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# GLOC 2023

IAF GLOBAL SPACE  
CONFERENCE ON  
CLIMATE CHANGE

**23 - 25 MAY 2023 | OSLO, NORWAY**

*Fire and Ice - Space for Climate Action*

# HIGHLIGHTS





## WELCOME MESSAGE

Being the first conference of its kind, the IAF Global Space Conference on Climate Change (GLOC 2023) was organized together with the Norwegian Space Agency (NOSA) in Oslo, Norway 23 – 25 May 2023. During the three days more than 600 delegates from 45 different countries gathered in Oslo to discuss this critical matter that will hugely impact our future on Earth. Many of the sessions were also streamed online with over 4000 viewers connecting from all over the world!

The conference was organized under the theme *“Fire and Ice – Space for Climate Action”* and sought to find ways that space technologies can contribute to the global climate change mitigation efforts. GLOC 2023 served as a dynamic platform for connecting the international community and fostering a meaningful dialogue among diverse stakeholders, both space and non-space actors. Together, we can harness the power of space to create a more sustainable and resilient future for our planet.

Being the first IAF GLOC conference this will certainly not be the last and we are looking forward to continuing this important conversation with all of you in the future at our succeeding GLOC event. Next year we will be continuing our Global Conference journey when we head to Tel Aviv, Israel for the IAF Global Conference on Secure Space, GLOSS 2024. In the meantime, enjoy this booklet reminiscing the highlights of GLOC 2023!

Clay Mowry  
President,  
International Astronautical Federation (IAF)



# STATISTICS

## REGISTRATION



- Female
- Male
- Prefer not to say

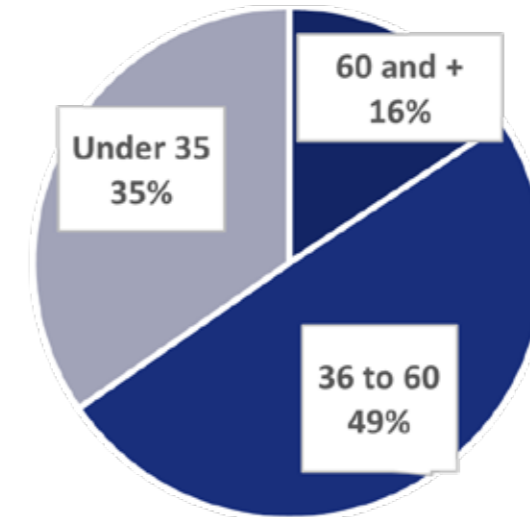
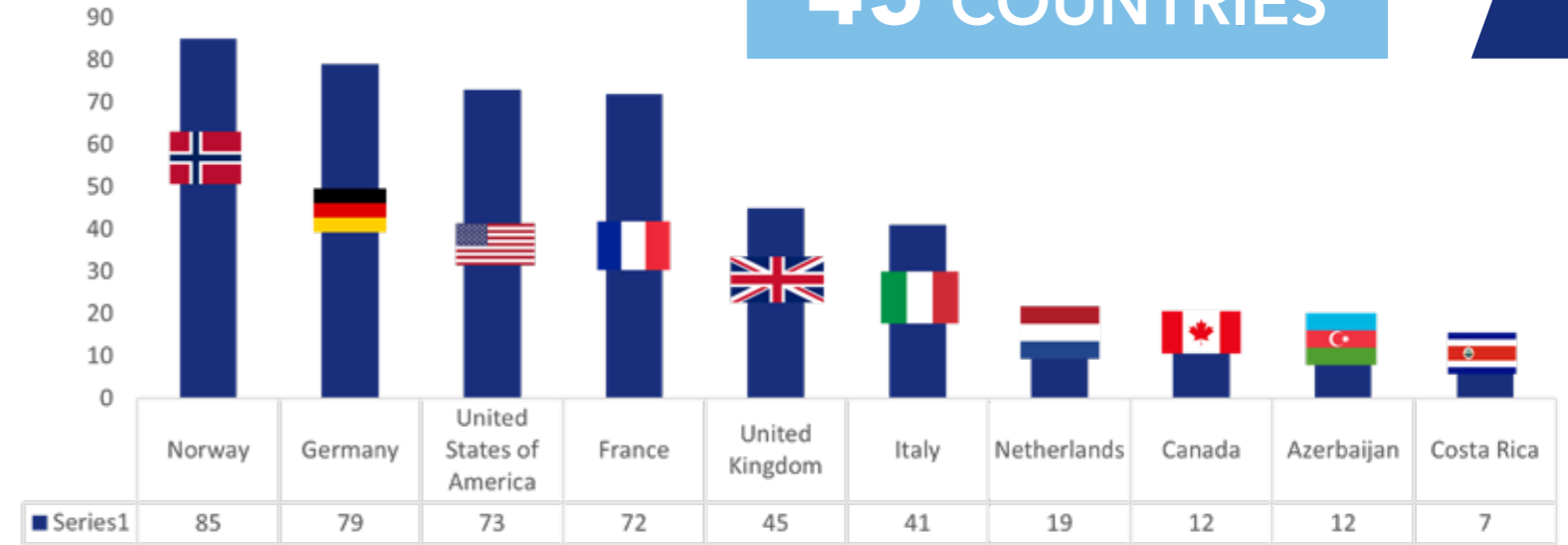
Number of Participants by Gender

**600**  
DELEGATES

**4000**  
REMOTE VIEWERS

Registration Top 10 Countries

**45 COUNTRIES**



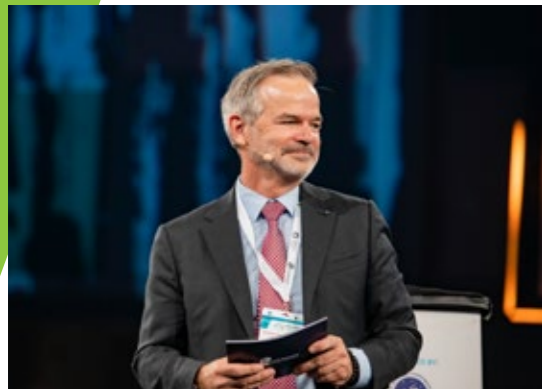
Participants per Age



# TUESDAY

23 May 2023





# OPENING CEREMONY



# EXHIBITION OPENING



# HIGH-LEVEL PLENARY PART 1: Fire and Ice - Current State And Prospects For our Home Planet



*"I think with space, we have a unique tool that can really help not only the developed countries, but really every single nation."*

**Josef ASCHBACHER**  
Director General, ESA



## HIGH-LEVEL PLENARY PART 2: Understanding Needs, Bridging Gaps



*"The challenge we face is dissemination of data. Not just dissemination to climate academics or end users, but to adjacent sectors that also have a huge role to play, whether that's the financial sector or legal and regulatory sector. How do we make sure that everyone is engaged at the right time and at the right level?"*

**Harshbir SANGHA**  
Director of Missions and Capabilities Delivery, UK Space Agency



# VIP WELCOME LUNCHEON

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## HIGH-LEVEL PLENARY PART 3: Space As A Toolbox For Climate Action Now

*"It's not just about information, it's about the right information. We need to understand what the end user is going to use the data for and then we can do a better job at making sure we go forward with the right solutions."*

**Eric LALIBERTÉ**  
Director General for Space Utilization, CSA



# IAF GNF SESSION: IUU Fishing - Using Space Technology To Address Organized Crime In The Global Fishing Industry



*"Organized criminals are experts at reorganization and we as governments have to have structures that make us adaptable so we can face these new challenges and changing modus operandi."*

**Gunnar STOLSVIK**  
Director, Blue Justice Initiative



## IAF GNF SESSION: Fire - Addressing Climate Change Measurement And Impacts In The Tropics



*"We don't want to be in a reactive posture, we want to actively manage forests. It's bringing together more types of data that can inform us about the entirety of the conditions so you can really start to get to the kinds of services that that managers need before they're in a crisis."*

**Karen ST. GERMAIN**  
Director for Earth Science, NASA

# IAF GNF SESSION: Communicating About Climate Change: Can The Space Industry Tell Our Story Better?



*"We're collecting so much data now that if we want to communicate about the impact of climate change we need to visualize it better."*

**Aravind RAVICHANDRAN**  
Founder, TerraWatch Space



# SCO SIGNATURE EVENT & RESPONSIBLE SPACE SECTOR CHARTER SIGNING EVENT





# TECHNICAL PROGRAMME



# GALA DINNER







# WEDNESDAY

24 May 2023





HLL

## HIGHLIGHT LECTURE: Earth Observation For Building A Climate Ready Society



*"We are all feeling the impacts of climate change right now. This is no longer a theoretical consideration for our children and our grandchildren."*

**Richard SPINRAD**  
Undersecretary of Commerce for Oceans and Atmosphere, NOAA

## PLENARY:

# From Earth Observation Data to Successful Climate Policy - The Role of the Space Industry



*“There are still many companies that don’t have monitoring and don’t take action. Most of us are still living in parallel universes. We’re all living in silos, and silos hamper progress.”*

**Niels WIELAARD**  
CEO, Satelligence





## IAF GNF SESSION: Carbon Footprint of Monitoring Climate Change

*"We've been hearing a lot about all the advantages that space can bring in order to fight against climate change, but that shouldn't prevent us from taking care about our own impact."*

**Thomas MARCEAU**  
Head of Sustainability and Corporate Support, ArianeGroup



# IAF GNF SESSION: Global Methane Observing System



*“More eyes in the sky will lead to more granularity and building toward a global monitoring system that enables transparency and supports accountability.”*

**Mackenzie HUFFMAN**  
Director for Strategy and Partnerships, Carbon Mapper





# LUNCHEON

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## HIGHLIGHT LECTURE: Operational Products And Services

HLL



*“As you can imagine, this is a massive investment for the European Union and I think it’s fair that people want to see a return, and that return comes in the form of adoption so we’re doing lots of market development activities with end users.”*

**Rodrigo DA COSTA**  
Executive Director, EUSPA





## PLENARY: Progress On Measuring Critical Climate Variables – And what More Needs to be Done

*“It’s really important not only to have this view of the past 20 years, but also to prolong it into the future. Earth observation puts us in the place to have a very holistic understanding of each and every process of the planet.”*

**Godela ROSSNER**  
Head of Earth Observation Department, DLR





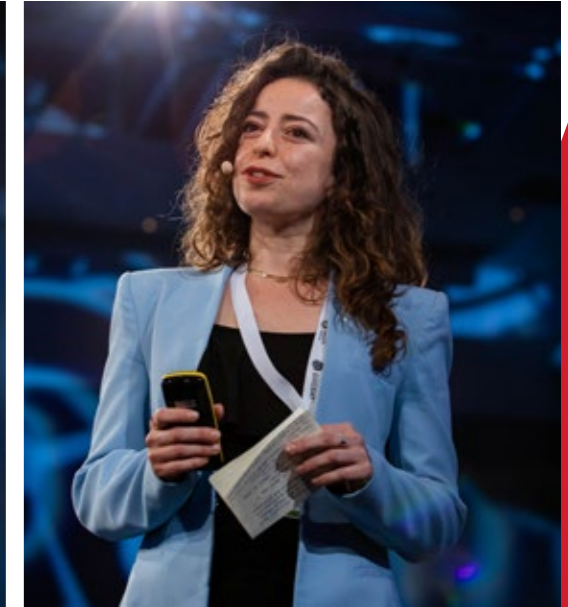
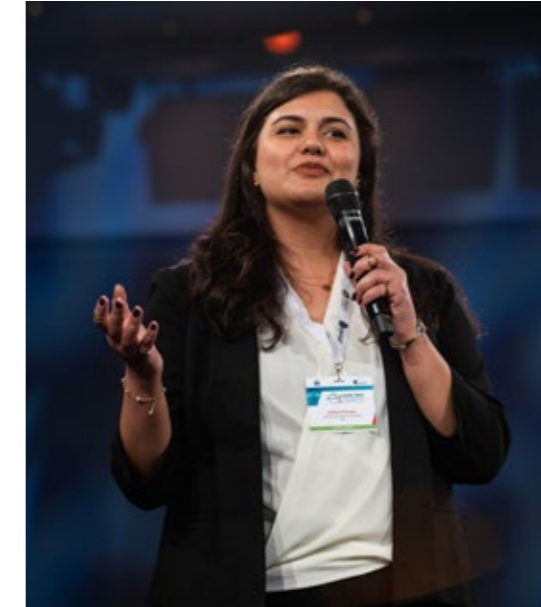
## NEXT GENERATION EVENT:

# Saving our Future on Earth through our Presence in Space: A Generational Exchange on the Role of Space in the Fight Against Climate Change



*"Interdisciplinarity is key in solving this problem. We need to engage stakeholders from academia, government, and commercial industries."*

**Sahba EL SHAWA**  
Ethics & Human Rights and Space for Climate Action Lead, SGAC



## PART 1: Are We Doing Well? Space Science and Technology for Climate Action



*"Science is a collaborative process. I think having all of these different perspectives is key to building a better sense not only of the challenges, but the solutions."*

**Allison LIGHTNER**  
Program Manager for Climate and Resilience, NASA





## PART 2: Can We Do Better? An Intergenerational Pact for Space and Climate Action



*"We must acknowledge the shortcomings within our industry and reflect upon the extent that we are complicit. I think being real with ourselves and fostering more collaborations with grassroots movements and frontline stakeholders will be the way forward."*

**Satish Raj V. PERIASAMEY**  
Malaysian Environmental Advocate and Student

# TECHNICAL PROGRAMME



# RECEPTION AT OSLO CITY HALL





# THURSDAY

25 May 2023



## HIGHLIGHT LECTURE: How Humans Are Changing Earth

HLL

*"We are innovating both in terms of new understanding as well as in new technologies. A big part of what we do is share everything we have with everyone around the world so that what we know can benefit all of humanity."*

**Katherine CALVIN**  
Chief Scientist and Senior Climate Advisor, NASA





# PLENARY: Planning For A Future With A Changing Climate



*"What we are doing here is actually to come up first of all with practical examples that show to the world, to governments, what space can do beyond what it has traditionally done."*

**Rune FLOBERGHAGEN**  
Head of Science, Applications, and Climate Department, ESA



## IAF GNF SESSION:

# Polycrisis Linked to Climate Change: from Shortages to Socio-Economic Impacts on Future Generations



*"I think that space will not save the planet, but the planet will not be saved without space. So I think we definitely should reflect on that and make sure that space is the right tool and a sustainable tool in itself to save the planet."*

**Thomas MARCEAU**  
Head of Sustainability and Corporate Support, ArianeGroup



*"I believe that it's very important to share the experience and the ideas we have because in every country we have some brilliant ideas and some really novel solutions. So sharing this experience will create real added value."*

**Grzegorz WROCHNA**  
President, POLSA



## IAF GNF SESSION: From Analysis to Action: Bridging Gap to Secure Climatically Vulnerable Communities



## IAF GNF SESSION:

# Global Action in Space for Disasters within a Changing Climate and the Role of The International Charter for Space and Major Disasters



*"We cannot reduce the fury of nature, but what we can do is adapt to it and try to mitigate the impacts of these disaster situations."*

**Prakash CHAUHAN**

Director, National Remote Sensing Centre, ISRO





# TECHNICAL PROGRAMME



## HIGH-LEVEL SUMMARY SESSION

*"I'm optimistic that we are about to get into an area where we really can predict things in the future. I think that will make it easier for us to communicate things to the general public and to decision makers."*

**Ole Morten OLSEN**

Director of Enterprise Development and Innovation, NOSA



## CLOSING CEREMONY





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