

Summary report - UN Ocean Decade Regional Kick-off Conference Incubator 17

Early Career Ocean Professionals (Asia): a perspective on science communication

Incubator 17 was conducted at 1530-1730 Bangkok time (UTC+7). The event was organized by the ECOPs Asia network collectively, including Dr. Hari Vishnu, Dr. Yushi Morioka, Karina Nina, Pradeep Singh, Martiwi Setiawati, Sunanda Narayanan, Jae-Hyoung Park, Lin Wang, Kotaro Tanaka and Raphael Roman. These members span a diverse set of countries from across Asia including Singapore, South Korea, Japan, Malaysia, Indonesia, China and India.

The aim of this session was to share existing knowledge and past experience of science communication efforts organized in Asia/Western Pacific and its adjacent areas, and to discuss effective ways and technical tools to engage more non-professionals and stakeholders in the UN Decade and WESTPAC communities.

There was a large variety of participants in this session, ranging from ocean professionals including ECOPs and students, governmental officials, private sector and academia who are interested in science communication for better understanding the ocean we want. There were around 48 participants in the workshop.

Event plan and schedule:

Moderator: Karina Nina

Start Time	Durati on	Title	Speaker	Email id
15:30-15:34	4 min	Review of ECOP Asia network	Dr. Yushi Morioka, JAMSTEC, Japan	morioka@jams-tec.go.jp
15:34-15:42	8 min	Review of past survey of ECOPs Asia	Lin Wang, Institute of Oceanology, Chinese Academy of Sciences	wanglin@qdio.ac.cn
15:43-15:50	7 min	Online Survey on Science Communication	Dr. Hari Vishnu, Acoustic Research Laboratory, National University of Singapore, Singapore	harivishnu@gmail.com
15:50-16:00	10 min	Development of Teaching Materials Using Coral Annual Rings in Small Island Developing States	Dr. Nobuko Nakamura, JAMSTEC, Japan Contact person: Dr. Yushi Morioka, JAMSTEC, Japan	Contact person: Dr. Yushi Morioka, JAMSTEC: morioka@jams-tec.go.jp

16:00-16:10	10 min	Help youth to build an Ocean dream (A practice of Ocean Literacy in China)	Dr. Hui Zhou, Institute of Oceanology, Chinese Academy of Sciences, China Contact person: Lin Wang, China	Contact person: Lin Wang (wanglin@qdio.ac.cn)
16:10-16:20	10 min	Science communication to the public	Prof. Minkyong Kim Dept. of Oceanography, School of Earth System Science, Kyungpook National University, South Korea Contact person: Jae-Hyoung Park, Korea Institute of Ocean Science & Technology, South Korea	minkyong@knu.ac.kr Contact person: Jae-Hyoung Park (oceanjhpark@gmail.com)
16:20-16:30	10 min	Engaging students and community hands-on with science	Dr. Jani Tanzil, Deputy Facility Director , St. Johns Island National Marine Laboratory, Sr. Research Fellow, Tropical Marine Science Institute, National University of Singapore Contact person: Dr. Hari Vishnu, National University of Singapore	jani.tanzil@nus.edu.sg Contact person Hari Vishnu: (harivishnu@gmail.com)
16:30-16:40	10 min	Communication with Policy Makers	Dr. Intan Suci Nurhati, Research Center for Oceanography, the National Research and Innovation Agency, Indonesia Contact person: Martiwi Setiawati, Research Center for Oceanography The National Research and Innovation Agency (BRIN), Indonesia	dr.nurhati@gmail.com Contact person: Martiwi Setiawati (martiwi1802@gmail.com)
16:40-16:50	10 min	PICES Science Communication approach	Raphael Roman Iwate University, Japan	raph.genf@gmail.com
16:50-17:00	10 min	Sci-comm initiatives in India by the India ECOP network	Sunanda Narayanan IIT Kharagpur, India	sunanda.narayanan@gmail.com
17:00-17:05	~5 min	Follow-up survey results (details below)	Hari Vishnu (Singapore)	
17:05-17:30	25 min	Panel Discussion (Q&A) and Conclusions	All Speakers Pradeep Singh (Malaysia)	pschaps@gmail.com

One of our earlier planned speakers, Clement Yow Mulalap (Adviser, Permanent Mission of the Federated States of Micronesia to the United Nations) could not join us, unfortunately, as it happened that he had to make an urgent travel at the time of the conference. However, this gave us a buffer time of +10 minutes which allowed us to give more interaction time for other speakers, as well as some time for Q&A session at the end of the workshop.

Introduction and review of past surveys and ECOPs activities

At the beginning of the workshop, Dr. Yushi Morioka introduced the ECOPs Asia network briefly, to outline the activities we generally undertake. This is also aimed at broadening the umbrella of ECOPs networking activities in this region, and will form the base for improving coverage for such activities. The moderator Karina Nina and Hari encouraged participants to join the newly formed Global Stakeholder forum, a one-stop place for all interactions and networking related to the Decade (<https://forum.oceandecade.org/page/welcome>).

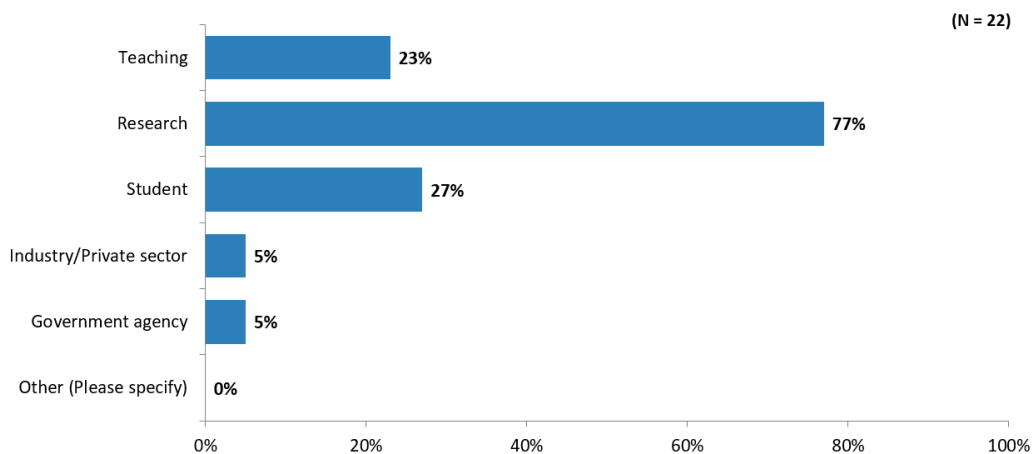
Following this, Lin Wang reviewed results of a past survey with ECOPs from this region, which showed that most ECOPs were interested in job opportunities and funding, but also networking opportunities and some to overcome language barriers. This set a perfect tone for the theme of the workshop which would allow better networking skills with different stakeholders of the Decade.

Pre-event survey

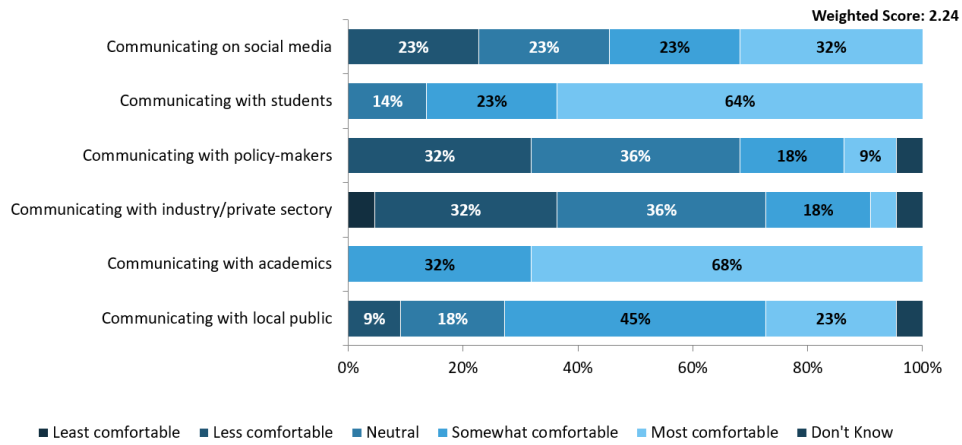
Hari Vishnu opened a pre-event survey in order to take stock of the kind of audience that was attending the event, and so that speakers could prepare themselves accordingly. The results of the pre-event survey were very revealing, and are summarized in the plots below:

Countries of the attendees: Singapore, India, Republic of Korea, Brazil, Japan, Malaysia, Indonesia, Phillippines

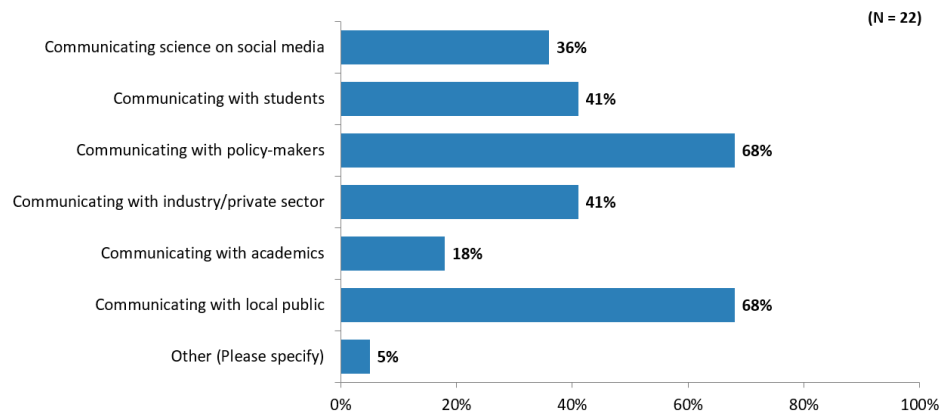
Which sector do you associate with the most ?



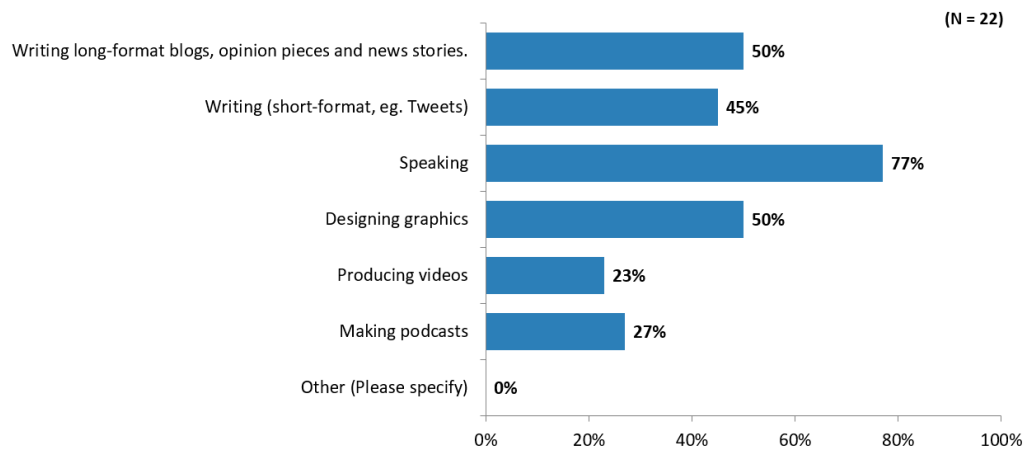
To what level are you comfortable or familiar with the following aspects of Science communication?: Please indicate your level of agreement with each statement.



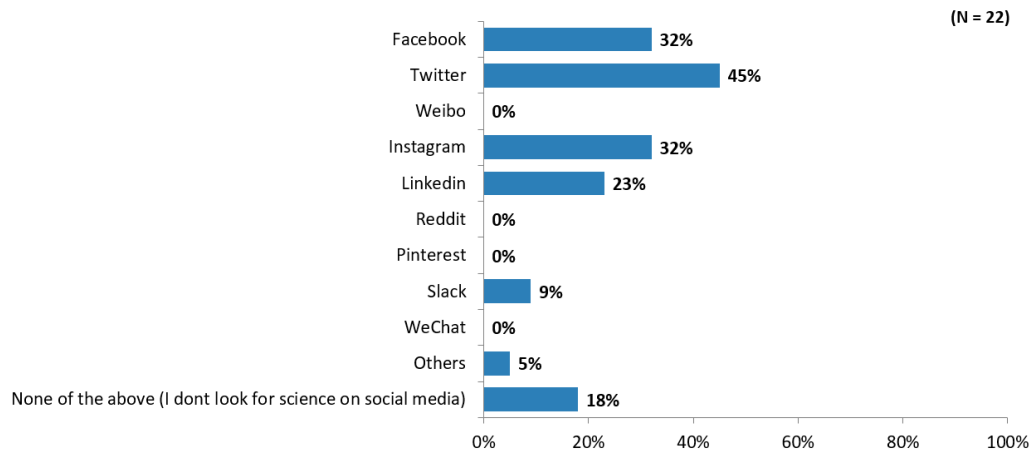
What type of science communication would you like to develop during the ongoing Ocean Decade ?



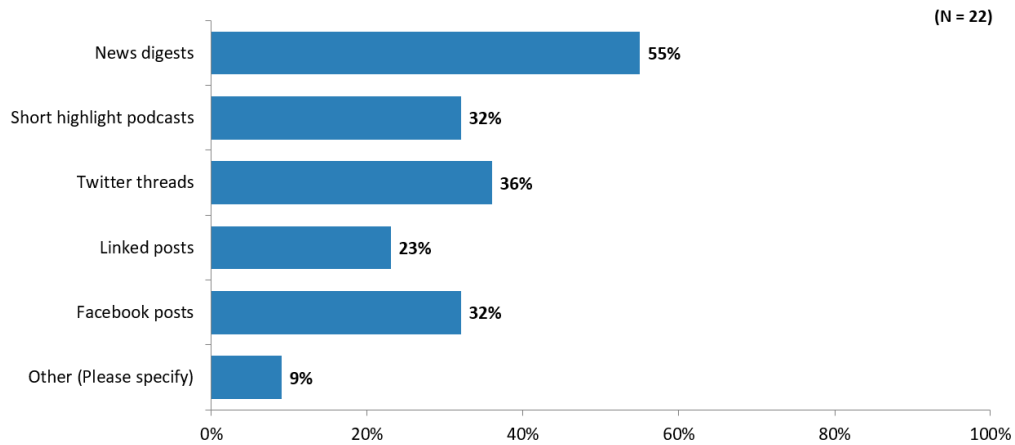
What type of communication skills do you feel are important for you to improve on ?



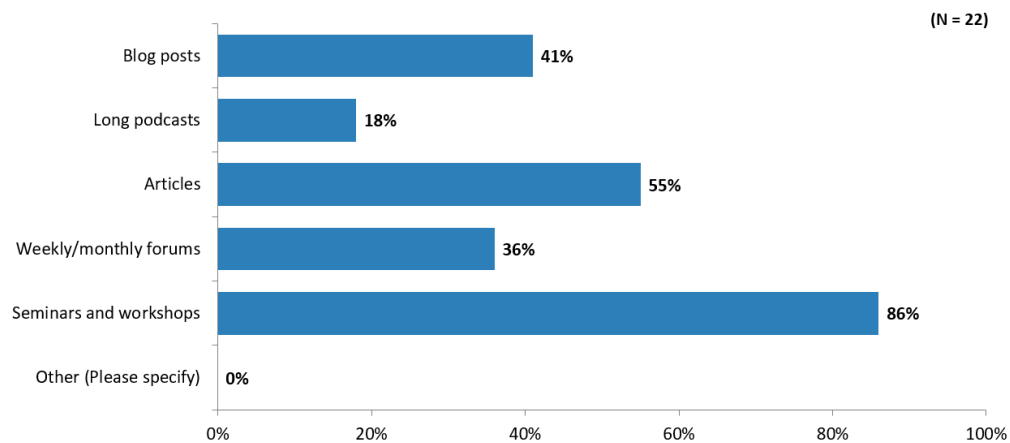
What social media channels do you look out for scientific or outreach information ?



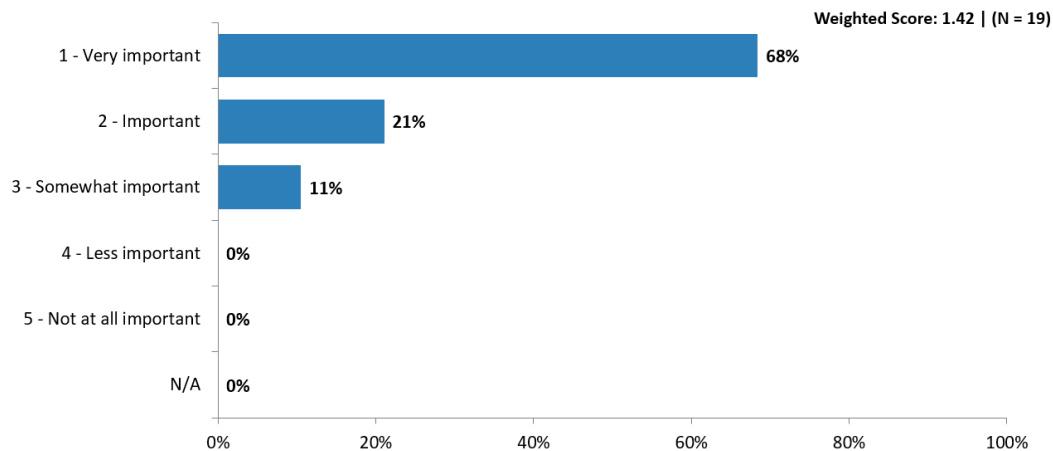
Which medium do you prefer for short bite-sized updates of science ?



Which medium do you prefer for long deep discussions (blog posts, longer podcasts, articles, weekly/monthly forums, seminars, workshops) ?



How important do you think it is to engage with indigenous and local knowledge holders, and to incorporate such knowledge into decision-making processes?



To summarize the pre-event survey:

- We had about 48 attendees from all over the Asia region, showing that the event reached out to a large diversity of people
- Most attendees were from teaching, research or student background, reflecting the large presence of academia in the workshop. But there were also attendees from private sector and govt. agencies
- Most of the attendees said they were mostly or somewhat comfortable communicating with students and academics, reflecting their backgrounds
- Attendees were split on their comfort level in communicating on social media, and with local public, showing a large diversity, and interest to learn on these topics
- Attendees seemed mostly uncomfortable or neutral towards communicating with policy-makers and private-sector, showing where the gap in communication skills currently lies within participants from this region
- Most attendees said they would like to develop skills related to communicating with policy-makers and local public, with a good chunk of them also interested in communicating with students and private-sector. This mostly reflects the gaps in the audience's comfort level as mentioned above
- Most attendees said they were interested in developing speaking skills, with a good chunk of them also showing interest in writing – both short format like tweets, or long-format blogs, news, and designing graphics. There was less interest in long-media creation like producing videos and making podcasts
- Most attendees said they used Twitter as the social media channel where they may look for scientific information, and about 1/3rd of them on Facebook and Instagram as well
- Most attendees prefer news digests for short bite-sized updates of science, with a large chunk also looking at Twitter threads
- Most attendees prefer seminars and workshops for long deep discussions
- Most attendees felt it is important to engage with indigenous and local knowledge holders

The pre-event survey revealed the gaps in the audience's comfort levels that needed addressing. It turns out that we had talks designed to target communication with policy-makers

(from Dr. Intan and Dr. Jani) and the local public (Dr. Jani), which were the 2 topics most of interest for our audience, and in this, we believe this workshop would have been very enlightening for our audience. We also had many talks focusing on communication with students and by students, so this would plug in a large part of the audience requirements as well. We unfortunately had very less content focusing on private sector communication, and this is something we may be able to target in future workshops and incubators.

Speaker talks

All the talks were very well-received by the audience, and there were questions asked of the speakers as well. Dr. Nakamura presented her approach of teaching students in small-island developing states. She spoke about how her experience spanned 3 positions – natural science, education, and ocean policy. She outlined examples of how she was involved in ocean science outreach with students, firstly through the Ocean Education Pioneer school program supported by nippon foundation, OPRI and University of Tokyo. The second example was the development of using teaching materials developed from coral annual rings, and how this got the students excited and engaged. She also created a hand-made animation on the reality of coral reefs and environment to reach out to target audience in the public and junior-high school students. She made sure she used no technical terms in this animation, and it would be easy to listen to.

Dr. Hui Zhou also spoke about how she engaged students using personal anecdotes of experiences involved in sea trials, and how this got students excited in Ocean sciences rather than regular delivery of teaching materials. This has won her several teaching awards, recognition and press publicity.

Dr. Kim's delivered an exciting talk about how she reached out with science communication to the local public. She spoke about how she gained a global network of collaborators and friends during her several study and postdoc stints. She held many outreach programs where she got simple questions from young minds interested in the topic, such as what is oceanography, does it involve a lot of travel, and do we need to learn swimming to be an oceanographer. She says youtube is one of the biggest platforms to communicate with people. Also, today science is no longer in the hands of a select few, but rather more democratized and well-spread. So it is important to build new relationships with scientists all over the world, and learn how to work in a global networking group.

Dr. Jani spoke about her experience with SiBol (Singapore Biology Olympiad) to get students interested in biology, and how they made efforts to ensure topics like ocean ecology and zoology were incorporated into the syllabus apart from other topics. Most students tend to think of only medicine-related fields after studying biology, but being more aware of marine science topics in the school can inspire them to take up these fields as a career too. To quote her, "you cant love (or protect) what you don't know much about". She also spoke about her experience creating the Singapore Blue plan, a report to communicate with policymakers. Finally, she also pointed out how awareness programs led to Singapore youth coming out actively for climate action in lieu of the recent COP26 summit, showing the importance of such programs.

Dr. Intan spoke about how she had been involved with communicating with policymakers during her work too. She stressed that most scientists are too involved in their science, but they should also try to make sure their work is impactful, and go out and make efforts to ensure this. Some possible ways to do this include doing press releases and using the press publicity department of your respective institutions/universities. If your science is something that you think the government should be concerned about, you can also create a policy-brief, which can be a 2-page document or so summarizing the science in simple crisp words for the policy makers to act on. She said most scientists think of this as an intimidating or daunting task but they shouldn't. She shared her experience on how she created a policy brief based on her research on plastics and Styrofoam in Indonesian waters, and quickly got a response from the government asking for possible mitigation strategies as well.

Raphael spoke about the SciComm approach of the North Pacific Marine Science organization (PICES), which is an intergovernmental organization whose aim is to facilitate scientific knowledge creation, collaboration and sharing. It includes researchers from a wide range of topics, and organizes many scientific publications that can be downloaded too. A PICES study group on SciComm provides the tools and skills required to more effectively communicate the importance of PICES scientific findings, especially within the context of the UN Decade. It encourages the inclusion of communication specialists (designers, videographers, artists) and policy makers. He also spoke about Smartnet, an UNDOCS endorsed program aiming to create a global knowledge network for ocean science by strengthening & expanding collaborations with partners.

Sunanda spoke about the Scicomm approaches in India under the ECOPs-India network. Their collective goal is to collectively work towards UN Decade of Ocean Science Sustainable Goals through research, actions and knowledge. As part of their activities, they organized a World Ocean day art contest for students, and prizes were distributed to all the entries in the kids category and for best three in the elder category. These were done with the support from Ocean Society of India. They also made an outreach video for V.ECOPs day with many ECOPs across India giving their take on "What the Ocean means to me". At OSICON, a contest was conducted for students and research scholars to prepare a roadmap for achieving the Decade goals and best proposals were given awards during OSICON 2021. Another outreach event was also conducted by the Marine Technology Society (MTS) India section on women leadership in marine tech, engineering and science.

Q&A session

The Q&A session was moderated by Pradeep Singh.

Q (to Dr. Nakamura): How the schools are chosen for Ocean education in your program?

Dr. Nakamura: In the Pioneer School Program, each year, schools submit applications for programme proposals, which are then reviewed by three organisations to select the participants.

Q (to Dr. Hui Zhou): How important is the technical details of communication in delivering an effective message to the youth ?

Dr. Zhou: The technical details per se are not important. I gave the same lecture to high school and college students. The key is to inspire them and connect with them, and for doing this I give them my personal anecdotes, and try to show them what is the meaning of doing Ocean science. For primary school students I make cartoon pictures to show my ideas. Mostly what is needed is the story. For example. I lost an important equipment during one of my sea trials, and I had to spent 40 hours finding it, which was torturous as I had to undergo seasickness etc. I share these experiences with them and they were able to empathize and understand how challenging but important it is to collect Ocean data

Q (to Dr. Jani): What techniques worked, and what techniques didn't work, in your approach towards communicating with policymakers ?

Dr. Jani: We formed a large team of scientists and created a 'Singapore blue plan', a plan to incorporate ocean conservation synergistically into the economic plans for the country. Interestingly, it was received very positively, the government bodies seem to have strongly taken into account our recommendations and may form their plans accordingly.

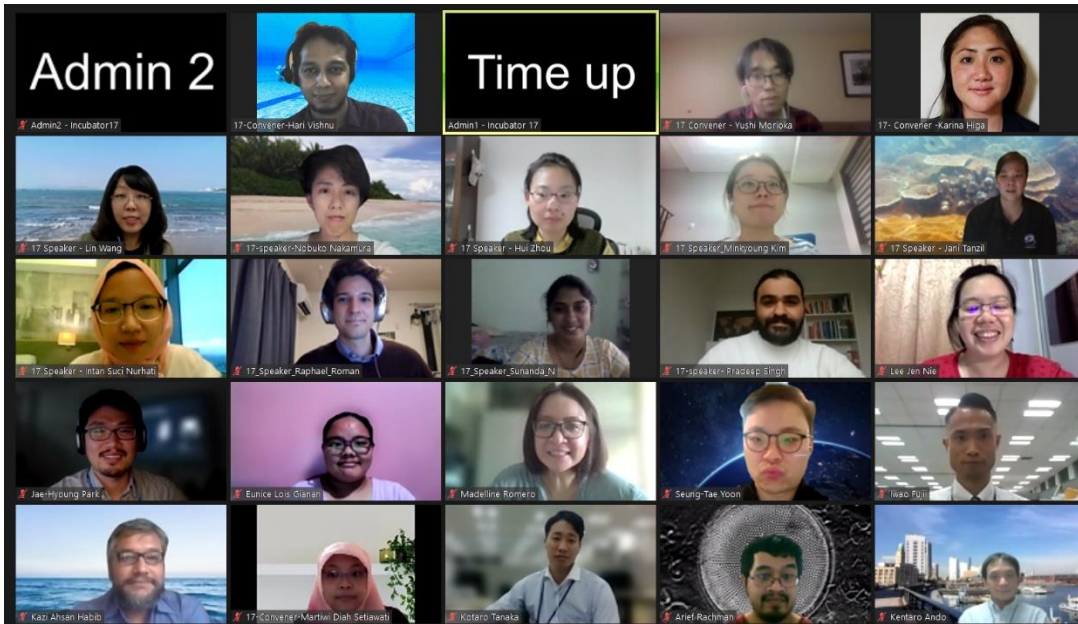
Q (to Dr. Jani): What kind of messaging is important (positive/negative/neutral) to be able to connect to policymakers well ?

Dr. Intan: What's most important is that scientists come out of their shell, put themselves in the policy-makers' shoes, try to connect to how they think also, and deliver the message accordingly. Most of them hold back because they are scared or unfamiliar with communicating with those in power.

Event publicity

The event was publicized in the ECOPs Slack group, and live-tweeted as well on Twitter to give it more visibility: [here](#) and [here](#).

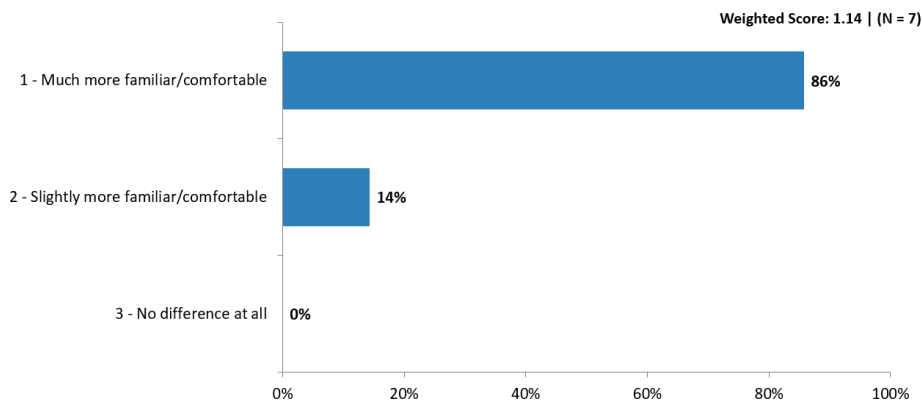
We also took a group photo to reflect the diversity of participants, shown here:



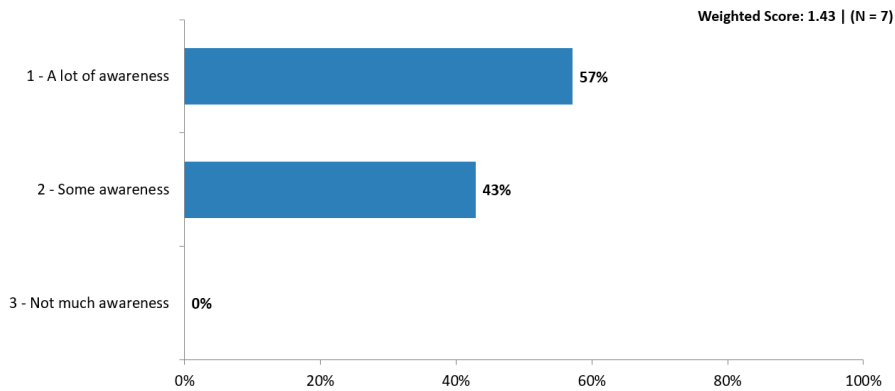
Feedback and post-event survey

The event concluded exactly on time as planned. In the chat at the end, all the participants were appreciative of the workshop. Some said they wished for longer discussions, which we believe is indicative of their interest in the topics discussed. A post-event survey was conducted to gauge audience’s feedback and improvement, the results of which are shown below:

Has this workshop made you more comfortable or familiar with topics on Science communication with policy-makers, private sector, local public, students, academia or government agencies ?



Has this workshop given you better awareness on the kind of science communication initiatives you can try in your domain or region ?



What would you like to see included in future science communication workshops ?

Response No	Answer text
1	Nothing special
3	more discussion
4	Probably we can invite students and policy makers to listen thier opinions as stakeholders
5	more how to approach policy makers
6	Practical advices (real life cases) on how to communicate with policy-makers & private sector.
7	How about the UN Ocean Decade awarding good practices and efforts in Sci-Com of each countries ?

Do you have any feedback for this session (except for panel discussion which is yet to happen)

Response No	Answer text
1	Very much satisfied
3	not yet
4	It was very informative and well organized session. We learned each country's practice and knowledge
5	more straight tips
6	Allocate a bit more time to discussion and engagement with the audience.

To summarize the post-event survey

- The participants exhibited satisfaction in the workshop in the sense they said they had gained more awareness or comfort level in some or all the topics discussed
- The post-event survey added another dimension in terms of what topics and points need to be targeted in future endeavors and workshops

Future recommendations:

1. Try to gather more participation from policymakers, private sector, NGOs and government agencies. The academia and students were well-represented in this workshop.
2. More interest from the audience seems to be in communicating with policy-makers, local public and private sector, so try to focus on talks and workshops on this. A lot of the audience feedback was on this topic as well, including requests for more practical advices, and how to approach policy makers.

3. Give more time for Q&A for the audience. Possibly a more interactive format involving real-time polls, discussions and breakout rooms, may help engage the audience better
4. Try to get the speakers to summarize their talk into a few straight tips
5. Invite students and policy-makers to listen to their opinions as stakeholders