

Report

Meeting Report of the 8th Educational Symposium on Radiation and Health by Young Scientists (ESRAH2021) and the 4th Workshop on Radiation Research and Its Related Issue: Summary of Lectures, Presentations, and Troubleshooting When Running International Online Symposium

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Received 4 March 2022; revised 2 May 2022; accepted 11 May 2022

The 8th Educational Symposium on Radiation and Health by Young Scientists (ESRAH2021) and the 4th Workshop on Radiation Research and Its Related Issue 2021 Joint Symposium was held off-site on November 12-14, 2021. This symposium has provided an opportunity for young researchers and students to be exposed to cutting-edge research and engage in lively discussions. However, due to the restrictions of COVID-19, it has been held online for the 2nd year running. In spite of this situation, a total of about 60 participants attended and listened to lectures by established, leading researchers and poster presentations by young researchers. In this report, we summarize the lectures and oral sessions at this joint symposium, and share our troubleshooting experiences when running an online symposium.

Key words: radiation, online symposium, Microsoft Teams, troubleshooting

1. Background of this symposium

Over the last few decades, Japan has experienced several radiation accidents including the Tokai-mura JCO accident in 1999 and the Fukushima Daiichi Nuclear Power Plant (F-1 NPP) accident in 2011¹⁻⁶. Although the most important lesson of these accidents is that we are never fully prepared for radiation accidents, another important

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https://doi.org/10.51083/radiatenviroinmed.11.2_66
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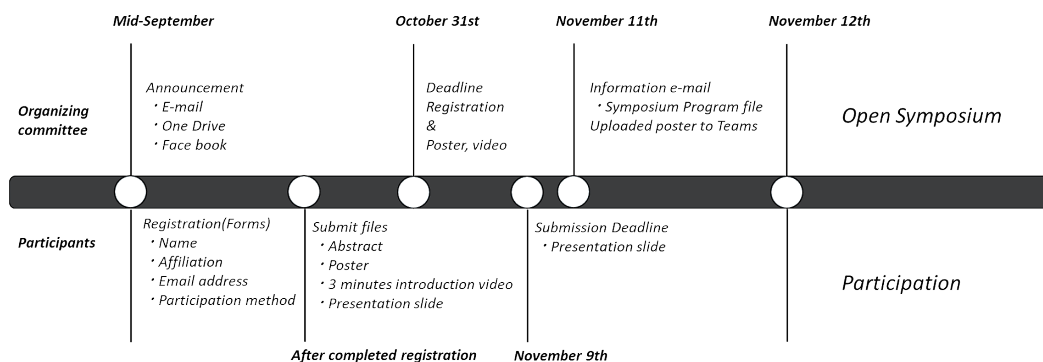


Fig. 1. Key dates of this symposium for the organizing committee and participants.

lesson that human resources with sufficient knowledge about nuclear disasters and radiation emergency medicine are inadequate. Therefore, it is important that young researchers and students have opportunities to get the knowledge and information of experts through sharing of experiences in radiation science. Given these challenges in radiation emergency medicine, since 2008, Hirosaki University and Hokkaido University jointly have held a seminar on radiation effects to educate young scientists including undergraduate and graduate students. Since 2014, symposiums titled as “Educational Symposium on Radiation and Health by Young Scientists (ESRAH)” have been held following the F-1 NPP accident⁷⁻¹⁰. In addition to ESRAH, Hirosaki University and four universities in Thailand have held workshop focused on medical treatment, protection, and detection in relation to radiation effects on the environment, protection detection and emergency medicine since 2018. In 2021, we organizers had to hold these symposiums entirely online due to the coronavirus disease 2019 (COVID-19) pandemic. Many online symposiums have come to be held, and various online tools have been developed that allow researchers to communicate and share knowledge and information even under the restrictions for face-to-face meetings due to the pandemic. We also held an online symposium in 2020¹¹, and the 2021 symposium had to be held online as well. Although online tools should be simple and easy to use, symposium organizers have encountered many problems that were unique to online, and organize has been difficult. In this report, we summarized the lectures and presentations and describe our experiences in running an online symposium and workshop in the hope that other organizers can use the online tools more easily for future symposiums.

2. Registration & meeting method

The symposium was held entirely online using the

The 8th Educational Symposium on RADIATION AND HEALTH by young scientists (ESRAH2021) & The 4th Workshop on Radiation Research and Its Related Issue 2021
Joint Symposium
12-14, November 2021
12th - 13th (17:00-20:00, JST)
14th (09:00-18:00, JST)
Held in English virtually via “Teams”
@Hirosaki University HIROSAKI, JAPAN
Contact: esrah2021@hirosaki-u.ac.jp

Call for paper (only poster presentation for ESRAH)
We invite graduate students and young researchers to submit abstracts via esrah2021@hirosaki-u.ac.jp by 31st October 2021 for poster presentation file with Microsoft Power Point by 7th November 2021.

ESRAH2021 Speakers:
University of Catania, Italy
Dr. Antonio Basile
University of Pannonia, Hungary
Dr. Tibor Kovacs
Kasetsart University, Thailand
Dr. Wanwisa Sudprasert
University of Yaoundé, Cameroon
Dr. SAÏDOU
...and poster presenters

The Workshop Speakers:
Chulalongkorn University
Dr. Supitcha Chanyotha
Dr. Manasavee Lohvithee
Kasetsart University
Mr. Arkarapol Thumwong
Khon Keen University
Dr. Siritorn Buranurak
Chiang Mai University
Dr. Uten Yarach
Ms Ohmmar Myint
Ms Aye Thidar Moe Moe
Hirosaki University
Dr. Wataru Miyazaki
Dr. Misaki Mikami
Mr. Naoya In
Mr. Ryohei Yamada
Mr. Yota Hiroyama

Fig. 2. Announcement posted on the Radiation Emergency Research Institute Facebook account.

Microsoft video meeting platform called “Microsoft Teams”. Microsoft Teams offers many functions such as open chat, video calls, and contents sharing, allowing users to meet from anywhere¹². In addition, we selected Microsoft Forms, an online survey platform to register participation since it can create surveys and output aggregate answers as an xlsx file easily.

Organizers and participants proceeded with the time schedule shown in Figure 1. In addition, symposium announcements and calls for papers were made public via the Facebook account of one cohost institute. This account has already connected many researchers all over

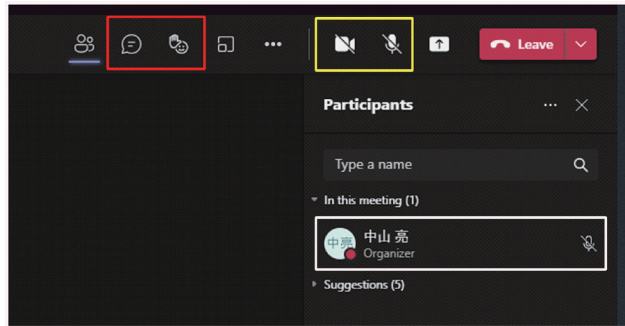


Fig. 3. Actual platform for the meeting channel. The name enclosed in the white frame is the name that will actually be displayed during the meeting. If the users belong to an organization, they cannot change this name themselves. The top yellow frame allows the user to turn the microphone and video on and off. The top red frame is the hands-up mark and chat function, whereby users can ask questions or appeal to the presenter or the chair.

Table 1. List of Educational lecture

No.	Title	Presenter	Affiliation	Country
I	Radiation exposure in Interventional Radiology	Dr. Antonio Basile	University of Catania	Italy
II	Radon-risk mapping and protection in Cameroon	Dr. Saïdou	University of Yaoundé	Cameroon
III	Current Status of ASEAN Biodosimetry	Dr. Wanwisa Sudprasert	Kasetsart University	Thailand
IV	Bio- and environmental monitoring of radioisotopes under the shadow of COVID-19?	Dr. Tibor Kovács	University of Pannonia	Hungary

the world, it is a proven effective publicity tool. Figure 2 is the actual poster the organizing committee put on Facebook. To apply to attend the symposium, participants only needed to fill in a short application form (name, affiliation, e-mail address) in Microsoft Forms. Instead of making a symposium homepage, we sent participants a link to OneDrive, which is an Internet-based storage platform provided by Microsoft, where we provided the symposium information (timetable, abstract format, and program). Microsoft Teams has several ways to invite participants to the meeting channel with a link, a quick response code and a pass code. We invited participants by the link to the meeting channel because currently guests cannot join a meeting group using the pass code and quick response code.

Microsoft Teams has options to divide persons in the meeting group into, for example, organizers and participants. In addition, it has a function giving some permissions, such as the level of security for each division (organizer, participant, etc.). For instance, organizers can upload and download files, while participants can see files, but not download them. Figure 3 shows the actual platform when someone enters the meeting channel. The registered name is displayed so others can see it. All members in meeting channel can communicate with the camera and microphone and share their screen. To avoid disrupting the presentation and communication time lag, participants turn off their microphone and camera during the presentation. Microsoft Teams also

has an option which limits the permission to turn on their microphone by themselves. Although we used this option for the previous symposium¹¹⁾, it was a tiresome task for us to turn on the individual microphone every time a participant asked a question. Therefore, we did not use this option this time. Microsoft Teams has chat and hands-up functions. During presentations, participants put questions and comments on chat or push the hands-up mark, and the chairperson of the session selects from them.

3. Summary of contents of the educational lectures

The educational lectures are listed in Table 1. Four eminent researchers were invited from Italy, Cameroon, Thailand, and Hungary to give lectures on the latest research in the fields of radiology, environmental radiation measurement, and biological response to radiation. These lectures were very useful for young researchers, especially the research in the fields of radiology in actual medical practice may have helped to remove the fear and anxiety of radiation exposure from many participants such as nurses, radiologist, and other medical staffs.

Lecture I: Radiation Exposure in Interventional Radiology
Dr. Antonio Basile from University of Catania, Italy, gave a lecture titled “Radiation Exposure in Interventional Radiology”. To properly manage radiation effects in radiation protection for interventional radiology (IR),

effective dose (Sv) which combines the radiation weighting factor considering the radiation type and energy, and the tissue weighting factor considering the sensitivity of each tissue are required. In addition, effects of ionizing radiations can be divided into genetic damage and somatic damage, and the fundamental principles of radiation protection (justification, optimization, and limitation) are also important. Since most of the radiation to the operator in IR is radiation scattered by the patient, reducing the dose for the patient is closely related to reducing it for the operators. The determinants of dose in an angiographic examination room depend on habitus of the patient (patient body thickness), type of procedure (femoral vs radial approach), collimation (decreased diffusion from the beam edge by using a collimation filter), and magnification (reduction of field of view exponentially increases both the dose for patient and operators). For these determinants, optimizations (as low as reasonably achievable—ALARA; obtaining sufficient image quality to carry out the diagnostic / therapeutic procedure with the lowest possible dose delivered before, during and after the procedure) cannot be separated from proper operator training and the use of simple precautions allows significant reduction of the dose.

Lecture II: Radon-risk Mapping and Protection in Cameroon
Educational Lecture II entitled “Radon-risk Mapping and Protection in Cameroon” was given by Dr. Saïdou from Yaoundé University, Cameroon. He is one of the world’s leading experts in radon-thoron measurements and he has been conducting indoor radon and thoron measurements in Cameroon. This lecture introduced the status of radon and thoron measurements in Cameroon and gave some future study prospects. Indoor radon measurements have been focused on mining and ore bearing areas in Cameroon and on radon measurements in soil and about 2,500 and 300 data measurements have been obtained, respectively. The corresponding arithmetic means of radon, thoron, and thoron progeny in residential dwellings two months after radon exposure were determined to be 103, 107 and 6.8 Bq m⁻³, respectively. The arithmetic mean for the national scale of radon is well above the world average value of 40 Bq m⁻³ given by UNSCEAR, and the average concentrations of ²²²Rn in all the indoor surveyed dwellings exceeded 100, 200 and 300 Bq m⁻³ in 49, 9 and 2% of all indoor dwellings, respectively. These results pointed out the importance of putting in place radon regulations and setting a national radon action plan in Cameroon. Further studies on better radon-risk mapping and identification of radon-prone areas in Cameroon are underway, and will be extended to other Central African countries in the future. In addition, the measurements of ²²²Rn, ²²⁰Rn, and ²²⁰Rn progeny confirmed the importance of considering thoron in the inhalation dosimetry of Rn

to avoid biasing in epidemiological studies. However, the International Atomic Energy Agency (IAEA) Basic Safety Standards (BSS) have considered only radon, but not thoron in the radon regulations. Dr. Saïdou’s work suggested that there is an urgent need to regulate thoron exposure at the international level, and a thoron reference level or a combined radon-thoron reference level should be defined. This presentation provided some interesting discussion points for participants.

Lecture III: Current Status of ASEAN Biodosimetry

Dr. Wanwisa Sudprasert from Kasetsart University, Thailand, gave a presentation titled “Current Status of ASEAN Biodosimetry”.

The Association of South East Asian Nations (ASEAN) Network of Regulatory Bodies on Atomic Energy (ASEANTOM) was established in 2013 with the support of the IAEA to strengthen cooperation among ASEAN countries and to enhance nuclear safety, security and safeguards by complementing existing mechanisms at the national, regional and international levels. Dr. Sudprasert introduced the efforts made and challenges faced in building cooperation among ASEAN countries on biodosimetry through ASEANTOM.

Nowadays, emergency exposure accidents such as occur with the wider use of nuclear reactors for electrical power generation, terrorism, and medical accidents are becoming of greater concern. Biodosimetry estimates the radiation dose from the biological response to exposure and plays an important role in selecting appropriate treatment for patients in the event of such accidents. Therefore, biodosimetry is one of the themes and issues that is focused on in ASEANTOM. From 2013 to 2017, ASEANTOM member countries organized several technical conferences, seminars, and workshops in Thailand, Malaysia, Singapore, Australia, and the Philippines. These activities were aimed at developing human resources who have knowledge of the basic principles of biodosimetry and how to apply them, and who have experience in practical training of others in the so-called gold standard evaluation methods. Unfortunately, since 2017, several activities such as inter-laboratory comparison exercises have not been conducted due to various circumstances, including the lack of a clear host or key operator to lead each activity, and the lack of government funding. Thus, the activities of each country separately are currently the main business of ASEANTOM, not international cooperation between the member countries. One example of activities that are undertaken is the submission of papers to the IAEA Coordinated Research Projects. In addition, members in Thailand prepared a textbook on radiation biodosimetry, held seminars for undergraduates to disseminate correct knowledge about biodosimetry, and conducted research

Table 2. List of Workshop Lectures

No.	Title	Presenter	Affiliation	Country
1	Accelerated Propeller FSE-DWI with Locally Low Rank Regularized Reconstruction	Dr. Uten Yarach	Chiang Mai University	Thailand
2	Limited-data Computed Tomography (CT) reconstruction using iterative reconstruction algorithms for a reduced radiation dose	Dr. Manasavee Lohvithee	Chulalongkorn University	Thailand
3	Service-learning Experiences of Nursing Students who participated in Health Consultations in X Town, Fukushima Prefecture with Prolonged Evacuation	Mr. Naoya In	Hirosaki University	Japan
4	Motor problems and atypical sensory processing profiles in preschoolers with developmental coordination disorder	Dr. Misaki Mikami	Hirosaki University	Japan
5	Effect of Low-Dose Radiation on Binding Affinity of Vanillic Acid to Human Serum Albumin: Preliminary study	Ms. Ohnmar Myint	Khon Kaen University	Thailand
6	Effects of Quercetin on adipogenesis by studying the metabolic profiles by NMR	Mrs. Aye Thindar Moe Moe	Chiang Mai University	Thailand
7	Cadmium-exposed cell-derived extracellular vesicles disrupt osteoblast differentiation and osteoclast functions	Dr. Wataru Miyazaki	Hirosaki University	Japan
8	Cell killing effect of 60 MeV protons at Ultra-high dose rate.	Mr. Yota Hiroshima	Hirosaki University	Japan
9	Assessment of Freshwater Reservoir Sediment Accumulation Rate using Natural Radionuclide	Dr. Supitcha Chanyotha	Chulalongkorn University	Thailand
10	Fiber optically coupled radioluminescence detectors: Developments toward reference-class radiotherapy dosimetry	Dr. Siritorn Buranurak	Khon Kaen University	Thailand
11	Comparative properties of lead-free X-ray shielding natural rubber latex (NRL) gloves containing nano-Bi ₂ O ₃ fillers: radiation and sulfur curing systems	Mr. Arkarapol Thumwong	Kasetsart University	Thailand
12	Sophistication for Environmental Radiation Monitoring using Majority-Logic	Mr. Ryohei Yamada	Hirosaki University	Japan

to develop dose-response curves for individual dosimetry methods.

These activities make great sense in developing young skilled professionals as the numbers of experienced workers continue to decline, and for making biodosimetry a more reliable dosimetry technique by sharing information with many countries. Biodosimetry is the most important means of looking at the biological response of exposed patients, and its estimation methods are constantly being updated. Dr. Sudprasert encouraged the young persons attending the symposium to take the initiative in participating in this kind of activity. She also expressed the strong hope that international ASEANTOM activities will restart after the pandemic is over.

Lecture IV: Bio- and Environmental Monitoring of Radioisotopes under the Shadow of COVID-19?

The session by Dr. Tibor Kovács from University of Pannonia, Hungary was entitled “Bio- and Environmental Monitoring of Radioisotopes under the Shadow of COVID-19?” and given on the second day of ESRAH. He presented an interdisciplinary study on the migration characteristics of natural and artificial radionuclides in several different environmental compartments and various plants and animals. The research was conducted

in collaboration with international research partners in Japan, Kazakhstan, Morocco, Vietnam, and elsewhere, and it covered multiple climates, a variety of vegetables and animals such as seafood and saprophytes, and a variety of transuranic elements. This research is intended to provide resources for the development of newer and better modeling software that can accurately estimate uptake pathway doses. The transfer coefficients currently used in dosimetry models depend on lifestyle, such as occupation, time spent indoors, diet, agriculture, and animal husbandry. There are many uncertainties including limited information on climates and underestimation of combination of factors such as animals, plant, and radionuclide. These old transfer coefficients required to be reviewed or updated to correct such uncertainties and reflect measurement technologies and computer modeling.

4. Summary of workshop lectures

Multiple topics were presented by young scientists from Thailand and Japan (Table 2). This year, presentations covered not only radiation research, but also human health and medical research. The presenters (Table 2, Nos. 1, 2) who studied magnetic resonance imaging (MRI) and computed tomography (CT) images introduced a

better imaging method than the conventional one. One imaging method of MRI called “Propeller FSE-DWI1” has been a method of choice in particular for Cholesteatoma although there are some problems such as prolonged scan time, low signal-to-noise ratio (SNR), and phase variations among the blades. Presenter 1 showed that the locally low rank (LLR) technique that does not require phase calibration, can be used to recover a complete image without using explicit prior knowledge of the phase information, making it better than standard reconstruction methods. This technique should be capable of increasing the diagnostic performance at MRI tumors near an air/tissue interface. In addition, one direction of the research in the field of medical imaging is to reduce the radiation dose while maintaining the quality of images. Presenter 2 suggested that using iterative reconstruction algorithms provides better performance against noise and limited projections compared with conventional algorithms. The results of this research will help to reduce the radiation dose and preserve the quality of images. In the studies related with human health (Table 2, Nos. 3, 4), speakers introduced service-learning experiences of nursing students in Fukushima Prefecture and the developmental coordination disorder (DCD) in children. Research in human health provided new findings of interest to workshop participants, although not connected to radiation topics. A study (Table 2, No. 5) focusing on low dose radiation (LDR) introduced the effect of LDR on human serum albumin (HSA) profile. HSA is the most abundant plasma protein and plays an important role in transportation of a variety of compounds¹³. Presenter 5 showed that LDR enhances binding affinity between HSA and vanillic acid, which shows an anti-oxidant and an anti-inflammatory effect¹³. This finding showed a benefit of LDR. A study about FLASH radiotherapy, which is a hot topic in the field of radiotherapy, was presented (Table 2, No. 8). The presenter showed the biological effect of proton FLASH irradiation in a mammalian cell line. Two presenters (Table 2, Nos. 6, 7) who study *in vitro* biology described the effects of quercetin and cadmium (Cd) on mammalian cell lines. Quercetin is the most common flavanol and found in fruits. Here, it was presented that quercetin enhances the adipogenesis process, acting as an effective agent to mitigate obesity. Cd is a toxic heavy metal that causes bone diseases, although the mechanism is still unclear. Extracellular vesicles (EVs) have been determined to have efficiency for diagnosis and treatment of several diseases¹⁴. The presenter 7 showed that the transport of cytotoxic factors by EVs including exosomes is involved in suppression of osteoblast differentiation by Cd, providing researchers with better understanding of the role of EVs in bone diseases.

Presenter 10 (Table 2, No. 10) focused on radiotherapy dosimetry in which she introduced an in-house developed

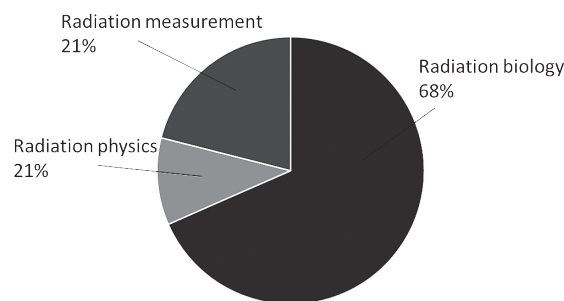


Fig. 4. The percentage of posters presented in three research categories.

fiber detector system based on two fibers optically coupled luminescence phosphors (radioluminescence detectors). The presenter discussed the potential use of these detectors for reference-class dosimetry in radiotherapy. Presenter 9 (Table 2, No. 9) evaluated sediment accumulation rates (SARs) and demonstrated that the relationship between the ages and mass accumulation rates (MARs) of sediments reflected the impact of human activities on land use and the development of the area around a water reservoir over its lifespan. The study findings showed that the original assumption of the land use and development had been underestimated. In presentation 11 (Table 2, No. 11), the obtained data demonstrated that natural rubber latex gloves containing nano-Bi₂O₃ fillers were a novel radiation shielding material. The nano-Bi₂O₃ content led to increases in the X-ray attenuation, tensile modulus at 500% elongation, and density. In the study on countermeasures for false alarms of a dust monitor (Table 2, No. 12), development of a new algorithm which makes it possible to operate the monitor with fewer false alarms was described. These studies provided important developments and data for all radiation users.

This workshop session provided an opportunity for young researchers and graduate students to present their own research findings. The discussion and exchange of views on their findings seemed to provide a new stimulus for future research development.

5. Summary of poster presentations

Seventeen people from four countries, Japan, Thailand, Cameroon, and Indonesia, made poster presentations. The percentages of posters for the three research categories are shown in Figure 4. Radiation biology research represented the biggest percentage of posters, and the research was related to the effects of radiation *in vivo*.

We provided a poster channel within Microsoft Teams and posters were uploaded there. We prepared 3-minute video presentation to provide young researcher

participants with an understanding of how to prepare good poster explanations. At ESRAH2020, we have channeled each presenter to allow time for discussion; however, there were some problems such as the time and effort required to move between each channel, and the differences of the level of activity of discussion in each channel were observed. Therefore, for the actual poster session at ESRAH2021, presenters introduced their poster with the 3-minute poster introduction video and the presentation videos and the posters were posted on Microsoft Teams. The detailed video explanations of the posters gave participants a better understanding of the poster contents. Moreover, the Q & A session was held in chat or by contacting the presenter separately. This initiative has also improved problems such as noise or poor audio through microphones. The poster session was very meaningful in terms of sharing information, developing research ideas, and strengthening personal networks among young researchers.

6. Problems encountered in the online symposium

At ESRAH2021, we shared the files such as program, abstract format, and other announcements using OneDrive instead of the conference website, which made the conference run more smoothly than last year. However, there were some problems in this symposium. As organizers we encountered various unforeseen circumstances and problems we were unprepared for, especially when it was the actual time for three of the four lecture sessions. In this section, first we discuss the biggest problem encountered at the time of the lectures: Internet connections. Then we describe some problems we encountered before the actual symposium and workshop: arrangement and organization issues.

The biggest problem: Internet connections

The online Lecture I by Dr. Basile was delayed by about an hour due to connection trouble. However, we were able to proceed smoothly due to the flexible choice of holding a poster session first. This was made possible by the close cooperation between the chairs and the organizing committee. Before the start of this lecture, the chairs were informed of the connection trouble the speaker was having and the chairs shared the countermeasures to be taken when the presenter could not log in. Then, we were able to respond flexibly.

Until COVID-19 disappears or becomes commonplace like a cold, international conferences are going to be held online. Since the people involved in conference operations may not be in the same place as in this case, it is important to make an environment wherein people can communicate at any time. On the other hand, such a malfunction can be prevented by performing a connection

check before the symposium starts. It is necessary to open a session room allowing testing of connections by the day before the actual conference start, and for the attendants (especially the presenters) to test actively and confirm that there is no problem with their connections.

Attendants and organizers were looking forward to hearing Lecture II by Dr. Saïdou on his latest research but unfortunately, he was unable to give his presentation himself. He could not share his presentation file on Microsoft Teams due to a poor Internet connection. So, we contacted Dr. Wanwisa Sudprasert scheduled for Lecture III, and swapped the order of presentation with Dr. Saïdou, thereby avoiding a major delay in the first day's meeting. In spite of such supports, Dr. Saïdou could not share again the next day. Therefore, we first contacted Dr. Tibor, the final presenter of the Educational Lecture, and swapped the order of presentation as we did the day before. Fortunately, one of his collaborators was enrolled at Hirotsuki University and we were able to overcome this difficulty by asking the collaborator to carry out the presentation on Dr. Saïdou's behalf.

We were able to deal with this problem appropriately by communicating with the administration and chairpersons. If there are multiple chairpersons at the online meeting, it is best to be in the same location as much as possible so that they can work together and deal with any problems. By the day of the conference, conducting it may proceed more smoothly if the main participants can access the URL for attending the conference and perform a connection test.

Contacting participants

It is necessary to contact the presenters to ensure the smooth running of the online symposium. If organizers do not receive the necessary presentation files from lecturers by the deadline, they have to contact the lecturers. This is a very important step needed to prepare the program and timetable, and avoid network trouble on the day. However, it was not easy to contact speakers from outside the university, especially from abroad because this symposium was organized and run mainly by graduate students with little experience in such matters. This caused problems such as presenters misunderstanding the time of their presentations due to lack of communication and confirmation. In this symposium, by changing the order of presentation through contacting other presenters we were able to overcome this problem. The best way to avoid this problem is for the organizers to make sure that all participants can be contacted by e-mail or phone, and to keep in close contact with them until the day of the presentation. We realized that it is necessary to prepare alternative contingency plans. When symposiums are held locally with face-to-face contact, schedules can be change more easily. We found this difficulty when

participants were attending online at locations physically far away from each other.

The setting of a registered e-mail address

Some participants were unable to attend the meeting via the link which we sent. This is a critical issue that was caused by the participants having registered with a different address to the one they normally used for Microsoft Teams. If a Teams user has not signed out of the account normally used, the provided link is sent automatically to the account normally used, not the symposium group address, even if the later address was registered by the organizers. Participants needed to sign out of the account normally used, and sign in with the address registered for the symposium. If this procedure was not followed, participants were unable to access the meeting channel through the link sent according to the symposium registration. This problem was solved by asking participants to re-register with the e-mail address which they normally used for Microsoft Teams.

Furthermore, it is necessary to ask all participants to test that they are able to attend via the sent link once before the symposium starts. However, participants who are familiar with Microsoft Teams did not perform the pre-testing even if the organizers specifically asked them to do so. How to getting this pre-testing done by experienced Teams users is a future challenge.

Changing the display name of participants

The registered names of the participants must be in English in order to be recognizable to all. However, the display name (Fig. 3) is tied to the e-mail address registered with the organization at which the symposium organization is affiliated, and once registered, the display name cannot be changed without permission from this organization. The corresponding organization in this society is Hirosaki University. For this reason, participants whose original name spelling is not in English must ask their organization to correct their registration spelling at least three days before the symposium starts. This is because it takes about three days for changes to take effect. To solve this problem, we should set the closing deadline that allows sufficient time for e-mail address and name confirmation after registration, and figure out if participants are already registered with the organization (The corresponding organization in this society is Hirosaki University).

7. Conclusions

In this report, we discussed the methods and problems of running an online international symposium. We saw clearly that online meeting is an innovative system that allows people from all over the world to share knowledge

and information without the burden of traveling to a common site. On the other hand, the online system also brought its special problems to holding the conference. The present symposium and workshop were run by students, and their experiences in such work are limited. We have written this report in the hope of providing useful information for eliminating obstacles to holding symposiums using online conference tools in the future.

Acknowledgements

We would like thank the graduate students of Hirosaki University and Hokkaido University who cooperated in the organization of ESRAH2021.

Authors Contribution

Conceptualization: [Masahiro Hosoda, Hiroyuki Date], Writing the draft: [Ryo Nakayama, Yoshiaki Sato and Kazuki Hasegawa, Kai Takebayashi, Hikari Sato, Eka Djatnika Nugraha, Yoshie Yachi, Ryosuke Seino, Tomoya Yamashita, Hiroaki Mori, Chutima Kranrod], Methodology: [Ryo Nakayama, Yoshiaki Sato, Kazuki Hasegawa], Supervision: [Masahiro Hosoda].

Funding

This international symposium was supported by Strategic Theme 3: “International Education and Research Project based for Safety & Security on Radiation Medicine”, Hirosaki University, Japan.

Conflict of Interest Disclosure

The authors declare that they have no conflict of interest.

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