

GENEVA SCIENCE AND DIPLOMACY ANTICIPATION SUMMIT 2022

12 - 14 October - Geneva, Switzerland

Programme

(as of 10 October 2022)



INTRODUCTION

Rapidly evolving science breakthroughs will define the 21st Century. Diplomatic decision-makers must envision and develop reliable and resilient solutions for addressing the impact of science breakthroughs. With the future prosperity of society at stake, responsive and flexible diplomatic measures are the key to success.

The GESDA Foundation's annual gathering – the Geneva Science and Diplomacy Anticipation Summit, or GESDA Summit – will foster global multilateral action, taking into account the pace of science, the need to accelerate access for all to its benefits, and the impact of the international geopolitical situation.

With GESDA, Science and Diplomacy has a trusted environment and an honest broker. GESDA is working on that by forging new collaborative avenues for the science, diplomatic, impact and citizens communities, especially in a world that needs most people to be able to **benefit from the advances of science.** Complex issues, such as how AI could lead to better health, the policy development on organoids, whether to use geoengineering applications, and the evolution of cyber conflicts are impacting **what it means to be human, how we interact with others, and the way we live on the planet.**

From **12-14 October 2022, at Campus Biotech in Geneva, Switzerland,** the 2022 GESDA Summit will convene leading minds and influential figures and invite new voices to actively engage in GESDA's growing set of activities to help advance global Science and Diplomacy together in an anticipatory, responsible, inclusive, and sustainable manner.

The Summit program will encourage consensus building and inspire participants to deliberate key issues, brainstorm on the impacts of emerging trends, and collaborate on creative avenues to meaningful action. Expanding on GESDA's core methodology for convening science and diplomacy communities, **this year's program will highlight the momentum of anticipation in Science and Diplomacy through:**

1. **The yearly update of the [GESDA Science Breakthrough Radar®](#)** – produced in partnership with the Foundation pour Genève and with 1000 scientists worldwide – presenting about 40 scientific emerging trends likely to become operational in 5, 10, 25 years. Science Anticipation sessions will bring participants current with an evolving set of breakthroughs presented in the 2022 Edition of the GESDA Science Breakthrough Radar®. This portion of the program puts the finger on the pulse of the scientific future, with sessions that address the most pressing issues of the updated Radar®. Included are noteworthy topics such as augmented and virtual reality, organoids, geoengineering, and the digitization of conflicts.
2. **GESDA's Pipeline of Solution Ideas** – first prototypes of possible avenues of actions to accelerate the use of emerging trends such as quantum computing for sustainable development, neurotechnology, decarbonisation and science & diplomacy. GESDA's Solution Ideas and related Initiatives lay the groundwork for open and accessible benefits from science. Based on issues taken from the GESDA Science Breakthrough Radar® over the last two years, these sessions will address key areas where the world needs preparation for the impact of transformative science. The Summit will introduce a broader audience to the following pipeline of Solution Ideas:
 1. **Open Quantum Institute**
Delivering co-development and equitable access to quantum computing technologies.
 2. **Global Science & Diplomacy Curriculum**
Coalescing Swiss and global actors interested in Anticipatory Science and Diplomacy.
 3. **NeuroTech Compass**
Preparing stakeholders for the impact of digital technologies connected to the brain.
 4. **Decarbonisation Accelerator**
Convening stakeholders and implementing concrete actions to accelerate decarbonisation.
3. **A preliminary assessment by political authorities** present at the Summit on whether and how these trends and actions could be politically endorsed and furthered at global diplomatic level. High-Level support from the diplomatic community is at the heart of GESDA's capacity to drive change. The 2022 Summit will showcase the essential support of the Swiss Government and the Canton of Geneva, as well as invite the political leaders fostering anticipatory science and diplomacy at a global scale.
4. **The need for the set-up of innovative Impact Funding instruments** to provide the resources necessary to incubate and implement the proposed Solution Ideas and related initiatives.

INTRODUCTION

2022 YOUTH COHORT

The 2022 GESDA Summit will also give an important place to young aspiring leaders, who will be invited to attend the event and share their thoughts about what they hear, learn and reflect upon during the sessions. They will be asked to share their views on the future of Science and Diplomacy and on GESDA's efforts and vision. Some of the young leaders will be invited by the SwissNex network of Swiss scientific consulates across the world. Joining them in Geneva will be three finalists selected from the competition organized by the Youth and Anticipation Initiative – jointly implemented by the University of Cape Town's Vice-Chancellor, Professor Mamokgethi Phakeng, and GESDA. Additionally, three students will attend from Swiss secondary schools, nominated by the Villars Institute and its Villars Fellows program.

This year we'll have the pleasure of welcoming the following Youth Cohort representatives at the 2022 GESDA Summit:

- **Olivia Avalos Villar**, Student, Physics, Sciences and Economics, International School Basel, Spain
- **Sophie van Berchem**, Student, Columbia University, Switzerland
- **Aijing Cao**, Junior Policy Officer, ITU Office for Europe, People's Republic of China
- **Adrien Donin de Rosière**, Student, Kings College Wimbledon, Switzerland
- **Bekithemba Ntoni**, Master's Candidate, University of Cape Town, South Africa
- **Rejoyce Kgabo Legodi**, Volunteer Marketing personnel, Science Technology Engineering Aviation-Arts and Mathematics (STEAM) Ambassadors Club, South Africa
- **Silvia Maier**, Member and Project Lead, Swiss Young Academy, Switzerland
- **Sofiiia Martianova**, Villars Fellow; Student, Electrical Engineering, ETH Zurich, Ukraine
- **Jordan Naddaf**, Foreign Policy Youth Collaborative Association, United Kingdom
- **Niel Swanepoel**, South African Delegate, Y20 Indonesia, Namibia
- **Stephanie Tauber Gomez**, Director Sustainability, digitalswitzerland, Brazil
- **Eloise Westfeldt**, Collège du Léman, United States

2022 GESDA PARTNER EXCURSIONS

Partner organizations, such as CERN, the Graduate Institute Geneva, the United Nations, and XPRIZE will contribute to the program, and there will be open public forum opportunities for participation. On the final day of the Summit, all participants will be invited to take part in one of the following side-events:

- visit [CERN](#), the European Organization for Nuclear Research, one of the global flagship examples of successful science diplomacy.
- visit the [United Nations Office at Geneva](#) headquarters
- attend the [FIRST Global Challenge](#) in science and technology for young innovators

2022 GESDA SUMMIT

This year, Summit participants can expect to:

- ▶ **Exchange views with the political authorities** in charge of multilateralism in Switzerland and abroad;
- ▶ **Engage in cross-cutting conversation with peers** on essential domains of future diplomacy action;
- ▶ **Convene and hear from the world's leading experts** in various fields of interest;
- ▶ **Share experiences onsite** with robotics, neurotech, VR/AR, and interactive displays and sessions.

The Board of GESDA as well as the Executive Team is looking forward to hosting you in Geneva and wishes you a very fruitful 2022 Geneva Science and Diplomacy Anticipation Summit.



Peter Brabeck-Letmathe
Chairman, Board of Directors
 GESDA



Patrick Aebischer
Vice-Chairman, Board of Directors; Chair, Impact Forum
 GESDA



Stéphane Decoutère
Secretary General
 GESDA



Olivier Dessibourg
Executive Director, Science Communication and Outreach; Curator of the Summit
 GESDA

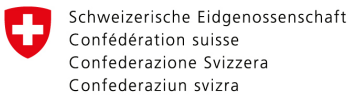
PRELIMINARY PROGRAMME OVERVIEW

Sessions-at-a-glance

Scientific Platforms	Scene Setting	What? Science Anticipation	So What? Pipeline of Solution Ideas & Initiatives	Now What?
	12 October	12-13 October	13 October	14 October
Quantum Revolution & Advanced AI	Opening Plenary The New Geopolitical Landscape for Science	> Reshaping Reality in Tomorrow's Society > How Can We Prepare for Collaborative Human-Machine Intelligence?	SOLUTION IDEA PRESENTED AT THE SUMMIT: > Building an Open Quantum Institute & GESDA-XPRIIZE Contest	High-Level Political Assessment The Future of Science & Diplomacy
Human Augmentation		> Defining Usage Frameworks for Organoids > Deciphering the Human Immunome with AI for Better Therapeutics	SOLUTION IDEA IN THE GESDA PIPELINE: > Navigating the NeuroTech Compass	
Eco-regeneration & Geoengineering		> Assessing Solar Radiation Modification > Controlling vector-transmitted Infectious Disease > What is the Future of Polar Research in the Current Geopolitical Landscape?	SOLUTION IDEA IN THE GESDA PIPELINE: > Collaborating on a Decarbonisation Accelerator	
Science & Diplomacy		> Can We Bolster Democracy Through Technologies? > Where are the Limits in the Digitalization of Conflicts? > Enabling Digital Empowerment with Trust and Transparency	SOLUTION IDEA PRESENTED AT THE SUMMIT: > Creating a Global Curriculum on Science & Diplomacy INITIATIVE: > Reviving the Human Right to Science	
Knowledge Foundations		> Making the Most of Synthetic Biology's Potential > The Future of Finance for International Impact		

PARTNERSHIPS

CO-FOUNDERS AND PUBLIC CONTRIBUTORS



STRATEGIC PARTNERS



ACTIVE COLLABORATIONS



SIDE-EVENT PARTNERS



MEDIA PARTNERS



2022 GESDA SUMMIT SESSION GUIDE

The 2022 GESDA Summit will feature three primary session styles in addition to the Opening and Closing High-Level Plenaries and special sessions organized with partners. These sessions styles are Panels, Debates, and Solution Ideas.

Panels (12-13 October)

Panel sessions bring diverse stakeholder representation to a facilitated discussion on science anticipation topics and their impacts as a basis for future diplomacy actions. These discussions allow participants to gain a broader understanding of what is at stake for the future should these breakthroughs advance along anticipated lines and have cross-sector global impact.

Debates (12-13 October)

Debate sessions bring two pairs of experts together and are facilitated by an expert moderator. For each topic the pairs of experts highlight diverging views around opportunities, risks, best approaches, and the significance of the breakthroughs. After the discussion, the audience will join in with questions, engaging with the expert panel. These sessions broaden the field of vision for participants, highlighting the rationale, readiness, and ramifications of important topics on the GESDA Science Breakthrough Radar®.

Solution Ideas (13 October)

Solution Ideas sessions are constructed in two parts. The first part is a structured update and presentation of GESDA's Solution proposal, showing the process from the GESDA Science Breakthrough Radar® to the Anticipatory Situation Room to the taskforce led Solutions and Initiatives. These pathways toward multilateral solutions highlight GESDA's unique methodology. The second part provides space to focus on the current outcomes and plans for the future. This part engages audience members, invites questions, and shows participants how to become involved in supporting GESDA's process.

Public Plenary Sessions

Public sessions will demonstrate the utility of the economic, geopolitical, legal, and philosophical tools being developed for working with the GESDA Science Breakthrough Radar®. Public sessions will feature a renowned expert and/or public figure, whose keynote address will be followed by a selection of experts representing each of the lenses – economic, geopolitical, legal, and philosophical. Experts will share the questions that arise when addressing the breakthrough from different perspectives. The public will be able to interact where appropriate through Q&A portions of the sessions.

Time	Wednesday 12 October	Location
10.30-11.30	Press Conference	Campus Biotech EPFL room, 6th floor
10.30-18.00	Registration	Campus Biotech Main Entrance, Chemin des Mines 9
13.00-14.30	<p>Opening High-Level Plenary to the Second Geneva Science and Diplomacy Anticipation Summit</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Muriel Siki, Journalist, Switzerland <p><i>Welcome messages by:</i></p> <ul style="list-style-type: none"> • Peter Brabeck-Letmathe, Chairman, Board of Directors, GESDA, Austria/Switzerland • Ignazio Cassis, President, Swiss Confederation; Head, Federal Department of Foreign Affairs, Switzerland • Amandeep Singh Gill, Envoy on Technology, United Nations, representing UN Secretary-General António Guterres, India <p>Geneva, the Perfect Home for Science & Diplomacy and GESDA</p> <p><i>With:</i></p> <ul style="list-style-type: none"> • Natalie Fontanet, State Councillor, Departments of Finance and Human Resources, Republic and State of Geneva, Switzerland • Marc Pictet, President, Fondation pour Genève, Switzerland <p>Presentation of the 2022 GESDA Science Breakthrough Radar®</p> <p><i>With:</i></p> <ul style="list-style-type: none"> • Joël Mesot, President, ETH Zurich; Co-chair, Academic Forum, GESDA, Switzerland • Mamokgethi Phakeng, Vice-chancellor, University of Cape Town; Board Member, GESDA, South Africa • Marie-Laure Salles, Director, Geneva Graduate Institute; Member, Science Breakthrough Radar® Advisory Board, GESDA, France • Martin Vetterli, President, EPF Lausanne; Co-chair, Academic Forum, GESDA, Switzerland <p>High-Level Panel on “The New Geopolitical Landscape for Science”</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Alexandre Fasel, Special Representative for Science Diplomacy, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Jean-Marie Guéhenno, Kent Visiting Professor of Conflict Resolution, Columbia University; Former UN Under-Secretary-General for Peacekeeping Operations, France • Amandeep Singh Gill, Envoy on Technology, United Nations, representing UN Secretary-General António Guterres, India • Lydie Hakizimana, Chief Executive Officer, AIMS-The Next Einstein Initiative, Rwanda <p>Presentation of the 2022 GESDA Pipeline of Solution Ideas</p> <p><i>With:</i></p> <ul style="list-style-type: none"> • Anousheh Ansari, Chief Executive Officer, XPrize Foundation, Iran/Switzerland • Marga Gual Soler, Founder, SciDipGLOBAL; Academic Moderator and Solution Co-chair, GESDA, Spain • Michael Møller, Chair, Diplomacy Forum, GESDA; Former Director-General, UNOG, Denmark • Daria Robinson, Executive Director, Diplomacy Forum, GESDA, Switzerland • Mathias Troyer, Technical Fellow; Corporate Vice President, Microsoft, Austria <p>Closing Keynote Address</p> <p><i>By:</i></p> <ul style="list-style-type: none"> • Marie Barbey-Chappuis, Mayor, City of Geneva, Switzerland 	Campus Biotech Auditorium

Time	Wednesday 12 October	Location
14.30-15.00	Networking Break	Campus Biotech Forum
15.00-16.15	<p>Panel Session Reshaping Reality in Tomorrow's Society</p> <p>Augmented and extended reality technologies which blend our digital and physical experiences are beginning to transform industry, work, education, and social platforms. With tens of billions of dollars being invested today to lead to a transition in the way people use their smartphones, consume information, and interact with each other, the extended reality ecosystem could be a \$1.5 trillion opportunity by 2030. The blurring of boundaries between realities, however, holds enormous implications for how citizens, communities, and leaders comprehend the world around them.</p> <ul style="list-style-type: none"> - How will a blended reality existence transform social and economic policies, and how long will it be before these two worlds become indistinguishable? - What should be done on the multilateral level to prevent undesirable consequences from becoming pervasive and entrenched in our hybrid physical-digital realities? <p>Join this session to discover the implications of yet another revolution in how people connect, interact, access information, exchange value and experience the world.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Azeem Azhar, Founder, Exponential View, United Kingdom <p><i>With:</i></p> <ul style="list-style-type: none"> • Diana Bowman, Senior Global Futures Scholar; Professor, Sandra Day O'Connor School of Law, Arizona State University, USA • David Chalmers, Author of Reality+; Professor of Philosophy and Neural Science, New York University; Co-director, NYU's Center for Mind, Brain and Consciousness, Australia • Cordel Green, Executive Director, Broadcasting Commission, Jamaica • Sarah Kenderdine, Professor of Digital Museology, EPF Lausanne, Australia • Marc Pollefeys, Professor, Computer Vision and Geometry Lab, ETH Zurich, Belgium 	Campus Biotech Auditorium
15.00-16.15	<p>Debate Session Can We Bolster Democracy Through Technologies?</p> <p>Digital threats to democracy – misinformation, propaganda, political tribalism – are trending toward a future of destabilized political and community coherence. Many experts anticipated that greater connectivity and access to information would help build a broader foundation for democratic values, but political projections of the future no longer easily align with these expectations. As digital tools are increasingly used in democratic systems, the judiciary, and other governmental processes, the operating foundation for many nations and their citizens has never had more at stake.</p> <ul style="list-style-type: none"> - Can we employ digital technologies to bolster democracy and embody the values of an integrated and educated public? - Will increasing digitalization breed divisiveness and threaten the foundations of democratic values? <p>Join this session to debate how technologies are shifting power, redefining communities, mixing personal and political identities, and what this means for our collective future.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Chris Luebke, Chief of Foresight, ETH Zurich, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Agnès Callamard, Secretary-General, Amnesty International, France • Micheline Calmy-Rey, Former President, Swiss Confederation; Visiting Professor, University of Geneva, Switzerland • Niva Elkin-Koren, Professor of Law, Tel Aviv University, Israel • Aaron Maniam, Deputy Secretary of Industry and Information, Ministry of Communications and Information of Singapore, Singapore • Nanjira Sambuli, Policy Analyst; Advocacy Strategist; Board member, Digital Impact Alliance, Development Gateway and The New Humanitarian, Kenya 	Campus Biotech EPFL room, 6th floor

Time	Wednesday 12 October	Location
15.00-16.15	<p>Panel Session Assessing Solar Radiation Modification</p> <p>Solar Radiation Modification (SRM) has been scientifically, politically and societally divisive. Some experts don't even want to discuss proposals to go on with fundamental research in the field. There is fear that future societies could succumb to "techno fix" attitudes, potentially damaging current climate change mitigation policies. Other experts believe that interventions such as cloud brightening, aerosol injection, and creating more reflective surfaces must be part of a possible intervention portfolio, especially if other measures fail. Regardless of position, both sides agree that the planet's future is in peril and people and governments must act.</p> <ul style="list-style-type: none"> - With the consequences of climate change rising, should we be doing fundamental research on SRM, or at least verifying the feasibility of these technologies? - How can we deal with the risks and consequences that some actors will deploy SRM techniques unilaterally? - How do we create an inclusive multilateral process to make sure that no country is left out of any possible decision on using SRM technologies? <p>Join this session to explore how disparate communities can address wide ranging ramifications of perhaps humanity's greatest challenge.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Milica Momcilovic, Science Journalist, RTS Public television Serbia; President, World Federation of Science Journalists, Serbia <p><i>With:</i></p> <ul style="list-style-type: none"> • Frank Biermann, Professor of Global Sustainability Governance, Copernicus Institute of Sustainable Development, Utrecht University, Netherlands • Sikina Jinnah, Professor of Environmental Studies; Affiliated Graduate, Faculty of Politics, University of California, USA • Pascal Lamy, Former Head, World Trade Organization; Coordinator, Jacques Delors Think Tanks (Paris, Berlin, Brussels); President, Paris Peace Forum, France • Chukwumerije Okereke, Professor in Environment and Development, AEFUNAI, Nigeria • Janos Pasztor, Executive Director, Carnegie Climate Governance Initiative, Hungary • Gernot Wagner, Climat Economist, Columbia Business School; Columnist, Bloomberg Green, Austria 	Campus Biotech H8-01-D
16.15-16.45	Networking Break	Campus Biotech Forum
16.45-18.00	<p>Panel Session Controlling Vector-transmitted Infectious Diseases</p> <p>As humans move into previously undisturbed ecosystems, and as climate change broadens areas where vector-transmitted diseases such as dengue fever, Zika, and Chikungunya are present, the need to monitor, detect, contain and, above all, prevent new outbreaks is paramount. Genetic modification of mosquitoes is already being tested to stop disease transmission, but are poorly accepted publicly. The opportunity to constrain disease transmitters with a new biological (non-genetic, hence possibly better accepted) method is within our grasp. This effective method is being evaluated for endorsement by the World Health Organization, while next generation advances in synthetic biology and genetic engineering are looking at even more innovative ways to constrain disease, such as modifying the human microbiome to resist such viruses.</p> <ul style="list-style-type: none"> - How should governments use and deploy methods of disease management in a responsible and socially acceptable way? - What role should scientists and policymakers play in making sure innovative methods are understood and knowledgeably accepted or rejected by populations? <p>Join this session to explore the collaborations linking disease management and our care of the environment that are needed to fight the next insect-transmitted epidemic wave.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Suerie Moon, Co-director, Global Health Centre, Graduate Institute, USA <p><i>With:</i></p> <ul style="list-style-type: none"> • Arnaldo Correia de Medeiros, Secretary-General, Health Emergencies, Ministry of Health, Brazil • Jeremy Farrar, Director, Wellcome Trust, United Kingdom • Scott O'Neill, Chief Executive Officer, World Mosquito Program, Australia • Amadou Sall, Chief Executive Officer, Institut Pasteur, Dakar, Senegal • Soumya Swaminathan, Chief Scientist, World Health Organization, India 	Campus Biotech Auditorium

Time	Wednesday 12 October	Location
16.45-18.00	<p>Debate Session What is the Future of Polar Research in the Current Geopolitical Landscape?</p> <p>The poles are the most challenging and expensive frontiers on Earth for scientific research and resource acquisition. The current geopolitical situation has put deployed efforts to pursue research in those regions at risk. It is, in fact, accelerating the race to exploit essential resources such as oil, gas, and rare earth minerals. In addition, concerns citing environmental preservation, ecosystem balance, and lack of clear authority or ownership loom over existing approach to the Earth's poles. Alternatively, the poles and their resources are an important contributor to meeting the demand of a more manageable energy transition.</p> <ul style="list-style-type: none"> - How can nations and multilateral coalitions move forward with global research programs and tenuous collaborations overshadowed by geopolitical realities? - What is the right balance between exploitation of resources and exploration of scientific unknowns? <p>Join this session to examine opportunities for sustainable approaches to scientific research and polar resources acquisition in a changing geopolitical landscape.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Doaa Abdel Motaal, Author of "Antarctica, the Battle for the Seventh Continent"; Senior Counsellor, World Trade Organization, Egypt <p><i>With:</i></p> <ul style="list-style-type: none"> • Alexandra Baumann, Ambassador; Head, Prosperity and Sustainability Division (incl. Polar Affairs), Swiss Federal Department of Foreign Affairs, Switzerland • Rasmus Bertelsen, Professor of Northern Studies, Barents Chair in Politics, The Arctic University of Norway, Denmark • Katarina Gårdfeldt, Director-General, Swedish Polar Secretariat, Sweden • Larry Hinzman, Assistant Director, Polar Sciences, White House Office of Science and Technology Policy, USA • Yeadong Kim, President, Scientific Committee on Antarctic Research (SCAR), South Korea 	<p>Campus Biotech EPFL Room, 6th floor</p>
16.45-18.00	<p>Panel Session Defining Health Usage Frameworks for Organoids</p> <p>Organoids are tiny, self-organized three-dimensional cell cultures that replicate the complexity of human organs. They are already providing insights into diseases pathologies, drug development, transplantation options, behavior and genetics, brain research and even learning networks. This rich field of research agendas and commercial needs could usher in a revolution in innovative diagnostics, therapeutics, and commercial ecosystems connected to personalized medicine.</p> <ul style="list-style-type: none"> - What challenges affect developing organoids openly and transparently? - What ethical and moral issues are there, especially around brain and interspecies organoids? <p>Join this session to learn about the impact organoids will bring to healthcare, biodefense, consciousness, and cyber-physical systems.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Effy Vayena, Professor of Bioethics, ETH Zurich; Founder, Health Ethics and Policy Lab, Department of Health Sciences and Technology, Greece <p><i>With:</i></p> <ul style="list-style-type: none"> • Matthias Lütolf, Professor of Life Science, EPF Lausanne; VP, Scientific Director, Roche Institute for Translational Bioengineering, Switzerland • Alysson Muotri, Professor, Department of Pediatrics and Cellular & Molecular Medicine, University of California, Brazil • François Rivasseau, Senior Consultant Technology & Diplomacy, World Intellectual Property Organization, France 	<p>Campus Biotech H8-01-D</p>

Time	Wednesday 12 October	Location
18.00-19.00	<p>Welcome Networking Cocktail</p> <p>During the networking cocktail, you will have the chance to meet two teams of the FIRST Global Challenge event, the robotics world competition taking place in Geneva from 13-16 October in Palexpo, to admire their robots and see how they compete.</p> <p>If you want to learn even more about FIRST Global, please join the tour to the competition in Palexpo on Friday afternoon (<i>signing up is mandatory, departure from the Campus at 14h, more information to be found on the Attendee Hub and in this programme on page 20</i>).</p>	Campus Biotech Forum
19.30-21.00	<p>Public Plenary Session</p> <p>Synthetic Biology: Towards New Geopolitical and Economic Frontiers</p> <p>Technological advances in genetic engineering and synthetic biology lead to a fast-growing number of purposes such as biofuels, new drugs, replacement organs, and biological threats. The democratisation of such technologies, coupled with the decreasing cost of DNA synthesis, will allow a broader set of actors to generate new organisms, fuelling the need for addressing individual and societal challenges, while raising concerns about the governance of these technology innovations, capacity-building and benefit sharing. The weaponisation of biology could even lead to high-impact biological attacks that would be difficult to defend against. In this context, it is essential that policymakers and regulators explore the social, environmental, economic and geopolitical implications of such technology advances.</p> <ul style="list-style-type: none"> - At the cusp of an explosion of uses and products, how can we harness the benefits of synthetic cells, biosensors, synthetic organisms and more? - What effect will synthetic biology applications have on ethics, geopolitics, science policy and society? <p>Join this session to hear leading experts present a future significantly shaped by synthetic biology.</p> <p><i>Introductory Remarks by:</i></p> <ul style="list-style-type: none"> • Jérôme Duberry, Managing Managing Director, Tech Hub; Academic Advisor, INP Executive Education; Senior Researcher, AHCD / CIES, Geneva Graduate Institute, Switzerland <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Jane Metcalfe, Co-founder, WIRED; Founder, NEO.Life, USA <p><i>With:</i></p> <ul style="list-style-type: none"> • Peter Gluckman, President, International Science Council, New Zealand • Arancha Gonzalez Laya, Dean, SciencePo Paris School of International Studies, Spain • Andrew Hessel, Chairman, Genome Write-Project; Founder, Humane Genomics, USA • Timothy Swanson, Professor, International Economics; Academic Co-director, Centre for International Environmental Studies, Graduate Institute Geneva, USA <p><i>This session is organised in partnership with the Geneva Graduate Institute.</i></p>	Graduate Institute Auditorium Ivan Pictet Maison de la Paix Chemin Eugène-Rigot 2

Time	Thursday 13 October	Location
08.00-08.45	Morning Coffee and Welcome	Campus Biotech Forum
08.45-09.45	<p>Panel Session Deciphering the Human Immunome with AI for Better Therapeutics</p> <p>The biggest difference between two individuals doesn't lie in their physical traits, but in the set of genes and proteins that constitute their immune systems. This complex ecosystem – the immunome – may hold the key to biggest health breakthroughs in the 21st century. Like the sequencing of the human genome, mapping myriad immunomes across diverse populations will advance immunology, opening avenues of innovation in health diagnostics and therapeutics. With the new help of machine learning (AI), breakthroughs will likely materialize in the next decade and could even lead toward human enhancement technologies.</p> <ul style="list-style-type: none"> - How can medical professionals, scientists, and policymakers manage the enormous transformation a mapped immunome will bring? - Can such a project remain open and coordinated among representative stakeholders? <p>Join this session to delve into the benefits and risks of groundbreaking science and to discuss the vast opportunity for governments and societies.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Samia Hurst, Professor of Ethics, University of Geneva, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Jacques Fellay, Co-director Health Genome Center, EPF Lausanne/University of Geneva, Switzerland • Wayne Koff, President & Chief Executive Officer, Human Vaccines Project, USA • Jürgen Schmidhuber, Director & Professor, The Swiss AI Lab IDSIA; Co-founder & Chief Scientist, NNAISENSE, Germany • Soumya Swaminathan, Chief Scientist, World Health Organization, India • Chorh Chuan Tan, Chief Health Scientist, Ministry of Health of Singapore; Board Member, GESDA, Singapore 	Campus Biotech Auditorium
08.45-09.45	<p>Debate Session Where Are the Limits in the Digitalization of Conflicts?</p> <p>Machine-learning, data policies, and social media platforms are already adding complexity to the conflict zone, and conventional technologies are being continuously enhanced by digital capabilities and computer systems. In the future, nanotechnologies could upend international policies. Exposed health data could put individuals at risk from precision-engineered pathogens. Governments require a much deeper expertise to respond to unconventional threats. Ultimately, reliance on non-state actors, large global tech companies, and informal citizen groups to engage in direct political actions may be a standard part of conflict and intervention, but we cannot wait until tomorrow to assess the boundaries of this transformation.</p> <ul style="list-style-type: none"> - What are the best diplomatic approaches to such destabilizing forces? - How can governments and societies move forward and address this ideological change in the boundaries of conflict? <p>Join this session to debate where red lines may emerge in 21st century conflict and which resolutions are needed to sustain security for all.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Anja Kaspersen, Senior Fellow, Carnegie Council for Ethics in International Affairs, Norway <p><i>With:</i></p> <ul style="list-style-type: none"> • Kobi Leins, Visiting Honorary Research Fellow, Centre for Science and Security Studies, Department of War Studies, King's College London, Australia • Charlotte Lindsey, Chief Public Policy Officer, CyberPeace Institute, Switzerland • Elina Noor, Director, Political-Security Affairs; Deputy Director, Washington, D.C. Office, Asia Society Policy Institute, Malaysia • Jean-Marc Rickli, Head of Global and Emerging Risks, Geneva Centre for Security Policy, Switzerland • Balthasar Staehelin, Special Envoy for Foresight and Techplomacy, International Committee of the Red Cross, Switzerland 	Campus Biotech EPFL Room, 6th floor
10.15-10.45	Networking Break	Campus Biotech Forum

Time	Thursday 13 October	Location
10.15-11.10	<p>Panel Session The Future of Financing for International Impact</p> <p>Despite considerable volumes of funds flowing into emerging technologies that are poised to deliver scientific breakthroughs with global impact, their financing remains a challenge. The funding of scientific breakthroughs for the common good, is not happening at the scale and with the benefits to society, that humanity should aspire to. As evidenced during the peak of the COVID-19 pandemic, nationalist positions may override the democratization of global public goods, such as novel health-care services and access to innovative scientific advances.</p> <ul style="list-style-type: none"> - What are the main challenges, and the hurdles holding back broader international access and investing into global public goods, including scientific breakthroughs? Are the obstacles financial, political, social or governance related? - Where is the funding for emerging technologies coming from? Where is it allocated? Where is it needed? - Could disruptive technology related Impact Funds, blended-finance mechanisms, foreign direct investments, generative futures, and impact investments in general, become standard models for global positive impact in the near future? <p>Join this session to engage in the debate around the challenges, hurdles and opportunities posed by models of financing new technologies, that are required for inclusive transformational change.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Louis de Montpellier, Chair, rePLANET; Board Member, de Pury Pictet Turrettini & Cie, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Maria Cattai, Global Board Member, Open Society Foundations, Switzerland • William Egbe, Managing Partner, Vibranium Capital Group; former President, Coca-Cola Africa, Cameroon • Kate Fox, Investment Manager, Positive Change, Baillie Gifford & Co, United Kingdom • Maria-Francesca Spatolisano, Assistant Secretary-General, Policy Co-ordination and Inter-Agency Affairs, United Nations, Italy 	Campus Biotech Auditorium
11.10-11.20	<p>Keynote Message</p> <p><i>By:</i></p> <ul style="list-style-type: none"> • Patrick Aebischer, Vice-chairman, Board of Directors; Chair, Impact Forum and related Impact Funds, GESDA, Switzerland 	Campus Biotech Auditorium
10.15-11.15	<p>Panel Session Reviving the Human Right to Science</p> <p>As the 2022 GESDA Science Breakthrough Radar® shows, anticipated scientific and technological breakthroughs have the potential to change not only society but even human beings themselves. We believe that decisions concerning the development and use of these powerful technologies should be adopted within a human rights framework. One framework from which States and other institutions derive duties and responsibilities to anticipate both the risks and the benefits of science is the Human Right to enjoy the benefits of scientific progress and to participate in that progress, grounded in Article 27 of the 1948 Universal Declaration of Human Rights.</p> <ul style="list-style-type: none"> - How can this Human Right to Science be used to benefit humanity? - What are the current challenges for this right? - What are the duties derived from this Human right regarding emerging technologies? <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • G�rard Escher, Senior Advisor to the Board, GESDA, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Samantha Besson, Professor, International Law of Institutions, Coll�ge de France and University of Fribourg, Switzerland • Andrea Boggio, Professor of Legal Studies, Bryant University, Italy • Frederick Fenter, Chief Executive Editor, Frontiers, USA • Gabriela Ramos, Assistant Director-General, Social and Human Sciences, UNESCO, Mexico • Alexandra Xanthaki, UN Special Rapporteur in the field of Cultural Rights, United Nations, Greece • Thomas Zeltner, President, Swiss UNESCO Commission, Switzerland 	Campus Biotech EPFL Room, 6th floor

Time	Thursday 13 October	Location
10.15-11.15	<p>Debate Session</p> <p>How Can We Prepare for Collaborative Human-Machine Intelligence?</p> <p>In many fields, such as healthcare applications, economic modelling, and social robotics, the mix of human experience and computational capabilities combine to generate breakthroughs in understanding population dynamics, climate cycles, and even management processes. Collaborative human-machine intelligence ranges from combining data analytics with decision-making humans to interactive knowledge developed through interconnected biological and technological systems. As these collaborative technologies advance, the future of knowledge economies hangs in the balance.</p> <ul style="list-style-type: none"> - What will be required to responsibly integrate sprawling varieties of data, computing systems, and AI methods with human agency and experience? - How will we live, work and socialize in a world where machines do more than analyze data, they make knowledge? <p>Join this session to debate how individuals, societies, industries, and governments should prepare for a future that demands a symbiotic way of observing, analyzing, and creating knowledge.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Geoff Mulgan, Professor of Collective Intelligence, Public Policy and Social Innovation, University College London, United Kingdom <p><i>With:</i></p> <ul style="list-style-type: none"> • David Harel, President, Israel Academy of Sciences and Humanities, Israel • Wendy Mackay, Research Director, Classe Exceptionnelle, Inria, Canada • Illah Nourbakhsh, Executive Director, Center for Shared Prosperity, The Robotics Institute, Carnegie Mellon University, USA • Eric Salobir, Chairman, Executive Committee, Human Technology Foundation; President, OPTIC, France 	Campus Biotech H8-01-D
11.15-11.45	<p>Networking Break</p>	Campus Biotech Forum
11.45-13.00	<p>Panel Session</p> <p>Navigating the NeuroTech Compass</p> <p>Recent technological advances in electronic miniaturization, brain signal detection, and the use of artificial intelligence (AI) for data analysis pave the way to a better understanding of neurological and mental health disorders. Anticipated developments offer potential for health, communication, mood regulation, and memory enhancements. This outlook has generated huge financial investments from the public and private sectors, bringing the technologies to patients and consumers more quickly. Other applications, outside the medical field, are developing rapidly for neuromarketing, gaming and entertainment, and military purposes. With the scientific and technological landscapes rapidly accelerating, a global and inclusive approach enabling their development remains a challenge.</p> <ul style="list-style-type: none"> - Why is this a topic policy makers should be interested in? - What are the challenges they face preventing them to take action? <p>Join this session to learn more about the proposal currently developed within GESDA's Pipeline of Solution Ideas to engineer a convening space that will give governments and other stakeholders information, analysis, and tools to help them best support research in neuroscience and neurotechnology and their applications in society.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Daria Robinson, Executive Director, Diplomacy Forum, GESDA, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Olaf Blanke, Professor of Neurosciences, EPF Lausanne, Germany • Lidia Brito, Regional Director, Southern Africa, UNESCO, Mozambique • Ricardo Chavarriaga, Head, Switzerland Office, CLAIRE Initiative for Excellence in AI, Colombia • Stephanie Herrmann, Staff Attorney, Perseus Strategies; Lawyer, NeuroRights Foundation, USA • Jürg Lauber, Ambassador, Permanent Representative of Switzerland to the United Nations and other international organizations, Switzerland • Estelle Nakul, Postdoctoral Researcher, LNCQ, EPF Lausanne, France • Olivier Oullier, Co-founder, Inclusive Brains; Professor Aix Marseille University, France • Ayaka Suzuki, Director, Strategic Planning and Monitoring Unit, Executive Office of the Secretary-General, United Nations, USA 	Campus Biotech Auditorium

Time	Thursday 13 October	Location
11.45-13.00	<p>Panel Session Enabling Digital Empowerment with Trust and Transparency</p> <p>In a complex, changing and interconnected world, digital twins and avatars are set to become a norm for decision-making in policy, ecology and the economy. Currently, several initiatives plan digital avatars and digital twins on the scale of individuals (in precision medicine), local municipalities (digital urban twins for city management) and the planet (climate forecasting, epidemic control). Sensor webs enable real-time synchronization of such twins and avatars with the physical world. Building trust between the science and diplomacy communities in this area is urgently needed.</p> <ul style="list-style-type: none"> - What challenges will these pose to data privacy, transparency of algorithms, accountability, and ownership? - Who decides what a digital models should and should not do, and to whom are developers accountable? - How can we empower citizens and other stakeholders in their design and use? <p>Join this session to hear developer and user perspectives and to understand what widespread use of digital tools for decision-making in all sectors of society will mean. Participants in this session are invited to discuss new approaches for advancing and governing digital models, manage risks, develop ethics-based standards, and avoid dual use.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Sean Cleary, Executive Vice-Chair, FutureWorld Foundation, South Africa <p><i>With:</i></p> <ul style="list-style-type: none"> • Jérôme Chenal, Senior Scientist, Urban and Regional Planning Community, EPF Lausanne; Academic Director, Excellence in Africa, Switzerland • Neil Davies, Executive Director, Richard B. Gump South Pacific Research Station; Research Affiliate, Berkeley Institute for Data Science, USA • Soledad Garcia Ferrari, Professor, Global Urbanism and Resilience; Dean, International College of Arts Humanities and Social Sciences, University of Edinburgh, Uruguay • Dirk Helbing, Professor for Computational Social Science, ETH Zurich, Germany • Sami Kanaan, Administrative Councillor, City of Geneva; President of the Board, Geneva Cities Hub; Former Mayor of Geneva, Switzerland • Christian Kirchsteiger, Former Responsible, Strategy Development of EU Policies for Smart Infrastructures, EC Directorate-General for Communications Networks, Content and Technology (DG CNECT), Germany • Mami Mizutori, Special Representative of the UN Secretary General for Disaster Risk Reduction, UNDRR, Japan • Huang Zhongwen, Director, Smart City Projects Office, Smart Nation and Digital Government Office, Prime Minister's Office, Singapore Government, Singapore 	<p>Campus Biotech EPFL Room, 6th floor</p>
13.00-14.00	<p>Networking Lunch</p>	<p>Campus Biotech Forum</p>

Time	Thursday 13 October	Location
14.00-15.30	<p>Solution Idea</p> <p>Creating a Global Curriculum on Science and Diplomacy</p> <p>A new mindset and professional pathway are needed to establish Anticipatory Science & Diplomacy methodologies among experts and decision-makers. We must start with the way we train our current and future leaders across all sectors: in STEM fields, in national governments, in multilateral institutions, and in the private sector – to empower the current and next generation with a «multilingual» mindset in science and diplomacy and foster boundary-spanning professionals and institutions. This session will explore existing and emerging educational frameworks, training approaches and pedagogical methods to foster competences, capacities and networks to bring Anticipatory Science & Diplomacy to the center of decision-making in multilateral and national contexts to successfully tackle global future challenges.</p> <ul style="list-style-type: none"> - What are the necessary ingredients (knowledge, skills/competences, and network) for an effective curriculum in Anticipatory Science & Diplomacy? - What coalition of institutions must come together to design and deliver this curriculum? - Where and how should it be deployed for future leaders to understand and jointly promote anticipatory Science & Diplomacy as a tool for a renewed multilateralism? - How can we create effective opportunities and spaces for intensified interaction and understanding between scientific and foreign policy actors? <p>Join this session to learn about the potential for a global curriculum on science and diplomacy from topical experts who contributed to the Science Breakthrough Radar, members of the Geneva Anticipatory Science & Diplomacy Coalition, and alumni representatives from the inaugural Geneva Science Diplomacy Week.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Achim Wennmann, Director, Strategic Partnerships, Geneva Graduate Institute, Germany <p><i>With:</i></p> <ul style="list-style-type: none"> • Francesca Bosco, Chief of Staff & Head of Foresight, CyberPeace Institute, Italy • Ismael Buchanan, Senior Lecturer, University of Rwanda, Rwanda • Martin Chungong, Secretary-General, Inter-Parliamentary Union, Cameroon • Tamara Gomez Marin, Consul General, Embassy of Costa Rica in Rome, Italy; Minister Counsellor, Ministry of Foreign Affairs and Worship of Costa Rica, Costa Rica • Marga Gual Soler, Founder, SciDipGLOBAL; Academic Moderator and Solution Co-chair, GESDA, Spain • Nicolas Levrat, Director, Global Studies Institute, University of Geneva, Switzerland • Sandeep Mishra, Expert, Digital Technologies and Innovation, India • Alysson Muotri, Professor, Department of Pediatrics and Cellular & Molecular Medicine, University of California, Brazil • Christina Orisich, Deputy Director; Head of Executive Education, Geneva Centre for Security Policy, Austria • Rémi Quirion, President, International Network for Governmental Science Advice, Canada • Nicolas Seidler, Executive Director, Geneva Science-Policy Interface, Switzerland 	Campus Biotech Auditorium

Time	Thursday 13 October	Location
14.00-15.30	<p>Panel Session Catalysing a Decarbonisation Accelerator</p> <p>After COP26, there is global agreement for governments, businesses, and citizens to embark in a decarbonisation global effort at every level. Global decarbonisation efforts are being stalled by objective gaps in science, technology, processes, and diplomacy. The nature of the gaps is often complex and systemic, and therefore impossible to solve with linear or single-party solutions. Solutions currently in the pipeline need to be accelerated to reach the right stage of maturity for their implementation. The global ambition is to achieve net-zero CO2 for 2050, which requires accelerating the energy transition to switch to renewable energy and deploying technologies that directly remove CO2 from the atmosphere</p> <ul style="list-style-type: none"> - How can cooperation help boost R&D on decarbonisation processes, scale them up and accelerate the transition? - How will collaboration create sector-specific sustainable business cases for decarbonisation technologies? - How can we create a policy framework connecting science and diplomacy to enable the net-zero CO2 ambition? <p>Join this session to learn more about the proposal currently developed within GESDA's Pipeline of Solution Ideas to set up an eco-systems orchestrator that helps current decarbonisation solutions and projects to overcome obstacles and flourish.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Carlo Giardinetti, Sustainability Lead for Consulting, Deloitte, Italy <p><i>With:</i></p> <ul style="list-style-type: none"> • Belinda Cleeland, Head, Research & Innovation, International Organization for Standardization, Switzerland • Jim Hagemann Snabe, Chairman, Supervisory Board, Siemens AG, Denmark • André Hoffmann, Businessman, Environmentalist and Philanthropist; Vice-Chairman, Roche Holding, Switzerland • Wendy Lee Queen, Associate Professor of Chemical Engineering, EPF Lausanne, USA • Nikhil Seth, Executive Director, United Nations Institute for Training and Research, India • Massamba Thioye, Project Executive, Global Innovation Hub, United Nations Framework Convention on Climate Change, Senegal 	<p>Campus Biotech EPFL Room, 6th floor</p>
15.30-16.00	<p>Networking Break</p>	<p>Campus Biotech Forum</p>

Time	Thursday 13 October	Location
16.00-17.30	<p>Solution Idea Building an Open Quantum Institute & the GESDA-XPRIZE Contest</p> <p>Quantum technology is an issue of geopolitical importance, becoming a critical infrastructure important to national security and innovation capability. The last decade has seen major breakthroughs in research, leading to an increase and investment from the private sector from \$1.5b to \$22b in the last five years. Quantum capabilities could impact key sectors of the economy including pharmaceuticals, materials, chemistry, energy, finance, security, and logistics. If applied to the right set of issues, quantum computing has the potential to become a world-improving technology, directly applicable to implement the Sustainable Development Goals (SDGs) outlined by the United Nations. Quantum computers are tremendously expensive and hard to build so ensuring broad access to them will be difficult. To make sure the technology can be used with purpose in 5-10-25 years, new R&D collaboration and governance models that consider both technology security and equity of access need to be put in place now.</p> <ul style="list-style-type: none"> - How can we make sure this new technology benefits all of humanity, focusing on impact on the planet and society, and not just be used for the greatest profits? - With so much on the line, how can scientists and policymakers make sure to maintain a spirit of open collaboration? <p>Join this session to learn how the Open Quantum Institute is proposing to make quantum technologies, and quantum computing, accessible and available globally in an open and inclusive manner. This GESDA Solution supports the development of quantum solutions for the benefit of humanity, directly working towards the Sustainable Development Goals of the United Nations (SDGs).</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Anousheh Ansari, Chief Executive Officer, XPRIZE Foundation, USA/Iran <p><i>With:</i></p> <ul style="list-style-type: none"> • Graham Alabaster, Head, Geneva Office, UN Habitat, United Kingdom • Alberto Anfossi, Secretary-General, Compagnia di San Paolo, Italy • Tommaso Calarco, Director, Institute for Quantum Control, Peter Grünberg Institute, Forschungszentrum Jülich, Italy • Fabiola Gianotti, Director-General, CERN; Board Member, GESDA, Italy • Sana Odeh, Clinical Professor of Computer Science; Faculty Liaison, Global Programs of Computer Science, New York University, Palestine • Urbasi Sihna, Professor, Quantum Information and Computing Lab, Raman Research Institute, India • Matthias Troyer, Technical Fellow and Corporate Vice President, Microsoft, Austria 	Campus Biotech Auditorium
17.30-19.00	<p>Networking Cocktail</p>	Campus Biotech Forum

Time	Friday 14 October	Location
08.00-09.00	Morning Coffee and Welcome	Campus Biotech <i>Forum</i>
09.00-09.40	Keynote Addresses <ul style="list-style-type: none"> • Peter Maurer, Former President, International Committee of the Red Cross, Switzerland • Maryna Viazovska, Professor of Mathematics, Fields Medalist 2022, EPF Lausanne, Ukraine 	Campus Biotech <i>Auditorium</i>
09.40-10.15	Panel Session A Youth Outlook on GESDA and the Horizon of Science & Diplomacy Science Anticipation functions in the service of future generations. While current stakeholders, leaders, and policymakers must address the emergence of new technologies and science, it is imperative to foster inclusive participation in the Solutions process. This session brings youth and aspiring leaders at the beginning of their educational and career paths on stage to discuss what they have noticed, learned, and considered as they participated in the GESDA Summit. <i>Moderated by:</i> <ul style="list-style-type: none"> • Valentine von Toggenburg, Lawyer, Swiss Federal Office of Justice , World Economic Forum Global Shaper, Switzerland <i>With 3 representatives from the Youth Cohort, including:</i> <ul style="list-style-type: none"> • Olivia Avalos Villar, Student, Physics, Sciences and Economics, International School Basel, Spain • Sophie van Berchem, Student, Columbia University, Switzerland • Aijing Cao, Junior Policy Officer, ITU Office for Europe, People's Republic of China • Adrien Donin de Rosière, Student, Kings College Wimbledon, Switzerland • Bekithemba Ntoni, Master's Candidate, University of Cape Town, South Africa • Rejoyce Kgabo Legodi, Volunteer Marketing personnel, Science Technology Engineering Aviation-Arts and Mathematics (STEAM) Ambassadors Club, South Africa • Silvia Maier, Member and Project Lead, Swiss Young Academy, Switzerland • Sofia Martianova, Villars Fellow; Student, Electrical Engineering, ETH Zurich, Ukraine • Jordan Naddaf, Foreign Policy Youth Collaborative Association, United Kingdom • Niel Swanepoel, South African Delegate, Y20 Indonesia, Namibia • Stephanie Tauber Gomez, Director Sustainability, digitalswitzerland, Brazil • Eloise Westfeldt, Collège du Léman, United States <i>Keynote Message by:</i> <ul style="list-style-type: none"> • Mamokgethi Phakeng, Vice-chancellor, University of Cape Town; Board Member, GESDA, South Africa 	Campus Biotech <i>Auditorium</i>
10.15-10.45	Networking Break	Campus Biotech <i>Forum</i>

Time	Friday 14 October	Location
10.45-12.30	<p>High-Level Closing Plenary</p> <p><i>Introductory Keynote Messages by:</i></p> <ul style="list-style-type: none"> • Peter Brabeck-Letmathe, Chairman, Board of Directors, GESDA, Austria/Switzerland • Ignazio Cassis, President, Swiss Confederation; Head, Federal Department of Foreign Affairs, Switzerland <p>High-Level Panel with Foreign Ministers and Decision Makers</p> <p>Ministers and Decision Makers discuss the opportunities and challenges offered by science and technology in the current geopolitical situation.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> • Alexandre Fasel, Special Representative for Science Diplomacy, Switzerland <p><i>With:</i></p> <ul style="list-style-type: none"> • Ignazio Cassis, President, Swiss Confederation; Head, Federal Department of Foreign Affairs, Switzerland • Sarah Bint Yousif Al-Amiri, Minister of State for Public Education and Advanced Technology, United Arab Emirates • Vivian Balakrishnan, Minister of Foreign Affairs, Republic of Singapore • Nasser Bourita, Minister of Foreign Affairs, African Cooperation and Moroccan Expatriates, Morocco • Martha Delgado Peralta, Undersecretary of Foreign Affairs for Multilateral Affairs and Human Rights, Mexico • Martina Hirayama, State Secretary for Education, Research and Innovation, Federal Department of Economic Affairs, Education and Research, Switzerland • Urmas Reinsalu, Minister of Foreign Affairs, Republic of Estonia 	Campus Biotech Auditorium
12.30-14.00	<p>Networking Lunch</p> <p>Buffet style.</p>	Campus Biotech Forum

Time	Friday 14 October	Location
14.00-18.45	<p>Summit Attendees Excursions Departure for all tours from the Campus Biotech's main entrance.</p> <p>Registered onsite participants have the option to take part in a variety of post-Summit excursions (sign-up in mandatory). These excursions have been offered by partnering institutions so that the experience of breakthrough science and innovative diplomacy can be felt beyond the convening halls and inspiring discussions. This is an opportunity to see where multilateral collaboration comes together to tackle global challenges and highlights the international role of Geneva in connecting global stakeholders.</p> <p>CERN Departure: 14h00 - Return at Campus: 18h45 Spend an afternoon at CERN, the European Organization for Nuclear Research, one of the global flagship examples of successful science diplomacy. This will be a fascinating 3-hour tour on the tracks and the mysteries of particle physics. The guided tour consists of a video introduction to CERN, followed by a visit of two areas on site, such as control rooms, research facilities, engineering facilities, etc. Please note that it does not include an underground visit and that the LHC tunnel cannot be visited.</p> <p>Headquarters, United Nations Office at Geneva Tour 1 - departure: 13h10 - return at Campus 15h30 Tour 2 - departure: 14h10 - return at Campus 16h30 For a view into the world of diplomacy and international affairs, join the tour of the United Nations Office at Geneva headquarters. The Palais des Nations hosts more than 10'000 meetings per year and is driving collaborative work to achieve the Sustainable Development Goals (SDGs). Join the 1-hour tour of the Palais des Nations and learn about the United Nations and the United Nations Office at Geneva. The tour guides will inform you about the United Nations and its activities among the people who make it happen. You will discover the Palais des Nations, a unique building, formerly the headquarters of the League of Nations, the Library and the UN Museum. An outstanding testimony to twentieth century architecture, it is situated in the beautiful Ariana park in Geneva. Important: make sure to carry an ID for the security check at the entrance of the UN.</p> <p>FIRST Global Challenge - Palexpo Departure: 14h00 - Return at Campus: 18h00 Youth and innovation are on show at the FIRST Global Challenge. The FIRST Global team will provide a tour of the international robotics competition for youth taking place at the Palexpo in Geneva concurrent with the GESDA Summit. High-school age innovators from about 190 countries will be there competing, cooperating, and communicating, gaining important cross-cultural experiences to shape their experience of a connected world built around science and technology.</p>	<p>Miscellaneous <i>All departures from the Campus Biotech's Main entrance</i></p>

GESDA SUMMIT SPEAKERS



Patrick Aebischer
Vice-chairman, Board of Directors; Chair, Impact Forum and related Impact Funds
 GESDA



Graham Alabaster
Head, Geneva Office
 UN Habitat



Sarah Al-Amiri
Minister of State for Public Education and Advanced Technology
 United Arab Emirates



Alberto Anfossi
Secretary-General
 Compagnia di San Paolo



Anousheh Ansari
Chief Executive Officer
 XPRIZE Foundation



Azeem Azhar
Founder
 Exponential View



Vivian Balakrishnan
Minister for Foreign Affairs
 Republic of Singapore



Marie Barbey-Chappuis
Mayor
 City of Geneva



Alexandra Baumann
Ambassador; Head, Prosperity and Sustainability Division (incl. Polar affairs)
 Swiss Federal Department of Foreign Affairs



Rasmus Bertelsen (virtual speaker)
Professor of Northern Studies, Barents Chair in Politics
 The Arctic University of Norway



Samantha Besson
Professor, International Law of Institutions, Collège de France and
 University of Fribourg



Frank Biermann (virtual speaker)
Professor of Global Sustainability Governance
 Utrecht University



Olaf Blanke
Professor of Neurosciences
 EPF Lausanne



Andrea Boggio
Professor of Legal Studies
 Bryant University



Francesca Bosco
Senior Advisor
 CyberPeace Institute



Nasser Bourita
Minister of Foreign Affairs, African Cooperation and Moroccan Expatriates,
 Morocco

GESDA SUMMIT SPEAKERS



Diana Bowman
*Senior Global Futures
 Scholar; Professor*
 Sandra Day O'Connor School
 of Law, Arizona State
 University



**Peter Brabeck-
 Letmathe**
Chairman, Board of Directors
 GESDA



Lidia Brito
*Regional Director, Southern
 Africa*
 UNESCO



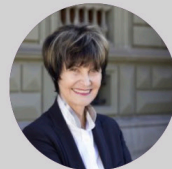
Ismael Buchanan
Senior Lecturer
 University Of Rwanda



Tommaso Calarco
*Director, Institute for
 Quantum Control, Peter
 Grünberg Institute*
 Forschungszentrum Jülich



Agnès Callamard
Secretary-General
 Amnesty International



**Micheline Calmy-
 Rey**
*Former President, Swiss
 Confederation; GESDA Board
 member; Visiting Professor*
 University of Geneva



Ignazio Cassis
President
 Swiss Confederation



Maria Cattau
Global Board Member
 Open Society Foundations



**David Chalmers
 (virtual speaker)**
*Author of Reality+; Professor
 of Philosophy and Neural
 Science*
 New York University



**Ricardo
 Chavarriaga**
Head, Switzerland Office
 CLAIRE Initiative for
 Excellence in AI



Jérôme Chenal
*Senior scientist, Urban and
 Regional Planning
 Community, EPFL; Academic
 Director*
 Excellence in Africa



**Martin Chungong
 (virtual speaker)**
Secretary-General
 Inter-Parliamentary Union



Sean Cleary
Executive Vice-Chair
 FutureWorld Foundation



Belinda Cleeland
*Head of Research and
 Innovation*
 International Organization for
 Standardization (ISO)



**Arnaldo Correia de
 Medeiros**
*Secretary-General, Health
 Emergencies*
 Ministry of Health of Brazil

GESDA SUMMIT SPEAKERS



Neil Davies

Executive Director, Richard B. Gump South Pacific Research Station; Research Affiliate, Berkeley Institute for Data Science



Martha Delgado Peralta (virtual speaker)

Undersecretary for Multilateral Affairs and Human Rights Mexico



William Egbe

Managing Partner; former President of Coca-Cola Africa Vibranium Capital Group



Niva Elkin-Koren

Professor of Law Tel Aviv University



Gérard Escher

Senior Advisor to the Board GESDA



Jeremy Farrar

GESDA Board Member; Director Wellcome Trust



Alexandre Fasel

Special Representative for Science Diplomacy in Geneva Swiss Confederation



Jacques Fellay (virtual speaker)

Co-director, Health Genome Center EPF Lausanne



Frederick Fenter

Chief Executive Editor Frontiers



Natalie Fontanet

State Councillor, Departments of Finance and Human Resources Republic and State of Geneva



Kate Fox

Investment Manager, Positive Change Baillie Gifford & Co



Soledad Garcia Ferrari

Professor in Global Urbanism and Resilience; Dean International College of Arts Humanities & Socias University of Edinburgh



Katarina Gårdfeldt

Director-General Swedish Polar Research Secretariat



Fabiola Gianotti

Director General CERN



Carlo Giardinetti

Sustainability Lead for Consulting Deloitte



Peter Gluckman

President International Science Council

GESDA SUMMIT SPEAKERS



**Tamara Gómez
Marin**

*Consul General, Embassy of
Costa Rica in Rome, Italy;
Minister Counsellor
Ministry of Foreign Affairs and
Worship of Costa Rica*



**Arancha González
Laya**

*Dean
Sciences Po Paris School
International Studies*



Cordel Green

*Executive Director
Broadcasting Commission,
Jamaica*



Marga Gual Soler

*Founder, SciDipGLOBAL;
Academic Moderator and
Solution Co-Chair
GESDA*



**Jean-Marie
Guéhenno**

*Director, Kent Global
Leadership Program in
Conflict Resolution
Columbia School of
International and Public
Affairs*



**Jim Hagemann
Snabe**

*Chairman, Supervisory Board
Siemens*



Lydie Hakizimana

*Chief Executive Officer
AIMS-Next Einstein Initiative*



David Harel

*President
The Israel Academy of
Sciences and Humanities*



**Urmas Reinsalu
(Virtual Speaker)**

*Minister of Foreign Affairs
Republic of Estonia*



Dirk Helbing

*Professor of Computational
Social Science
ETH Zurich*



**Stephanie
Herrmann**

*Staff Attorney, Perseus
Strategies; Lawyer
NeuroRights Foundation*



Andrew Hessel

*Chairman, Genome Project-
Write; Founder
Humane Genomics*



Larry Hinzman

*Assistant Director, Polar
Sciences
White House Office of
Science and Technology
Policy*



Martina Hirayama

*State Secretary for Education,
Research and Innovation
Federal Department of
Economic Affairs, Education
and Research of Switzerland*



André Hoffmann

*Businessman,
Environmentalist and
Philanthropist; Vice-
Chairman
Roche Holding*



Samia Hurst

*Professor of Ethics
University of Geneva*

GESDA SUMMIT SPEAKERS



Sikina Jinnah

Professor of Environmental Studies; Affiliated Graduate, Faculty of Politics
 University of California



Sami Kanaan
 (virtual speaker)

Former Mayor; President of the Board, Geneva Cities Hub; Administrative Councillor
 City of Geneva



Anja Kaspersen

Senior Fellow
 Carnegie Council for Ethics in International Affairs



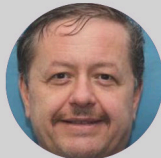
Sarah Kenderdine

Professor, Digital Museology and Director, EPFL Pavilions
 EPF Lausanne



Yeadong Kim

President
 Scientific Committee on Antarctic Research (SCAR)



Christian Kirchsteiger

Responsible, Strategy development of EU policies for smart infrastructures
 EC Directorate-General for Communications Networks, Content and Technology (DG CNECT)



Wayne Koff

President & Chief Executive Officer
 Human Vaccines Project



Pascal Lamy
 (virtual speaker)

Coordinator, Jacques Delors Think Tanks (Paris, Berlin, Brussels); President
 Paris Peace Forum



Jürg Lauber

Ambassador, Permanent Representative of Switzerland
 to the United Nations and other international organizations in Geneva



Kobi Leins

Visiting Honorary Research Fellow, Centre for Science and Security Studies
 Department of War Studies, King's College London



Nicolas Levrat

Director, Global Studies Institute
 University of Geneva



Charlotte Lindsey

Chief Public Policy Officer
 CyberPeace Institute



Chris Luebke

Chief of Foresight
 ETH Zurich



Matthias Lütolf

Professor of Life Science, EPFL; VP, Scientific Director
 Roche Institute for Translational Bioengineering (ITB)



Wendy Mackay

Research Director, Classe Exceptionnelle
 Inria



Aaron Maniam
 (virtual speaker)

Deputy Secretary of Industry and Information
 Ministry of Communications and Information of Singapore

GESDA SUMMIT SPEAKERS



Peter Maurer
Former President
 International Committee of
 the Red Cross



Joël Mesot
President
 ETH Zurich



Jane Metcalfe
*Founder, NEO.Life, Co-
 founder*
 WIRED



Sandeep Mishra
*Expert of Digital Technologies
 and Innovation*



Mami Mizutori
 (virtual speaker)
*Special Representative of the
 UN Secretary General for
 Disaster Risk Reduction*
 UNDRR



Michael Møller
*Chairman of the Diplomacy
 Forum; former Director-
 General UN at Geneva*
 GESDA



Milica Momcilovic
President
 WFSJ



**Louis de
 Montpellier**
*Chair, rePLANET; Board
 Member*
 de Pury Pictet Turrettini & Cie



Suerie Moon
*Co-director, Global Health
 Centre*
 Geneva Graduate Institute



Doaa Abdel Motaal
*Author, "Antarctica, the
 Battle for the Seventh
 Continent"; Senior Counsellor*
 World Trade Organization



Geoff Mulgan
*Professor of Collective
 Intelligence, Public Policy
 and Social Innovation*
 University College London



Alysson Muotri
*Professor, Department of
 Paediatrics and Cellular &
 Molecular Medicine*
 University of California



Estelle Nakul
Postdoctoral researcher
 LNCO - EPFL



Elina Noor
*Director, Political-Security
 Affairs; Deputy Director,
 Washington, D.C. Office*
 Asia Society Policy Institute



Illah Nourbakhsh
*Executive Director, Center for
 Shared Prosperity, The
 Robotics Institute*
 Carnegie Mellon University



Sana Odeh
*Clinical Professor of
 Computer Science; Faculty
 Liaison, Global Programs of
 Computer Science*
 New York University

GESDA SUMMIT SPEAKERS



Chukwumerije Okereke (virtual speaker)

Professor in Environment and Development
 AEFUNAI



Scott O'Neill
Chief Executive Officer
 World Mosquito Program



Christina Orisich
Deputy Director; Head of Executive Education
 Geneva Centre for Security Policy



Olivier Oullier
Co-founder, Inclusive Brains; Professor
 Aix Marseille University



Janos Pasztor
Executive Director
 Carnegie Climate Governance Initiative



Mamokgethi Phakeng
Vice Chancellor; GESDA Board Member
 University of Cape Town



Marc Pictet
President
 Fondation pour Genève



Marc Pollefeys
Professor, Computer Vision and Geometry Lab
 ETH Zurich



Wendy Lee Queen (virtual speaker)

Associate Professor of Chemical Engineering
 EPF Lausanne



Rémi Quirion
President
 International Network for Governmental Science Advice



Gabriela Ramos (virtual speaker)
Assistant Director-General, Social and Human Sciences
 UNESCO



Jean-Marc Rickli
Head of Global and Emerging Risks
 Geneva Centre for Security Policy



François Rivasseau
Senior Consultant
 Technology & Diplomacy
 World Intellectual Property Organization



Daria Robinson
Executive Director, Diplomacy Forum
 GESDA



Amadou Sall
Chief Executive Officer
 Institut Pasteur, Dakar



Marie-Laure Salles
Director
 Geneva Graduate Institute

GESDA SUMMIT SPEAKERS



Eric Salobir

Chairman, Executive Committee, Human Technology Foundation; President OPTIC



Nanjira Sambuli (virtual speaker)

Policy Analyst; Advocacy Strategist; Board member Digital Impact Alliance



Jürgen Schmidhuber (virtual speaker)

Director & Professor, The Swiss AI Lab IDSIA; Co-Founder & Chief Scientist NNAISENSE



Nicolas Seidler

Executive Director Geneva Science-Policy Interface



Nikhil Seth

Executive Director United Nations Institute for Training and Research



Amandeep Singh Gill

Envoy on Technology United Nations, representing UN Secretary-General António Guterres



Urbasi Sinha

Professor, Quantum Information and Computing Lab Raman Research Institute



Maria-Francesca Spatolisano

Assistant Secretary-General, Policy Co-ordination and Inter-Agency Affairs United Nations



Balthasar Staehelin

Special Envoy for Foresight and Techplomacy International Committee of the Red Cross



Ayaka Suzuki (virtual speaker)

Director, EOSG Strategic Planning and Monitoring Unit United Nations



Soumya Swaminathan

Chief Scientist World Health Organization



Timothy Swanson

Professor, International Economics Geneva Graduate Institute



Chorh Chuan Tan
Chief Health Scientist; GESDA Board Member Singapore's Ministry of Health



Massamba Thiolye

Project Executive, Global Innovation Hub United Nations Framework Convention on Climate Change



Matthias Troyer

Technical Fellow and Corporate Vice President Microsoft



Effy Vayena

Professor of Bioethics, ETHZ; Founder, Health Ethics and Policy Lab ETH Zurich

GESDA SUMMIT SPEAKERS



Martin Vetterli
President
 EPF Lausanne



Maryna Viazovska
*Professor of Mathematics,
 Fields Medalist 2022*
 EPF Lausanne



Valentine von Toggenburg
*World Economic Forum
 Global Shaper (WEF); Lawyer*
 Swiss Federal Office of Justice



Gernot Wagner
Climate Economist
 Columbia Business School



Achim Wennmann
*Director, Strategic
 Partnerships*
 Geneva Graduate Institute



Alexandra Xanthaki
*UN Special Rapporteur in the
 field of Cultural Rights*
 United Nations

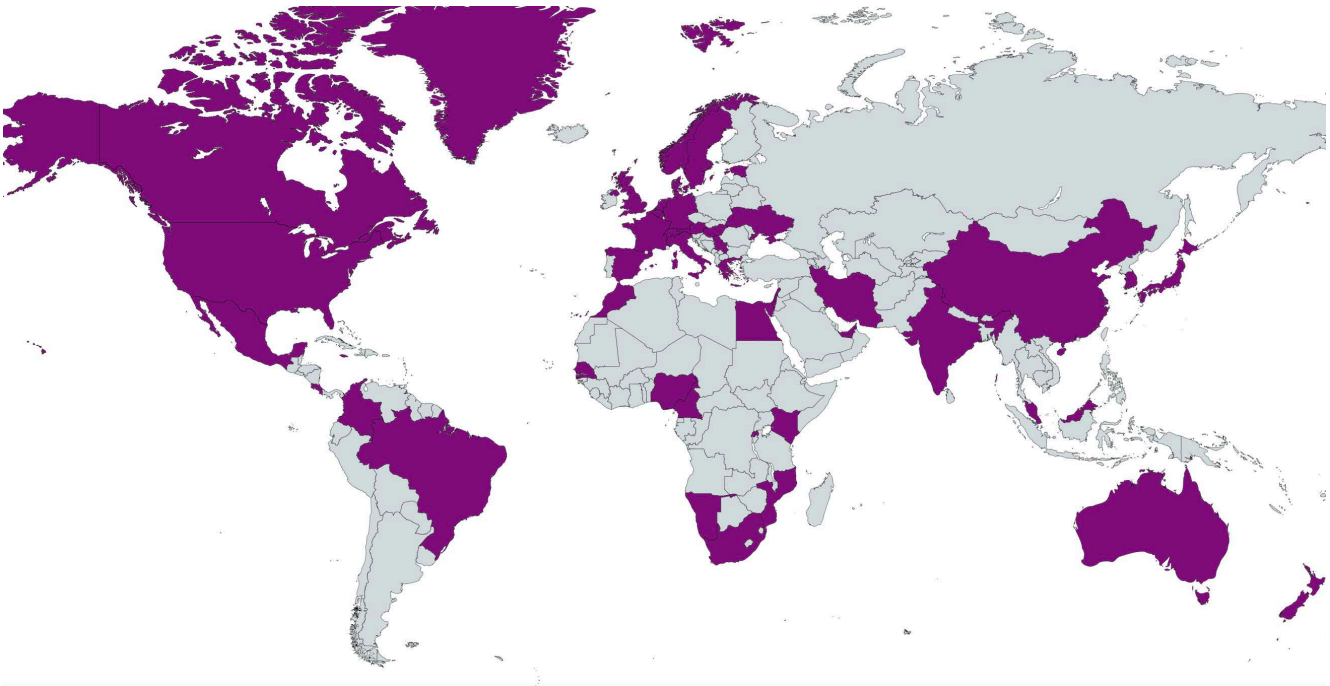


Thomas Zeltner
President
 Swiss UNESCO Commission



Huang Zhongwen
*Director, Smart City Projects
 Office, Smart Nation and
 Digital Government Office*
 Prime Minister's Office,
 Singapore Government

2022 GESDA SUMMIT SPEAKERS: COUNTRIES OF ORIGIN





Geneva Science and Diplomacy Anticipator (GESDA)

c/o Campus Biotech
Chemin des Mines 9
1202 Geneva
Switzerland

<https://www.gesda.global>

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