was recommended to create a list of public health monitoring requirements and essential variables that could** be captured by space systems and associated applications to reduce the risk of monitoring gaps.

Reducing Gender gap

91. It was highlighted that, although there was limited data from participants in spaceflights, a gender imbalance existed, due to the overrepresentation of men as compared to women, which presented challenges to understanding specific health issues. **Space agencies were encouraged to continue broadening the participation of women in space exploration, including through the Space4Women initiative of the Office for Outer Space Affairs**.

Disaster management cycle

94. Participants acknowledged the work of UN-SPIDER concerning disaster management and emergency response and in working with Member States to develop **recommendations for the disaster management cycle**.

Improving education. Capacity Building

95. Successful examples of multidisciplinary capacity-building efforts bridging space and health were discussed, and it was recognized that more efforts were needed. Participants **recommended advocating for improving education through the creation of a space and global health curriculum and a comprehensive list of relevant use cases to drive capacity-building and awareness-raising efforts**.

Long-term strategy and Action plan

96. Due to the complexity of the issues discussed during the Conference, participants recommended further discussions and **the creation of a short-term action plan and a longer-term strategy for the implementation of actions supporting the General Assembly resolution on space and global health.**

Additional resources:

[Report](#) on the United Nations/World Health Organization International Conference on Space and Global Health.

[Booklet](#) of the conference of United Nations/World Health Organization International Conference on Space and Global Health.

Videos and Pictures of the Conference can be found [here](#)



II 2024 Activities Plan

Building on the momentum initiated since the establishment of the SGH Network in 2022 and the successful events in 2023, the following activity plan will be conducted in 2024.

Those activities are aligned with the recommendations of the United Nations General Assembly Resolution 77/120, the UN/WHO Space and Global Health Conference and the overall mission of the SGH Network to promote effective collaboration on space and global health issues among Member States, United Nations entities, other international organizations, and relevant actors.

In addition, the objectives are to raise awareness on the SGH Network mission and activities and to engage with new stakeholders sharing similar interest to contribute to shape the agenda in the field of Space and Global Health.

A. Curriculum on Space and Global Health

In order to tackle the crucial need to build an original Space and Global Health curriculum as per the paragraph 15 of the Resolution 77/120 and paragraph 95 of the Report on the United Nations/World Health Organization International Conference on Space and Global Health, the following action points will be undertaken:

- Creation of a taskforce of experts that will lead this activity. Recruitment will be done through a call for contribution. This group of experts will be a driving force to support the definition objectives, the target population, syllabus, implementation process, partnerships etc.
- Assessment of the current existing programmes/ modules and gaps analysis.
- Assessment of the right format to implement the curriculum: E.g. On-line MOOC with multiple academic partners, identify other relevant possible options.
- Design the backbone of a stellar curriculum on Space and Global Health
- Submit the curriculum for review to other members of Space and Global Health Network.
- Develop the relevant partnerships to achieve the creation and also a successful implementation of the curriculum.

Deadline: A first draft of the programme could be presented during SGH Network meeting in June 2024 (potentially during Sixty-seventh session of the Committee on the Peaceful Uses of Outer Space 19 to 28 June 2024. (To be confirmed)

A/RES/77/120 paragraph 15 Encourages Member States to engage learning institutions and other capacity-building mechanisms in motivating young health professionals, at an early stage, to acquire space-related skills and abilities;

*A/AC.105/1306 Paragraph 95: Successful examples of multidisciplinary capacity-building efforts bridging space and health were discussed, and it was recognized that more efforts were needed. Participants recommended advocating for improving education through the creation of a **space and global health curriculum** and a comprehensive list of relevant use cases to drive capacity-building and awareness-raising efforts.*

B. Events 2024

1. Sixty-first session of the Scientific and Technical Subcommittee (29th January to 9th February 2024), Vienna.

Two specific meetings of the SGH Network will be held on February 5th and February 6th 2024 during the 61st session of the Scientific and Technical Subcommittee on the Peaceful Uses of Outer Space.

The main objectives will be to discuss the main conclusions of past activities included in the 2023 Annual Report and to align on the 2024 activities Plan.

The overachieving goal is to reflect on concrete approaches to raise awareness on the mission of Network and to continue the efforts to promote better collaboration between the space and global health fields.

A/RES/77/120 paragraph 16. Agrees to promote capacity-building events, to be organized by United Nations entities and other relevant actors, with the objective of further promoting awareness of and engagement with regard to the important contribution of space science and technology among actors applying One Health approaches, with a view to increasing the number of organizations and other actors in the health domain that are actively engaged in using space science and technology

A/AC.105/1306 Paragraph 77: 'Participants noted the planned activities of the Space and Global Health Network for 2024, which included meetings of the Network on the sidelines of the sixty-first session of the Scientific and Technical Subcommittee, to be held in Vienna from 29 January to 9 February 2024'

2. Geneva Digital Health Day 2024

In collaboration with [the Geneva Health Forum](#) (27 to 29 May 2024) and within the context of the seventy-seventh World Health Assembly, the Geneva Digital Health Hub is organizing the first edition of **the Geneva Digital Health Day**.

The Geneva Digital Health Day is a unique platform for healthcare professionals, innovators, humanitarians, entrepreneurs, policy-makers and academics to share insights, experiences, and solutions in the field of digital health, with the mission to promote knowledge sharing and collaboration. This first edition event will take place in Geneva (Campus Biotech) **on May 30, 2024** and will immediately follow the Geneva Health Forum (May 27-29 2024).

During that Geneva Digital Health Day, a specific session will be dedicated to Space and Global Health. The specific topics discussed during that day will be aligned with the recommendations of 2023 UN/WHO Space and Global health Conference and the report of the sixty-first session of the Scientific and Technical Subcommittee in Vienna.

While the final agenda is yet to be finalized, topics such as interoperability, data governance, remote-sensing, GIS, curriculum for capacity building in the field of space and global health etc. Multi-disciplinary stakeholders' sessions will take place (including actors from the industry, venture-capital and financing firms) to improve the collaboration between the fields of space and global health.

The call for abstracts is still open [here](#) (Deadline: February 10).



3. Health and Earth Observation (EO) Hackathon

The European Space Agency (ESA) and the Geneva Digital Health hub with the collaboration of the Space and Global Health Network is organizing for the first time a Hackathon. The event will take place in Geneva during two days (**31 May-1 June, 2024**).

Individuals from all backgrounds (global health experts, medical professionals, data scientists, project managers, etc.), with a special focus on health sector and Earth Observation (EO) applications experts, are invited to contribute through their ideas and expertise.

Challenges on various topics aligned with the mission of the Space and Global health Network shall be featured during this Hackathon including technologies, such as Earth Observation Satellite Data, digital technologies (e.g. AI, Internet of Things), and innovative visualisation techniques (e.g. Metaverse, Augmented Reality) etc.

The call to submit ideas for the hackathon challenges is open [here](#)



4. Sixty-seventh session of the Committee on the Peaceful Uses of Outer Space 19 to 28 June 2024.

The Space and Global Health Network might be given the opportunity to report on the status of its activities on the sidelines of the sixty-seventh session of the Committee on the Peaceful Uses of Outer Space, to be held from 19 to 28 June 2024.

A/AC.105/1306 Paragraph 88: Participants recommended organizing an event devoted to the space industry and health at a future session of the Scientific and Technical Subcommittee or of the Committee on the Peaceful Uses of Outer Space to raise awareness among Member States.

5. World Health Summit 2024

The next edition of the World Health Summit ([WHS](#)) will take place from 13 to 15 October 2024 in Berlin.

The Space and Global Health Network aim to participate in a dedicated session of the WHS or to organize an event on the sidelines of this conference.

6. AI for life

The Geneva Digital Health Hub is co-organizing with Artefact the second edition of the [AI for Life conference](#) (10 December 2024). AI for Life is a festival and a platform for exchanges between Swiss and European change makers with the mission to democratize the use of health data and AI to accelerate innovation in health, taking into consideration ethics and responsibility.

Public and private actors will be involved including startups, research labs, corporates, institutions, as well as political, economic decision-makers.

A specific track will be dedicated Space and Global Health, and will represent an opportunity for the Space and Global Health Network to showcase its activities related to the use of AI and new technologies and contribute to shaping the discussions on that topic.

7. Interoperability Workshop

In alignment with paragraph 84 of the UN/WHO Space and Global Health Conference report, the SGH Network will host a workshop to better frame the issues about organizational

technical interoperability in the field of space and global health. Conclusions of this workshop will be used to build recommendations to tackle of selected issues.

This workshop could be organised during the Geneva Health Day on May 30th 2024 or as a stand-alone event on-line (date to be defined).

First discussions to frame the work to be conducted in that matter will be held during the meetings of the SGH Network at the Sixty-first session of the Scientific and Technical Subcommittee in Vienna (February 5th and February 6th, 2024).

A/AC.105/1306 Paragraph 84: ‘The identification of issues and concerns, as well as existing policies and regulations, could be taken as a first step towards establishing mechanisms to facilitate the development of space-based technologies in support of global health. Participants recognized the need to advance further in terms of organizational and technical interoperability.

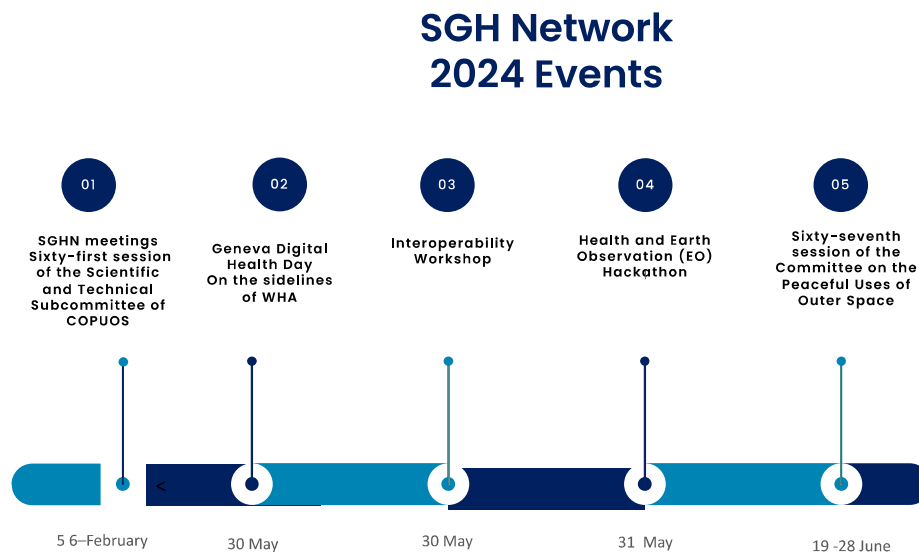


Figure – List of events planned until June. For information concerning events after June, please check the [Geneva Digital Health Hub](#).

D. Community of Practice/ Implementome

A dedicated space for the Community of Practice (CoP) of the Space and Global Health Network exists on the [Implementome](#) platform which is hosted by the Geneva Digital Health Hub.

This platform supports the objective to foster better collaboration between stakeholders on the field of Space and Global health and various sectors and to shed the light on existing initiatives and to promote knowledge sharing and the creation of new collaborations.

For the aforementioned reasons, the SGH Network will develop activities (events, social communication, specific outreach campaigns etc.) throughout the year to raise awareness on the existence of the Implementome, to increase the number of members and ensure inclusivity and diversity of profiles of members of the CoP.

E. Working groups of experts of the Space and Global Health Network.

Given the wide range and high-level of expertise amongst the members of the SGH Network and potential synergies, an assessment will be conducted to evaluate the relevance to create different working groups of experts that could work independently on a specific issue while reporting their activities to the Space and Global Health Network during different events.

Those activities are aimed to strengthen the collaboration within the members of the SGH Network to advance its mission and increase its impact on the field of Space and Global Health.