



सत्यमेव जयते
Ministry of Earth Sciences
Government of India



REPORT ON SCAR 2022

National Centre for Polar and Ocean Research
Ministry of Earth Sciences, Government of India
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MoES- NCPOR HOSTED SCAR 2022

The National Centre for Polar and Ocean Research (NCPOR), an institute under the aegis of the Ministry of Earth Sciences (MoES), of the Government of India, was honored to host the SCAR 2022 conference, in conjunction with the SCAR Business and SCAR Delegates Meetings, for the first time in India. In view of the ongoing pandemic, the 10th Open Science Conference (1st to 10th August 2022) and the SCAR Business Meeting (27th to 29th July 2022) were held in virtual mode, while the SCAR Delegates Meeting was held in-person in Goa, India with limited online facilitation of reporting. By adopting a virtual conference format, the organizers namely SCAR and NCPOR have endeavored to minimize the carbon footprint of their activities.

SCAR 10th Open Science Conference (OSC)

The Scientific Committee on Antarctic Research (SCAR) convenes its Open Science Conference (OSC) biennially to spotlight issues concerning Antarctica. The OSC provides a platform for researchers of a vast range of disciplines, nationalities and career stages to showcase their work. The OSC platform also provide excellent opportunities for networking especially in the context of SCAR activities.

The 10th Open Science Conference (OSC), marking two-decades of OSC was hosted by NCPOR on a virtual platform assisted by the event management team M/s Elbon Pvt. limited, from August 1 to 10, 2022. For the last twenty years, the OSC facilitated the exchange of the latest research in international Antarctic and Southern Ocean science.

The theme of the 10th SCAR OSC was “Antarctica in a Changing World,” a fitting reflection of the ongoing changes in Antarctica and their impact on the Earth System, as well as a symbolic representation of the interconnectedness of global Earth system processes.

Organization and Implementation

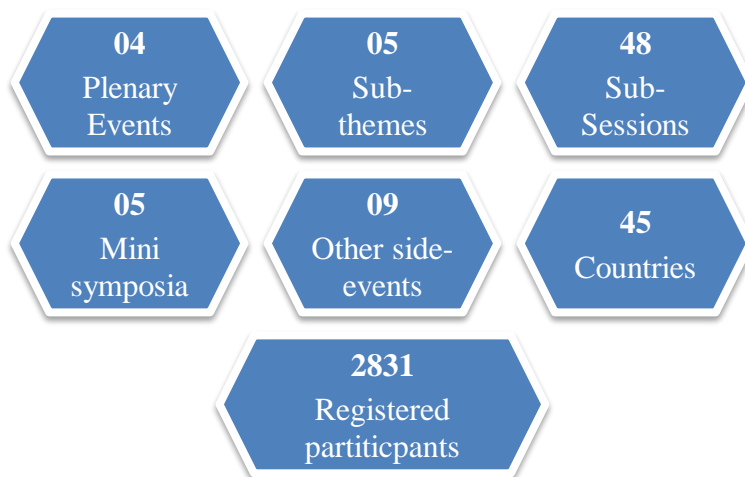
The successful organization and execution of the 10th SCAR OSC was made possible by the tremendous efforts of the members of the International Science Organizing Committee (ISOC), chaired by Prof. Steven L Chown, Monash University, Australia; the National Advisory

Committee (NAC), chaired by Dr. M. Ravichandran, Secretary, MoES, India; and the Local Organizing Committee (LOC), chaired by Mr. Mirza Javed Beg, NCPOR, India. SCAR secretariat was involved in coordinating most of these committees. Throughout the course of implementation of OSC, various virtual and in-person meetings were held. The contribution of all these committees is highly appreciated.

Opening Ceremony

The ten-day event of the 10th SCAR Open Science Conference (OSC) was inaugurated on 1st August, 2022, in a virtual setting. The inaugural ceremony commenced by opening remarks by SCAR President Dr. Yeadong Kim, who highlighted the vision of SCAR. The opening statement was followed by a welcome address by the Director, NCPOR- Mr. Mirza Javed Beg. Besides, Prof. Naresh Pant, member of the International Science Organizing Committee and Local Organizing Committee of the 10th OSC and Chair of the National SCAR Committee, addressed the attendees, providing insights into India's presence in Antarctica, and highlighting the salient features of the conference. In his address, Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences, Government of India, elaborated on the significance of the Conference theme. The event was graced by the participation of the Honorable Minister of Earth Sciences, Dr. Jitendra Singh who delivered the inaugural address, discussing India's endeavors in Antarctica and India's commitment to sustainability. The concluding remarks of the opening ceremony were delivered by Dr. Thamban Meloth, a member of the International Science Organizing Committee and Local Organizing Committee. Dr. Rahul Mohan, a member of the Local Organizing Committee, hosted the opening ceremony of the 10th SCAR OSC. The ceremony also featured three short videos highlighting India's cultural diversity, the importance of the 10th SCAR OSC theme i.e., Antarctica in a changing world, and the Indian endeavors in Polar Regions.

The virtual inauguration was viewed by more than 1000 individuals worldwide, marking a grand commencement of the 10th SCAR Open Science Conference.



During the OSC 2022, 48 parallel sessions, 04 plenary events, 05 mini symposia and several workshops were organized. The sessions featured presentations from researchers, representing 45 countries, who presented 1031 abstracts. The range of participants of OSC 2022, showed good diversity and inclusivity with female being 48% of the total number while male participants was 41% male and 1% non-binary. The presentations during the sessions were recorded with the due agreement with the speakers. Post-event, the recordings were shared on the SCAR Youtube Channel :

<https://www.youtube.com/channel/UCBsAOdMA0ClC9jcFCTCa1zQ/playlists>

The organizing team also waived off the participation fees to enhance the number of early career participation in the conference.

According to the preliminary results of a SCAR survey, mid-career researchers (31.61%) and Ph.D. students (22.70%) had the highest participation in the 10th SCAR OSC.

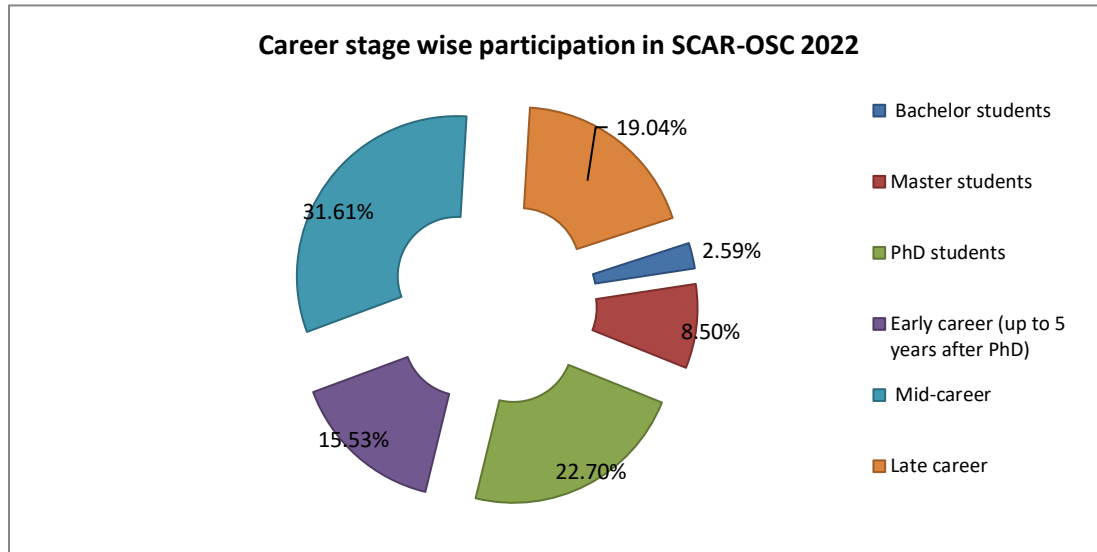
Closing ceremony

During the closing ceremony, esteemed dignitaries including the SCAR President, Dr. Y. Kim, MoES Secretary, Dr. M. Ravichandran, and SCAR Executive Director, Dr. Chandrika Nath delivered their closing remarks. Dr. Rahul Mohan, NCPOR, India, presented the vote of thanks conveying gratitude to all delegates, committees, and participants for contributing to the success of SCAR 2022.

The SCAR Medal Awardees were also announced during the closing ceremony of the SCAR OSC: The SCAR Medal for International Scientific Coordination was conferred upon Prof. Stephen Ackley, University of Texas, while the SCAR Medal for Excellence in Antarctic Research was jointly awarded to Prof. Pippa Whitehouse of Durham University, UK and Prof. Elisabeth Sikes of Rutgers University, USA. The SCAR Medal for Education and Communication was presented to Dr. Bethan Davies, affiliated with both Royal Holloway University and Newcastle University, UK.



ANNEXURE – Some Statistics of the SCAR Open Science Conference



Statistics of SCAR Open Science Conference

	Total number of registrations	2831
	Total number that logged onto the Event Portal	2620
	Total number of YouTube live stream views	675
	Plenary Events	
a	Opening Ceremony of SCAR 2022 OSC	
	<i>Live on Events Portal</i>	348
	<i>Total YouTube views</i>	675
b	Plenary Lectures	
	Understanding and Projecting the Antarctic Ice Sheet: A Community Challenge	122
	Southern Ocean Diversity And Connectivity: Surprises And New Directions	43
c	Close of Meeting and Awards of SCAR Medals - <i>Live on Events Portal</i>	100
	Mini - symposia	
	Highlights of SCAR's Scientific Research Programmes	355
	Teleconnections Between The Poles And The Tropics	161

	How Scar Informs And Guides Antarctic Policy And Conservation	114
	Scar Capacity Building Workshop	98
	The Discovery Of The Endurance	130
	Workshops	
	Identifying Key Biodiversity Areas For The Southern Ocean	165
	The So-Chic Project, The Southern Ocean And The Global Climate System	30
	Inclusion And Antarctic Research	43
	Participating In Large-Scale International Scientific Assessments: So-Chic Skills Building Workshop Planning	35

SCAR DELEGATES MEETING

Background

The SCAR Delegates' Meeting is a biennial even scheduled on even years and is primarily conducted for administrative purposes. During these meetings, the SCAR members devise policies and strategies through their appointed delegates. These policies and strategies are then subjected to voting by the members. The agenda of the meeting include selecting research areas, allocating budgets, liaison with the Antarctic Treaty System and other bodies, and partnering with other organizations. Additionally, the members also elect an Executive Committee to manage SCAR on their behalf.

XXXVII SCAR Delegates' Meeting

The XXXVII SCAR Delegates' Meeting was held from 5th -7th September 2022 in Goa, India. The meeting was held in a hybrid format and attended by SCAR Delegates from over 40 countries, representing the 46 SCAR member countries and 9 SCAR Union members. The meeting commenced with the opening remarks by SCAR President, Dr. Yeadong Kim. Over the three-day meeting, delegates made several crucial decisions under the chairmanship of SCAR President and co-chaired by the vice-president of respective session.

Session on Scientific Research Programmes (SRPs) and SCAR Scientific Groups (SSGs)

The session on SRPs and SSGs was co-chaired by SCAR Vice President for Science, Prof. Deneb Karentz. During the session, updates on the following have been made:

- a. SCAR Scientific Research Programmes - *Near-term Variability and Prediction of the Antarctic Climate System (AntClimNow); Integrated Science to Inform Antarctic and Southern Ocean Conservation (Ant-ICON); INSTabilities and Thresholds in ANTArctica (INSTANT)]*;
- b. SCAR Groups- *There was presentation by SCAR Scientific Groups (SSG) on Geosciences by Prof. Naresh C Pant (in person), as also virtual presentations on Physical Sciences by Dr. Yan Ropert-Coudert and Biological sciences by Dr. David Bromwich / Adriana Gulisano.*

- c. Other Sciences- *Presentation was made on Bedmap3 Action Group and SCAR's involvement in Southern Ocean Observing System (SOOS); UN Decade of Ocean Science; Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) and Astronomy & Astrophysics from Antarctica (AAA) Expert Group to highlight their achievements.*
- d. SCAR Standing Committees -*Standing Committee on the Humanities and Social Sciences (SC-HASS); Standing Committee on Antarctic Data Management (SC-ADM); and Standing Committee on Antarctic Geographic Information (SC-AGI).*

Closed Session (Day-1)

During the closed session, the SCAR members discussed membership and policy related issues. The highlights of the session included-

1. New membership to Luxembourg and the United Arab Emirates
2. Honorary SCAR membership was awarded to the immediate past President, Prof. Steven L. Chown, in recognition of his many years of service to SCAR.
3. Voting for the election of two vice presidents and nomination of two ad hoc members from each country for the Standing Committee on Finance for the term of the meeting.

4. SCAR Policy and Advice

- a. During the session, the following two reports were discussed:
 - i. Antarctic Treaty Secretariat Report was presented, where a report on the XLIV ATCM in Berlin and other activities were discussed.
 - ii. A report on Standing Committee on the Antarctic Treaty System (SC-ATS) was presented on SCAR's participation in the 2021 and 2022 ATCM/CEP, the 2021 CCAMLR Meeting, plans for future meetings, and other actions and activities of SC-ATS.
- b. Besides, reports on Antarctic Environments Portal (AEP); SCAR partnership and provision of scientific advice to other bodies; SCAR participation in Prince Albert II of Monaco Foundation (FPA2) Symposium held in February 2022, and SCAR communication activities.

- c. Approval of International Polar Year 2032-33 report and participation in the IPY Steering Committee to represent SCAR's interest in the formulation and planning for the IPY 2032-33, reporting to the President.

Session on Capacity Building, Education, and Training (CBET)

The CBET session was co-chaired by the Vice President for CBET, Dr. M. Ravichandran. A discussion was held on the SCAR fellowship program, visiting scholar program, other programmes, and the future plans of the CBET activities.

Dr. M. Ravichandran also outlined plans for the proposed internship program to support the Science Groups and SC-ATS work. The SCAR Executive Officer presented updates on the Action Group on Equality, Diversity, and Inclusion (EDI), covering its leadership, organizational structure, progress, and future plans.

During the session, a report on SCAR 2020 online conference was also presented. Furthermore, plans for the following future events were discussed:

1. Future biennial meetings (2024 OSC and XXXVIII SCAR Meetings in Pucón, Chile; 2026 OSC and XXXIX SCAR Meetings in Oslo, Norway).
2. Bid to host the 2028 OSC and XL SCAR meetings in the city of Sofia, Bulgaria.
3. Suggestion for a joint polar meeting in 2030.
4. Plan for XIII Biology Symposium 2023; XIV International Symposium on Antarctic Earth Sciences (ISAES); The second Polar Science and Policy Symposium organized by the Prince Albert II of Monaco Foundation ; SOOS Symposium in 2023

Besides, the SCAR President discussed the draft Strategic Plan 2023-2028. Vice Presidents of each section presented the Strategic Plan related to their portfolios.

The SCAR President concluded the meeting, expressing gratitude to all the delegates for their participation and to Indian delegates for organizing the SCAR delegates Meeting in Goa.

