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Report of the XXXVI SCAR Delegates Meeting
held online
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XXXVI SCAR Delegates Meeting Report

The 2021 SCAR Delegates Meeting was held online via Zoom in sessions on 16 March 09:00 UTC; 22 March 19:00 UTC; 23 March 09:00 UTC; 24 March 19:00 UTC; 25 March 09:00 UTC.

Registrations for the meeting:

Executive Committee: Steven Chown (President; Delegate, Australia), M. Ravichandran (Vice President for CBET; Alternate Delegate, India), Catherine Ritz (Vice President for Science; Alternate Delegate, France), Jefferson Simões (Vice President for Finance; Delegate, Brazil), Gary Wilson (Vice President for Administration; Delegate, New Zealand).

Full Members: Walter Mac Cormack and Viviana Alder (Argentina), Nerilie Abram (Australia), Frank Pattyn and Anton Van de Putte (Belgium), Eduardo Secchi (Brazil), Christo Pimpirev and Lyubomir Kenderov (Bulgaria), Ian Hogg and Thomas James (Canada), Marcelo Leppe and Marcelo González (Chile), Bo Sun and Yong Wang (China), Hernán Moreano and Mónica Riofrío (Ecuador), Markku Poutanen and Kari Strand (Finland), Yan Ropert-Coudert (France), Antje Boetius and Monika Rhein (Germany), Vijay Kumar (India), Antonio Meloni and Silvano Onofri (Italy), Takuji Nakamura and Satoshi Imura (Japan), Yeadong Kim and Sung-Ho Kang (Korea), Azizan Abu Samah and Salleh Mohd Nor (Malaysia), Dick van de Kroef and Daan Blok (Netherlands), Nancy Bertler (New Zealand), Ole Arve Misund and Geir Huse (Norway), David Gamarra and Cinthya Bello (Perú), Wojciech Majewski and Robert Bialik (Poland), Adelino Canário (Portugal), Aleksandr Makarov and Irina Repina (Russia), Bettine van Vuuren and Tracy Klarenbeek (South Africa), Jerónimo López-Martínez and Carlota Escutia (Spain), Ulf Jonsell and Magnus Friberg (Sweden), Martin Schneebeli (Switzerland), Evgen Dykyi and Valeria Savchenko (Ukraine), Jane Francis and Mike Bentley (UK), Deneb Karentz and Allan Weatherwax (USA).

Union Members: Tony Travouillon (IAU and AAA), Andres Barbosa (IUBS), Ian Allison (IUGG), Terry Wilson (IUGS), Rai Kookana (IUPAC), Giorgiana De Franceschi (URSI).

Associate Members: Birgit Sattler (Austria), Sergey Kakareka (Belarus), Juan Forero (Colombia), Daniel Nývlt (Czech Republic), Rene Forsberg (Denmark), Behrooz Abtahi (Iran), Céline Le Bohec (Monaco), Hina Baig (Pakistan), Cristina Purcareea (Romania), Voranop Viyakarn (Thailand), Burcu Özsoy (Turkey), Soraya Silva (Venezuela).

Secretariat: Chandrika Nath (Executive Director), Eoghan Griffin (Executive Officer), Rosemary Nash (Administrative Officer), Johanna Grabow (Communications and Information Officer).

SCAR Subsidiary Groups: Tom Bracegirdle (AntClim21 and AntClimNow), David Bromwich (Physical Sciences SG), Laura De Santis (PAIS), Jesús Galindo (Geosciences SG), Susie Grant (SCATS), Huw Griffiths (AntEco), Julian Gutt (AnT-ERA), Johnathan Kool (SCADM), Daniela Liggett (SC-HASS), Ian McDonald (Life Sciences SG), Paul Morin (SCAGI), Tim Naish (INSTANT), Aleks Terauds (SCATS and Ant-ICON), Pippa Whitehouse (SERCE).

Observers: Dirk Welsford (Australia), Laura Rubio (Colombia), Nilton Sanchez (Ecuador), Pablo Lepe (Mexico), Pablo Londoño (Peru), Atilla Yilmaz (Turkey), Steve Colwell (PSG), Adriana Gulisano (PSG), Fei Li (SCAGI).

SCAR Delegates Meeting papers are available through the SCAR Library:
<https://www.scar.org/scar-library/papers/xxxvi-scar-delegates-2021-online/>

Change to SCAR Articles of Association

The SCAR Delegates met on 16 March to discuss the proposed amendment to the SCAR Articles of Association which would enable online meetings to take place. After some discussion, and a few suggestions of minor changes to the document, the amended Articles of Association were approved by the Delegates. This enabled the full online Delegates Meeting to be held the following week.

DAY 1: Monday 22 March – 09:00-11:00 UTC

1. Opening Business

1.1 Welcome

The SCAR President, Steven Chown, opened the meeting by acknowledging the traditional custodians of the land across Australia and the First Nation peoples of all the lands of the meeting participants. He took a roll call of the voting members of SCAR and it was confirmed that the meeting was quorate. The meeting then paused for a minute to recognise those who had been lost as a consequence of the COVID-19 pandemic. Thereafter, the SCAR President noted the apologies of the Executive Director to the meeting, who was unable to attend for personal reasons.

1.2 Adoption of the Agenda and Timetable (papers 1-3)

There were no suggested changes or additions to the Agenda and it was accepted as it stood.

2. SCAR Officers – Notification of Elections

The SCAR Executive Officer (EO), Eoghan Griffin, briefly reviewed the SCAR election procedures. He presented the list of candidates for the office of President and each candidate gave a short presentation.

3. Finance (CLOSED)

3.1 Finance Report

The Vice President (VP) for Finance, Jefferson Simões, presented the Finance Report ([paper 4](#)). He confirmed that the finance documents had been examined and approved by the Delegates Finance Committee prior to the meeting and he thanked the Delegates who had participated. He summarised activities since the 2018 Delegates Meeting, particularly the challenges created by the COVID-19 pandemic, and noted that the organisation remains financially healthy. Finally, he drew attention to the estimate of expenditure over the next few years and that, by 2025, an increase in national contributions would be needed. He recommended that the

Executive Committee (ExCom) should prepare a paper for the next Delegates Meeting reviewing national contributions. He then invited comments and questions.

Jane Francis (UK) asked whether a decrease in international travel and increase in virtual meetings had been taken into account. The VP Finance confirmed that groups are being encouraged to reduce travel as much as possible and find other ways to meet. Groups themselves are already devising alternative ways of working, including through regional events.

Regarding a national contribution increase, Jerónimo López (Spain) suggested that members should be encouraged to move to a higher contribution category, more in line with the level of their Antarctic activities and national programme.

There were no objections or further comments and the Finance Report recommendations were approved.

Action XXXVI-1: ExCom to prepare a paper for XXXVII SCAR Delegates Meeting reviewing national contributions. (ExCom).

Action XXXVI-2: ExCom to encourage Full Members to move to a higher national contribution category, more in line with their level of activity. (ExCom).

3.2 Financial Statements for 2018 and 2019

The Financial Statements for 2018 ([paper 5](#)) and 2019 ([paper 6](#)) had been approved by the independent auditors and submitted to the UK Charity Commissioners. The statements were formally approved.

3.3 Draft Financial Statement for 2020

The VP Finance summarised the 2020 statement ([paper 7](#)), which is not yet audited. There had been a significant under-spend in subsidiary group budgets, a proportion being carried forward to 2021 and some put aside as contingency for administrative and other expenses. Some budget was allocated for the survey conducted by SC-HASS on the impact of the COVID-19 pandemic on Antarctic research (see [paper 35](#)).

Azizan Abu Samah (Malaysia) asked how funding for Fellowships would be handled, given the limitations on travel. The EO confirmed that flexibility had been introduced for awardees, including any from 2019 who had planned to travel in 2020, to alter their plans and enable them to complete their fellowships virtually or remotely if necessary.

The draft statement for 2020 was approved.

3.4 Revised Budget for 2021

The revised budget for 2021 ([paper 8](#)) was considered. There were no questions or comments and the budget was approved.

3.5 Revised Draft Budget for 2022

The VP Finance introduced the 2022 budget ([paper 9](#)), which had been prepared expecting some activities to return to normal in late 2021, though this was now less certain.

Gary Wilson (New Zealand) asked, in light of the point raised earlier by the UK, whether SCAR could consider allocating extra funding to resource and facilitate online participation in meetings.

The SCAR President suggested it should be minuted that delegations had requested budgets should be reconsidered to include a larger amount to support online meetings, with a request to the next ExCom to look into adjusting the budget.

There were no further questions or comments and the budget was approved, with the proviso that additional support for online meetings is considered.

Action XXXVI-3: ExCom to look into adjusting the 2022 budget to allocate extra funding to support online participation in meetings. (ExCom).

Decision 1: All Financial budgets and statements accepted and approved, subject to amendment of 2022 draft budget.

6. Membership

6.1 *Application of Turkey for Full Membership*

As the Delegate from Turkey, Burcu Özsoy, could not be present at the session the following day, she was invited by the President to present Turkey's application for Full Membership ([paper 10](#)).

Following her presentation, the first session of the meeting closed.

DAY 2: Tuesday 23 March – 09:00-11:00 UTC

The second session of the meeting opened with a roll call to establish there was a quorum.

4. SCAR Officers – Presidential Election

4.1 *Result of election for President*

The election was undecided. In the absence of the EO, the President announced the candidates in the second ballot for the Presidential election.

6. Membership

The Delegates of Full Members and Union Members convened in a breakout room to consider membership applications.

6.1 *Application of Turkey for Full Membership*

Delegates considered the application of Turkey to become a Full Member of SCAR. There was widespread support for the application. Delegates approved the application and Turkey was welcomed as a Full Member of SCAR.

Action XXXVI-4: Turkey to be formally recognised by letter as a Full Member of SCAR at the level of Initial-Stage Programme. (President, assisted by the Secretariat).

6.2 Application of the Czech Republic for Full Membership

The Delegate from the Czech Republic, Daniel Nývlt, presented the Czech application for Full Membership ([paper 11](#)) and then left the breakout room. There was general support for the application. Delegates approved the application and the Czech Republic was welcomed as a Full Member of SCAR.

Action XXXVI-5: Czech Republic to be formally recognised by letter as a Full Member of SCAR at the level of Initial-Stage Programme. (President, assisted by the Secretariat).

6.3 Application of Mexico for Associate Membership

The representative from Mexico, Pablo Lepe, presented Mexico's application for Associate Membership ([paper 12](#)) and then left the breakout room. There was general support for the application. Delegates approved the application and Mexico was welcomed as an Associate Member of SCAR.

Action XXXVI-6: Mexico to be formally recognised by letter as an Associate Member of SCAR. (President, assisted by the Secretariat).

7. Proposals for hosting future OSC and SCAR Meetings

7.1 Bid from Chile to host SCAR 2024

Marcelo Leppe, Delegate from Chile, presented Chile's bid to host the SCAR meetings in 2024 in the city of Pucón in the south of the country ([paper 18](#)). There was widespread support from Delegates. Jane Francis (UK) asked what time of year the meeting would be held and whether virtual participation would be possible. Marcelo Leppe confirmed that the meeting would be hybrid, and that two alternative dates were being considered – the end of November, to tie in with the start of the Antarctic season, and the more traditional date of the end of July/beginning of August. The Delegates would be asked to fix the date. It was also confirmed that recorded presentations and posters would be available after the meeting. The President expressed thanks to Chile for the presentation and asked for thanks to be conveyed to the Minister for the proposal.

Decision 2: 2024 OSC and XXXVIII SCAR Meetings will be hosted by Chile in Pucón.

Action XXXVI-7: Secretariat to work with Chilean team on planning of SCAR 2024.

7.2 Bid from Norway to host SCAR 2026

Ole Arve Misund, Delegate from Norway, presented Norway's proposal for the SCAR meetings in 2026 to be held in the city of Oslo ([paper 34](#)). The meetings would be held at the end of August and would be hybrid. The location would give a bi-polar perspective. There was widespread support for the proposal. Gary Wilson (New Zealand) was supportive, though raised the question of the cost for participants, with Norway being expensive compared with other

countries. Ole Arve Misund said, if the bid was approved, they would use the next five years to raise funds to reduce the costs.

Christo Pimpirev (Bulgaria) supported the Norwegian proposal and expressed interest in bidding to host the 2028 meetings. Bulgaria had successfully hosted the ATCM, as well as the COMNAP AGM and SCAR ExCom, and 2028 would mark the 40th anniversary of the first Bulgarian Antarctic expedition. If approved, they would prepare a detailed proposal to be presented at the next meeting in India. The President thanked him and said Delegates would welcome a paper at the next meeting.

The President expressed thanks to Norway for the presentation and asked for thanks to be conveyed to the Ministry.

Decision 3: 2026 OSC and XXXIX SCAR Meetings will be hosted by Norway in Oslo.

8. SCAR Science Groups

8.1 Report of SG Geosciences

Jesús Galindo, Chief Officer of SG Geosciences, presented on the group's report ([paper 13](#)) and progress to date. The main activity during the period was the 2019 Antarctic Earth Sciences Symposium (ISAES), which was very successful. The pandemic prevented any proposed in-person meetings in 2020, but groups had been producing publications. The Geoconservation group has been very active and is working on a paper on identifying geological heritage in Antarctica, and a Code of Conduct for geosciences field research, to be presented through SC-ATS at the forthcoming Antarctic Treaty Consultative Meeting. The GeoMAP AG has produced its geological map and ended, but GS requested that all other groups be allowed to continue.

Nerilie Abram (Australia) asked whether there was planning for future leadership, particularly in terms of diversity and mentoring the next generation of geoscience leaders. The CO responded that they would promote diversity as far as possible. Terry Wilson (IUGS) asked about planning for the next ISAES. Jesús Galindo said that, as the SG had not been able to meet, there was currently no proposal from any country to host, but he agreed they might consider holding a virtual meeting. The President pointed out that the acceptance of the new Articles of Association enabled all groups to hold meetings in online or hybrid form in the future. Budgets will be revised to include funding to enable online meetings. The VP Finance, Jefferson Simões, said groups had been allowed to carry over 30% of their 2020 budgets, and any other requests would be considered on a case-by-case basis.

The report was accepted.

8.2 Report of SG Life Sciences

Ian McDonald, Secretary of SG Life Sciences, presented on the group's report ([paper 14](#)) and progress to date, including the group's virtual discussions. In 2020, a large number of groups came to the end of their official terms. Some wanted to extend, some to change from action to expert groups, but the decision was made to roll over all groups until the next OSC. There is a possibility of two new proposals for PPGs being put forward. The Biology Symposium, due to be held in New Zealand this year, has been postponed to 2023. The executive roles were due to change in 2020 but have been rolled over until 2022, and potential

successors have been identified. He asked about intentions around the ACCE update. The President responded that the proposal on a 20-year update to the report would probably be taken forward but the pandemic had delayed this. A short report would be submitted to the ATCM as a working paper, though it is not clear yet whether this year's meeting would be in-person or virtual.

The report was accepted.

8.3 Report of SG Physical Sciences

Due to technical difficulties with connecting to the Physical Sciences Chief Officer, the PS report was postponed.

9. Humanities and Social Sciences

9.1 Standing Committee on the Humanities and Social Sciences (SC-HASS)

Daniela Liggett, Co-Chief Officer of SC-HASS, presented on the group's report ([paper 16](#)) and on actions and activities to date. SC-HASS covers a huge range of disciplines and geographical span, and this diversity is reflected in the steering committee. The group has run a range of sessions at OSCs, including the 2020 online conference, and HASS conferences are very successful. It has established four very active action groups, has run the COVID-19 project ([paper 35](#)), contributes to SCATS and CBET, and is involved in the new SRPs Ant-ICON and INSTANT. The 2021 HASS conference will be held in November at Kobe University and is planned as a hybrid conference, or online if in-person attendance is not possible, and will be held in conjunction with the 14th Polar Law Symposium. The group's funds are used mostly to support early-career researchers (ECRs) and those from developing Antarctic countries. Leftover funds from 2020 will be used for the 2021 conference, mostly in support of ECRs, but the group is trying to think more creatively about how to use their funds in the absence of travel.

Jefferson Simões (Brazil) expressed his support and emphasised the importance of humanities and social sciences in understanding how society understands science, and Antarctic and polar science in particular.

Mike Bentley (UK) took up the idea of creative uses for funding, suggesting all groups should be encouraged to think of more creative ways to support group activities, given the limitations of the pandemic currently and carbon reduction measures in the future. We should look at ways of making meetings more accessible, supporting hybrid and satellite meetings. If money continues rolling over from year to year, group activities may reduce or start to stall. He asked if a positive message about being creative with funding could be sent.

There was widespread agreement for the UK suggestion. The President proposed that Delegates should ask the next ExCom to promote hybrid and other forms of meeting, promoting accessibility and meeting in satellite ways, and combine this with the budget proposal from New Zealand to provide extra funding to enable virtual participation in meetings. ExCom is tasked with looking at innovative ways to meet, and to support groups in meeting and working innovatively.

The President thanked SC-HASS for the report, and their report on the impacts of the pandemic.

Action XXXVI-8: ExCom to look at innovative ways to meet, to strongly encourage SCAR groups to be creative in using their budgets not just for travelling, and to give them the support they need to do so.

The President brought the second session of the meeting to a close.

DAY 3: Wednesday 24 March – 19:00-21:00 UTC

The third session of the meeting opened with a roll call to establish there was a quorum.

4. SCAR Officers – Presidential Election

4.1 Result of election for President

The result of the election was announced, with Yeadong Kim (Republic of Korea) elected as the next SCAR President.

5. SCAR Officers – Vice-Presidential Elections

5.1 Notification of candidates for Vice President

The candidates for Vice-President were announced.

10. SCAR and Policy Advice

10.1 Standing Committee on the ATS (SCATS), including interactions with the Treaty, CCAMLR, and other Treaty Parties (paper 17)

Aleks Terauds presented the SCATS report ([paper 17](#)) as the outgoing Chief Officer (2014-20). He summarised activities, including submissions to the CEP and improved engagement with CCAMLR.

The 2019 ATCM in Prague was a big meeting for SCAR, with 23 submissions and two resulting in adoption by means of resolutions. In resolution 7, the Antarctic Treaty Consultative Parties acknowledged with gratitude SCAR's crucial role in providing objective and independent scientific advice to inform the work of the ATCM and CEP. In the margins of the Prague meeting, SCATS also played a key role in organising the successful joint SCAR/CEP workshop on the Antarctic Protected Area System.

Engagement with CCAMLR through the Scientific Committee reflects increased dialogue between the two bodies. Submissions include annual reports on key issues, climate change impacts and reports on vulnerable species and ecosystems.

Major impacts are being made through the provision of advice. There are planned submissions to the next CEP on ocean acidification, codes of conduct, a report on geo-conservation and geo-heritage, plus updates on the ACCE, bioprospecting, the Antarctic Environments Portal and the status of emperor penguins.

Delegates were recommended to recognise the active involvement of SCATS in the ATS and to note the high regard in which SCAR and the advice it provides is held.

Susie Grant introduced herself as the incoming SCATS CO, describing her background, and looking forward to continuing the work done by the previous CO in leading SCATS.

The President expressed thanks to Aleks Terauds for his outstanding work over the past six years and said that colleagues from other bodies had acknowledged how effective his work had been. He welcomed Susie Grant to the role, thanked her for agreeing to take it on, and acknowledged the British Antarctic Survey's support in enabling it.

General thanks and support were expressed. For the benefit of Delegates without experience of Treaty Meetings, Jane Francis (UK) commented that the ATCM is attended by non-scientists. SCATS has done a great job getting science into the Treaty agenda but she made a plea that reports, particularly the ACCE report, need to be written for non-scientists, with the major points explained clearly for non-English-speaking non-scientists. This was echoed by Steven Chown and Yan Ropert-Coudert (France), who also drew attention to the Antarctic Environments Portal as a good tool for non-scientists.

Decision 4: Reports of the SCATS and SC-HASS Chief Officers were accepted; recommendations to be considered by the Executive Committee.

11. SCAR Business

11.1 Executive Director's Report

In the absence of the Executive Director (ED), the EO presented the Executive Director's Report ([paper 19](#)), summarising the main activities since she took on the role in 2018. In her management of the Secretariat, she commissioned a light-touch audit of its work, which showed the team was working well together but suggested areas for improvement. Since then, internal communications, documentation and forward planning have been improved.

The ED also provides support to the Executive and is a member of the Executive Committee, maintaining links between ExCom and the Secretariat and actively participating in the quasi-monthly ExCom meetings and the biennial meeting in Bulgaria in 2019.

The ED plays an active role in supporting SCAR's provision of scientific advice to the Antarctic Treaty System and other bodies. She will support the new SCATS Chief Officer in engagement with the Treaty and CCAMLR meetings in 2021 and 2022. In addition, she oversaw the transition of the Antarctic Environments Portal to SCAR in early 2020 and is now the portal manager, chairing the management board and overseeing Secretariat support.

Gary Wilson, as VP Admin, said Chandrika Nath has been excellent support to ExCom and provides great leadership for the Secretariat. Steven Chown, in his capacity as President, said she has been an outstanding and effective ED to work with and praised her adept handling of complex discussions at the CEP Protected Areas workshop.

There were many messages of support from Delegates.

Azizan Abu Samah (Malaysia) asked for more communication directly with the Delegates, and for the ED to build personal relationships.

Action XXXVI-9: Investigate opportunities for increased communications between Executive Director and Delegates (ED with ExCom).

11.2 Secretariat Report

The EO presented the report on Secretariat activities ([paper 20](#)). The Secretariat has worked from home since March 2020 and has remained effective, mostly due to the earlier work initiated by the ED on internal processes and team building. This enabled the Secretariat to deliver the SCAR 2020 Online meetings for the community and the current online Delegates Meeting, and the lessons learnt would be passed on to other meeting hosts, particularly those organising the 2022 meetings in Hyderabad.

The appointment of a Communications and Information Officer in the Secretariat team has helped with day-to-day workload and greatly improved internal and external communications.

The Secretariat maintains relationships with partner organisations and other Secretariats, and is working with partners to provide input to the Cryosphere Pavilion at the COP26 meeting in Glasgow in November.

The Secretariat is also supporting ExCom in its efforts to address issues of diversity and inclusion.

Gary Wilson, as VP Admin, acknowledged the great work of the Secretariat in supporting SCAR in a very different way, through taking on the Environments Portal management, taking SCAR 2020 online, and preparing for this successful Delegates Meeting.

Yeadong Kim (Korea) expressed his thanks to Chandrika Nath and all the Secretariat staff, especially during this difficult situation with the pandemic.

11.3 Executive Committee Report

The President, Steven Chown, highlighted a few matters that had come before ExCom since the 2018 Delegates Meeting in Davos ([paper 21](#)).

The structural review, requested in Davos, had largely been completed but the presentation has been delayed until the next meeting, or at least until we are accustomed to meeting online.

ExCom has put much energy into providing advice to the ATS through SCATS. SCAR is appreciated as a source of reliable evidence, which has resulted in a growing workload, and the resolution by the Treaty Parties in support of SCAR's role in providing scientific advice.

He finished by thanking all his ExCom colleagues for their commitment and hard work.

There was general appreciation from the Delegates for the work of the President and ExCom, and particularly for how well the OSC and Delegates Meeting had worked online.

13. Capacity Building, Education and Training: Progress and Plans

13.1 Capacity Building, Education and Training including future plans

M. Ravichandran, VP for CBET, summarised CBET activities ([paper 22](#)). Applications to the Fellowship and Visiting Scholar schemes were down in 2020, mostly due to the pandemic. Following the global reaction to diversity issues in 2020

and the ISC's statement, SCAR issued its own statement and established a scoping group on Equality, Diversity and Inclusion (EDI) to advise on the way forward. The group recommended training on EDI issues for ExCom and the Secretariat, and proposed an action group on EDI. EDI should be included in the next Strategic Plan.

The project to update the Polar Resource book, in partnership with APECS and IASC, has now published the material from the original book online, with free downloads.

Future plans include support for the new SRPs to broaden their membership and work with APECS on mentoring and collaboration, to review the nomination process for SCAR medals, and to develop a resources messaging board for ECRs who were especially hard-hit by the pandemic.

Finally, he requested approval of an action group to tackle EDI issues, and requested that members consider making additional voluntary contributions to the Fellowship and Visiting Scholar schemes.

There was strong support from a number of Delegates for the EDI initiative. Nerilie Abram (Australia) suggested it should include looking at ways to increase diversity within SCAR's science groups, Delegates and the Executive. Jane Francis (UK) offered examples of work in the UK on encouraging those from under-represented groups to join polar science, which could be used as a model by other institutions. A report is currently being written and would be shared with SCAR members.

Azizan Abu Samah (Malaysia) commented that capacity building is crucial for smaller programmes, and EDI is an important part of this. He asked whether it would be possible to have expert lectures from SCAR's leaders aimed at engaging young people in science. The VP CBET agreed to start this activity.

There was general support for establishing an EDI action group.

Decision 5: Action Group on Equality, Diversity and Inclusion approved.

Action XXXVI-10: Secretariat to issue request for voluntary contributions to support award schemes and CBET activities (Secretariat, with VP for CBET).

Action XXXVI-11: Expert lecture series to be established, aimed at engaging young people in science. (VP for CBET, with Secretariat support)

8. SCAR Science Groups (continued)

8.3 Report of SG Physical Sciences

David Bromwich, Chief Officer of SG Physical Sciences, reported on progress ([paper 15](#)). He summarised a wide range of activities that come under the physical sciences umbrella, which is broad-based, collaborative, and with a strong climate emphasis. The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH) is an international effort to enable better predictions of weather and climate in Antarctica and the Southern Ocean through the release of a great number of additional radiosondes. The OpMet group was a major contributor and many SCAR countries were involved.

AntClimNow has been approved and a proposal for the RESOURCE PPG on radio sciences research on the atmosphere was submitted in March 2020. PS recommends winding up two action groups, PACT and SnowAnt, and that the Remote Sensing group should merge with the Earth Observation group (EOAG). A proposed RINGS Action Group, to set up coordinated airborne measurements to

map the bed topography at the ice-sheet margin, has requested approval now to take advantage of funding opportunities.

There was widespread support for the RINGS initiative. Mike Bentley (UK) and Terry Wilson (IUGS) also commended the PS leadership for recognising when groups have come to the end of their natural lives. The President confirmed that Delegates could establish a new action group immediately, if they wanted. Delegates agreed.

Decision 6: Action Group under Physical Sciences and Geosciences on RINGS approved.

Decision 7: Reports of the Science Groups' Chief Officers were accepted; recommendations to be considered by the Executive Committee.

14. New SCAR Research Programmes

As the new programmes had been presented at SCAR 2020 Online and the final versions of their Science and Implementation Plans had been made available along with the papers, these agenda items were run as question and answer sessions.

14.1 *INStabilities & Thresholds in ANTarctica (INSTANT)*

([Paper 23](#): INSTANT Science and Implementation Plan)

Tim Naish, Co-Chief Officer of INSTANT, provided a brief summary of the INSTANT programme, the goal of which is to reduce uncertainty in the Antarctic ice mass contribution to sea level rise. INSTANT will work closely with the WCRP and other initiatives on decisions for adaptation and evaluating mitigation pathways.

The kick-off meeting was very successful. The RINGS group was presented at the workshop and will be a key aspect of the INSTANT programme, with RINGS participants being important contributors.

Mike Bentley (UK) endorsed that the kick-off meeting was bursting with ideas and was notably diverse with much ECR involvement. He stressed that the Treaty will be asking for plenty of scientific advice on this topic in coming years and much of this will come from INSTANT.

14.2 *Integrated Science to Inform Antarctic and Southern Ocean Conservation (Ant-ICON)*

([Paper 24](#): Ant-ICON Science and Implementation Plan)

Aleks Terauds, Co-Chief Officer of Ant-ICON, presented a brief overview of the programme. The primary goal is to inform Antarctic and Southern Ocean conservation through high-quality science, with science and scientific outputs being key. Ant-ICON will work closely with other SCAR groups, particularly SCATS.

The Steering Committee has recently been finalized, and three research themes and one science synthesis theme have been agreed, with the aim of making science accessible to decision-makers. The next step is to finalise representation of other SCAR groups on the Steering Committee in order to collaborate widely, and there would be community engagement sessions in early May.

Azizan Abu Samah (Malaysia) asked whether a contribution from SC-HASS would be helpful and Aleks confirmed that Daniela Liggett is one of the key members of the

Steering Committee, since integration across science and the social sciences is important and the broader social science community would be involved.

There was support for the new programme from a number of Delegates, including for the community consultations.

The President brought the third day's session to a close by thanking the Secretariat staff for their work and dedication, given the challenges of working from home during the pandemic.

DAY 4: Thursday 25 March – 09:00-11:00 UTC

The fourth session of the meeting opened with a roll call to establish there was a quorum.

12. SCAR Officers – Vice-Presidential Elections

12.1 Results of election for Vice Presidents

The results of the election were announced, with Jefferson Simões (Brazil) and Deneb Karentz (USA) elected as Vice Presidents.

14. New SCAR Research Programmes (continued)

14.3 Near-term Variability and Prediction of the Antarctic Climate System (AntClimNow)

([Paper 25](#): AntClimNow Science and Implementation Plan)

Tom Bracegirdle, Co-Chief Officer of AntClimNow, briefly summarised activities since their presentation at SCAR 2020 Online. The Scientific Steering Committee (SSC) held its kick-off meeting in December 2020, which included the leadership of the other two SRPs, and has begun holding monthly science meetings to aid working together. A kick-off workshop and meeting is planned for early June. A logo competition has been launched for ECRs, and the group is using Slack for communicating and coordinating work, and social media for outreach (Twitter, Instagram and Facebook).

There was general support from Delegates, particularly for the multidisciplinary nature of the programme, and the SSC's readiness to meet virtually. The CO confirmed that the Slack channels are aiding communication and reducing email traffic, while meeting virtually is removing barriers to collaboration, though working across different time zones is not easy.

15. Data and Information

15.1 Standing Committee on Antarctic Data Management (SCADM)

Johnathan Kool, Chief Officer of SCADM, summarised recent activities ([paper 26](#)), including helping National Antarctic Data Centres (NADCs). SCADM holds monthly

meetings and there has been excellent engagement and new countries joining. The only difficulty is getting everyone online at the same time.

The major activity has been, in association with the Arctic data community and SOOS, the collective development of a set of principles for aligning polar data policies. The resulting document will be used for future revisions of the SCAR data policy.

SCADM is working to provide additional ways of searching and discovering data in NADC collections, and is supporting South Africa in its bid to establish the environmental observation network as a national polar data centre. Plans for the coming year are to update the SCAR data policy, which will be brought to Delegates for approval, and engagement with the 4th Polar Data Forum.

Mike Bentley (UK) asked whether SCADM have considered a push on existing data sets, as reuse of data would benefit ECRs, especially during the pandemic when field access was more constrained. The CO agreed SCADM would be happy to work with ExCom on improving communications and accessibility around data.

Gary Wilson (New Zealand) asked whether there had been an increase in getting data added to the AMD while people are unable to collect data in the field, and the CO agreed people were more willing to go back and look at their datasets and contribute to the AMD.

The SCADM CO was thanked for the group's work.

Action XXXVI-12: SCADM and ExCom to discuss immediate efforts to make data discoverable and interoperable.

15.2 Standing Committee on Antarctic Geographic Information (SCAGI)

Paul Morin, Co-Chief Officer of SCAGI, reported on activities ([paper 27](#)), including the appointment of two new COs this year. The Antarctic Digital Database (ADD) continues to be a key source of authoritative geospatial data for all kinds of mapping, scientific and logistics purposes. SCAGI's most significant work has been in connection with place names, developing a document of principles and procedures to guide standardisation in naming features. Place names are given by national authorities and then included in SCAGI's Composite Gazetteer (CGA). Work continues on the large international effort to produce better air operations maps.

Catherine Ritz (France) asked about the links between SCAGI and the SCAR tool Quantarctica. The CO said SCAGI is contributing to Quantarctica but the aim was to keep the tool limited so it can be portable. The Quantarctica team goes through products to see how they can be reduced and included.

The President said he had received a great amount of feedback on the value of SCAGI and how useful its products are to the community, and asked the CO to convey to the group and its contributors how important SCAGI's products are to a wide variety of researchers and educators. Appreciation for SCAGI's work was expressed by a number of Delegates.

Decision 8: Reports of the SCADM and SCAGI Chief Officers were accepted; recommendations to be considered by the Executive Committee.

16. SCAR 2012-2020 Scientific Research Programme Final Reports

16.1 *Antarctic Climate Change in the 21st Century (AntClim21)*

Tom Bracegirdle, Chief Officer of AntClim21, summarised the programme's achievements ([paper 28](#)), which were high-quality, high-impact science. AntClim21 papers are being cited in the current IPCC AR6. AntClim21 had worked with AntEco on high-impact, multidisciplinary science, and had collaborated with ice-sheet modellers to feed climate data into their models. The major legacy of the programme was support and encouragement for ECRs and creating a vibrant international community.

There were no questions.

16.2 *State of the Antarctic Ecosystem (AntEco)*

Huw Griffiths, Co-Chief Officer of AntEco, summarised the programme's achievements ([paper 29](#)), which included the creation of an extensive international research network. There has been major support for ECRs, and conference sessions and workshops have expanded our understanding of Antarctic biodiversity and biology. A major publication was the Biogeographic Atlas from 170 authors on every aspect of Antarctic marine life and habitat. Outreach included advice to BBC's Blue Planet and Frozen Planet series. Policy-relevant work included significant contributions to the Antarctic Environments Portal, and reports to CCAMLR.

When asked by the President about what stood out of most value in the programme, the CO replied that it was like a microcosm of what SCAR does in its coordination and cross-disciplinary cooperation. It gave access to networks for people in countries without the infrastructure. The benefit to SCAR is that the community is strengthened and people are truly working together.

The President took the opportunity to pay tribute to Huw Griffiths and his colleagues for setting up Polar Pride and thanked him for his tremendous work on broadening inclusion within SCAR.

16.3 *Antarctic Thresholds – Ecosystem Resilience and Adaptation (AnT-ERA)*

Julian Gutt, Chief Officer of AnT-ERA, summarised the programme's achievements ([paper 30](#)) as covering 90% of the Antarctic biology community and being inclusive in terms of career stage, gender and supporting small and emerging programmes. Several unique cross-disciplinary events were held, mostly resulting in scientific papers and even special volumes, in particular the 2018 ECR course in Buenos Aires and the 2019 final synthesis workshop in Portugal. The research has shown evidence that ecosystems are at least partly under climate stress.

Jeronimo Lopez (Spain) asked how the new research programmes could harness the efforts made by AnT-ERA. The CO responded that there should be a strong component of climate-change-related research in ecology and biology, either through ACCE or the new SRPs.

16.4 Past Antarctic Ice Sheet Dynamics (PAIS)

Laura De Santis, Co-Chief Officer of PAIS, presented the programme's achievements ([paper 31](#)). Using models and huge data sets from deep sea drilling sites and ice cores, they discovered that the continental margin and ice sheet was sitting on a shallow continental shelf and that the ice sheet has been weakened through geological time by bedrock deepening, making it more sensitive to ocean and atmospheric warming. A summary of the programme's achievements will be published in a book later in 2021. The CO finished by showing a two-minute video on PAIS and its impact.

The President congratulated PAIS on its interrelationships through inviting other COs to attend its meetings, enabling large interdisciplinary work which has fed into the new programmes. He also recognised that through PAIS there were several IODP programmes that provided new data about the margins of Antarctica, helping our understanding of the past and what we might face in the future.

16.5 Solid Earth Responses and Influences on Cryospheric Evolution (SERCE)

Pippa Whitehouse, Co-Chief Officer of SERCE, summarised the programme's achievements ([paper 32](#)). SERCE studied the interactions between the solid earth and cryosphere, and brought people together which accelerated the science in this field. They held sponsored sessions, discipline-specific workshops and training schools, and supported ECRs and emerging Antarctic programmes. New areas of science evolved through understanding the feedbacks between the ice sheet and the land underneath, including the formation of a new group on geothermal heat flow. SERCE work resulted in high-impact publications, with some feeding into the next IPCC report. A horizon-scanning exercise during workshops fed into the development of INSTANT.

Yeadong Kim (Korea) highlighted the international training course for young scientists as being very valuable. The CO said it was good to see the scientists they trained five or six years ago coming to meetings and contributing, so the community is growing.

16.6 Astronomy and Astrophysics in Antarctica (AAA), 2010-2018

Tony Travouillon, Chief Officer of AAA, summarised the programme's achievements ([paper 33](#)). AAA is different from other SCAR groups in that it is working from Antarctica not in it, and there is a link with the broader astronomical community. The Event Horizon telescope is a network, including the South Pole Telescope, which took the first picture of a black hole. The IceCube project, using cosmic rays to learn about universe, can only be done from Antarctica. AAA is bringing astronomy from all around the world to Antarctica through its own conferences and attending IAU meetings. The community is growing, creating an astro-science umbrella to include astronomy and near-earth observations, which are vital in monitoring satellites and their threat to space safety. The group is working actively to address the gender imbalance.

There were no questions.

The President thanked all the SRP COs, past and present, and the scientists who have contributed a tremendous amount of knowledge about Antarctica, the Southern

Ocean, and the world and universe generally. SCAR's 60th anniversary discussions at the 2019 Treaty meeting enabled it to highlight the research from these groups, demonstrating to policy makers the importance of science. The groups worked well together to develop the new SRPs and the interactivity has been of great benefit to all. There was general support, thanks and congratulations on achievements from the Delegates.

17. Major Meetings

17.1 Plans for 2022 OSC and XXXVII SCAR Meetings in India

M. Ravichandran summarised plans for SCAR 2022, which will be held from 19-28 August in Hyderabad and is one of the government-sponsored programmes of India's 75th anniversary. The International Scientific Organising Committee (ISOC) has been finalised and will be chaired by Steven Chown, and includes members from all disciplines and the new SRPs. The draft list of sessions is being finalised. The meeting is planned to be online, hybrid or in person. The First Circular will be released before the end of April.

There were no questions.

18. Other Business

18.1 Any Other Business

No points were raised in Any Other Business.

19. Actions Arising

19.1 Summary of Action Items from the meeting

The EO shared the list of decisions and actions arising, which were adjusted following corrections from Delegates.

20. Closure of the Meeting

The President thanked the Secretariat for ensuring the meeting was successful and ran smoothly. He thanked Patrick Spiers and the team from Congress Rental for providing all the technical support, and the stenographers for doing a tremendous job. Finally, as outgoing President, he thanked the Delegates for working effectively and ExCom for being extremely supportive. Yeadong Kim (Korea) expressed the appreciation of all Delegates for the work of the outgoing President.

The meeting closed.

Appendix: List of Acronyms

AAA	Astronomy and Astrophysics from Antarctica
ACCE	Antarctic Climate Change and the Environment
ADD	Antarctic Digital Database
AEP	Antarctic Environments Portal
AGM	Annual General Meeting
AMD	Antarctic Master Directory
AntClim ²¹	Antarctic Climate Change in the 21st Century
AntClim ^{now}	Near-term Variability and Prediction of the Antarctic Climate System
AntEco	State of the Antarctic Ecosystem
AnT-ERA	Antarctic Thresholds - Ecosystem Resilience and Adaptation
Ant-ICON	Integrated Science to Inform Antarctic and Southern Ocean
APECS	Association of Polar Early Career Scientists
AR6	Sixth Assessment Report (IPCC)
ATCM	Antarctic Treaty Consultative Meeting
ATS	Antarctic Treaty System / Antarctic Treaty Secretariat
CBET	Capacity Building, Education and Training
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CEP	Committee for Environmental Protection
CGA	Composite Gazetteer of Antarctica
CO	Chief Officer
COMNAP	Council of Managers of National Antarctic Programs
COP	Conference of Parties (UNFCCC)
COVID-19	Coronavirus disease leading to the 2020 pandemic
ECR	Early-career researcher
ED	Executive Director
EDI	Equality, Diversity and Inclusion
EO	Executive Officer
EOAG	Earth Observation Action Group
ExCom	Executive Committee
GeoMap	Geological Mapping Update of Antarctica (Action Group)
GS	Geosciences
HASS	Humanities and Social Sciences
IASC	International Arctic Science Committee
IAU	International Astronomical Union
IceCube	the South Pole Neutrino Observatory
INSTANT	INStabilities & Thresholds in ANTArctica (formerly AISSL, then AIDSL)
IODP	International Ocean Discovery Program (formerly Integrated Ocean Drilling Program)
IPCC	Intergovernmental Panel on Climate Change
ISAES	International Symposium on Antarctic Earth Sciences
ISC	International Science Council
ISOC	International Scientific Organising Committee

IUBS	International Union of Biological Sciences
IUGG	International Union of Geodesy and Geophysics
IUGS	International Union of Geological Sciences
IUPAC	International Union of Pure and Applied Chemistry
LS	Life Sciences
NADC	National Antarctic Data Centre
OpMet	Operational Meteorology in the Antarctic
OSC	Open Science Conference
PACT	Polar Atmospheric Chemistry at the Tropopause (Action Group)
PAIS	Past Antarctic Ice Sheet dynamics
PPG	Programme Planning Group
PS	Physical Sciences
PSG	Physical Sciences Group
RINGS	Action group to map the bed topography at the ice-sheet margin
SC	Standing Committee
SCADM	Standing Committee on Antarctic Data Management
SCAGI	Standing Committee on Antarctic Geographic Information
SCAR	Scientific Committee on Antarctic Research
SCATS	Standing Committee on the Antarctic Treaty System
SC-HASS	Standing Committee on Humanities and Social Sciences
SERCE	Solid Earth Response and influence on Cryosphere Evolution
SG	Science Group
SnowAnt	Snow in Antarctica (Action Group)
SOOS	Southern Ocean Observing System
SRP	Scientific Research Programme
SSC	Scientific Steering Committee
UK	United Kingdom
URSI	Union Radio Scientifique International / International Union of Radio Science
US / USA	United States of America
UTC	Coordinated Universal Time
VP	Vice President
WCRP	World Climate Research Programme