

CAPACITY-BUILDING ACTIVITIES

SCOR capacity development activities include a visiting scholar program, the POGO-SCOR fellowships, travel support to scientist from developing countries to attend meetings and conferences, and the Regional Graduate Networks in Oceanography. Additional capacity development activities are carried out by the SCOR projects through Summer Schools (Figure 1.)

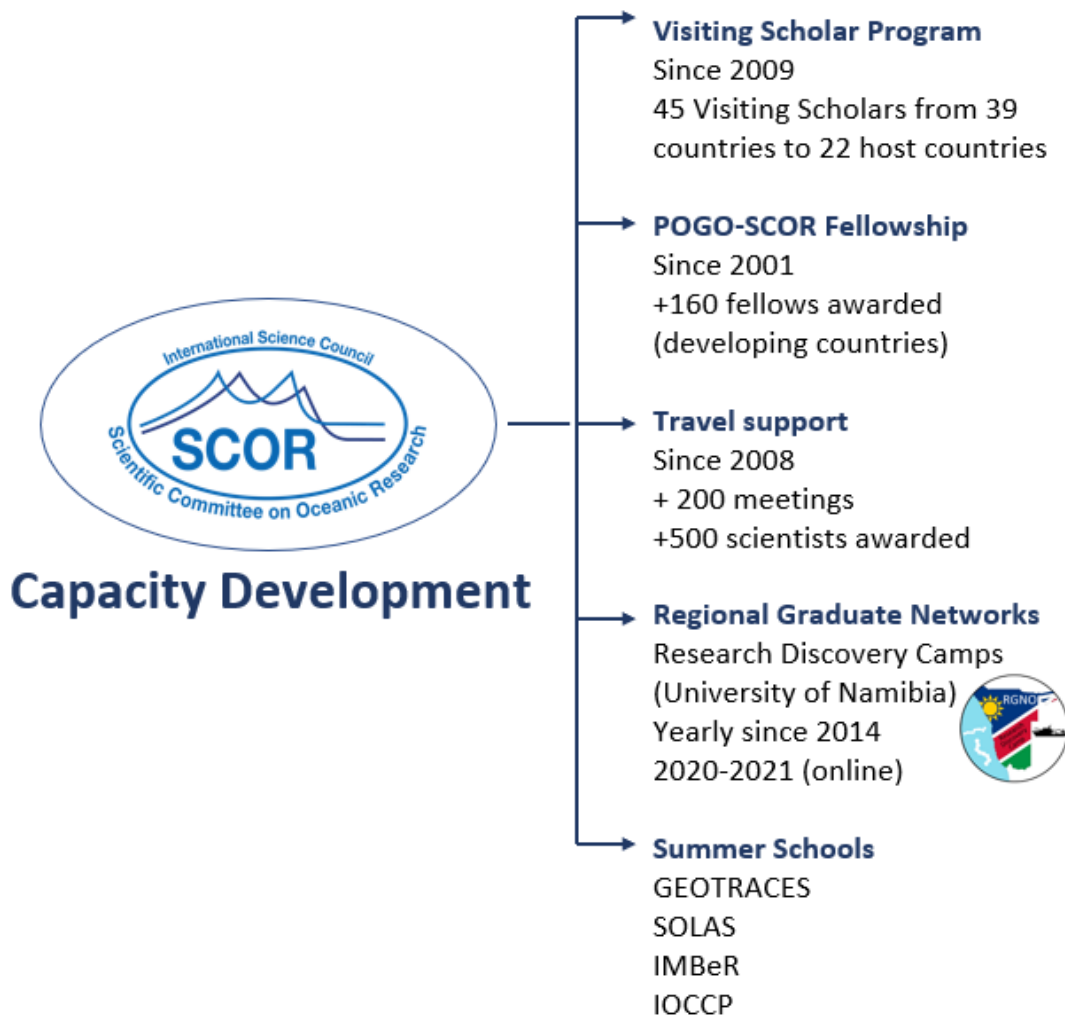


Figure 1. Summary of SCOR capacity development activities.

SCOR Committee on Capacity Development (SCOR CCD)

The primary purpose of the SCOR Committee on Capacity Development is to oversee all SCOR's capacity-development activities and to help the SCOR Secretariat manage these activities. The Terms of Reference (ToRs) of the SCOR CCD are to:

1. Provide direction for all of SCOR's existing capacity-development activities: participation of scientists from developing countries and countries with economies in transition in SCOR activities, POGO-SCOR Fellowship Program, travel grants, and provision of reports to libraries in developing countries.
2. Guide and assist SCOR Executive Director in development of new capacity-development activities, particularly the Regional Graduate Schools of Oceanography activity.
3. Assist SCOR-sponsored projects in developing their capacity-development activities.
4. Help SCOR arrange funding for existing and new capacity-development activities.
5. Assist SCOR in interacting with regional and international groups related to capacity development in ocean sciences, such as the ICSU regional centers, START, IOC regional programs, etc.

The SCOR CCD was renewed in 2021 with Missy Feeley (USA/UK), Venu Ittekot (Germany), Prasanna Kumar (India), Margareth Kyewalyanga (Tanzania), and Sun Song (China) stepping down. An additional ToR was added to the above list related to time of service:

6. Members of the SCOR Committee on Capacity Development will be appointed for three years, with one additional renewal for a total period of service of 6 years.

Currently, the SCOR CCD is composed by:

Chair	Members	Liaisons
Claudia Benitez-Nelson (USA)	Sanae Chiba (Canada/PICES) Vanessa Hatje (Brazil) Ntahondi Nyandwi (Tanzania) Rui Seabra (Portugal) (*) Paula Sierra (Colombia) Jennifer Verduin (Australia) Sun Xiaoxia (China-Beijing) Rebecca Zitoun (The Netherlands) (*)	Jim Costopulos (Global Oceans) Julius Francis (WIOMSA) Peter Pissierssens/Claudia Delgado (IODE/IOC) Eric Raes (IIOE-2 Early Career Scientists Network) Sophie Seeyave (POGO)

(*) *Early Career Scientist*

In the past year, the committee reviewed one set of requests for travel support to scientific meetings and reviewed the 2021 SCOR Visiting Scholar applications.

The renovated committee members would like to be more engaged, providing ideas and feedback as stated in the terms of reference, and contributing to SCOR's capacity development activities within their capabilities. They are also discussing the possibility of having regular virtual meetings to discuss new ideas and initiatives.

SCOR Visiting Scholars

SCOR began a program in 2009 to enlist the services of ocean scientists from the SCOR community, from both developed countries and developing countries, both recently retired and active, to teach short courses and to provide more extended on-site education and mentorship at developing country host institutions.

Hosting visiting scientists, whether retired or active, can have many benefits to host institutions also, such as inspiring, motivating, and informing students and faculty, and leading to future collaborations between the visiting scientist and the host institution.

The program is a partnership, with the host institution providing local accommodation and SCOR finding resources to pay for airfares and other local expenses, as necessary. The participating scientists donate their time. SCOR Visiting Scholars might be onsite for as little as two weeks if visa requirements allow. From 2021, the SCOR CCD recommended that Visiting Scholar applications have identified a host and developed a joint plan. Information about the program is available at <https://scor-int.org/work/capacity/visiting-scholars/>.

The SCOR Visiting Scholars who were approved in 2020 and 2021 are shown below, however, due to the travel restrictions caused by the COVID-19 pandemic, none has been able to travel yet.

Visiting Scholar	Scholar country	Host country	Topic of training
2020			
Lisa Levin	USA	Fiji	The nexus of climate change, biodiversity, and resource extraction in deep waters
Teresa Cerveria Borges	Portugal	Angola	Marine resources
James Moffett	USA	India	Relationship between the geochemistry of metals such as copper and iron, and the carbon, nitrogen and sulfur cycles
Hailon Liu	China-Beijing	Philippines	Fundamental knowledge of physical oceanography and its

			applications in polar and tropical regions
Hidenori Kumagai	Japan	India	Marine geology and volcanology including geophysical and geochemical aspects
James Ditty	USA	TBD	identification of early life stages of marine fishes
2021			
Enrique Montes	USA	Brazil	Biodiversity surveys, protocols, and data management
Julia Sigwart	Germany	Malaysia	Taxonomy in ocean sciences, museum collections as resources
Louise Firth	UK	South Africa	Eco-engineering of the marine built environment
Marina Ross	Greece	Vietnam	Fisheries and Aquaculture

The 10 SCOR Visiting Scholars approved in 2020 and 2021 will be supported by the U.S. National Science Foundation and national SCOR committees. All of these visiting scholars have postponed their travel plans to 2022.

POGO-SCOR Visiting Fellowships for Oceanographic Observations

In 2020 and 2021, 45 and 42 applications for this programme were received. Applicants represented 25 and 27 countries respectively for 2020 and 2021. For both years, most of the candidates proposed host institutions majorly located in Europe and North America.

With the combined available budget from POGO and SCOR, a total of 5 candidates were selected in 2020 and 6 in 2021. SCOR contributed in 2021 an additional amount to support the sixth candidate.

The POGO-SCOR Fellows approved in 2020 and 2021 are shown below. Some have been able to complete their training, others are underway, and others are in standby.

POGO-SCOR Fellow	Fellow country	Host country	Topic of training
2020			
Abhisek Chatterjee (underway)	India	UK	Processing and statistical analysis of the glider based observations to evaluate near-

			inertial oscillation induced mixing in the southcentral Bay of Bengal
Ana Carolina Peralta Brichtova (underway)	Venezuela	USA	Seagrass Assessment using optical satellite images: a case study at the Ocumare Ciénaga.
Mahi Mankeshwar (underway)	India	USA	Changing habits with changing seas: habitat study of marine megafauna in the Arabian Sea
Andrés Fernando Orejarena Rondón (completed)	Colombia	Spain	Global change impacts on the Colombian Caribbean coasts: analysis and risk of wave climate and sea level
Hajar Idmoussi (completed)	Morocco	Spain	Trends in phytoplankton groups in the Mediterranean continental shelf off Morocco
2021			
Carolina Gramscianinov (underway)	Brazil	Germany	Integrated wave modelling and observation system in the South Atlantic Ocean
Stella Patricia Betancur Turizo	Colombia	Mexico	Biogeochemical parameters analysis at Antares Cartagena station and its climatic variability in the Colombian Caribe region
Pranav Pulukkayi	India	UK	Use of sentinel satellite data for mangrove mapping and conservation
Dava Amrina	Indonesia	USA	Karimata Strait Variability in relation to Northeasterly Cold Surges and their Impact on Regional Rainfall
María Méndez	Argentina	Spain	Effects of increased environmental stress on coastal biodiversity
Cristhian Asto	Peru	France	Glider training for coastal monitoring in the Peruvian upwelling system

The report of the 2020 POGO-SCOR Fellowships can be accessed at: https://scor-int.org/wp-content/uploads/2021/10/POGO-SCOR-Fellowships_2021-report.pdf

NSF Travel Support for Developing Country Scientists

SCOR has received support from the U.S. National Science Foundation (NSF) since 1984 to provide funding for SCOR capacity development activities. Most of the funds are used for travel grants for scientific meetings, although a portion are used for SCOR's contribution to the POGO-SCOR Fellowship Program and the SCOR Visiting Scholars program. Travel grants are awarded to ocean students and scientists to enable them to attend international scientific meetings (see https://scor-int.org/wp-content/uploads/2020/03/Eligible_Countries-1April2020.pdf for list of eligible countries).

SCOR currently has two ongoing grants with NSF to support capacity development activities. Grant # 1724881 has a No-cost-extension until July 2022 because of the delays in meetings due to COVID-19, with a balance of ~\$17,000. Grant # 2027831 which was approved in 2020 is on its second year, however the full amount of US\$ 225,000 is available due to the lack of travel.

In pre-COVID-19 times, over the three-year grant, about 77% of the grant funds were devoted to supporting the travel of scientists from developing countries and countries with economies in transition to ocean science meetings. Requests from the meeting organizers were evaluated by the SCOR CCD with the selection process of the candidates (required to be from developing countries) run by the meeting organizers. The SCOR Executive Director checks the names of proposed recipients to ensure they are from eligible countries and have not received similar support from SCOR for the past two years. Priority is given to applicants who are presenting a paper or poster at the meeting or to those who have some special expertise or regional knowledge to bring to a workshop or working group. Preference is also given to younger scientists. In general, care is taken to ensure that the recipients of SCOR/NSF funds are *active* scientists, and that they have not received similar support from SCOR in the previous two years.

Requests come in throughout the year and the SCOR CCD considers new requests between SCOR Annual Meetings.

Of the requests approved between the 2019 and 2020 SCOR Annual Meetings (see table below), only the 5th World Conference on Marine Biodiversity used some of the funding to support registrations for 21 participants from developing countries. The rest of the meetings were either cancelled or postponed. SCOR has had the policy of extending the approved amount to a postponed date.

Name of Event	Dates	Location	Suggested Amount
5th World Conference on Marine Biodiversity (WCMB 2020)	13-16 December 2020	Auckland, New Zealand	\$5000
COSPAR Assembly	28 Jan.-4 Feb. 2021	Sydney, Australia	\$3000
15th Pan Ocean Remote Sensing Conference (PORSEC) and Capacity Building Tutorial	2021	Johor Bahru, Malaysia	\$3000
WG 150 Summer School	Before April 2021	South Africa	\$5000
14th International Conference on Copepoda	6-12 June 2021	Kruger National Park, South Africa	\$3000
IMBeR CLIMECO 7	9-13 August 2021	Vancouver, B.C., Canada	\$7500
International Conference on Harmful Algae	Fall 2021	La Paz, Mexico	\$5000
Gordon Research Conference and Seminar on Ocean Global Change Biology	2021 or 2022	Waterville Valley, USA	\$3000
		Total requested	\$34,500

In 2021, the SCOR CCD approved the following requests:

#	Name of event / Organizer	Dates	Location	Suggested amount (US\$)
1	Iron at the air-sea interface workshop / GEOTRACES-SOLAS	26-30 July 2021	Asheville, NC, USA	3,500
2	South West Indian GEOTRACES section (SWINGS) / GEOTRACES	11 January – 8 March 2021	On board R/V Marion-Dufresne	2,900
3	Small Pelagic Fish: New Frontiers in Science for Sustainable Management / Joint PICES-ICES	21-25 February 2022	Lisbon, Portugal	5,000
4	2021 SOLAS International Summer School / SOLAS	7-18 June 2021	Mindelo, Cape Verde	10,000
5	WG 155 EBUS - Summer School 'Changes in coastal upwelling systems and their impact on marine resources'	Last trimester 2021	Dakar, Senegal	5,000
			TOTAL	\$26,400

Of these, only request #2 to participate in the GEOTRACES SWINGS cruise was completed.

Research Camps at University of Namibia

The 2020 Research Camp was initially postponed from April to December 2020, and then to 2021 because of the pandemic. However, since the conditions for travel in 2021 had not improved, the online series “Discovery Seminars” was organized by the Namibian Research Graduate Network in Oceanography (RGNO). The Namibian RGNO is an international capacity-development and collaboration-promoting project promoted by SCOR. It is executed in partnership between Namibian and international research and training institutions. RGNO's research-based postgraduate programs offer hands-on experience at sea as well as study sections and labwork on land.

The Namibian RGNO aims to contribute to the development of young researchers by promoting international teamwork in research topics relevant to the Benguela Upwelling Ecosystem and its responses to global change challenges. The RGNO-Academy Discovery Seminars took place every Monday (except when it fell on a holiday) during the Namibian spring semester 2021 at 3pm CAT (GMT+2 = Namibian time). This program is supported through grants from the Agouron Institute and the Simons Foundation.

Publications

Urban, E., and Seeyave, S. (2021). Visiting Scientists Provide Capacity Development: Lessons Learned by POGO and SCOR. *Oceanography*, 34. doi:10.5670/oceanog.2021.306.

Miloslavich et al. (In press). Developing Capacity for Ocean Science and Technology. In: Ittekkot, V. and E. Urban (eds). *Blue Economy: An Ocean Science Perspective*. Non-Aligned Movement Science and Technology Centre (NAM S&T), Allied Publishers.