
**Submission of a proposal for
hosting a Regional Training and Research Center (RTRC)**

for the
IOC Regional Network of Training & Research Centers on Marine Science
in the Western Pacific and Adjacent Areas

**A. Summary
(Cover Page)**

- 1. Title of the proposed RTRC:**
Regional Training and Research Center on Coastal Contaminant Monitoring and Marine Innovative Technologies (RTRC-Coastal COMMIT)
- 2. Expected starting date:**
1 May 2023
- 3. Duration* (3-5 years):**
5 years (2023-2027)
- 4. Detailed domain(s) or discipline(s) of the proposed RTRC:**
Chemical contaminants monitoring
Phycotoxin producing algal species monitoring
Underwater survey technology
- 5. Name of host institution(s):**
City University of Hong Kong (CityU)
- 6. Person(s) in charge of the “RTRC”**
Prof. Kenneth Mei Yee Leung
- 7. Partners (if available)**
- 8. Total budget (US\$):**
Est. US\$ 1,200,000 (both in cash and in kind)
- 9. Funding sources (In cash and in kind)**

In cash

- State Key Laboratory of Marine Pollution (SKLMP), CityU, Hong Kong SAR: Est. US\$ 200,000

In kind

- Our members and staff of SKLMP will serve as trainers and speakers at training workshops. Administrative staff of SKLMP will help with the operation of the RTRC in the first 1-2 years, until we secure funding to support a full-time staff for the RTRC. In total, the estimated in-kind contribution would be US\$1 million.

10. Summary (150 words)

Marine pollution is a global challenge and is likely to be exacerbated, posing significant threats to our marine biodiversity and natural resources, as well as blue economy and sustainability. Marine environments of the Western Pacific region are exceptionally biologically diverse and rich with vibrant and important marine habitats (e.g., coral reefs, sea grass beds, wetlands, and mangroves). However, these habitats are facing anthropogenic stresses wrought by population growth, coastal development, overharvest, and pollution. Regional cooperation through integrative environmental policy and advances in relevant science and technology is required to address such unprecedented challenges. Therefore, the RTRC-Coastal COMMIT proposed by SKLMP-CityU will provide timely support to the region by providing high quality and professional trainings and strengthening capacity building on innovative technology for chemical contaminants monitoring, phycotoxin producing algal species monitoring and underwater monitoring. The center will also serve as a node for data and information exchange, regional networking and collaboration hub.

B. Detailed Description

1. Title of the proposed RTRC:

Regional Training and Research Center on Coastal Contaminant Monitoring and Marine Innovative Technologies (RTRC-Coastal COMMIT)

2. Domain(s) or discipline(s)

(Please indicate how the domain or discipline chosen is directly related to one or more of the following priorities for (i) national development, (ii) regional development, (iii) global agenda - sustainable development, climate change, natural hazard, marine biodiversity, health of ocean ecosystems and seafood safety. The approved IOC Medium-term Strategy (2014-2021) could also serve as a critical point of reference.)

The proposed Regional Training and Research Center on Coastal Contaminant Monitoring and Marine Innovative Technologies (RTRC-Coastal COMMIT) aims to meet the needs of the WESTPAC region for ensuring ecological safety, and thereby protecting essential marine habitats and conserving biodiversity and natural resources therein. State Key Laboratory of Marine Pollution (SKLMP) in City University of Hong Kong (CityU) will assist countries, particularly the developing nations, in the WESTPAC region and its adjacent areas, in building their research capacity in coastal contaminant monitoring through knowledge exchange and technology transfer. The key focal areas include chemical contaminants monitoring, phycotoxin producing algal species monitoring and underwater survey technology. Hopefully, our joint efforts will be able to catalyze advancements in detection, assessment, and control of chemical pollution that will eventually lead to cleaner and healthier marine environments in the WESTPAC region. SKLMP is currently leading the Global Estuaries Monitoring (GEM) Program (www.globalestuaries.org) which is an approved Decade Action Program under the UN Decade of Ocean Science for Sustainable Development (2021-2030). In the GEM Program, we will gather together researchers from over 100 coastal cities to use the same standardized methods for sampling and monitoring of priority pollutants in estuaries, share the results, and co-design solutions to reduce pollution, with a view to making the estuaries cleaner and safer for all. The GEM Program has been supported by CityU and the National Marine Environmental Monitoring Center of China.

SKLMP (<https://www.cityu.edu.hk/sklmp>), approved by the Ministry of Science and Technology of China in 2009 and formally established at CityU in 2010, focuses on marine pollution issues and conducts cutting-edge scientific research pertaining to detection, assessment, prevention, mitigation, control, and remediation of anthropogenic impacts on marine environments and associated living resources. Since marine pollution research is such a multidisciplinary and large-scale undertaking, successful inter-institutional collaboration is the solid foundation for us to become one of the national leading research hubs in China and the driving force for sustainable development. SKLMP has assembled over 70 core members from eight local universities (City University of Hong Kong, Hong Kong Baptist University, Chinese University of Hong Kong, Hong Kong Polytechnic University, Hong Kong University of Science and Technology, the University of Hong Kong, Education University of Hong Kong, and Hong Kong Metropolitan University) to work closely on marine environmental problems induced by chemical contaminants, eutrophication, hypoxia, biotoxins, pathogens, etc. Members among the collaborating universities also share their equipment and complement one another in different disciplines. Up to now, SKLMP has established four research platforms (1) Trace and Ultratrace Level Instrumental Analysis Platform; (2) Aquatic Ecotoxicology Research Platform; (3) Cell Biology and Molecular Biology Research Platform and (4) Field-based Integrated Research Platform to support multidiscipline research among members.



The missions of SKLMP are to (1) protect marine environments of Hong Kong, South China and Asia-Pacific region through high quality multidisciplinary research and innovations relevant to pollution monitoring and control, environmental risk assessment, ecosystem responses to stressors, and ecological restoration, (2) build capacity by nurturing and training environmental scientists, managers, and entrepreneurs in the region, and (3) support the Hong Kong SAR Government and the Chinese Central Government in the management of environmental quality and protection of marine ecosystems. SKLMP is also keen to play a leading role in knowledge exchange and technology transfer. We became a member of the Partners in Environmental Management for the Seas of East Asia (PEMSEA) Network of Learning Centers and designation as a PEMSEA Regional Center of Excellence in Marine Pollution in September 2023. With the joint venture and support from the Ocean University of China, we have a strong team and an array of experts in leading the RTRC-Coastal COMMIT for enhancing the capacity building in the WESTPAC region.

Here, we can take a virtual tour of SKLMP:

<https://my.matterport.com/show/?m=XZqfGGzncCW>

3. Context and justification (300 words)

(Analyze trends and issues related to the theme of the proposed Center, and the strengths of the host institution in the training and research of proposed themes)

Nowadays, mankind faces severe challenges posed by major environmental changes. Globally, marine pollution problems are likely to be exacerbated due to the projected increase of chemical production (see “*The Invisible Wave: Getting to Zero Chemical Pollution in the ocean*” at <https://backtoblueinitiative.com/marine-chemical-pollution-the-invisible-wave/>), and chemical pollution poses significant threats to our ecological systems, public health, socioeconomic growth, and sustainability.

Contaminants of emerging concern (CECs) include synthetic and naturally occurring chemicals and microorganisms, like pharmaceuticals, personal care products, plasticizers (phthalate esters), per- and poly-fluoroalkyl substances, flame-retardants (organophosphate esters), liquified crystal monomers and toxic algal species, that are not commonly monitored in the environment but have potential to enter the marine environment and cause known or suspected adverse ecological and human health effects. These contaminants are often persistent, bio-accumulative, and toxic. Most of them exist ubiquitously in various

environmental matrices such as air, surface water, sediment/soil, and biota. With the industrialization and urbanization in the WESTPAC region, CECs and their replacements have affected the health of habitats and ecosystems for decades.

Work at the SKLMP has focused on (1) the development of analytical methods to study the occurrence, distribution, transport, and fate of CECs in marine ecosystems, (2) examination of their biological effects on marine organisms and humans, (3) risk assessment of CECs on the marine environmental and human health, (4) innovation of novel technologies to monitor marine biodiversity and ecosystem health, and (5) investigation of practical and effective ways for ecosystem restoration. Up until now, the SKLMP has (a) developed a series of cost-effective technologies for the early detection, assessment, prediction, and control of marine pollution, (b) studied changes in marine ecosystems in response to anthropogenic stressors, and (c) provided relevant scientific information vital for monitoring, assessing, preventing, and mitigating pollution in the marine environment.

Over the past decade, SKLMP has created a conducive environment for supporting scientific research and innovation, and for nurturing environmental scientists and managers. Through enhancing research standards and its innovation capability, SKLMP has also made important contributions to the management of environmental quality and protection of marine ecosystems in mainland China and Hong Kong. Based on the research on environmental monitoring technology, marine ecosystem, and risk assessment, we have developed valuable and practical methods for environmental pollution remediation, provided support for formulating standards (e.g., water quality criteria; standard methods for CECs monitoring, toxic algal species monitoring and underwater habitat mapping), and disseminated marine science knowledge to the society.

4. Objectives:

The objectives of IOC Regional Training and Research Center on Coastal Contaminant Monitoring and Marine Innovative Technologies (RTRC-Coastal COMMIT) in Hong Kong are:

- 1) To understand the current situation of chemical contaminants and lipophilic phycotoxin producing algal species as a threat to marine ecosystems and human health;
- 2) To enhance the capacity of the WESTPAC region, particularly in developing countries, for the detection, identification, quantification, and risk assessment of chemical contaminants and lipophilic phycotoxin producing algal species, as well as the marine ecosystem monitoring through professional trainings and knowledge exchange endeavors;
- 3) To promote regional inter-institutional multidisciplinary research collaboration on chemical contaminants and lipophilic phycotoxin producing algal species among WESTPAC scientists, institutions and countries (for example, engaging researchers in the region to take part in and support the Global Estuaries Monitoring Program – an endorsed UN Ocean Decade Action Program);
- 4) To enhance the awareness of marine environment protection and facilitate the sustainable use of marine resources and healthy development of the marine industry, and
- 5) To help propose regulatory measures to protect marine environments of the WESTPAC region.

5. Type of activity (several types of activities can be included):

Short-term training [✓]

International workshops, seminars...	.....	[√]
Joint research	.....	[√]
Visiting professorships	.....	[√]
Postgraduate teaching program	.....	[√]
Scholarships	.....	[ ]
Institutional development	.....	[√]

(Including strengthening of information/library services, laboratories, etc.)

6. Target beneficiaries:

Students	.....	[√]
Academics	.....	[√]
Technical Officers	.....	[√]
Other (please specify)	.....	[ ]

7. Expected output / results:

(Clearly identified- both quantitative and qualitative)

- ✓ Provision of research protocols and training on the instrumental analysis and toxicity assessment of CECs (pharmaceuticals, personal care products, plasticizers (phthalate esters), per- and poly-fluoroalkyl substances, flame-retardants (organophosphate esters), liquified crystal monomers and toxic algal species) which are hot issues related to human and ecosystem safety in most of member states in the WESTPAC region.
- ✓ Demonstration and provision of protocols for ecological investigation and assessment of marine biodiversity and ecosystem health using innovative underwater technologies.
- ✓ Recommendations of appropriate management measures and monitoring protocols to governments for enhancing future regional environmental protection and conservation management.
- ✓ Strengthening the regional network and capacity building for knowledge exchange, data sharing, technology transfer and research collaboration in the field of pollution assessment and monitoring.

8. Implementation Strategy – How the RTRC will be run?

a. management

The RTRC-Coastal COMMIT is non-profit-making and self-sustaining. The center will be built based on the platform of SKLMP with the existing staff and facilities. The center will be led by the SKLMP Director who will chart out the overall direction of the training and research activities, allocate funding, and monitor the progress. Staff with different expertise will work closely as a coherent team to conduct regular training and joint research. To ensure the highest quality work within the RTRC-Coastal COMMIT, an Advisory Committee will be set up to review our work, assess the local relevance of the training program, seek cooperation with other research institutes and resolve any problems that may arise. Necessary modifications will be made for future work according to the feedback of the Advisory Committee.

b. capacity building

The proposed RTRC- Coastal COMMIT is built on many years of successful collaboration among SKLMP members of eight local universities in Hong Kong. The mixing of expertise and members from different institutions will guarantee full utilization of complementary expertise, cross fertilization, and an exceptionally high level of synergy. As before, the collaborating institutes will share facilities and manpower to provide first-class training in various research and management aspects to build capacity and cultivate regional communities which comprise of government officials, environmental professionals, and young scientists. Furthermore, the proposed RTRC-Coastal COMMIT will develop cooperation with world class scientists and institutions in the WESTPAC region, while strengthening previous and existing national and international networks. As anticipated, the IOC/UNESCO will also lend its support by sending other experts or trainers from WESTPAC countries and training materials for training courses and assisting in setting up seminars and research programs.

c. sustainability

- i. linkages with other relevant activities at institutional, national, regional and international levels

The SKLMP has been proactively organizing and supporting a number of international academic conferences and regional training courses on topics related to marine pollution. Hence, a good network has already been established in the region. Through regional trainings, the proposed RTRC- Coastal COMMIT will be able to produce competent environmental professionals working at the forefront of marine pollution research to meet future demands in the region. The proposed RTRC-Coastal COMMIT will continue to liaise and consult with a view to establishing an academic and technology exchange platform for professionals and scientists within and outside the region to work together on projects of common interests in a self-driven approach.

- ii. how benefits will be sustained?

City University of Hong Kong and the Innovation and Technology Commission of the Hong Kong SAR provide annual funding support to the SKLMP for the laboratory's operational expenses. It ensures a steady flow of funds for maintaining and continuing the proposed training and research work. Through regular trainings and research activities, new partnerships and opportunities will be developed to address the critical challenges to marine pollution and initiate policy advocacies in the region. The proposed center will also promote training courses, collaboration opportunities and research excellence through the center's website and social media which will be established by SKLMP as well as the website and social media platforms of SKLMP.

d. knowledge sharing

Our existing team members have exceptional experience in nurturing young researchers. The entire process will be participatory, the skills and knowledge gained by the participants will be transferable and replicable. Therefore, member states can apply knowledge, methodology, and experience to their own research and other related issues. Furthermore, by organising collaborative regional/international research projects, data can be shared, exchanged, and published together based on the principle of voluntariness.

9. Proposed schedule of major activities (annual work plans over the duration):
*(There should be a clear link between the activities and the objectives to be achieved.
 The schedule should show activities, timing and expected outcomes)*

	Year	Proposed Activities	Date and Venue	Specific objectives	Expected Outputs (Tangible products)	Expected Outcomes
1	2023	Training workshop on “analytical method for per- and poly-fluoroalkyl substances (PFAS) characterization and quantification”	One week in July 2023, CityU, HK	To strengthen capacity for chemical contaminants monitoring using advanced methods.	- Practical protocol of the quantitative analysis for PFAS - 5-10 trained persons who can work on PFAS using advanced analytical instrument.	Enhance the capacity on characterization and quantification of PFAS in the region.
2	2024	Training workshop on “Underwater survey technology for coral ecosystem”	One week in July 2024, CityU, HK	To strengthen capacity for coral ecosystem monitoring using innovative underwater survey technology.	- Underwater survey practical protocol for coral ecosystem. - 5-10 trained persons who can take underwater survey using advanced technology.	Enhance the capacity on coral reef restoration and conservation
3	2025	Training workshop on “Standard protocol and methods for sampling and analysing active pharmaceutical ingredients”	One week in July 2025, CityU, HK	To strengthen the understanding of the occurrence and environmental risks of pharmaceuticals.	-Practical methods to sample, extract and quantify the active pharmaceutical ingredients in seawater samples. -5-10 trained persons who can carry out well controlled experiments using standard protocols.	Enhance the capacity for global estuaries monitoring, allow a fair and scientifically sound comparison of the results across different study sites worldwide.

4	2026	Training workshop on “environmental risk assessment”	One week in July 2026, CityU, HK	To introduce the fundamental concept and best practices in environmental risk assessment and management of chemical contaminants, and the frontier technologies in monitoring and assessment of marine pollution.	-Practical methods for environmental risk assessment. -10 trained persons who can use basic risk assessment tools for environmental risk management.	Enhance the capacity on employing modern approaches in pollution assessment and management in environmental policy formulation and decision making.
5	2027	Training workshop on “sampling, isolation, culturing, and identification of lipophilic phycotoxin producing algal species”	One week in July 2027, CityU, HK	To strengthen capacity for benthic toxic algae sampling and identification and enhance the public awareness on the ecological risk of the phycotoxin producing algal species.	- Standard protocols for sampling, isolation, culturing, and identification of benthic toxic algae. - 5-10 trained persons who can take algae samples, work on algae culture, and do basic algae identification.	Enhance the understanding of the occurrence, distribution and phycotoxin producing ability of benthic toxic algae in the coastal coral ecosystems.

10. Partnerships / Networking

(This initiative encourages partnerships (North-South, South-South) among National Oceanographic Institutes, Universities, NGOs, Private Sectors, etc.)

SKLMP is a consortium of eight partner universities (City University of Hong Kong, Hong Kong Baptist University, Chinese University of Hong Kong, Hong Kong Polytechnic University, Hong Kong University of Science and Technology, the University of Hong Kong, Education University of Hong Kong, and Hong Kong Metropolitan University) in Hong Kong. The proposed RTRC-Coastal COMMIT will also make efforts to develop network and partnerships with major marine laboratories and environmental institutes in Asia-Pacific region.

11. Funding of the proposed RTRC in support of its activities

- 1 Total budget – Full details – categories of expenditure, etc.
Total estimated budget is around US\$1.2 million, including staffing, equipment and facilities, workshop organization, etc. in which US\$200,000 would be in cash for supporting travelling of teachers and organization of training workshops.

Budget categories	Amount (US\$)	Remarks
Staffing	200,000	One research staff and one clerical staff are required to oversee the daily operation of the newly established center and to provide administrative and research support to the relevant activities.
Equipment and facilities	100,000	Use of equipment and facilities for chemical or molecular analysis
Workshop organization	300,000	One workshop per year
Overseas travel (for supporting teachers and research exchange)	500,000	
Consumables	100,000	Materials for education and communication
Total	1,200,000	

- 2 Contribution of your institution
- Budgetary provision (in US\$)
 - In cash: State Key Laboratory in Marine Pollution (SKLMP), CityU, will set aside a budget of US\$ 200,000 to support the RTRC, and will seek other sources of funding to support and sustain the training and research activities of the center.
 - In kind services: Our members and staff of SKLMP will serve as trainers and speakers at training workshops. Administrative staff of SKLMP will help with the operation of the RTRC in the first 1-2 years, until we secure funding to support a full-time staff for the RTRC. In total, the estimated in-kind contribution would be US\$1 million.
- 3 Extra-budgetary resources to be mobilized (Please refer to the total project budget under 11.1 and indicate items for which you will mobilize extra-budgetary resources)

Potential funding sources:

- Ocean University of China
- Institute of Oceanology, Chinese Academy of Sciences
- First Institute of Oceanography, Ministry of Natural Resources
- Second Institute of Oceanography, Ministry of Natural Resources
- Forth Institute of Oceanography, Ministry of Natural Resources
- South China Sea Institute of Oceanology, Chinese Academy of Sciences
- National Marine Environmental Monitoring Center of China
- Sun Yat-sen University

12. Support

- **Institutional**

Please note that the proposal should be presented by the head or his/her representative of the host institution.

Professor Kenneth Mei-yee LEUNG, Director of SKLMP fully supports the establishment of the RTRC-Coastal COMMIT and will provide the funding support as proposed in Section 11.

- **IOC and IOC Sub-Commission for the Western Pacific**

Involvement of the Regional Office, Institute and Centers in your region is important for the processing of the project proposal.

IOC and IOC Sub-Commission will co-organize these regular trainings and workshops, including the development of training announcement, selection of trainees with the host institute, assistance in the identification of regional and international lecturers, and fundraising from various financial sources.

- **National IOC Committee**

National IOC Committee plays a vital role in the initiative and should be a partner in the national discussions on the proposal for a UNESCO-IOC Regional Training and Research Center. National IOC Committee supports for the establishment of the UNESCO-IOC Regional Training and Research Center.

- **Others**

Some of the training and research activities will be co-organized with the UN Decade of Ocean Science platform, such as those led by the Global Estuaries Monitoring (GEM) Program and the Regional Training and Research Center on Marine Toxins and Seafood Safety (RTRC-MTSS) of Institute of Oceanography, VAST, Vietnam.

13. Evaluation and reporting

Following the end of each fiscal year, an evaluation report will be published and distributed to the UNESCO/IOC, participants, and other interested institutions to share the lessons learnt from the RTRC-Coastal COMMIT activities.

14. Visibility

Please indicate how the activities of the project will be given visibility – websites, brochures, publications, etc.

- A dedicated website will be developed for the RTRC-Coastal COMMIT which provides the most up to date information about the forthcoming activities and past activities as well as the center's annual reports and calls for research collaboration etc.;
- We will develop accounts in major social media platforms including Facebook, Twitter, and WeChat where we will update people about events and opportunities.
- We will also produce brochures and posters regarding any programmes and activities organized by the RTRC-Coastal COMMIT ;

- We will broadcast the programmes and activities of RTRC-Coastal COMMIT on the center's website, SKLMP's website, and social media;
- We will publish and distribute annual report of RTRC-Coastal COMMIT via our website and email contacts;
- We will acknowledge both the RTRC-Coastal COMMIT and IOC-WESTPAC in scientific publications and reports which are developed by regional collaborations through the RTRC-Coastal COMMIT .

15. General

Please add any information relevant to the proposal which has not been covered by the above points.

- Advisory Board of RTRC-Coastal COMMIT :
 - IOC Sub-Commission for the Western Pacific (WESTPAC)
 - Chairman of National Committee of China for the UNESCO
 - Chairman of the SKLMP International Advisory Committee
 - Chairman of the SKLMP Academic Committee

- Organization structure of RTRC-Coastal COMMIT
 - Director of RTRC-Coastal COMMIT : Prof. Kenneth MY Leung
 - Programme Manager: Dr. Leo Lai Chan
 - Laboratory supporting staff: Dr. Jiajun Wu, Mr. Tsz Kin Lau, Mr. Yat Chi Chan

 - Office Secretary: Miss Man Wai Ng

SKLMP has a rich experience in hosting international conferences and workshops. Several trainings and workshops that have been carried out during 2011-2022:

	Conference Name	Form of Organization	No. of Participants	Type
2011	International Symposium on Toxicity Assessment (ISTA)	Co-Organizer	320	International
	International Conference on Deriving Environmental Quality Standards for the Protection of Aquatic Ecosystems (EQSPA-2011)	Co-Organizer	120	International
2012	The State Key Laboratory in Marine Pollution (SKLMP) Second Academic Committee Meeting	Organizer	50	Regional
	The Xiangjiang Forum Series: Mini-symposium on Benthic Dinoflagellates and Coral Reef Ecology	Organizer	60	Regional
	The Summer School on Emerging Environmental Problems and Risk Assessment 2012	Co-Organizer	80	Regional
2013	The 2012 State Key Laboratory in Marine Pollution (City University of Hong Kong) and the State Key Laboratory of Marine Environmental Science (MEL) (Xiamen University) Joint Annual Meeting	Organizer	220	Regional
	The 2 nd Xiangjiang Marine Forum-Underwater Observation Techniques & Methods	Organizer	70	Regional
	The 3 rd Xiangjiang Marine Forum-Ocean Oasis Brainstorming	Organizer	60	Regional
	The Inauguration of Shenzhen Marine Research and Technology Consortium (SMART)	Organizer	200	Regional
2014	The Fourth Academic Committee Meeting of the State Key Laboratory in Marine Pollution	Organizer	100	Regional
	The Fourth Xiangjiang Marine Forum-Workshop on Marine Algae	Organizer	80	Regional
	The First Brainstorming on Marine Visualization	Organizer	20	Regional
	International Diving Education and Application Symposium (IDEAS 2014)	Organizer	30	International
	The 11 th International Symposium on Persistent Toxic Substances (ISPTS)	Organizer	200	International
2015	SKLMP 2014 Annual and Academic Committee Meeting	Organizer	100	Regional
	International Diving Education and Application Symposium (IDEAS 2015)	Organizer	70	International
	International Conference on Underwater Science, Technology and Education (ICUSTE)	Organizer	150	International

2016	The SKLMP 2015 Annual and Academic Committee Meeting	Organizer	60	Regional
	The International Conference on Underwater Science, Technology and Education (ICUSTE) 2016	Organizer	70	International
	The Fifth Xiangjiang Marine Forum – The Sustainable Use and Conservation of Marine Biodiversity	Organizer	50	Regional
2017	The SKLMP 2016 Annual and Academic Committee Meeting	Organizer	60	Regional
	The International Conference on Underwater Science, Technology and Education (ICUSTE) 2017	Organizer	35	International
	The Croucher Advanced Study Institute on Impacts of Eutrophication, Pollution and Harmful Benthic Microalgae Blooms on Coastal Coral Reef Ecosystems with Using the CISME Device and Molecular Techniques as Complimentary Research Tools	Organizer	35	Regional
2018	The Sino-Thai Ocean Cooperation Conference	Organizer	26	Regional
	The SKLMP 2017 Annual and Academic Committee Meeting	Organizer	60	Regional
	The "Seminar on Underwater Habitat Stereoscopic Surveying and Mapping Technology"	Organizer	29	Regional
	The First Scientific Dive Training	Co-Organizer	26	Regional
	The 2018 Summer School on Marine Environment and Fishery Resources under Global Change	Co-Organizer	47	International
	Scientific Diving Training and Benthic Algae Separation Classification Course of Intergovernmental Oceanographic Commission (IOC) - Sub-Commission for the Western Pacific (WESTPAC)	Co-Organizer	35	International
2019	The SKLMP 2018 Annual and Academic Committee Meeting	Organizer	60	Regional
	The 9 th International Conference on Marine Pollution and Ecotoxicology (ICMPE-9)	Co-Organizer	303	International
	NSFC-RGC Young Scholars Forum on Frontiers in Ecology and Environmental Science and Green Development	Co-Organizer	60	Regional
	The Seminar on Underwater In-situ Collection and Cultivation of Marine Microorganisms	Organizer	14	Regional
2020	The Symposium on the Health Protection of the Ocean and Its High-quality Sustainable Development cum 1st Forum of Qingdao Hong Kong Marine Environment and Ecology Joint Research	Co-Organizer	260	Regional

	Centre for Young Scientists and Postgraduates			
2021	East Asian Sea Congress 1. Training Session on Pollution Assessment and Management (PAM) 2. A Symposium on Recent Advances in Marine Environmental Research	Co-Organizer	100	International
2022	The 3 rd International Workshop on Eco-shoreline Designs for Sustainable Coastal Development	Organizer	150	International
2022	The 2 nd International Conference on Biodiversity, Ecology and Conservation of Marine Ecosystems (BECoME-2022)	Organizer	300	International

