



SCIENCE AGORA

# Dialogue for Life

今年のサイエンスアゴラはこれまで以上に「対話」を重視します。  
様々なトピックを、様々なLife(生命・暮らし・人生)を軸に語り、意見を交わし、  
科学技術の役割や未来像を共に描きましょう。



# サイエンスアゴラ 2021

## Report on Science Agora 2021

# Overview of Science Agora 2021

## What is “Science Agora” \*Agora is ancient Greek for “meeting place”

Science Agora is a generic term for a place connecting science and society, which is open to everyone. It is a forum in which various people promote activities in each region independently by connecting parties involved in different fields, sectors, generations, and nationalities. People gathering in this forum will aim to realize “science harmonized with society” and a “society harmonized with science” through dialogue and collaboration while respecting a diversity of values.

Science Agora activities fulfill these five conditions:

- (1) With society and for society
- (2) Science related
- (3) Self-motivated
- (4) Devoted to dialogue with a diverse range of people
- (5) Devoted to public dialogue

## Theme of Science Agora 2021 : Dialogue for Life

We have been living with the novel coronavirus (COVID-19) for over one year, and the crisis has forced change upon every aspect of our lives. What can science do for society at this crossroads? How can science bring safety and abundance to society? Now more than ever, we must take a fresh look at the role science should play in society. For that reason, "dialogue" will play an even greater role in Science Agora 2021. Through dialogue, let us envision the role and future of science and technology across a wide range of topics that touch every axis of our lives.

## Event outline

- Title: Science Agora 2021
- Dates: Pre-Agora – Sunday, 10th and Monday, 11th October / Science Agora – Wednesday, 3rd- Sunday, 7th November
- Format: Online
- Host: Japan Science and Technology Agency (JST)
- Support (in alphabetical order): Asahi Kasei Corporation/ Elsevier/ Gakken Plus Co.,Ltd./ NEC Corporation/ Nippon Telegraph and Telephone Corporation(NTT)/ Wiley
- Special Collaborator: Embassy of Switzerland in Japan
- Collaborator: Fuji Television Network, Inc./ KYOTO Design Lab of Kyoto Institute of Technology (D-lab)/ BASE Q
- Cosponsor: Cabinet office/ Ministry of Foreign Affairs/ Ministry of Education, Culture, Sports, Science and Technology/ Ministry of Economy, Trade and Industry/ Science Council of Japan/ Keidanren/ The Japan Association of National Universities/ Federation of Japanese Private Colleges and Universities Associations/ RIKEN/ The National Institute of Advanced Industrial Science and Technology (AIST)/ Japan Association for the 2025 World Exposition
- GlobalPartner: American Association for the Advancement of Science (AAAS)/ China Association for Science and Technology (CAST)/ Department of Science and Innovation, Republic of South Africa/ EuroScience/ Korea Foundation for the Advancement of Science and Creativity (KOFAC)

## Report

### Focusing on "Dialogue for Life" and Drawing an Image of a Future Society From the Closing of Science Agora 2021

"Science Agora 2021" was one of the largest science events in Japan, where scientists and citizens think together about a better future society. Science Agora 2021 closed on the afternoon of November 7th after concluding all scheduled events and sessions, including the "Pre Agora" session. This was the 16th time that Science Agora has been held, and, continuing on from the previous year, was also held in an online format so as to prevent the spread of COVID-19. During this period many people from different regions and generations took part in 103 varied sessions, and Science Agora 2021 became a place that draws the role of science and technology and the image of a future society. This report covers some of the sessions and discussions.

Science Agora 2021 was sponsored by the Japan Science and Technology Agency (JST) and, following the Pre Agora sessions held on October 10th and 11th, began in earnest on November 3rd. The theme last year was "Life," and amidst the prolonged COVID-19 pandemic the Science Agora organizers emphasized "Dialogue" both in Japan and in the world because "It is essential to have dialogue to understand and interpret people's expectations and anxieties about science and technology." As a result, the main theme for this year was "Dialogue for Life."



This year's theme was "Dialogue for Life"

#### Taking on Important Social Issues such as "Isolation"

The Science Agora 2021 Promotion Committee (Chairman: Komai Shoji, Professor at International Professional University of Technology in Tokyo) selected notable sessions from the more than 100 sessions, and many people participated in these sessions, as expected. However, in addition to this, some of the sessions in particular attracted attention because they took a head-on approach to major social issues facing the world and Japan and searched for ways to address these problems.

The "Building an Inclusive Society: Reconsidering the Roots of Social Anxiety" session was held from 17:00 on November 5th, and handled themes of "social fragmentation," "social isolation," and "anxiety about the future" that have emerged in society along with socioeconomic development and growth. There are also an increasing number of cases of people losing jobs due to COVID-19's impact on unemployment and then, without the support of others, committing suicide from despair.

The background for this session was the recognition that these are not just problems in Japan, but are problems that also occur in other countries, and as such, the session featured four participants from Japan and from overseas.

Professor Katsuhiko Fujimori of Nihon Fukushi University was the coordinator for the topic entitled "Japan's current situation of social isolation and the measures that are needed," and he introduced the reality that, in Japan, the percentage of people who have little interaction with people other than their family members is the highest among the 20 countries that were surveyed, with 13% of single elderly people aged 60 and over replied that they have no one to rely on. He also expressed concern about the current situation in Japan, where "social isolation" is increasing due to the increase in single-person households from an aging population and due people being increasingly unmarried.

Prof. Fujimori further pointed out that the background for this kind of "social isolation" is the weakening of relationships, such as family ties, local community ties, and workplace ties (human relations in the workplace), and said that it was necessary to have "weak ties" between local residents, to have expert support, and to review the functions that are carried out by families (the socialization of family functions).

Ravneet Virdi is the Head of the Tackling Loneliness Team for the Department for Digital, Culture Media & Sport in the UK, and, with the preface that "loneliness" is a problem of feelings and clearly different from "isolation" from society, explained the content of the UK government's strategy to address loneliness, which was formulated in 2018. After adding that "isolation and loneliness of the elderly increases their risk of illness, so people's isolation has a negative impact on society," she pointed major factors such as poverty, experiencing discrimination, and the development of social media. Ms. Virdi emphasized the important of long-term government involvement, and said that social media has both positive and negative impacts on "young people's loneliness."

Additionally, Kei Kudo, who launched the "Sodateage Net" NPO in 2001 and is currently involved as the organization's Chairman in supporting youth employment, introduced the organization's mission of connecting young people and society. He explained that "the goal is to have all young people gain a place in society, for them to be able to work, and then for them to continue working." Mr. Kudo said that, in order to solve these problems, the first step is to "know" the actual state of the problem, and he emphasized that it is important to bring together on-location activities, governments, and companies, etc. to "create a policy."

Tiziana Bonapace, Director of the Information and Communications Technology and Disaster Risk Reduction Division at the United Nations, said that the "gap" that has accompanied the development of the digital society increases the risk of social isolation, and she pointed out the importance of education and of intergovernmental cooperation that enhances "information and digital literacy."



The four speakers discussing during the "Building an Inclusive Society: Reconsidering the Roots of Social Anxiety" session held in the afternoon of November 5th.  
(Clockwise from the upper left: Ms. Virdi, Prof. Fujimori, Mr. Kudo, and Ms. Bonapace)

## **Discussions on "Animals," "Decarbonization," "Declines in Research and Industrial Strength," and "Gender"**

"Animals Awake All Night: Special Session on Experimental Animals" was held from 19:00 on November 5th. However, this was not a session about pets or cute animals for healing and soothing, but a unique session that focused on the animals used in many animal experiments, which are indispensable for a wide range of research, such as in medicine. The facilitators were two women who are interested in the issue of "animal welfare," and the session was based on the answers to a variety of questionnaires about experimental animals. They also introduced many vivid stories and testimonials from researchers who are involved in animal experiments with the aim of contributing to society through the research results, with some of them saying things such as "it is a burden on my heart."

The "Role of Universities? For revitalizing the Innovation System" session was held from 10:00 on November 6th. It has long been pointed out that Japan's research abilities and industrial competitiveness is declining, so how can they be increased in the future, and what will be necessary for Japan to once again generate innovation? Discussions on this important issue were conducted by Nobel Laureate in Physics and Professor at Nagoya University Hiroshi Amano, JST President Michinari Hamaguchi, and others.

During the session, data was shown that the current "ability" of Japanese science and technology is lower than it was in the past. On the other hand, good examples from Germany were also introduced, and the session had an in-depth two-hour exchange on how to solve this serious problem.

During this same time slot, the "Let's Discuss 'Way of Life' from Gender Perspectives" session, which addressed gender issues head-on, was also being held. This session had lively discussion about the possibility of realizing a "comfortable society" in which everyone can live in their own way.

The Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26) was held from October 31st to November 12th in Glasgow, UK, and there was intense debate about how far each country can set common goals and cooperate towards the realization of a "decarbonized society" that does not emit greenhouse gases.

As the COP26 discussions were ongoing, the "Carbon-Neutral Society and Life: Let's All Talk!" session was held from 15:00 on November 6th. This session had the participation of students from Kunori Gakuen High School (Yonezawa City, Yamagata Prefecture), Nada Senior High School (Kobe City, Hyogo Prefecture), and Shibaura Institute of Technology Junior and Senior High School (Koto Ward, Tokyo), who represented the high school students who will live in this future. They held a dialogue with the adult generation about predictions for an image of society in 2050, which is the target year for decarbonization, and about the role and potential of science and technology.

Another important issue that cannot be forgotten is protecting biodiversity and conserving ecosystems, so the "Biodiversity and the Chain of Lives - Protecting the abundance of the land and the sea -" session was held on the morning of November 7th. The speakers explored the relationship and symbiosis between humans and wild animals in specific cases of conserving, or conversely exterminating, the same animal by classifying it as either a "native species" or "alien species."

## The Increasing Number of People with "Sleep Debt"

In today's stressful society, how to secure "good quality sleep" is an important issue that was taken up by the "Sleep in the Future: What is an ideal sleep?" session on the afternoon of November 7th.

One of the speakers was Yoko Komada, an associate professor of Liberal Arts at Meiji Pharmaceutical University, who is pursuing the ideal way for humans to sleep from the standpoint of psychophysiology. She pointed out that in addition to "insomnia," which is a condition in which people "want to sleep but cannot sleep," there is also "sleep debt," in which people "can sleep but do not sleep." Sleep debt is a state in which the lack of sleep accumulates, like a debt, and that is difficult to repay.

Ms. Komada said that sleep debt is a big social problem, and that the number of people with sleep debt is increasing as Japan becomes a 24-hour society and a night-time society. In particular, she pointed out that "People at workplaces with shift work, including night shifts, support society in important areas, but it is a problem because it increases their risk of illness by working against their biological rhythms," and stated that it is necessary to consider measures for these people.

In this session, Ms. Komada and the three other presenters gave lectures based on knowledge in their respective research fields, and then answered questions and had discussions with the approx. 60 session participants. In addition to discussing the participants' concerns about "sleep," one researcher raised the issue that "sleep problems as a child can have a variety of effects on mental and physical growth."



Yoko Komada (From the video recording of the "Sleep in the Future: What is an ideal sleep?" session)



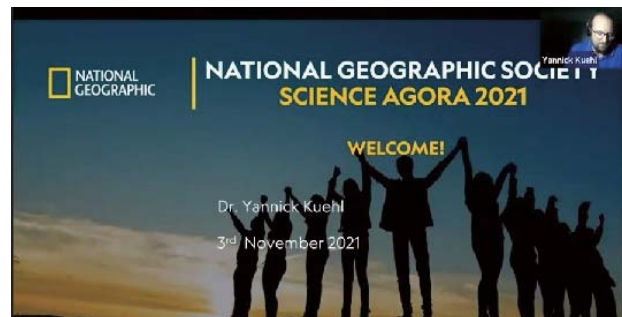
Figure by Yoko Komada that was used for an explanation in the "Sleep in the Future: What is an ideal sleep?" session (provided by Yoko Komada)

Additionally, the "Dialogue Across Borders: The Challenge of a New Scientific Community" and "Practice of Dialogue - Where Thoughts Become Words" sessions were held during the same time slot in the afternoon of November 6th. "Dialogue" is the keyword for Science Agora 2021, and these sessions featured content that directly considered the importance of "dialogue" in solving concrete social issues.

## Numerous Youth-Oriented Sessions this Year

This year was the second time that Science Agora was held in an online format, and, in what can be described as one of Science Agora's long-standing traditions, there were numerous sessions with topics for young people to think about. In fact, many young people, from elementary and junior high school students all the way to university students, participated in the sessions.

To name just a few of these sessions: "What kind of class would you have if your school had a subject called 'future'?" (afternoon, Nov. 3), "Sciencetelling to illuminate and protect the wonders of our world" (afternoon, Nov. 3), "The Present and Future of Cancer Education: Toward Ideal Cancer Education" (afternoon, Nov. 4), "Junior High Schoolers' Challenge: Toward a Sustainable Future from Kyoto's Satoyama" (afternoon, Nov. 5), "Our reality: a manga-mediated discussion about teens' use of SNS" (afternoon, Nov. 6), "Scientific experiment with the picture book challenge: Challenge an earthquake proofing technology in a straw house" (afternoon, Nov. 6), and "What is the Future Society We Want in 2035? -Science and Technology x Empowerment-" (morning, Nov. 7).



Scene from the "Sciencetelling to illuminate and protect the wonders of our world" session on the afternoon of November 3rd (provided by the National Geographic Society)

The "Manga-mediated discussion" session addressed issues of social media, communication, and emotion, which are indispensable for junior high school and high school students when interacting with their friends. The session focused on social media and manga, both of which are familiar to junior high school and high school students. Junior high school and high school students from all over Japan were asked to read a manga that realistically depicts personal relationships as seen from the eyes of "Riko," a junior high school girl in the school's brass band club. Afterwards, the junior high school and high school students who read the manga were asked to vote online on what they felt and thought. Akiko Orita, an associate professor at Kanto Gakuin University, took on the role of facilitator and, while focusing on the "feelings" and "emotions" of the younger generation, told the students that they themselves can create and change the "future that they want to create."



Scene from the "Our reality: a manga-mediated discussion about teens' use of SNS" session on the afternoon of November 6th

## Focusing on a Leading Candidate for the Nobel Prize

Additionally, Science Agora 2021 had sessions with on demand recorded videos, enabling participation regardless of one's schedule, and there were also 14 sessions with content for junior high school and high school students, such as "Imagine and Creativity -The present and future seen in online lessons-" and "Aim High, Science Olympians!"

Among them, one that attracted particular attention was "Prof. Katalin KARIKO's speech on mRNA vaccine research," a session by the Hungarian Embassy and Hungarian Academy of Science. Dr. Kariko is known for developing the technologies that led to the birth of the COVID-19 vaccines that are being used to inoculate people all round the world, and she is considered to be a leading candidate for the Nobel Prize. The session took approx. 40 minutes to explain in detail how the technology was developed, its background, and the issues that were overcome. Even though the session frequently uses technical vocabulary, the explanations and commentary by the developer herself make it extremely valuable material.



Dr. Kariko talks about the development of mRNA vaccines (from the video on demand session by the Hungarian Embassy and the Hungarian Academy of Science)

## Valuable Materials that Trigger Discussions

The final session, "Looking Back on Science Agora 2021," was held from 19:00 on November 7th. The sessions with large numbers of pre-registrations were introduced, and there were discussions about Science Agora issues and topics that will continue on into the future. Amongst them, one opinion that was expressed is that "We need a mechanism to continue the dialogue by connecting the people who were connected through the session dialogues."



Scene from "Looking Back on Science Agora 2021," the final session that was held on the night of November 7th (from the public video)

Mr. Komai, the Chairman of the Science Agora 2021 Promotion Committee, stated that "We had the presenters discuss things from a variety of perspectives, from core research talks to familiar discussions. Science Agora is only an opportunity for dialogue, but I hope that participation here will be a steppingstone to get people interested in various things on a daily basis, and then to have them discuss, shape, and commit."

Looking back on the event as an organizer, Atsushi Arakawa, Director of the JST Department for Promotion of Science in Society, said that "I think the archived videos will be a treasure trove (even though this year's Science Agora is over), and I hope you will use them to trigger your next discussion."

Each of the sessions can be viewed from the "Dedicated Website for Science Agora 2021," and the YouTube videos can be viewed by searching for them. Each one of them will be a truly valuable and diverse "material" when considering our present, our future, and our societal issues.

(By: Yoshitaka Uchijo, Science Portal Editorial Dept.)

※This report is reprinted from the "Science Portal" comprehensive science website, which provides the latest information on science and technology. Science Portal: <https://scienceportal.jst.go.jp>



## Science Agora 2021 (Annual General Meeting)

Pre Agora: Sunday, 10th and Monday, 11th October / Science Agora: Wednesday, 3rd- Sunday, 7th November

### Participate (as of final day 11/7, 17:30) **10,614**

<Breakdown>

Attendances			Contributors (Excluding Science Agora Secretariat)	Guests (Excluding online)	Press (Excluding online)	Total
Zoom attendees (Excluding exhibitors)	Unique YouTube views during event	Total				
4,488	5,387	<b>9,875</b>	717	14	8	<b>10,614</b>

### Total views (as of final day 11/30, 17:00)

Total views (estimate) (Zoom+YouTube)
<b>20,073</b>

### Exhibition sessions **103**

<Breakdown>

Live stream	89
Recorded video	14
<b>Total</b>	<b>103</b>

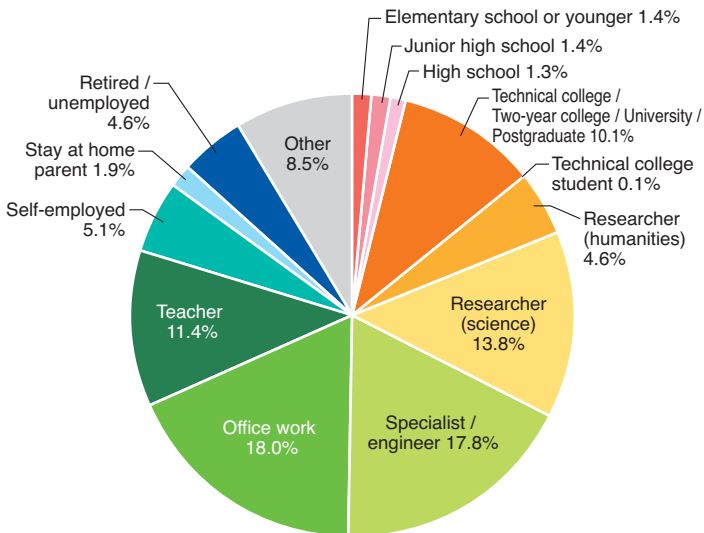
#### [Reference values]

Number and attendance rate of pre-registered attendees

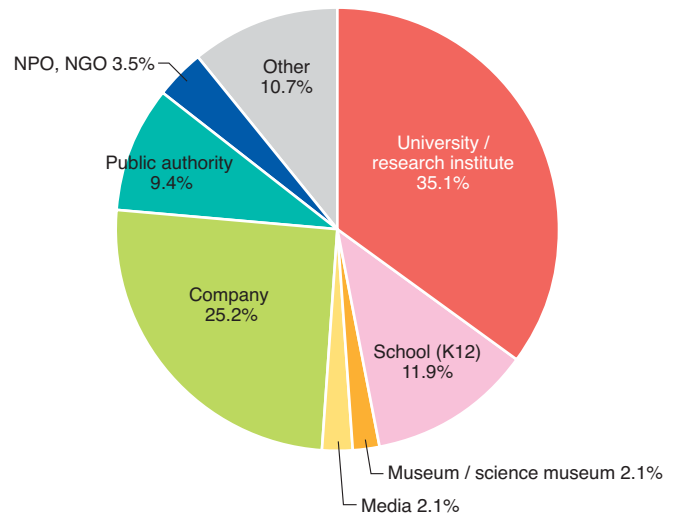
Zoom attendees (Excluding exhibitors)	4,488 people
Pre-registrations	5,202 people
Attendance rate of pre-registered attendees	<b>87%</b>

## Attendee affiliation results (based on affiliation of pre-registered attendees n=5,202)

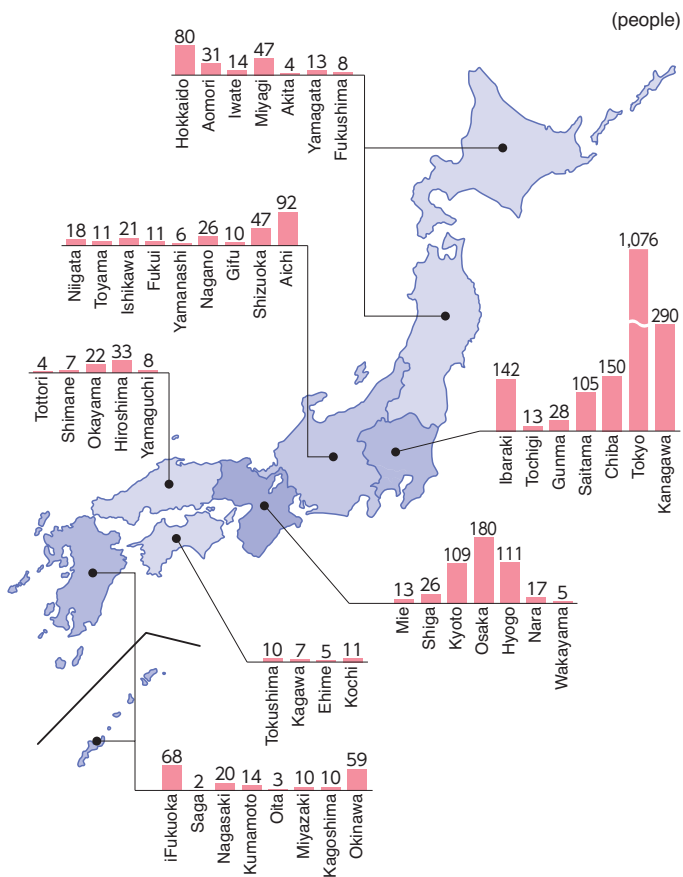
### Occupation



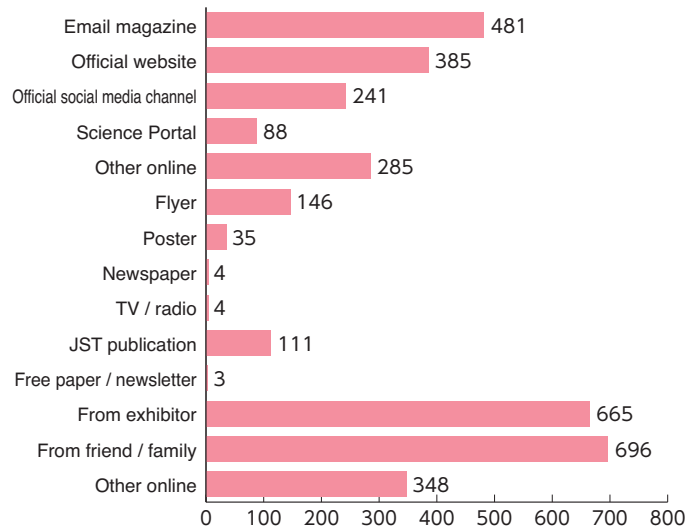
### Affiliation category



### Location of attendance (prefecture)

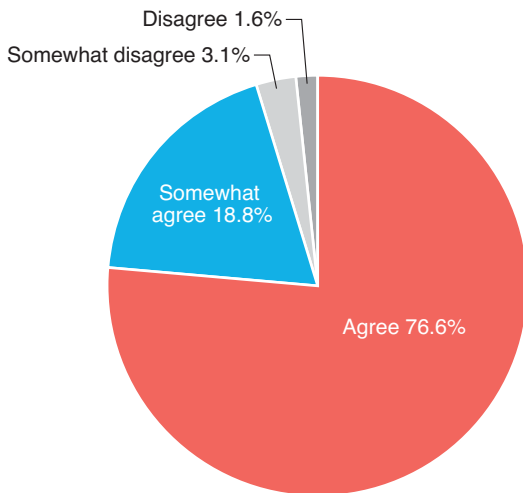


### How did you find out about Science Agora 2021?

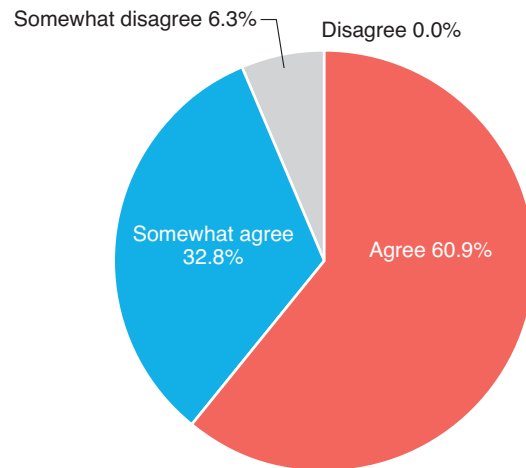


## Participant feedback (Visitor survey n = 64)

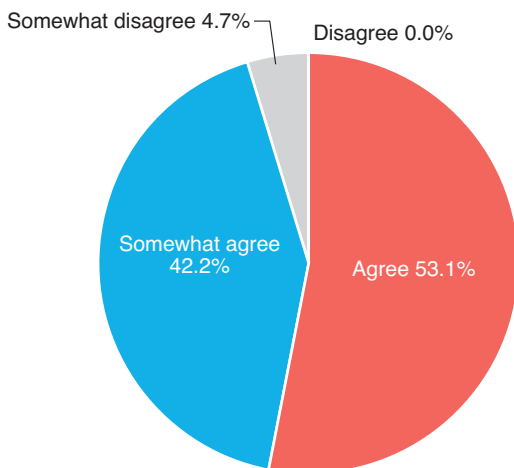
## There were benefits to participating



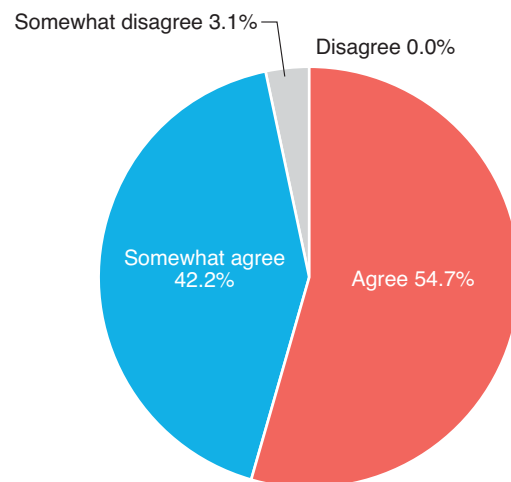
## There were new found realizations and discoveries



## I'm now more interested about science and technology



## My scientific viewpoint, methodology, and knowledge have expanded



## [Reference values]

## Number and attendance rate of pre-registered attendees

Zoom attendees (excluding exhibitors)	4,488 people
Pre-registrations	5,202 people
Attendance rate of pre-registered attendees	<b>87%</b>

# Report on Major Sessions

## Organizer Session: Role of Universities? For revitalizing the Innovation System

**Broadcast Date and Time:** Saturday, November 6th, 10:00–12:00

**Exhibitor:** Japan Science and Technology Agency

### <Speakers>

**Hiroshi Amano** Professor, Institute of Materials and Systems for Sustainability, Nagoya University /  
2014 Nobel Prize in Physics

**Akiko Kishi** Specially Appointed Professor, Department of Bioengineering, School of Engineering, The University of Tokyo /  
Member focusing on "Health Society to Protect Oneself" at The University of Tokyo Center of Innovation (COI)

**Masanobu Todome** CEO, SUNDRED Co., Ltd.

**Masato Nakagawa** Fellow (Consignment) at DENSO Corporation, former President of DENSO Europe B.V. /  
Visiting Professor, Hiroshima University

**Michinari Hamaguchi** President, Japan Science and Technology Agency (JST) / Chairman, Science and Technology Council,  
Ministry of Education, Culture, Sports, Science and Technology /  
Chairman, Japanese National Commission for UNESCO

**Masanori Yoshino** Senior Project Manager, Center for Exploratory Research, Hitachi, Ltd. / Project Leader for "Innovative food &  
Healthcare" at the Hokkaido University Center of Innovation (COI) / Project Leader for "Life Design Co-Creation  
Base for Mind and Body" at the Co-Creation Space Formation Support Program (COI-NEXT)

There have long been concerns that Japan's research abilities and industrial competitiveness are declining, so, in order for Japan to once again generation innovation, what kind of research environment must be established and what sources of innovation must be created? Additionally, there is a need for new relationships with stakeholders who are working to create new industries and for the formation of new ecosystems so that research results produced by universities can be combined with industry and then nurtured.

As such, this session introduced COIs (Centers of Innovation), good practices in Europe, and new trends in industry that are attempting to create new industries through co-creation, and the session also discusses the path for revitalizing innovation systems that will support the "Life" of the future.

## Confirm the Importance of Cross-Domain Dialogue and of Entrusting Things to Young People Exploring "Innovation Revitalization Measures" with Science Agora 2021

"Science Agora 2021" (sponsored by the Japan Science and Technology Agency (JST)) is the largest science event in Japan, where scientists and citizens together think about a better future society. It was held online from November 3rd to 7th, and during this period more than 100 various sessions were held. There were several sessions that attracted particular interest, one of which considered "How to create sources of innovation in the future amidst a clear decline in Japan's research abilities and industrial competitiveness." This session, "Role of Universities? For revitalizing the Innovation System" by the JST Department for Promotion of Science in Society, was held on the morning of November 6th.

The six speakers on the session included Hiroshi Amano, Nobel Laureate in Physics and Professor at the Nagoya University Institute of Materials and Systems for Sustainability, and over the course of two hours they discussed important social issues and ways to solve them, such as what is necessary in order to nurture the results produced by universities, combine the results with industry, and then nurture them. The speakers also confirmed the importance of having cross-domain dialogue and of entrusting things to young people.



The speakers who participated in the online session, clockwise from the upper right: Masato Nakagawa, Hiroshi Amano, Masanori Yoshino, Michinari Hamaguchi, Masanobu Todome, and Akiko Kishi (Scene from the "Role of Universities? For revitalizing the Innovation System" online video)

## "Young People Themselves Will Design the Future"

In the session, the six speakers in turn provided topics and raised issues.

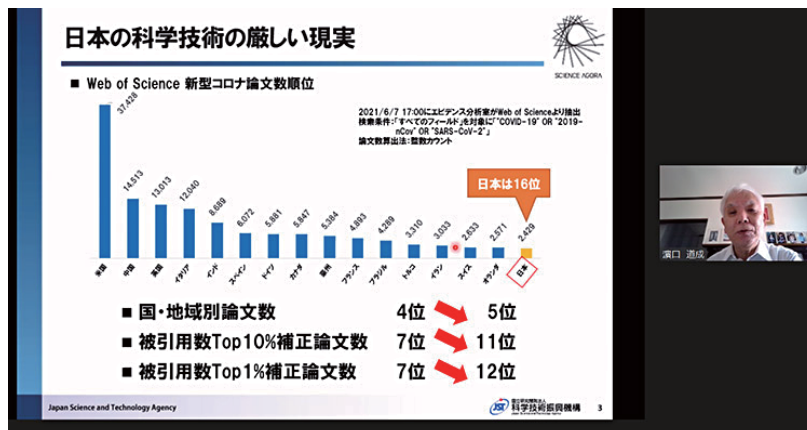
The first speaker was Michinari Hamaguchi, the President of JST, who began the discussion by saying "Today I would like us to think together about the future of Japan and discuss two points with everyone -- 'What is Japanese science and technology becoming now?' and 'How can we connect research and development results to innovation and improve industrial power?'"

Mr. Hamaguchi illustrated this by noting that Japan is ranked 16th in number of papers about COVID-19, and commented on the harsh current state of science and technology in Japan. He pointed out that, from data on the global market size and the occupancy rate of Japanese companies, "only automobiles, parts, and materials are growing," and explained the harsh current situation in which Japanese industry is becoming a subcontractor to the world.

One specific example that he brought up is the US-made "da Vinci" robotic surgical support system, which is currently attracting attention in the medical world, and about 80% of the parts that it uses are Japanese-made. Furthermore, with statements such as "I think that Japan is becoming a subcontractor to the world" and "The inventions of Japanese universities are leaking out to overseas," he showed the sense of crisis around this situation.

Mr. Hamaguchi also further discussed "How to nurture the buds of innovation." He stated that "Currently, the development of diverse human resources is weak," and explained that it is necessary to create a research and development base that aligns with the characteristics of regions and environments where diverse young people can freely perform open-minded research and development.

In addition to this, he also introduced JST-related initiatives such as "Promotion of Moonshot-type Research and Development," emphasizing that "There must be something unique to Japan" when it comes to the direction of innovation that the country is aiming for, and stressed that "A high degree of fusion between manufacturing and DX (digital transformation) is required. We want elderly individuals as well to thoroughly work and invest in young people, and then let the young people design the future with their own hands."



Michinari Hamaguchi explaining a graph that shows the harsh reality of Japanese science and technology (Scene from the online video. Material provided by JST/Mr. Hamaguchi)

## "We Require Dedicated People and Development Investment to Support Them"

Hiroshi Amano then spoke after Mr. Hamaguchi. Hiroshi Amano won the Nobel Prize in Physics in 2014, along with Shuji Nakamura and the late Isamu Akasaki, for their invention of high-efficiency blue light-emitting diodes (LEDs), which was said for a long time to be "difficult to realize."

He began by looking back on the days when he was developing blue LEDs. Mr. Akasaki was Hiroshi Amano's senior and had already succeeded in commercializing red and green LEDs at the Tokyo Research Institute of Matsushita Electric Industrial Co., Ltd. (now Panasonic), and said that "It was a battle between the university researchers, who continued to stick to originality, and the corporate developers, who built things to production and then sent them out into society," which were words that stayed in Mr. Amano's mind.

Mr. Akasaki's strong focus on how "red and green LEDs had already been done by Europe and the US, so only blue will be a Japanese original" led to the research and development that eventually won the Nobel Prize, and Hiroshi Amano then explained the background for the subsequent development of blue LEDs and the patent dispute (which was settled).

Finally, on a slide titled "Lessons Learned from Blue LEDs on the Key to a Japan-Developed Innovation System," he noted that Japan's share of the global blue LED market, which used to be approx. 33%, is now down to 5%, and emphasized that "Japan's problem is that it is slow to industrialize [innovations]" and that "We require dedicated people who focus on research seeds, intellectual property, production, and social value creation, and we require continuous development investments to support them."



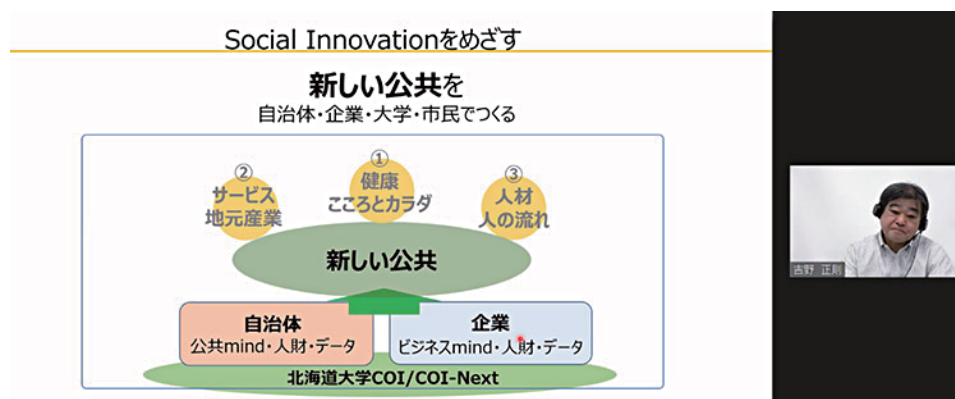
Mr. Amano explaining the process of developing blue light LEDs (Scene from the online video. Material provided by Mr. Amano)

## "We Ourselves Will Change, and Japan Will Change"

Next, Masanori Yoshino, a Senior Project Manager at Hitachi, Ltd.'s Center for Exploratory Research, provided a topic that was from the standpoint of COI (Center of Innovation) programs, with an eye on the social image 10 years from now that they should be aiming for. Mr. Yoshino is also the project leader for "Life Design Co-Creation Base for Mind and Body" at Hokkaido University's COI-NEXT.

He said that "I thought about what companies can't do alone, and I thought about what universities, local municipalities, and citizens can work together to create. They aim to create a new common (new form) by aiming for social innovations, and that's the idea that they keep in their mind while carrying it out." As a specific example, he introduced a collaborative project with Iwamizawa City in Hokkaido, with the vision of "a society where families can live with peace of mind, centered around mothers and children." For this, they promoted a maternal and child health survey as a sustainable project for the city in order to reduce the number of low-birth-weight infants.

And Mr. Yoshino said that "I am acting and working while thinking about bringing societal issues and my own issues to the sympathies of the other people who are involved." There are areas where the natural sciences are good and effective, and there are areas where the social sciences are good and effective, so, in areas where the two of them are involved, he noted that "There is more than one approach. I want you to think about that." He also emphasized the importance of creating innovations via young people, including via junior high school and high school students. Finally, he brought up a PowerPoint slide that said "We Ourselves Will Change, and Japan Will Change."



Masanori Yoshino explaining the concept of a "new common" (Scene from the online video. Material provided by Hokkaido University COI/COI-Next and Mr. Yoshino)

## Learning from German Success Stories

Mr. Hamaguchi, who spoke at the beginning of this session, brought up Germany's "Fraunhofer Research Organization" as a successful example of a public research institution that acts as a bridge between universities and industry. Then, following Mr. Yoshino, there were remarks by Masato Nakagawa who served as President of DENSO Europe, a global auto parts manufacturer, and who is now a Fellow there. Mr. Nakagawa also mentioned Fraunhofer Research Organization.

Mr. Nakagawa is familiar with Germany's unique technology development approach and outstanding mechanism for industry-academia collaboration. Talking about the difference between Japanese and Germany development approaches, he said that "Japan believes in 'self-reliance' that prioritizes its own technology, while Germany is promoting standardization through the industry by properly and skillfully using competitive areas (such as between companies) and cooperative areas."

Regarding the differences between Japanese and German working styles, he explained that "Germany has high productivity even if their working hours are short. That is because, from the early stages of development, they have decided on competitive and collaborative areas and are pouring resources into their own competitive areas."

As for the Fraunhofer Research Organization, Mr. Nakagawa stated that "the local universities, industry, and the state government cooperate closely," and introduced the characteristics that play an important role as a bridge between industry and academia. The organization has 75 bases on the premises of universities in Germany and has 29,000 staff. Of these staff, 26% are internship graduate students and students, and the funding source is a mechanism in which the subsidy amount for the following year increases together with the increase in sales of research that is commissioned by companies.

Mr. Nakagawa said that Japan also must support and accelerate innovation systems that are centered on universities. Specifically, he emphasized that it is important to steadily promote COI and its successor, the COI-NEXT program.

**スピーチのおさらい**

- ドイツ人は労働時間短くても労働生産性高いのは「働き方・仕組み」の違いが大きい
  - 開発の早い段階から、「競争領域・協調領域」(非競争領域)を使い分ける
  - ・「協調領域」(非競争領域)で、共通技術開発・標準化を推進
  - ・「競争領域」にリソース投入し、差別化技術開発推進
- ドイツの産官学連携は地域大学、産業界、州政府の緊密な連携とアカデミアと産業界の橋渡し役の存在が大きい
  - ・ Fraunhofer フラウンホーファーがイノベーション・システムに貢献
- 日本の大学を核としたイノベーション・システムを支援し加速していく必要がある
  - ・ COIプログラムとその後継COI-NEXTプログラムの着実な推進

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Mr. Nakagawa introducing the advantages of the German innovation system (Scene from the online video. Material provided by DENSO and Mr. Nakagawa)

## The Existence of "Interpreneurs" = "Cross-Border Human Resources" is Important

After that, Masanobu Todome, CEO of SUNDRED and who is currently aiming for "co-created of 100 new industries," utilized his experience in a variety of workplaces, such as at a general trading company, at a strategic consultant, and at a foreign-affiliated IT company, to provide a topic. He explained that "Business owners have only learned to manage individual companies, but the new management structure is to find out how to design the big, overall picture by incorporating people, goods, money, or great research into ecosystems in a way that goes beyond individual companies." He emphasized that, "I am closer to managing a society than managing an individual company."

According to Mr. Todome, each and every person is now required to realize diverse values in order to live with happiness. He also emphasized the importance of "interpreneurs" or "cross-border human resources," who are human resources that transcend organizations in such times. He said that the "Industry-Up Studio," which is currently underway, is a place to put into practice new attempts and experiments involving such interpreneurs.

新産業共創の主役：インタープレナー（越境人材）

- ・ インタープレナー達が主体となって目的・エコシステムの仮説を共創し、クエストチームとしてプロジェクトを推進し、想像した未来を実現していくことのできる、新しい価値創造の仕組みの確立を目指しています

実現すべき未来

目的共創  
エコシステム共創

インタープレナー (Interpreneur)  
自律した個として目的・意味を優先して行動する「知識やリソースの「新結合推進者」」

共通OS：「新産業共創プロセス」「社会人」「クエストチーム」

大企業 | 中小企業 スタートアップ | 教育・研究機関 国・地方自治体 | プロフェッショナル

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Mr. Todome exhorting the importance of interpreneurs (Scene from the online video. Material provided by SUNDRED and Mr. Todome)



## Break Down Barriers and Exceed Your Domain

The final speaker was Akiko Kishi, a specially appointed professor at The University of Tokyo School of Engineering. Ms. Kishi is a member of the University of Tokyo COI and focusing on "Health Society to Protect Oneself," and is developing an app called "Body Forecast Map" that aims to personalize health.

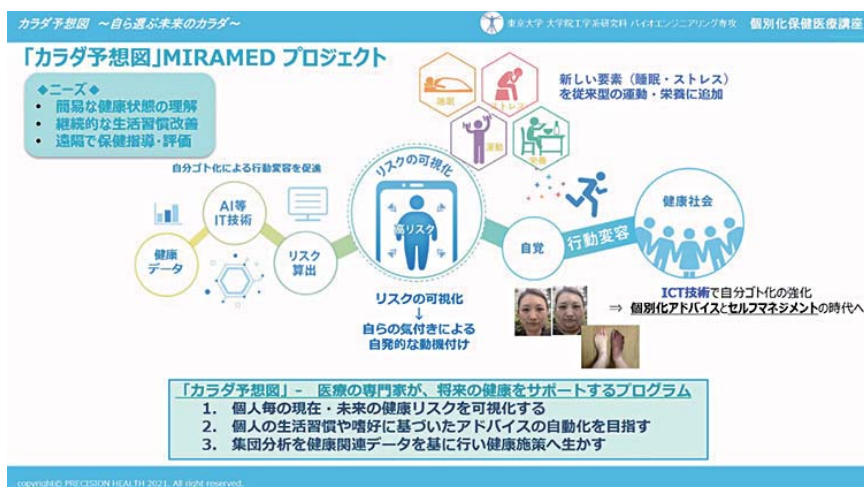
She gave an explanation on the development of the "Body Forecast Map" app, explaining that there is a common understanding that it is important to find groups at high risk of onset while they are still in the "Me-byo stage," and that the app focuses on metabolic syndrome, which is highly related to lifestyle-related diseases. She also said that the motivation for developing this app was that it was difficult for her to grasp her own health status and that it was difficult for her to change her own behavior even if she received specific health guidance.

According to Ms. Kishi, "Body Forecast Map" visualizes the risk of developing a disease by adding new health factors, such as sleep and stress, in addition to the factors of exercise and nutrition that have been used so far, and then aims at voluntary motivation via the user's own awareness. It is a program in which many medical professionals are supporting the future health of many people.

From this experience in developing a unique app, Akiko Kishi brought up nine points that are necessary for innovation, such as "Changing your mindset" to breaks down barriers and exceeds your domain, "Existence of mentors" for when starting new things, and "Needs in the field" that society is seeking.



Akiko Kishi



Conceptual diagram of "Body Forecast Map" development (Scene from the online video. Material provided by PRECISION HEALTH 2021 and Ms. Kishi)

## Once Again Utilize the Strengths of Japan and Japanese People

The session had a two-hour time limit, and, even though the remaining time was limited, at the end of the session there was an exchange of opinions and discussions. Two issues that came up were "New connections that are necessary for academia and industry" and "How to nurture 'people who are sources of innovation.'"

Regarding the issue of nurturing human resources, Masanori Yoshino referred to the challenges in Iwamizawa City in Hokkaido, saying that "When I began COI, rather than doing something at the university I thought that it would be better to create something that we can think about from the beginning (nurturing human resources), something that we can do together with children and young people. I was told that this kind of university would not be easy, but I thought that maybe we could do it at a satellite location." He then talked about how in Iwamizawa City he will create more and more places where people can learn "in the fields of Hokkaido" and active learning locations where people can experience a variety of things such as farming and agriculture.

Masato Nakagawa said that "Germany has a system in which people with potential can gather," and he introduced

an example where the state budget was invested, gathering talented people to make the German city of Aachen into a region that is comparable to Silicon Valley. He also noted that "The United States is a debate society, but Germany is a dialogue and discussion society. Therefore, the people sympathize with each other and help each other level up. Outstanding people gather and then work hard with each other. Rather than somebody developing human resources, the people who gather in a place are the ones who enhance each other through dialogue. I think we should emulate that, too."

In response to this, Masanobu Todome pointed out that "Germany and Japan have many similarities, and Japanese people are good at creating an empathy axis." He also reiterated the importance of entrepreneurs, who are at the center of dialogues.

From his experiences at Nagoya University, Hiroshi Amano said that "It is centered around seeds (seeds for science and technology research) and that it is difficult to focus on solving social issues, but solving social issues is the major premise of the DIA program, which is currently being promoted. There is a limit to human education at universities, so we have the participation of 35 mentors from outside the university." He also said that it is very effective at changing students' mindsets.

To conclude the session, asked each speak for a "single thought." Ms. Kishi said that "I think that education, which everyone talked about, is the most important thing." Mr. Todome said that "The societal implementation of innovation is being required, so it is important for academia, industry, and communities to have dialogues together, and I think the time will come when then strength of the Japanese people will come alive."

Mr. Nakagawa added that "It was a good discussion. It is important to raise people's motivation through dialogue, and not from the top down, no matter the person's position," with Mr. Yoshino stating that "It would be good to think again about Japan's abilities in raising young people for the future. Japan has the largest number of companies in the world that have been in operation for over 100 years, and young people inherit a variety of things such as traditions, so together with young people I want to think about Japan's abilities."

Mr. Amano also added, "I really understand that people networks are important, and I want to make use of them in Japan's industry." Finally, Mr. Hamaguchi emphasized that "Today Japan is entering the third 'reset era' in modern history, following the Meiji Restoration and the post-WWII period. Young people have been active in the past for these prior two resets, and I don't think that we can do a reset for a third time unless we entrust it to young people. In order to do that, in order to trust them, we have to create an environment where they can learn from their mistakes, and we have to create a platform for that."

The session began on the premise that Japan's research abilities and industrial competitiveness are declining, but, even while firmly recognizing this harsh reality, there was no pessimism about the potential of young people and about the potential of Japan. The future can be unlocked by entrusting it to young people, and it would seem that all of the speakers shared the importance of that conviction and belief.

**パネルディスカッション**

- **論点①**  
アカデミアと産業界に必要な新たなつながりとは？  
従来の産学連携から何を変えていく必要があるか？
- **論点②**  
「イノベーションの源泉となる人」をいかに育むか？

The session's final discussion point

(By: Yoshitaka Uchijo, Science Portal Editorial Dept.)

※This report is reprinted from the "Science Portal" comprehensive science website, which provides the latest information on science and technology. Science Portal: <https://scienceportal.jst.go.jp>

**Sunday, October 10 Pre-Agora**

ROOM-A

9:00	
10:00	<b>10-A10</b> HAKUHODO I-STUDIO, JST Science Agora Secretariat <b>Workshop / Make a signage for the future and think about 2050</b>
11:00	
12:00	
13:00	<b>10-A13</b> Jissen Women's University Edutainment Research Institute <b>Co-creation board game "Changing" ~ a new sense of colorful reversi!?!? ~</b>
14:00	
15:00	<b>10-A15</b> Manabu Fujita (Okayama Prefectural Tamano High School Physics teacher) <b>Let's hold a science experimental class online!</b>
16:00	
17:00	<b>10-A17</b> AI Technology Consortium : AITeC ,AIST <b>Let's connect the real and the Internet : Digitalization of experience value</b>
18:00	
19:00	
20:00	
21:00	

**Monday, October 11 Pre-Agora**

ROOM-A

9:00	
10:00	
11:00	
12:00	
13:00	<b>11-A13</b> DRA Project from Kumamoto University <b>Archeology×Engineering Find the insect in the earthenware!</b>
14:00	
15:00	<b>11-A15</b> Japan Association for the 2025 World Exposition <b>New Values of an Expo Possibility of Holding a Cyber Expo (tentative name): Specific Implementation Strategies</b>
16:00	
17:00	<b>11-A17</b> University of Zurich (UZH), National Institute of Informatics (NII), Science & Technology Office Tokyo, Embassy of Switzerland in Japan <b>Deepfakes : High-tech Illusions to Trick the Human Brain – Science from Switzerland (1)</b>
18:00	
19:00	
20:00	
21:00	

**Monday, November 1 Special Event**

ROOM-A

9:00	
10:00	
11:00	
12:00	
13:00	
14:00	
15:00	
16:00	
17:00	
18:00	
19:00	
20:00	
21:00	
21:30~23:00	<b>01-A21</b> JST Science Agora Secretariat <b>We asked the exhibitors about the interesting aspects of their exhibitions!</b>

## Wednesday, November 3

ROOM-A	ROOM-B	ROOM-C	ROOM-D
9:00	9:00	9:00	9:00
10:00 <b>03-A10</b> JST Science Agora Secretariat <b>Science Agora 2021 Highlights</b>	10:00	10:00	10:00
11:00	11:00	11:00	11:00
12:00	12:00	12:00	12:00
13:00 <b>03-A13</b> BRAINTECH CONSORTIUM <b>Brain Science Meets Technology: What Happens If Brain is Connected to a Machine?</b>	13:00 <b>03-B13</b> Japan Science and Technology Agency <b>The 3rd Brilliant Female Researchers Award (The Jun Ashida Award) -Awards Ceremony</b>	13:00 <b>03-C13</b> Life & Bio plaza 21 <b>Let's think about our foods in future, based on Genome edited tomato</b>	13:00 <b>03-D13</b> Matsuyama Lab, Institute of Industrial Science, the University of Tokyo. <b>Possible New Technology Using a Certain Method: The Secret Research Toolbox Game</b>
14:00	14:00	14:00	14:00
15:00 <b>03-A15</b> Japan Science and Technology Agency, Department of Promotion of Science in Society & Miraikan <b>The Agora Citizens Meeting "Do Science and Technology and Imagination Enhance Each Other?"</b>	15:00 <b>03-B15</b> Jutoku High School Science Club <b>Silkworms and Silk: Spinning the Thread of the Past, Present and Future</b>	15:00 <b>03-C15</b> University of the Ryukyus <b>Building a sustainable society by land-based aquaculture: An ultimate application for saving ocean and providing delicious and safe fish.</b>	15:00 <b>03-D15</b> Edible Insects College <b>Edible Insects College VISION 2021</b>
16:00	16:00	16:00	16:00
17:00 <b>03-A17</b> Future Research Program <b>What kind of class would you have if your school had a subject called "future"?</b>	17:00 <b>03-B17</b> Doshisha University YOKO URYUHARA LABO the 6th & soma no base <b>Shall we learn about forest conservation? -Let's enjoy forestry-</b>	17:00 <b>03-C17</b> Certified Management Support NPO Club <b>Let's think about your dreamy future with the wisdom of business masters as a hint.</b>	17:00 <b>03-D17</b> University of Zurich (UZH)/ Science & Technology Office Tokyo, Embassy of Switzerland in Japan <b>Earth→Space→Earth: From Regenerative Medicine to Biodiversity- Science from Switzerland (2)</b>
18:00	18:00	18:00	18:00
19:00 <b>03-A19</b> Gakken <b>Gakken's Amazing Appendices to Science Magazines: Three AR Brothers</b>	19:00 <b>03-B19</b> Japan Science and Technology Agency <b>Science, Technology and Innovation for SDGs; Solving local social issue</b>	19:00 <b>03-C19</b> ACADEMIJAN (CoSTEP 16th term Volunteer Group) <b>Museum×TECTILE: Paleoorganism and Our Lives</b>	19:00 <b>03-D19</b> National Geographic Society <b>Sciencetelling to illuminate and protect the wonders of our world</b>
20:00	20:00	20:00	20:00
21:00	21:00	21:00	21:00
			22:00 <b>03-D21</b> Global Federation of Competitiveness Councils / Queen Mary University of London / Japan Science and Technology Agency <b>Frame the better future responding the crises: Benchmarking</b> 22:00~23:30
ROOM-E			
9:00			
10:00			
11:00			
12:00			
13:00 <b>03-E13</b> "Citizen Science with 10000 people" executive committee <b>Let's create and think of Citizen Science ideas that involve 10000 people!</b>			
14:00			
15:00 <b>03-E15</b> Wiley <b>Cochrane: Trusted Information for Medical Care</b>			
16:00			
17:00 <b>03-E17</b> Department of Innovation Research, Japan Science and Technology Agency <b>Symbiosis with Human and AI - Possibility of Japanese-style Next-Generation AI -</b>			
18:00			
19:00 <b>03-E19</b> CancerX <b>CancerXJAM: Creating Cancer Prevention Training, Agora Version</b>			
20:00			
21:00			

## Thursday, November 4

ROOM-A	ROOM-B
9:00	9:00
10:00	10:00
11:00	11:00
12:00	12:00
13:00 <b>04-A13</b> Hirosaki COI Research Initiatives Organization	13:00 <b>04-B13</b> Delegation of the European Union to Japan
14:00 <b>Healthy Aging Society with the health Big Data and the most advanced science</b>	14:00 <b>Let's learn about international collaboration with EU and Japanese scientists!</b>
15:00 <b>04-A15</b> NEC Future Creation Forum	15:00 <b>04-B15</b> The 150th anniversary memorial committee (Kyoto Cancer Education Model group)
16:00 <b>Future Empathy is Born from New Commons</b>	16:00 <b>The Present and Future of Cancer Education: Toward Ideal Cancer Education</b>
17:00 <b>04-A17</b> Yellow Pin Project	17:00 <b>04-B17</b> Embassy of the Republic of South Africa in Tokyo, JAPAN
18:00 <b>Prgramming for SDGs!</b>	18:00 <b>Toward a Zero-Waste Society through circular economy practices ? a Case of South Africa</b>
19:00 <b>04-A19</b> Japan Association for the 2025 World Exposition/Miraikan	19:00
20:00 <b>Considering the Role of Science and Technology, Culture, and Education in Society and the Possibilities for the Future</b>	20:00
21:00	21:00

## Friday, November 5

ROOM-A	ROOM-B
9:00	9:00
10:00	10:00
11:00	11:00
12:00	12:00
13:00 <b>05-A13</b> Kyoto Beyond SDGs Consortium	13:00
14:00 <b>Junior High Schoolers' Challenge: Toward a Sustainable Future from Kyoto's Satoyama</b>	14:00
15:00 <b>05-A15</b> SGInnovate and Japan Science and Technology Agency, Singapore Office	15:00
16:00 <b>Towards a Sustainable Future: Collaborations and Investments in Deep Tech</b>	16:00
17:00 <b>05-A17</b> Japan Science and Technology Agency	17:00 <b>05-B17</b> Department of Research Project, JST
18:00 <b>Building an Inclusive Society: Reconsidering the Roots of Social Anxiety</b>	18:00 <b>ERATO Session: Information Technology to Change Our Future</b>
19:00 <b>05-A19</b> The Sleepless Nights of Animals	19:00
20:00 <b>The Sleepless Nights of Animals Special: Laboratory Animals</b>	20:00
21:00	21:00
	22:00

## Saturday, November 6

ROOM-A	ROOM-B	ROOM-C	ROOM-D
9:00	9:00	9:00	9:00
10:00 <b>06-A10</b> Holographic <b>Let's think about "After COVID?19" from the VR avatar case study</b>	10:00 <b>06-B10</b> The Institution of Professional Engineers, Keio University <b>a method to make universal joint mechanism by ORIGAMI (folding paper)</b>	10:00 <b>06-C10</b> "Diversity" Session members from I-URIC Frontier Colloquium <b>Let's Discuss "Way of Life" from Gender Perspectives</b>	10:00 <b>06-D10</b> ERATO Kurumizaka Chromatin Atlas Project <b>Exploring the roots of life: Drawing a Chromatin Atlas</b>
11:00	11:00	11:00	11:00
12:00	12:00	12:00	12:00
13:00 <b>06-A13</b> Miraikan - The National Museum of Emerging Science and Innovation, Research Center on Ethical, Legal and Social Issues, Osaka University <b>Practice of Dialogue - Where Thoughts Become Words</b>	13:00 <b>06-B13</b> Science laboratory with smile (Nikoniko science laboratory) <b>Scientific experiment with the picture bookchallenge , Challenge an earthquake proofing technology in a straw house</b>	13:00 <b>06-C13</b> The Preparatory Committee for Japanese Association for the Advancement of Science <b>Dialogue Across Borders: The Challenge of a New Scientific Community</b>	13:00 <b>06-D13</b> Science and Education Center, Ochanomizu University <b>Never give up on science education even if disasters strike! Let us think about a disaster resilient and sustainable education safety network.</b>
14:00	14:00	14:00	14:00
15:00 <b>06-A15</b> Center for Low Carbon Society Strategy, Japan Science and Technology Agency <b>Carbon-Neutral Society and Life: Let's All Talk!</b>	15:00 <b>06-B15</b> Japan Science and Technology Agency (JST) Research Institute of Science and Technology for Society (RISTEX) <b>Our reality: a manga-mediated discussion about teens' use of SNS</b>	15:00 <b>06-C15</b> Earthquake Research Institute, The University of Tokyo <b>Development of marine earthquake and tsunami observation using optical fiber seismometer</b>	15:00 <b>06-D15</b> Volunteer virtual science communicators <b>Let's talk and imagine the future of Vtuber technology</b>
16:00	16:00	16:00	16:00
17:00 <b>06-A17</b> The Institution of Professional Engineers, Japan <b>Learning under COVID-19 pandemic! Science and technology concerned with health and exercise</b>	17:00 <b>06-B17</b> Fusion Energy Directorate, National Institutes for Quantum Science and Technology <b>Quest for Fusion Power Generation - Let's look into the ITER Construction Site!</b>	17:00 <b>06-C17</b> The Japanese Society of Snow and Ice, Kanto-Chubu-Nishinihon Branch <b>Snow and our lives under global warming - frontiers of cryosphere sciences -</b>	17:00 <b>06-D17</b> JST Science Agora Secretariat <b>Science Experiment at Volumetric Studio Strategy Meeting</b>
18:00	18:00	18:00	18:00
19:00 <b>06-A19</b> LAL—LAL Inc. <b>Fullerenes Project: Shapes of Science from Polyhedral Apartment</b>	19:00 <b>06-B19</b> Online Community; RIKEI-talk Lab. <b>Interaction and Realization in online community; So many heads, so much science</b>	19:00 <b>06-C19</b> Hokkaido University Ambitious Leader's Program <b>Dialogue about the future Ph. D ~To create a society where diversity lives and no one is left behind~</b>	19:00 <b>06-D19</b> International Institute for Advanced Studies <b>Why we need to have a multilateral collaboration? And what we need to establish it.</b>
20:00	20:00	20:00	20:00
21:00	21:00	21:00	21:00

ROOM-E	ROOM-F
9:00	9:00
10:00 <b>06-E10</b> Japan Science and Technology Agency <b>Role of Universities? For revitalizing the Innovation System.</b>	10:00
11:00	11:00
12:00	12:00
13:00 <b>06-E13</b> Tom Kawada, Hiroshi Sasaki, Masashi Nakatani <b>Recipe that scientists think</b>	13:00 <b>06-F13</b> IVRC Committee,IVRC (Virtual Reality Society of Japan) <b>IVRC2021 (Interverse Virtual Reality Challenge)</b>
14:00	14:00
15:00 <b>06-E15</b> Kyushu University <b>STS Statement Online Science Session</b>	15:00 <b>13:00~15:30</b>
16:00	16:00
17:00 <b>06-E17</b> Japan Atomic Energy Agency <b>What is radiation ? You can find an answer in our daily life.</b>	17:00 <b>06-F17</b> IVRC Committee,IVRC (Virtual Reality Society of Japan) <b>IVRC2021 (Interverse Virtual Reality Challenge)</b>
18:00	18:00
19:00	19:00
20:00	20:00
21:00	21:00

## Sunday, November 7

ROOM-A	ROOM-B	ROOM-C	ROOM-D
9:00	9:00	9:00	9:00
10:00 <b>07-A10</b> Japan Science and Technology Agency <b>FSP Talk Session 2021 :Fostering next-generation Scientists Program</b>	10:00 <b>07-B10</b> The Japan Biodiversity Association <b>Biodiversity and the Chain of Lives - Protecting the abundance of the land and the sea -</b>	10:00 <b>07-C10</b> math channel <b>Future arithmetic and mathematics education</b>	10:00 <b>07-D10</b> Department of R&D for Future Creation/ Department for Promotion of Science in Society, Japan Science and Technology Agency <b>The Ideal Future Society in 2035: Science and Technology × Empowerment</b>
11:00	11:00	11:00	11:00
12:00	12:00	12:00	12:00
13:00 <b>07-A13</b> UTaTane <b>Science Factory - How do we create scientific knowledge? -</b>	13:00 <b>07-B13</b> The Oceanographic Society of Japan, Ocean Literacy and Education Panel <b>Oceanic Currents over the World and our Lives</b>	13:00 <b>07-C13</b> Ochanomizu University Itoh Laboratory <b>Let's Experience "Classification" with Machine Learning Methods</b>	13:00 <b>07-D13</b> WPI-ICReDD, WPI-IRCN, WPI-IFReC <b>New Science: Cutting-edge Research Based on Information, AI, and Big Data</b>
14:00	14:00	14:00	14:00
15:00 <b>07-A15</b> GAME×WORKSHOP "THE RULE" <b>THE RULE online -Telework ver.-</b>	15:00 <b>07-B15</b> ERATO Ueda Biological Timing Project/ RIKEN BDR <b>Sleep in the Future: What is an ideal sleep?</b>	15:00 <b>07-C15</b> Special Interest Group on Collective Intelligence Mechanism <b>Collective intelligence mechanism for people</b>	15:00 <b>07-D15</b> Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University <b>Molecules to save the world from jet lag and seasonal depression! Sustainable development goals and drug repositioning.</b>
16:00	16:00	16:00	16:00
17:00 <b>07-A17</b> Center of Innovation (COI) Co-creation Support Group (Yamagata University - Tohoku University - Ritsumeikan University) <b>Dialogue with COI young researchers on "WAKUWAKU &amp; Local Resources &amp; SDGs"</b>	17:00 <b>07-B17</b> Science Agora Executive Committee for Sharing the Fascination of the Ariake Sea (tentative name) <b>Creation of the Ariake Sea: Considering the Future from the Fascination of the Sea!</b>	17:00 <b>07-C17</b> Kuro Rabu Professor and Honda Takayuki <b>Under Kuro Rabu and Honda Science communicators, please gather together part 2</b>	17:00 <b>07-D17</b> Shockonken <b>A Future with Edible Insects</b>
18:00	18:00	18:00	18:00
19:00 <b>07-A19</b> JST Science Agora Secretariat <b>A look-back at Science Agora 2021</b>	19:00 ※07-B17 is canceled due to reasons of the exhibitor.	19:00	19:00
20:00	20:00	20:00	20:00
21:00	21:00	21:00	21:00
<b>ROOM-E</b>			
9:00			
10:00 <b>07-E10</b> Arctic Challenge for Sustainability II <b>Arctic research and disaster prevention for better future</b>			
11:00			
12:00			
13:00 <b>07-E13</b> Tohoku University, International Research Institute of Disaster Science (IRIDeS) <b>Inclusive Disaster Risk Reduction Through Developing an Innovative Alert System Aligned with Comprehensive Risk Assessment at the Local Level</b>			
14:00			
15:00 <b>07-E15</b> Faculty of Education and Integrated Arts and Sciences, Waseda University, Hiroshi Kitazato (invited researcher), Kazuyoshi Moriya (professor) <b>Coexistence with Nature through the Sea, Mountains, and People: Beyond March 11th to the Future</b>			
16:00			
17:00 <b>07-E17</b> Japan Tessellation Design Association <b>Discover through tessellation! Diversity emerged from combinations.</b>			
18:00			
19:00			
20:00			
21:00			

## On-demand sessions

- [Y-01] **Let's take a look at atoms and molecules. -"Codes" such as atoms and molecules make up our bodies and the earth.-**  
Society of Computer Chemistry, Japan

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- [Y-02] **Development of useful handmade tools in learning biology**  
Department of Applied Bioscience, Kanagawa Institute of Technology

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- [Y-03] **Imagine and Creativity -The present and future seen in online lessons.-**  
Tokyo Metropolitan Fuji High School , Junior High School

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- [Y-04] **Records of CoSTEP Science Cafe Sapporo Online**  
Hokkaido University CoSTEP

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- [Y-05] **Science of Soap Bubble**  
A La carte Ecole Osaka Institute of Technology Science

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- [Y-06] **The Path to Becoming a Science Olympian!**  
Japan Science Olympiad Committee

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- [Y-07] **ILC X QuizKnock: Let's take a first step to become a scientist!**  
KEK

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- [Y-08] **Solving infrastructure issues! ~Infrastructure Management Technology Contest~**  
Japanese Congress for Infrastructure Management Civic engagement forum

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- [Y-09] **The micro world explored with a mobile microscope. A wide variety of observations and case studies using visible light and ultraviolet light**  
Life is small. Projects

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- [Y-10] **"Global Science Campus" (GSC) Academic Seminar**  
Japan Science and Technology Agency (JST) Department for Promotion of Science Education

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- [Y-11] **Let's talk with the creatures in the universe**  
Forest of Science Radio Production Team

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- [Y-12] **Practical Documentation of Surveying Workshop "Reproduction of Nasca's Geoglyphs"**  
Yasuhiko ISAMI Laboratory, KYUSHU SANGYO UNIVERSITY

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- [Y-13] **Prof. Katalin KARIKO's speech on mRNA vaccine research**  
Hungarian Embassy/Hungarian Academy of Science

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- [Y-14] **Fast Dissemination of Scientific Results in the Era of COVID: Preprints with Provenance, Reproducibility, and Trustworthiness**  
Atypon

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## The Science Agora Vision

The vision sets forth the long-term objective that we wish to make through the Science Agora.

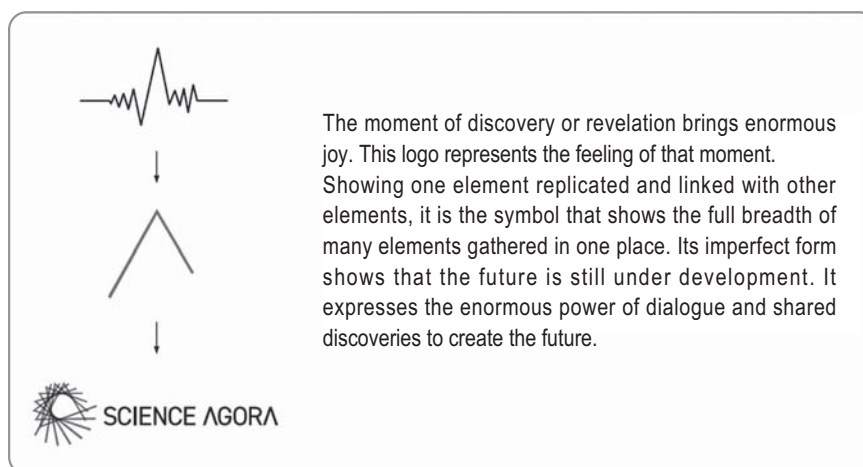
### A future woven through dialogue between science & daily life

Science and technology have developed in parallel with wealth and power in the 20th century. However, in the face of limited resources on Earth and growing strain on the world, we are now beginning to see the limitations of science and technology. In particular, as we make the transition from a growth society into a mature society, the Japan of today is confronted by many problems and it has become extremely difficult to see ahead into the future. Therefore, we felt that a space was needed where relevant stakeholders could come together to consider the future of science and society, respecting the views of others, and create a future. We hope to foster such a culture. Furthermore, there are diverse attitudes and approaches depending on the country/region and culture, and we hope to explore methods that are unique to Japan.

[Key points]

- ① We emphasized not only “creating a space,” but also the approach of collaborative thinking to create the society of the future.
- ② The concept embedded in “daily life”: The focus may be on the daily lives and the ways individuals live their lives, but we believe that this also leads to consideration of society as a whole.
- ③ The concept embedded in “weaving”: The importance of exploring methods that are unique to Japan for the creation of a future society. It calls to mind the image of spinning thread - a process of creating harmony in the sense of bringing short, thin, disjointed fibers together, gradually building up and creating something meaningful rather than taking a single leap all at once.

## The story behind the brand logo



## Science Agora 2021 Promotion Committee

Chair	<b>Shoji Komai</b> (Science Agora 2021 Promotion Committee Chairman/ Professor, Faculty Tech. Sci., Dept. Info. Tech., International Professional University of Technology in Tokyo)
member	<b>Atsuko Saito</b> (Director, Future Center Alliance Japan (FCAJ)/Kokuyo, Co., Ltd.)
member	<b>Shoko Takahashi</b> (CEO, INCUBION)
member	<b>Sari Kaede</b> (Consultant, Nikken Sekkei NAD Lab)
member	<b>Kaori Nemoto</b> (Strategic Planning Director, Hakuhodo Brand & Innovation Design)
member	<b>Keiichi Hirotsune</b> (CEO, Institute of Creative Industries and Culture)
member	<b>Kouta Minamizawa</b> (Professor, Graduate School of Media Design, Keio University)
member	<b>Naoki Miyano</b> (Associate Professor, Center for the Promotion of Interdisciplinary Education and Research, Kyoto University)
member	<b>Atsushi Arakawa</b> (Director, the Department for Promotion of Science and Society, JST)
member	<b>Yuko Morita</b> (Principal Investigator (Science Communication), Department of Museum (JST), National Museum of Emerging Science and Innovation (Miraikan))

As of November 2021 ※Honorifics abridged

# Science Agora 2022

We are going ahead in 2022 !

<https://www.jst.go.jp/sis/scienceagora/>

# Science Agora 2021