

# GENEVA SCIENCE AND DIPLOMACY ANTICIPATION SUMMIT 2021

7 - 9 October - Geneva, Switzerland

## Programme



*Use the future to build the present*

**ONE VISION: USE THE FUTURE TO BUILD THE PRESENT**

**Help shape the future of Science Diplomacy!**

- Be where science and international affairs converge to discuss the future.
- Exchange views on the relevance of anticipatory science diplomacy for your organization.
- Share your experiences and expand your knowledge in this emerging field of diplomacy.

**Learn about the science breakthroughs most likely to impact people, society and the planet at 5, 10 and 25 years**

- Hear about 16 of the most significant science themes with the potential to transform the world.
- Sharpen your comprehension of four scientific frontier issues: quantum revolution and advanced artificial intelligence, human augmentation, eco-regeneration and geoengineering, and science and diplomacy.

**Debate whether and how diplomacy should embrace these advances for the greatest benefit of humanity**

- Discuss the implications of emerging science breakthroughs for international affairs and global governance.
- Contribute and propose initiatives to make to most of these breakthroughs and their potential to achieve the SDGs.

*The Sessions at a Glance*

	<b>Four Scientific Frontier Issues</b> ----- <b>16 themes of discussion from three angles</b>	<b>Quantum Revolution &amp; Advanced AI</b>	<b>Human Augmentation</b>	<b>Eco-regeneration &amp; Geoengineering</b>	<b>Science &amp; Diplomacy</b>
<b>FIRST GENEVA SCIENCE &amp; DIPLOMACY ANTICIPATION SUMMIT</b>	<b>What?</b> <i>Sessions with a focus on <b>anticipating</b> what is 'cooking' in the labs at 5-10-25 years?</i>		<b>Engineering</b> Pathways for Radical Health Extension <b>Negotiating</b> the Boundaries of our Genetic Future <b>Learning</b> from COVID-19 to Prepare the Response to the Next Systemic Crisis	<b>Utilizing</b> Space Resources for Collective Prosperity  <b>Advancing</b> Science for Ocean Stewardship	<b>Reviving</b> the Human Right to Science (linked to the forthcoming Brocher Symposium, December 2021 in Geneva)  <b>Designing</b> an Economic Compass for Sustainable and Resilient Societies
	<b>So What?</b> <i>Sessions with a focus on <b>accelerating</b> the discussion about the potential impact of science Breakthroughs for Diplomacy</i>	<b>Opening</b> Quantum for the Benefit of Humanity  <b>Co-developing</b> Accessible Advanced AI	<b>Establishing</b> Neuro Rights	<b>Accelerating</b> the Active Decarbonisation of the Planet	<b>Revitalizing</b> Multilateralism through Anticipatory Science and Diplomacy  <b>Building</b> Digital Models to Navigate the 21st Century's Complex Ecological and Social Systems
	<b>Now What ?</b> <i>Sessions with a focus on the tools we need to develop in order to <b>translate</b> into solutions this knowledge on those frontier issues</i>				<b>Enriching</b> Science with Citizen Voices and Values  <b>Making</b> Sense of Science Anticipation for Concrete Impact  <b>Catalizing</b> Inclusive Growth through Anticipatory Science

## INTRODUCTION

The world is experiencing breakthrough science and technological advances at an unprecedented speed, which are sometimes hard to grasp. These discoveries will reshape how we view ourselves as humans, how we relate to each other in society and how we care for our environment.

The newly founded **Geneva Science and Diplomacy Anticipator Foundation (GESDA)** aims to **leverage the Geneva international ecosystem** to:

- **anticipate** the advances in scientific frontier issues,
- **accelerate** the ways to initiate and accompany the development of related possible initiatives or applications, and
- **translate** the latter into concrete actions and solutions on the ground, with global tools, through a renewed multilateralism based on science and diplomacy, creating new opportunities for different stakeholders to contribute to a better future.

At the inaugural GESDA Summit, scientists, diplomats, impact leaders (executives, investors, philanthropists, etc.) and citizens, will gather to **drive reflective, inclusive discussions and sustainable collaborations**, bringing anticipation-based science and diplomacy to the fore, in an effort to safeguard our collective welfare and make the most of where knowledge takes us. About 300 representatives of those four communities will come together in **Geneva, Switzerland** and play a major role in the **future of multilateral science and diplomacy governance**.

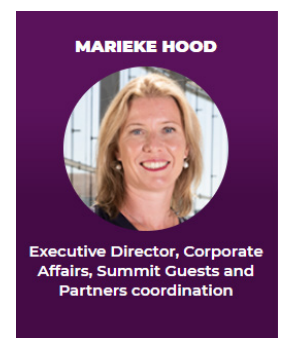
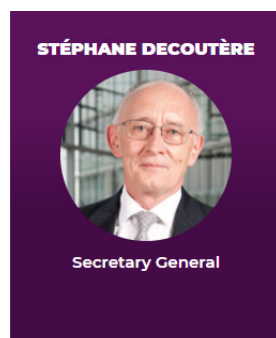
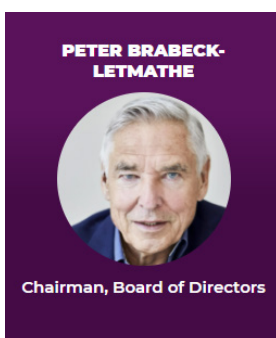
Under GESDA's vision of **"Using the future to build the present"**, the Summit will cultivate dialogue on critical future opportunities and risks, complementing the first GESDA Science Breakthrough Radar®, to be disclosed at the event. Its content will be used as a starting point for all of the discussions. This flagship document will:

- take account of the Debates related to the current challenges humanity has to face,
- assess Trends in scientific frontier issues along three timeframes (5, 10, and 25 years), providing an easy-to-read mapping of possible breakthroughs.

The Summit programme will align with GESDA's methodology via the key words "Anticipate, Accelerate, Translate" and sessions will be tagged accordingly in three tracks.

The programme of the Geneva Science and Diplomacy Anticipation Summit has been developed with engagement in mind. During the various panel sessions, interactive discussions and workshops taking place during the 3-day Summit, both virtual and in-person participants will have the opportunity to contribute by sharing their thoughts and questions with the speakers and broader audience.

The Board of GESDA as well as the Executive Team is looking forward to hosting you in Geneva and wishes you a very fruitful 2021 Geneva Science and Diplomacy Anticipation Summit.



**PARTNERSHIPS**

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**MEDIA PARTNERS**



Time	Thursday 7 October	Location
09.30-10.30	<b>Press Conference</b>	Campus Biotech
13.30-16.00	<b>Registration</b>	Campus Biotech Main Entrance, Chemin des Mines 9
15.00-17.30	<p><b>Opening Plenary Session</b>  <i>Master of Ceremony:</i></p> <ul style="list-style-type: none"> <li>• <b>Nanjira Sambuli</b>, Policy Analyst, Advocacy Strategist; Board Member, Digital Impact Alliance, Development Gateway and The New Humanitarian, Kenya</li> </ul> <p><i>Welcome addresses by:</i></p> <ul style="list-style-type: none"> <li>• <b>Peter Brabeck-Letmathe</b>, Chairman, GESDA Board of Directors, Austria</li> <li>• <b>Nathalie Fontanet</b>, State Councillor of the Republic and Canton of Geneva, Switzerland</li> <li>• <b>Ignazio Cassis</b>, Vice-President, Swiss Federal Council; Head, Federal Department of Foreign Affairs, Switzerland</li> <li>• <b>Yves Flückiger</b>, President Swissuniversities; Rector, University Geneva; President, Campus Biotech Geneva Foundation, Switzerland</li> <li>• <b>Martina Hirayama</b>, Secretary of State for Research, Education and Innovation, Switzerland</li> <li>• <b>Tatiana Valovaya</b>, Director-General, United Nations Office at Geneva, Russia</li> </ul> <p><b>GESDA's 2021 Vision "Using the Future to Build the Present"</b>            GESDA was founded in the belief that anticipatory science diplomacy can help renew multilateralism. It reflects Switzerland's ambition to maintain Geneva as one of the foremost centers of global governance and operational hub of the international community. GESDA serves as an honest broker of science-backed information, remaining neutral and objective as it gathers ideas through broad consultations.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Michael Møller</b>, Chairman, GESDA Diplomacy Forum, Denmark</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Chorh Chuan Tan</b>, Chief Health Scientist &amp; Executive Director, Office for Healthcare Transformation, Ministry of Health, Singapore; Board Member, GESDA, Singapore</li> <li>• <b>Jeremy Farrar</b>, Director, Wellcome Trust; Board Member, GESDA, UK</li> <li>• <b>Mamokgethi Phakeng</b>, Vice Chancellor, University of Cape Town; Board Member, GESDA, South Africa</li> </ul> <p><b>GESDA's 2021 Flagship product: the Science Breakthrough Radar</b>            The GESDA Science Breakthrough Radar is a new tool for multilateralism, informed discussions, and concerted action. It is giving a neutral overview of the forthcoming possible breakthroughs in science and technology. Its purpose is to share this knowledge among diplomats, philanthropists, entrepreneurs, and the general public, for the benefit of all.</p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Nanjira Sambuli</b>, Policy Analyst, Advocacy Strategist; Board Member, Digital Impact Alliance, Development Gateway and The New Humanitarian, Kenya</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Patrick Aebischer</b>, President Emeritus, EPFL; Vice Chairman GESDA, Switzerland</li> <li>• <b>Michael Hengartner</b>, President, ETH Board, Switzerland</li> <li>• <b>Marie-Laure Salles</b>, Director, Graduate Institute Geneva, France</li> </ul> <p><i>Closing Remarks by:</i></p> <ul style="list-style-type: none"> <li>• <b>Marc Pictet</b>, President, Fondation pour Genève, Switzerland</li> </ul>	Campus Biotech Auditorium

Time	Thursday 7 October	Location
15.00-17.30	<p><b>Opening Plenary Session (suite)</b></p> <p><b>Opening high-level panel</b>  <b>Can Anticipation in Science and Diplomacy Help Renew Multilateralism?</b></p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Alexandre Fasel</b>, Ambassador, Swiss Special Representative for Science Diplomacy in Geneva, Switzerland</li> </ul> <p><i>With special guests:</i></p> <ul style="list-style-type: none"> <li>• <b>Alondra Nelson</b>, Deputy Director, Science and Society, White House Office of Science and Technology Policy, USA</li> <li>• <b>Peter Gluckman</b>, Director, Kōi Tū: The Centre for Informed Futures; Chair, International Network of Government Science Advice (INGSA); President-elect, International Science Council (ISC), New Zealand</li> <li>• <b>Martina Hirayama</b>, Secretary of State for Research, Education and Innovation, Switzerland</li> <li>• <b>Naledi Pandor</b>, Minister of International Relations and Cooperation, South African Government, South Africa</li> <li>• <b>Achim Steiner</b>, Administrator, United Nations Development Program, Brazil/Germany</li> </ul> <p><b>Closing Keynote Addresses</b></p> <ul style="list-style-type: none"> <li>• <b>Naledi Pandor</b>, Minister of International Relations and Cooperation, South African Government, South Africa</li> <li>• <b>Maria-Francesca Spatolisano</b>, Officer-in-Charge, Office of the Secretary-General's Envoy on Technology; Assistant Secretary-General, Policy Coordination and Inter-Agency Affairs, Department of Economic and Social Affairs (DESA), speaking on behalf of the Secretary-General, United Nations, Italy</li> </ul>	Campus Biotech Auditorium
17.30-19.00	<p><b>Welcome Cocktail Reception</b></p> <p><b>What will we eat in 2050?</b></p> <p>Should we be afraid of, or look forward to the food of tomorrow?</p> <p>Join the Kitchen Lab at their booth for a culinary demonstration to grasp today's and tomorrow's gastronomic issues, discover pharmaco-culinary pieces of advice, and take part in a Note by Note cuisine tasting!</p>	Campus Biotech Forum

Time	Friday 8 October	Location
08.00-18.00	<b>Registration</b>	Campus Biotech Main Entrance, Chemin des Mines 9
08.00-08.30	<b>Morning Coffee and Welcome</b>	Campus Biotech Forum
08.30-09.30	<p><b>Plenary Session</b>  <b>Reviving the Human Right to Science</b></p> <p>The notion that everyone has a right to benefit from scientific progress is enshrined in the United Nations' 1948 Universal Declaration of Human Rights, adopted under the guidance of Eleanor Roosevelt, who chaired the drafting committee, and in the U.N.'s 1966 International Covenant on Economic, Social and Cultural Rights and other international and regional treaties. It is far from clear, however, exactly what freedoms and responsibilities derive from this established right of all people to "share in scientific advancement and its benefits," as the UN declared, and for most of its history, governments have largely allowed this right to remain dormant and neglected. As science and technology take an ever-greater role in our lives, now might be the time to bring this right back to life. An important first step would be to specify just what exactly is meant by the right to science. Proposals for reviving this right include a collective commitment to open science and inclusivity, new forums for data-sharing and the establishment of a deliberative body to ensure the latest scientific evidence is taken into account in policy making.</p> <ul style="list-style-type: none"> <li>- What freedoms and responsibilities does the "right to science" entail?</li> <li>- How can the right to science be used to benefit humanity?</li> <li>- How can we make this a "living human right" that is taken seriously by policymakers, and how can we encourage signatories to the UDHR to renew their commitment to the right to science?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Samira Kiani</b>, CEO and Founder, GenexGen; Director, Tomorrow.Life Initiative; Associate Professor, Liver Research Center, Department of Pathology, School of Medicine, University of Pittsburgh, USA</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Michelle Bachelet</b>, UN High Commissioner for Human Rights (OHCHR); Former President of Chile</li> <li>• <b>Yvonne Donders</b>, Head, Department of International and European Public Law; Commissioner, Netherlands Human Rights Institute, University of Amsterdam, Poland</li> <li>• <b>Kamila Markram</b>, CEO Frontiers, Germany</li> <li>• <b>Peter Maurer</b>, President, International Committee of the Red Cross, Switzerland</li> </ul>	Campus Biotech Auditorium
09.30-10.00	<b>Networking Break</b>	Campus Biotech Forum

Time	Friday 8 October	Location
	<b>Interactive Sessions in parallel</b>	
<b>09.45-11.00</b>	<p><b>ANTICIPATE Workshop - Designing an Economic Compass for Sustainable and Resilient Societies</b></p> <p>Economic growth has significantly improved material well-being around the world, reduced poverty, and closed the gap between rich and poor nations. At the same time, it has led to growing inequality within nations and over-exploitation of the earth's resources. Global economies face several challenges in the future: First, a wave of technological developments fuelled by AI will further test the limits of today's views about labour, capital, and employment. Second, climate change creates an urgent necessity to use natural resources more carefully within the planetary boundaries. Third, there are grounds for a move towards de-globalization and re-localization that could undo the benefits of international specialization. These developments call for a new economic compass to help us chart a course through the policy challenges ahead. This will help us to anticipate winners and losers of economic shifts ahead of time; design welfare systems fit to purpose; and better understand and counter environmental externalities associated with various economic choices while building more resilience into the global economy.</p> <ul style="list-style-type: none"> <li>- As intelligent machines increasingly populate our future, which policy interventions have the best chance to guarantee that people can gain meaningful jobs and avoid growing inequalities?</li> <li>- How can we move rapidly towards a regenerative circular economy that limits harmful actions on the environment while assuring the well-being of all?</li> <li>- Can we make globalization more resilient and sustainable without losing the benefits of international specialization?</li> </ul> <p><i>Organized by:</i></p> <ul style="list-style-type: none"> <li>• <b>Jean-Pierre Danthine</b>, Professor, College of Management of Technology, EPFL; Managing Director, Enterprise of Society Center (E4S); President, Paris School of Economics, Switzerland</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Richard Baldwin</b>, Professor, Graduate Institute Geneva, USA</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Phillipe Aghion</b>, Professor, College de France and London School of Economics, UK</li> <li>• <b>Ian Goldin</b>, Professor, Oxford University; Senior Fellow, Oxford Martin School, UK</li> <li>• <b>Katheline Schubert</b>, Professor, Paris School of Economics, France</li> </ul>	Campus Biotech EPFL room, 6th floor
<b>10.00-11.00</b>	<p><b>ACCELERATE - Establishing Neuro Rights</b></p> <p>Brain implants already enable people with paraplegia to control robotic limbs, restore basic vision and modulate neural activity to treat diseases like Parkinson's. Over the next decade our growing ability to both read and write brain data will transform the treatment of neurodegenerative and psychiatric conditions, but it will also increasingly be used to enhance cognitive function in healthy people. This could greatly expand our ability to learn and improve ourselves. But the creation of two-way conduits into people's minds and huge pools of sensitive brain data also raise profound questions about privacy, personal agency and the integrity of the individual. This might necessitate the establishment of a new bill of neuro rights to ensure that new technology is used properly and its benefits are available to all.</p> <ul style="list-style-type: none"> <li>- What are the implications for society of the development of technology in brain science?</li> <li>- How can we ensure wide access to neurotechnology and prevent the formation of "cognitive elites"?</li> <li>- Do we need new neuro rights or a reinterpretation of existing human rights?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Nadia Isler</b>, Director and Founder, SDG Lab, Office of the Director General of the United Nations Office at Geneva, Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Olaf Blanke</b>, Professor of Neurosciences; Bertarelli Chair, Cognitive Neuroprosthetics; Director, Laboratory of Cognitive Neuroscience, EPFL/Campus Biotech; Professor, Neurology, Department of Neurology, University Hospital of Geneva, Switzerland</li> <li>• <b>Lidia Brito</b>, Director, UNESCO's Regional Bureau for Sciences, Latin America and the Caribbean, Mozambique</li> <li>• <b>Marcello Lenca</b>, Group Leader, EPFL; Senior Research Fellow, ETHZ, Italy</li> <li>• <b>Judy Illes</b>, Professor of Neurology, University of British Columbia, Canada</li> <li>• <b>Jürg Lauber</b>, Permanent Representative of Switzerland to the United Nations and to the other international organisations in Geneva, Switzerland</li> </ul>	Campus Biotech Auditorium



Time	Friday 8 October	Location
	<b>Interactive Sessions in parallel (suite)</b>	
10.00-11.00	<p><b>ANTICIPATE - Utilising Space Resources for Collective Prosperity</b></p> <p>The minerals locked up in the most valuable asteroid in our solar system are worth \$15 quintillion, according to estimates from start-up Planetary Resources. The number should be taken with a grain of salt, but even if it's off by several orders of magnitude, the sum would still be colossal. The ability to mine these minerals is at least 25 years away and the economic benefits still uncertain, but their scale demonstrates the enormous opportunities lying beyond Earth's atmosphere. Taking advantage of this abundance is beyond any one country or industry and will require renewed multilateralism to ensure the global commons of space benefits all of humanity. Setting the stage for a new, collaborative approach to the use of space resources will also have nearer-term impacts as we expand our use of low-earth orbit and prepare to return astronauts to the Moon, and to go beyond.</p> <ul style="list-style-type: none"> <li>- What is the potential scale of space resources, and will we be able to exploit them?</li> <li>- Will/Should space resources boost development on Earth or fuel off-world expansion?</li> <li>- What rights should countries have to own or exploit resources beyond Earth's orbit?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Adriana Marais</b>, Director, Foundation for Space Development Africa; Member, South African Government Ministerial Task Team on the 4th Industrial Revolution; Faculty, Singularity University and Duke Corporate Education, South Africa</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Niklas Hedman</b>, Chief of Committee, Policy and Legal Affairs Section, UNOOSA, Sweden</li> <li>• <b>Mathias Link</b>, Director, European Space Resources Innovation Centre (ESRIC); Director, International Affairs &amp; Space Resources, Luxembourg Space Agency, Luxembourg</li> <li>• <b>Tanja Masson-Zwaan</b>, Assistant Professor and Deputy Director, International Institute of Air and Space Law, Leiden University; President Emerita, International Institute of Space Law, The Netherlands</li> <li>• <b>Su Meng</b>, Founder, Origin Space Corp., China</li> <li>• <b>Patrick Michel</b>, Senior Researcher, CNRS (Observatoire de la Côte d'Azur), Team Leader, TOP (Théories et Observations en Planétologie), France</li> </ul>	<p>Campus Biotech  <b>Room D</b>  <i>(behind the Auditorium)</i></p>
11.00-11.15	<p><b>Networking Break</b></p>	<p>Campus Biotech  <b>Forum</b></p>
	<b>Interactive Sessions in parallel</b>	
11.15-12.30	<p><b>TRANSLATE - Enriching Science with Citizen Voices and Values</b></p> <p>Emerging fields of science like advanced AI, human genome engineering and longevity research will all have profound impacts on people's everyday lives. That makes it imperative to involve citizens in the scientific process and incorporate their experiences and perspectives into the way research is done. Ensuring all citizens are informed of the latest advances and how these relate to their lives is a crucial first step. The development of a global sounding board designed to gather citizens' voices and values will enrich science by unearthing the breakthroughs people most need and helping co-develop regulatory frameworks that are fit for purpose. Co-operative research can also help scientists break out of dogmatic ways of thinking and rediscover valuable traditional knowledge.</p> <ul style="list-style-type: none"> <li>- What are the best ways to involve citizens in the scientific process?</li> <li>- What can and should citizens contribute to the most advanced scientific disciplines?</li> <li>- How can policymakers design frameworks that help scientists and citizens to interact?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Alain Kaufmann</b>, Director, Collaboratoire, University of Lausanne, Projet SantéPerSo, Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Claudia Chwalisz</b>, Policy Analyst, Leading work on innovative citizen participation, OECD Open Government Unit; Author; Member, Democracy R&amp;D Network, France</li> <li>• <b>Nicola Forster</b>, Co-Founder, Foraus, Switzerland</li> <li>• <b>Samira Kiani</b>, CEO and Founder, GenexGen; Director, Tomorrow.Life Initiative; Associate Professor, Liver Research Center, Department of Pathology, School of Medicine, University of Pittsburgh, USA</li> <li>• <b>Simon Niemeyer</b>, Director, Centre for Deliberative Democracy and Global Governance, University of Canberra; Australia</li> <li>• <b>Mamokgethi Phakeng</b>, Vice-Chancellor, University of Cape Town; Board Member, GESDA, South Africa</li> </ul>	<p>Campus Biotech  <b>Room D</b>  <i>(behind the Auditorium)</i></p>

Time	Friday 8 October	Location
	<b>Interactive Sessions in parallel (suite)</b>	
11.30-12.30	<p><b>ACCELERATE - Accelerating the Active Decarbonisation of our Planet</b></p> <p>The amount of carbon dioxide in the atmosphere is at its highest level in 4 million years. If we want to meet our goal of capping global warming at 2°C, urgent action is required to both slash emissions and remove carbon dioxide from the atmosphere. Emerging negative emissions technologies such as direct air capture and materials able to absorb massive amounts of carbon will play a crucial role, but large-scale demonstrations are still a decade away. That means we probably need to combine accelerated R&amp;D efforts with aggressive carbon pricing, major reforestation, and new agricultural and industrial approaches that help create a circular economy.</p> <ul style="list-style-type: none"> <li>- How can we get promising decarbonisation technologies out of the lab that are viable in the marketplace?</li> <li>- How can we reach an agreement on a global minimum carbon price and how should we set carbon prices?</li> <li>- How can we ensure that the burden of decarbonisation is shared equitably?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Janos Pasztor</b>, Executive Director, Carnegie Climate Governance Initiative C2G, Hungary/Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Jim Hagemann Snabe</b>, Chairman, Supervisory Board, Siemens AG; Chairman of the Board of Directors, A.P. Møller–Mærsk A/S, Denmark</li> <li>• <b>Gerald Haug</b>, President, German National Academy of Sciences Leopoldina; Ordinary Professor, Climate Geology, ETH Zurich; Director, Climate Geochemistry Department; Scientific Member, Max Planck Institute, Germany</li> <li>• <b>Sergio Mujica</b>, Secretary-General, International Organization for Standardization, Chile</li> <li>• <b>Wendy Lee Queen</b>, Tenure Track Assistant Professor, Laboratory of Functional Inorganic Materials, EPFL, USA</li> </ul>	Campus Biotech <i>Auditorium</i>
11.30-12.30	<p><b>ANTICIPATE - Engineering Pathways for Radical Health Extension</b></p> <p>By 2050 one in six people worldwide will be over the age of 65. This grey tsunami threatens to put huge strain on health and economic systems as the burden of age-related illness booms and the proportion of working-age adults shrinks. But breakthroughs in our ability to slow the physical and cognitive decline associated with advanced years are on the horizon. Drugs that target biological pathways that underpin aging and interventions that turn back cells' "epigenetic clock" could soon extend our healthy years long into very old age. This could completely reshape the dynamics of ageing populations and will require fundamental shifts in public health policy, economic planning and labour relations.</p> <ul style="list-style-type: none"> <li>- Where will breakthroughs in radical health extension come from?</li> <li>- How will societies change as the number of healthy older people grows?</li> <li>- How can we ensure boosting healthspan becomes a global priority?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Jane Metcalfe</b>, Founder NEO.LIFE; Co-Founder, WIRED magazine, USA</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Samia Hurst</b>, Professor of Ethics, University of Geneva, Switzerland</li> <li>• <b>Brian Kennedy</b>, Distinguished Professor, Department of Biochemistry and Physiology, Yong Loo Lin School of Medicine, National University of Singapore, USA</li> <li>• <b>Guy Ryder</b>, Director-General, International Labour Organization, UK</li> <li>• <b>Atsushi Seike</b>, Executive Advisor for Academic Affairs; Professor Emeritus, Keio University, Japan</li> </ul>	Campus Biotech <i>EPFL room, 6th floor</i>
12.30-13.30	<p><b>Networking Lunch</b></p> <p>Buffet style.</p>	Campus Biotech <i>Forum</i>

Time	Friday 8 October	Location
13.30-14.45	<p><b>TRANSLATE Plenary</b>  <b>Making Sense of Science Anticipation for Concrete Impact</b></p> <p>Anticipating breakthroughs in science and technology is of little use if you can't act on that foresight. Putting ideas into practice is complex and requires properly framing the challenge and need for action, tapping innovative solutions and finding resourceful partners. Bringing all of these functions together in one place could create a powerful new model for translating anticipatory science into benefits for humanity. Geneva and GESDA are ideally placed to act as such a hub that can bring together businesses, innovators, academics, citizens and diplomats to share their knowledge and resources and develop solutions to tomorrow's most pressing challenges.</p> <ul style="list-style-type: none"> <li>- Drawing on two examples from GESDA's Breakthrough Radar, how are the anticipated scientific advancements in quantum and neuroscience most relevant for society?</li> <li>- What roles can business, government, philanthropy and civil society play?</li> <li>- What type of actions are needed to facilitate the process from labs to solutions?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Karin Jestin</b>, Strategic Philanthropy Advisor, Philanthropic &amp; Humanitarian Initiatives, Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Patrick Aebischer</b>, President Emeritus, EPFL; Vice Chairman GESDA, Switzerland</li> <li>• <b>Anousheh Ansari</b>, CEO, XPRIZE Foundation, USA/Iran</li> <li>• <b>Maria Cattai</b>, Global Board Member of the Open Society Foundations, Greece/Switzerland</li> <li>• <b>Joseph D'Cruz</b>, Special Advisor, Strategic Planning &amp; Innovation, Executive Office of the Administrator, United Nations Development Program, Malaysia</li> </ul>	Campus Biotech Auditorium
14.45-15.15	<p><b>Networking Break</b></p> <p><b>Interactive Sessions in parallel</b></p>	Campus Biotech Forum
15.15-16.15	<p><b>ACCELERATE - Opening Quantum for the Benefit of Humanity</b></p> <p>In 2019, Google used a computer with 54 quantum bits, or qubits, to perform a calculation in 200 seconds that would have taken the world's most powerful supercomputer 10,000 years to complete. The answers had little practical use but it marked a major inflection point in the development of quantum technology. Over the next decade, quantum computers that can turbocharge the search for new materials and drugs will become a reality. So will quantum communication networks with uncrackable encryption and quantum sensors providing ultra-precise measurements in medicine, Earth sciences and positioning systems. The strategic potential of this new quantum infrastructure will require global coordination to both ensure and control access to it, so that its opportunities are open to everyone and its applications are beneficial to all.</p> <ul style="list-style-type: none"> <li>- What intractable problems could quantum computers help to solve?</li> <li>- What is the best way to help policymakers understand quantum technology, so they are better prepared to take advantage of quantum advances and to make sensible and forward-looking decisions?</li> <li>- How can we make sure the benefits of quantum technology applications are open to all?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Katia Moskvitch</b>, Communications Lead Europe, IBM Research, UK</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Anousheh Ansari</b>, CEO, XPRIZE Foundation, USA/Iran</li> <li>• <b>Fabiola Gianotti</b>, Director General, CERN; Board Member, GESDA, Italy</li> <li>• <b>Nicolas Gisin</b>, Honorary Professor, University of Geneva, Switzerland</li> <li>• <b>Elham Kashefi</b>, Professor of Computer Science; Personal Chair, Quantum Computing, School of Informatics, University of Edinburgh; Directeur, CNRS, Sorbonne University; Co-Founder, VeriQloud, Iran</li> <li>• <b>Matthias Troyer</b>, Distinguished Scientist, Microsoft Quantum, Austria</li> </ul> <p><i>Discussant:</i></p> <ul style="list-style-type: none"> <li>• <b>Sir Peter Knight</b>, Emeritus Professor, Faculty, Natural Sciences, Department of Physics, Imperial College London; Former Defence Scientific Advisory Council, UK Ministry of Defence, UK</li> </ul>	Campus Biotech Auditorium

Time	Friday 8 October	Location
	<b>Interactive Sessions in parallel (suite)</b>	
15.15-16.15	<p><b>TRANSLATE - Catalyzing Inclusive Growth through Anticipatory Science</b></p> <p>The number of people living in countries the UN classifies as least developed will hit 1.9 billion, or nearly a fifth of the world's population, by 2050. As rapid demographic changes in the world's poorest regions accelerates, there are growing calls to look beyond traditional measures of development and to focus on inclusive growth. Anticipatory science can play a crucial role in this transition. Technologies like wireless internet, mobile payments and drones are already allowing emerging economies to leapfrog stages of development by putting affordable and powerful new tools in the hands of their citizens. Anticipating where the next such technological and scientific opportunities will come from could help map a path towards economic emergence that is both equitable and inclusive.</p> <ul style="list-style-type: none"> <li>- Where will the next great leapfrogging opportunity come from?</li> <li>- How can we ensure equitable access to resource intensive emerging technology and innovation infrastructures?</li> <li>- What is the role of the private sector and local entrepreneurship in catalysing inclusive growth?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Nanjira Sambuli</b>, Policy Analyst, Advocacy Strategist; Board member, Digital Impact Alliance, Development Gateway and The New Humanitarian, Kenya</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Momar Dieng</b>, Chief Strategy and Partnerships Officer, African Institute for Mathematical Sciences, Senegal</li> <li>• <b>Rebecca Enonchong</b>, Founder and CEO, AppsTech, Cameroon</li> <li>• <b>Uzodinma Iweala</b>, CEO, The Africa Center NY, Nigeria</li> <li>• <b>Mami Mizutori</b>, Special Representative of the Secretary-General for Disaster Risk Reduction; Head, United Nations Office for Disaster Risk Reduction, Japan</li> </ul> <p><i>Discussant:</i></p> <ul style="list-style-type: none"> <li>• <b>Geoff Mulgan</b>, Professor of Collective Intelligence, Public Policy and Social Innovation, University College London</li> </ul>	Campus Biotech EPFL room, 6th floor
15.15-16.15	<p><b>ANTICIPATE - Negotiating the Boundaries of our Genetic Future</b></p> <p>The price of sequencing a human genome has fallen from \$2.7 billion to \$300 in just 20 years. This dramatic improvement in our ability to read DNA is now setting the stage for an even bigger revolution in our ability to write our genetic futures. Over the next decade gene therapies that can tackle the most intractable inherited diseases and cancers will go mainstream. Within 25 years the ability to enhance human capabilities will come within reach, letting us augment sensory capacities and enabling us to thrive in space. That could pose complex biosecurity challenges and raise profound questions about what it means to be human. Given the immense costs of today's experimental gene therapies, work needs to be done to ensure their benefits are shared equitably.</p> <ul style="list-style-type: none"> <li>- What are the opportunities and risks posed by our growing mastery over human genetics?</li> <li>- Where does the line between healing and augmentation lie and who decides what is allowed?</li> <li>- Genetic capabilities will appear gradually and surreptitiously. How do we ensure their benefits are shared equitably?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Jane Metcalfe</b>, Founder NEO.LIFE; Co-Founder, WIRED magazine, USA</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>George Church</b>, Professor of Genetics, Harvard Medical School; Professor, Health Sciences and Technology, Harvard and MIT, USA</li> <li>• <b>Katherine Littler</b>, Co-Lead, Global Health Ethics and Governance Unit, World Health Organization, United Kingdom</li> <li>• <b>Effy Vayena</b>, Professor, Bioethics, ETH Zurich; Founder, Health Ethics and Policy Lab, Department of Health Sciences and Technology, Greece/Switzerland</li> <li>• <b>Ambroise Wonkam</b>, Professor and Senior Medical Genetics Consultant, Division of Human Genetics, Faculty, Health Sciences, University of Cape Town, Cameroon</li> </ul>	Campus Biotech Room D (behind the Auditorium)

Time	Friday 8 October	Location
16.15-16.45	<b>Networking Break</b>	Campus Biotech Forum
16.45-17.45	<p><b>ACCELERATE Plenary</b>  <b>Revitalizing Multilateralism through Anticipatory Science and Diplomacy</b></p> <p>The grand challenges facing humanity in the 21st century will be both global and technical. Climate change, unemployment, hunger and a host of other issues will require experts of all kinds around the world to come together to solve them. Yet today, trust in science is on the decline and multilateralism in some regions appears to be in retreat. This highlights the need for a revitalisation of science diplomacy and a major update to the frameworks that underpin it. This will be crucial, not only for tackling the challenges already before us, but also anticipating future technical and policy developments in time to foster multilateral solutions.</p> <ul style="list-style-type: none"> <li>- How can we bring current and anticipated scientific breakthroughs to the forefront of policymaking to tackle emerging grand challenges, and how can we train future leaders to be bilingual in both science and diplomacy?</li> <li>- In future science diplomacy, what would be the most effective roles for people on the local level or those outside of government?</li> <li>- How can we reinvigorate trust in science among citizens?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Marga Gual Soler</b>, Science Diplomat; Founder, SciDipGLOBAL, Spain</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Micheline Calmy-Rey</b>, Former President of the Swiss Confederation; Visiting Professor, University of Geneva; Board Member, GESDA, Switzerland</li> <li>• <b>Yves Flückiger</b>, President Swissuniversities; Rector, University of Geneva; President, Campus Biotech Geneva Foundation, Switzerland</li> <li>• <b>Joël Mesot</b>, President, ETH Zurich; Co-Chair, GESDA Academic Forum, Switzerland</li> <li>• <b>Nikhil Seth</b>, Executive Director, UNITAR, India</li> </ul>	Campus Biotech Auditorium
17.45-18.45	<p><b>Cocktail Reception</b></p> <p>Organized in collaboration with the Club Diplomatique de Genève.</p>	Campus Biotech Forum
19.15-20.15	<p><b>Public Plenary</b></p> <p><i>Introductions by:</i></p> <ul style="list-style-type: none"> <li>• <b>Peter Brabeck-Letmathe</b>, Chairman, GESDA Board of Directors, Austria</li> <li>• <b>Marie-Laure Salles</b>, Director, Graduate Institute, France</li> </ul> <p><i>Keynote Address by:</i></p> <ul style="list-style-type: none"> <li>• <b>Enrico Letta</b>, Secretary, Italian Democratic Party; President, Jacques Delors Institute; Former Prime-Minister of Italy; Former Dean, School of International Affairs, Science Po, Italy</li> </ul> <p><b>How to Anticipate, Accompany and Share the Scientific Revolutions to Come?</b></p> <p>With the acceleration of scientific progress and the challenges associated with it, our societies must equip themselves with new means to ensure that they benefit as many people as possible.</p> <p>Enrico Letta, former Italian Prime Minister, will discuss the geopolitical challenges facing science diplomacy and the instruments of scientific and diplomatic anticipation to be deployed in order to accompany the consequences of scientific innovations on our societies.</p> <p><b>Moderated Q&amp;A with the Public</b></p> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Daria Robinson</b>, Executive Director Diplomacy Forum, GESDA, Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Peter Brabeck-Letmathe</b>, Chairman, GESDA Board of Directors, Austria</li> <li>• <b>Micheline Calmy-Rey</b>, Former President of the Swiss Confederation; Visiting Professor, University of Geneva; Board Member, GESDA, Switzerland</li> <li>• <b>Marie-Laure Salles</b>, Director, Graduate Institute, France</li> <li>• <b>Enrico Letta</b>, Secretary, Italian Democratic Party; President, Jacques Delors Institute; Former Prime-Minister of Italy; Former Dean, School of International Affairs, Science Po, Italy</li> </ul>	Graduate Institute Maison de la Paix Auditorium Ivan Pictet Chemin Eugène-Rigot 2A 1202 Geneva

Time	Saturday 9 October	Location
07.30-10.00	<b>Registration</b>	Campus Biotech <i>Chemin des Mines 9</i>
08.00-08.30	<b>Morning Coffee and Welcome</b>	Campus Biotech <i>Forum</i>
08.30-09.45	<p><b>ANTICIPATE Plenary</b>  <b>Learning from COVID-19 to Prepare the Response to the Next Systemic Crisis</b></p> <p>More than 200 million people around the world have been infected by COVID-19 and the number of deaths is approaching 5 million. Almost 6 billion vaccines doses have been administered. The pandemic has put the principles and practices of multilateralism to their most severe test in decades. Many environmental, economic and societal factors have contributed to this global health crisis, including a focus on national rather than international solutions. These trends show no signs of slowing and the next pandemic may be just around the corner. This makes it imperative to integrate the lessons of COVID-19 quickly and to start preparing our response to future systemic crises now. Tomorrow's global challenges will be inherently transdisciplinary and transnational in nature. That means it will be crucial to break down traditional siloes if we want to improve our ability to anticipate and prepare for these kinds of emergencies.</p> <ul style="list-style-type: none"> <li>- What lessons can be learned from the response to COVID-19?</li> <li>- Where is the next systemic crisis likely to come from?</li> <li>- What role should be played by the international community, both in Geneva and around the world, in preparing for the next systemic crisis?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Elaine Fletcher</b>, Editor in Chief, Health Policy Watch, Switzerland</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Patrick Aebischer</b>, President Emeritus, EPFL; GESDA Vice Chairman, Switzerland</li> <li>• <b>Chorh Chuan Tan</b>, Chief Scientist, Ministry of Health; Board Member, GESDA, Singapore</li> <li>• <b>Matthias Egger</b>, President, National Research Council, Swiss National Science Foundation (SNSF); Board Member, GESDA, Switzerland</li> <li>• <b>Jeremy Farrar</b>, Director, Wellcome Trust; Board Member, GESDA, UK</li> <li>• <b>Soumya Swaminathan</b>, Chief Scientist, World Health Organization (WHO), India</li> </ul>	Campus Biotech <i>Auditorium</i>
09.45-10.15	<b>Networking Break</b>	Campus Biotech <i>Forum</i>

Time	Saturday 9 October	Location
<b>Interactive Sessions in parallel</b>		
<b>10.15-11.15</b>	<p><b>ACCELERATE - Co-Developing Accessible Advanced AI</b></p> <p>There are 56 AI startups worth over \$1 billion today. That is a testament to the enormous power of deep learning, which has found transformative applications in everything from finance to healthcare. These approaches require huge amounts of data and computational power, however, which means that advances are increasingly driven by a handful of large companies and governments. We are about to enter a “third wave” of AI that will imbue machines with “common sense” and reasoning capabilities, allowing much broader deployment and increasing the breadth and depth of human-machine interactions. That makes it crucial that these advances are not shaped by narrow interests and that everyone can take part in the development of advanced AI and benefit from its use.</p> <ul style="list-style-type: none"> <li>- What will the next generation of AI look like and how should we best prepare for it?</li> <li>- What priorities should inform the next stage of AI development?</li> <li>- How will advanced AI be able to address global challenges differently than today's technology?</li> <li>- What can we do to avoid “AI nationalism” and ensure broad access to the technology and applications developed on the basis of advanced AI?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Amandeep Gill</b>, Director I-DAIR project, India</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Pushmeet Kohli</b>, Head, AI for Science, Deepmind, India</li> <li>• <b>Nanjira Sambuli</b>, Policy Analyst, Advocacy Strategist; Board Member, Digital Impact Alliance, Development Gateway and The New Humanitarian, Kenya</li> <li>• <b>Daren Tang</b>, Director General, World Intellectual Property Organization, Singapore</li> <li>• <b>Rüdiger Urbanke</b>, Professor, Communication Theory, EPFL, Austria</li> <li>• <b>Wendell Wallach</b>, Senior Advisor, The Hastings Center, USA</li> </ul> <p><i>Discussants:</i></p> <ul style="list-style-type: none"> <li>• <b>Ewan Birney</b>, Deputy Director General, EMBL; Director, EMBL-EBI, UK</li> </ul>	<p>Campus Biotech  <i>Auditorium</i></p>

Time	Saturday 9 October	Location
	<b>Interactive Sessions in parallel (suite)</b>	
10.15-11.15	<p><b>ACCELERATE - Building Digital Models to Navigate the 21st Century's Complex Ecological and Social Systems</b></p> <p>Humanity created, captured, copied, and consumed more than 64 trillion gigabytes of data last year. This deluge of information is being used to try to model the world around us in unprecedented detail. That includes complex systems like cities, ecosystems and the climate. Going forward these models will become increasingly intermeshed, creating sprawling socioecological simulations that can provide policymakers with invaluable foresight on the outcomes of economic, environmental and social policies. While those simulations, often referred to as “digital twins,” can provide knowledge about the potential evolution of a system, big data and machine learning approaches have so far failed to capture the full complexity of real-world situations and different feedback loops. Finding ways to combine models with different scales and purposes, and ensuring that today’s biases and prejudices are not baked into them, will require a sustained interdisciplinary effort that includes full engagement among citizens.</p> <ul style="list-style-type: none"> <li>- Many initiatives for “digital twins” have been recently launched. To which extent will these initiatives be able to reproduce the complexity of real-world systems?</li> <li>- Can we combine models of physical reality with those simulating more intangible social phenomena?</li> <li>- How reliable are today’s leading models and how can policy makers use them wisely?</li> <li>- How can we ensure models used to guide policy are transparent, equitable and explainable?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Chris Luebke</b>, Leader, Strategic Foresight Hub, Office of the President, ETH Zurich, USA</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Maurice Borgeaud</b>, Head, Department Science Applications and Future Technologies, Directorate, Earth Observation Programmes, European Space Agency, Switzerland</li> <li>• <b>Sean Cleary</b>, Executive Vice-Chair, FutureWorld Foundation; Member, Advisory Board, Carnegie Artificial Intelligence &amp; Equality Initiative; Managing Director, Centre for Advanced Governance, South Africa</li> <li>• <b>Neil Davies</b>, Director, University of California’s Gump South Pacific Research Station on Moorea (French Polynesia); Research Affiliate, Berkeley Institute for Data Science; Vice President, Tetiaroa Society, USA</li> <li>• <b>Dirk Helbing</b>, Professor, Computational Social Science, Department of Humanities, Social and Political Sciences; Affiliate, Computer Science Department, ETH Zurich, Germany</li> <li>• <b>Mami Mizutori</b>, Special Representative of the Secretary-General for Disaster Risk Reduction; Head, UNDRR, Japan</li> </ul> <p><i>Discussant:</i></p> <ul style="list-style-type: none"> <li>• <b>Philippe Gillet</b>, Chief Science Officer, SICPA; Former Vice President, EPLF, France</li> </ul>	Campus Biotech EPFL room, 6th floor



Time	Saturday 9 October	Location
<b>Interactive Sessions in parallel (suite)</b>		
<b>10.15-11.15</b>	<p><b>ANTICIPATE - Advancing Science for Ocean Stewardship</b></p> <p>The oceans support all life on Earth, but we've explored only 80% of them and an estimated 91% of ocean species have yet to be classified. Our seas are also changing at unprecedented rates in the face of climate change and increasing human activity. This demands a rapid scale-up in ocean monitoring to understand these changes and collect valuable data before it disappears. It will require innovations in sensors and autonomous vehicles to collect that data and new modelling technology to make sense of it. The benefits will be a wealth of genetic information with applications in pharmaceuticals and biotech as well as a better understanding of ocean ecosystems, their connectivity, and how we can manage their vast resources in a more equitable and sustainable way.</p> <ul style="list-style-type: none"> <li>- What do we not know about the oceans and the high seas that we should know?</li> <li>- How can we make the best use of the vast amount of genetic data flowing from the oceans?</li> <li>- How can scientists catch up with the rapidly changing state of the world's oceans?</li> <li>- How can we measure the value of the oceans and share those benefits equitably before the resources are depleted?</li> </ul> <p><i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Kasmira Jefford</b>, Editor-in-Chief, Geneva.Solutions, UK</li> </ul> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Gerard Barron</b>, CEO &amp; Chairman, Metals Company, Canada</li> <li>• <b>Robert Blasiak</b>, Researcher, Stockholm Resilience Center, Sweden</li> <li>• <b>Antje Boetius</b>, Director, Alfred Wegener Institute; Marine Biologist; Leader, Helmholtz Association, German Research Centres, Germany</li> <li>• <b>Anders Meibom</b>, Professor, EPFL's Laboratory for Biological Geochemistry; Professor ad personam, Institute of Earth Sciences, University of Lausanne, Denmark</li> <li>• <b>Vladimir Ryabinin</b>, Executive Secretary, Intergovernmental Oceanographic Commission (IOC) of UNESCO, Russian Federation/Switzerland</li> </ul> <p><i>Discussant:</i></p> <ul style="list-style-type: none"> <li>• <b>André Hoffmann</b>, Businessman, Environmentalist and Philanthropist; Vice-Chairman, Hoffmann-La Roche, Switzerland</li> </ul>	<p>Campus Biotech  <b>Room D</b>  <i>(behind the Auditorium)</i></p>
<b>11.15-11.45</b>	<b>Networking Break</b>	<p>Campus Biotech  <b>Forum</b></p>

Time	Saturday 9 October	Location
11.45-13.00	<p><b>Closing Plenary</b>  <i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>Niniane Paeffgen</b>, Managing Director, Swiss Digital Initiative, Switzerland</li> </ul> <p><b>Science as a Booster for the Future of Cities</b>            Cities are at the forefront of people's concrete concerns, for example in terms of climate change or digitalisation. Scientific and technological advances are already being used by some cities to innovate in this area. Others have already initiated complex modeling processes or are working on the implementation of digital democracy and are asking their inhabitants to collect data in order to better understand how they live in the city. Overall, how can science help cities and their leaders to address the concrete concerns for their residents?</p> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Sami Kanaan</b>, President, Geneva Cities Hub; President, Swiss Youth Commission, Switzerland</li> <li>• <b>Maimunah Mohd Sharif</b>, Executive Director, UN-Habitat, Malaysia</li> </ul> <p><b>Summit Summary Panel</b>  <i>Moderated by:</i></p> <ul style="list-style-type: none"> <li>• <b>David Goodhart</b>, Journalist, Author and Think-tanker; Head, Demography Unit, Policy Exchange (think-tank), UK</li> </ul> <p>Three students in Science, Diplomacy and Business report on their experience at the GESDA Science and Diplomacy Anticipation Summit 2021.</p> <p><i>With:</i></p> <ul style="list-style-type: none"> <li>• <b>Joseph Maggiore</b>, PhD Student in Bioengineering Medicine, University of Pittsburg, USA</li> <li>• <b>Hannah Tickle</b>, Master Student in Social &amp; Organisational Psychology, University of Lausanne and London School of Economics, Switzerland</li> <li>• <b>Keshav Khanna</b>, Master Student in International Affairs, Graduate Institute Geneva, India</li> </ul> <p><b>Keynote</b>  <b>The Origin of Life: How Science is Addressing One of Humanity's Most Complex and Profound Question</b>  <i>Keynote lecture by:</i></p> <ul style="list-style-type: none"> <li>• <b>Didier Queloz</b>, Professor of Astronomy, Cambridge University and ETH Zurich, 2019 Nobel Prize in Physics, Switzerland</li> </ul> <p><b>Final Statement</b>  <ul style="list-style-type: none"> <li>• <b>Peter Brabeck-Letmathe</b>, Chairman, GESDA Board of Directors, Austria</li> </ul> </p>	Campus Biotech Auditorium
13.00-14.00	<p><b>Networking Lunch</b>            Buffet style.</p>	Campus Biotech Forum
14.00-17.00	<p><b>Summit Attendees Excursion to CERN</b>            Departure from Campus Biotech, main entrance at 13.45.</p>	Campus Biotech Main entrance
15.00-17.45	<p><b>Theater (Stage reading)</b>  <b>Can AI create art pieces? Theater as a medium to provoke technology discussions</b>            This unique, hybrid session will consist of two parts: First, a dramatic reading of <i>The Frozen Sea</i>, a comedic play in development by San Francisco playwright <b>Maury Zeff</b> that explores the convergence of art and AI in the near future: it is 2030 and wunderkind computer programmer Dashiell has set for himself the difficult task of producing technology with human instincts. When he meets rising painter Annelise, he hits upon the idea to create software that can render artistic masterpieces. This play wrestles with questions of how far to allow technology to creep into human endeavours and whether you can still call something art if human beings cede its creation to machines.</p> <p><i>The Frozen Sea</i> has been previously workshopped or received readings in the Berkeley Rep Theater Lab, the San Francisco State University's theater department, the San Francisco Playhouse, and elsewhere. The reading will be immediately followed by a panel discussion about how we can use theater and other creative mediums to bring non-technical people into important conversations about the science and technologies that will shape our future. This session is offered jointly with the Fete du Theatre.</p> <p><i>About the Playwright</i>            Maury Zeff is a San Francisco playwright and fiction writer whose work has been performed and published throughout the United States. He formerly worked in the tech industry in Silicon Valley and Asia, most recently as the managing director of Yahoo! Southeast Asia. His previous career left him deeply fascinated by digital technology, which he frequently explores in his plays and fiction.</p>	Theatre Saint-Gervais Rue du Temple 5 1201 Geneve

**GESDA SUMMIT SPEAKERS**

**PATRICK AEBISCHER**



Vice-Chairman, GESDA

**PHILIPPE AGHION**



Professor, College de France, INSEAD and London School of Economics

**ANOUSHEH ANSARI**



CEO, XPRIZE Foundation

**MICHELLE BACHELET**



High Commissioner for Human Rights, United Nations

**RICHARD BALDWIN**



Professor, Graduate Institute

**GERARD BARRON**



CEO & Chairman, The Metals Company

**EWAN BIRNEY**



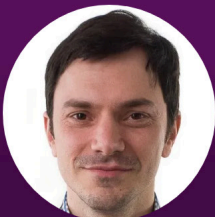
Deputy Director General, EMBL; Director, EMBL-EBI

**OLAF BLANKE**



Professor of Neurosciences, EPFL

**ROBERT BLASIAK**



Researcher, Stockholm Resilience Center

**ANTJE BOETIUS**



Director, Alfred Wegener Institut

**MAURICE BORGEAUD**



Head, Department Science, Applications and Climate, European Space Agency

**PETER BRABECK-LETMATHE**



Chairman, GESDA

**LIDIA BRITO**



Director, UNESCO's Regional Bureau for Sciences, Latin America and the Caribbean

**MICHELINE CALMY-REY**



Former President, Swiss Confederation

**IGNAZIO CASSIS**



Vice-President, Swiss Federal Council; Head, Federal Department of Foreign Affairs

**MARIA CATTALU**



Global Board Member, Open Society Foundations

**GESDA SUMMIT SPEAKERS**

**GEORGE CHURCH**



Professor of Genetics, Harvard Medical School

**CLAUDIA CHWALISZ**



Policy Analyst and Author

**SEAN CLEARY**



Executive Vice-Chair, FutureWorld Foundation

**JEAN-PIERRE DANTHINE**



E4S Executive Director, University of Lausanne/IMD/EPFL

**NEIL DAVIES**



Director, University of California's Gump South Pacific Research Station on Moorea (French Polynesia)

**YVONNE DONDERS**



Head, Department of International and European Public Law; Commissioner, Netherlands Human Rights Institute, University of Amsterdam

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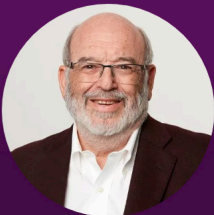
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**PETER GLUCKMAN**



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**IAN GOLDIN**



Professor, Oxford University

**DAVID GOODHART**



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Secretary-General, Executive  
Director, UNITAR

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Chairman, Siemens AG



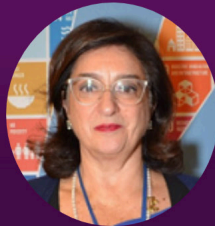
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**MARIA-FRANCESCA SPATOLISANO**



Assistant Secretary-General,  
 Policy Coordination and Inter-  
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**ACHIM STEINER**



Administrator, United Nations  
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**SOUMYA SWAMINATHAN**



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**MATTHIAS TROYER**



Distinguished Scientist,  
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**TATIANA VALOVAYA**



Director-General, United  
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**EFFY VAYENA**



Professor of Bioethics, ETH  
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**WENDELL WALLACH**



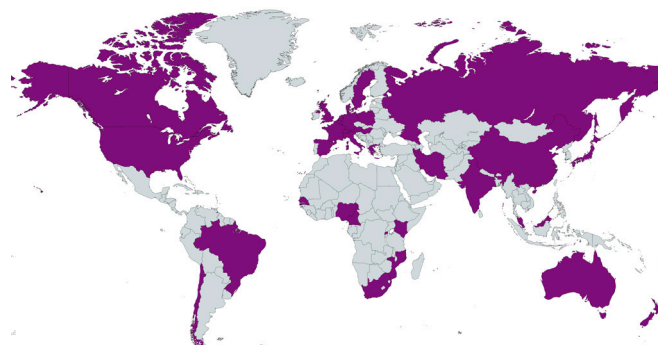
Senior Advisor, The Hastings  
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**GESDA SUMMIT SPEAKERS: COUNTRIES OF ORIGIN**





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