



Agenda 8.o

Assessment of the City University of Hong Kong's SKLMP Proposal for a Regional Training and Research Center on Coastal Contaminants Monitoring and Marine Innovative Technologies (Coastal-COMMIT)

Gil Jacinto and Wenxi Zhu



Fourteenth Intergovernmental Session of the IOC Sub-Commission for the Western Pacific
4-7 April 2023, Jakarta, Indonesia




Assessment Criteria


- Relevance
- Compliance with RTRC proposal guidelines
- Institution's capacity, experience and expertise
- Nature and quality of organization's organizational arrangements
- Proposed human and financial resources
- Quality and extent of the institution's collaboration network
- Inclusivity

Relevance of the institution's programs and activities in meeting the needs of Member States in the region and achieving the UN's sustainable development goals.

具影響力的研究 Impactful Research

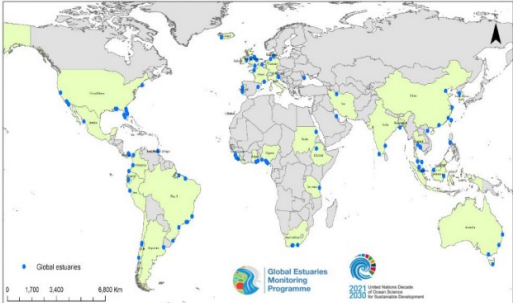


SKLMP
海洋污染國家重點實驗室



UN-endorsed Global Estuaries Monitoring (GEM) Programme

聯合國認可的「全球河口監測計劃」




GEM is an action programme under the UN Decade of Ocean Science for Sustainable Development (2021-2030) to collate the joint efforts of global scientists to collect environmental samples for analysis, prioritize contaminants for management, and eventually develop solutions to combat pollution problems for creating cleaner estuaries. So far, GEM has recruited over 80 collaborators to cover 116 estuaries in 46 countries across the six major continents.


全球河口監測計劃是聯合國「海洋科學促進可持續發展十年」(2021-2030)下的一項行動計劃，旨在集合全球科學家的共同努力，收集環境樣本進行分析，確立污染物的優先管理，並最終制定解決方案以應對污染問題，以創造更清潔的河口。到目前為止，GEM已經招募了80多名合作者，覆蓋六大洲46個國家的116個河口。

Prof. Kenneth LEUNG, Alistair BOXALL, Bryan BROOKS, Martina DOBLIN, Yuan SHEN & Juying WANG


Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN




国家海洋环境监测中心
NATIONAL MARINE ENVIRONMENTAL MONITORING CENTER



生態安全與環境風險評估 Eco-safety and Environmental Risk Assessment



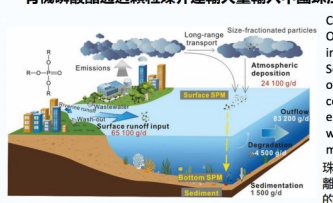
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Research Highlights

Significant input of organophosphate esters through particle-mediated transport into the Pearl River Estuary, China

有機磷酸酯通過顆粒媒介運輸大量輸入中國珠江口



Concentrations of atmospheric particulate OPEs showed a decreasing trend with increasing offshore distance in the PRE. Sediment in the region close to Modaomen outlet was subject to relatively high OPE concentrations. The input and environmental fate of particulate OPEs were dependent on sources, particulate media, and chemical species.

珠江口大氣顆粒物OPEs的濃度隨著離岸距離的增加呈下降趨勢。磨刀門出口附近區域的沉積物則具有相對較高的OPE濃度。顆粒態OPE的輸入和環境歸宿取決於其來源、顆粒媒介和化學形態。


Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN

Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN


Publication: Lao, J.Y., Wu, R.B., Cui, Y.S., Zhou, S.W., Ruan, Y.F., Leung, K.M.Y., Wu, J.X., Zeng, E.Y., Lam, P.K.S. (2022). Significant input of organophosphate esters through particle-mediated transport into the Pearl River Estuary, China. *Journal of Hazardous Materials* 438, 129486. (impact factor 14.224)

Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN

生態安全與環境風險評估 Eco-safety and Environmental Risk Assessment



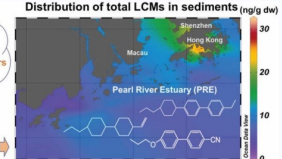
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Research Highlights

Widespread occurrence of emerging E-waste contaminants – Liquid crystal monomers in sediments of the Pearl River Estuary, China

泛濫的新興電子廢棄物——中國珠江口沉積物中的液晶單體化合物



We found that contamination of LCMs in marine sediment in PRD was widespread. The highest concentrations were found nearby the sewage outfalls of the Stonecutters Island Sewage Treatment Works. Sewage treatment probably fails to remove all LCMs, resulting in contamination of inshore waters.

液我們發現珠江三角海洋沉積物中LCM的污染很普遍。在昂船洲污水處理廠的排水口附近發現的濃度最高。污水處理可能無法去除所有LCMs，導致近岸水域受到污染。

Dr. Henry HE, Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN

Dr. Henry HE, Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN

Publication: Tao, D.Y., Jin, Q.Q., Ruan, Y.F., Zhang, K., Jin, L.J., Zhan, Y.T., Su, G.Y., Wu, J.X., Leung, K.M.Y., Lam, P.K.S., He, Y.H. (2022). Widespread Occurrence of Emerging E-Waste Contaminants-Liquid Crystal Monomers in Sediments of the Pearl River Estuary, China. *Journal of Hazardous Materials* 437, 129377. (impact factor 14.224)

Dr. Henry HE, Prof. Paul LAM, Prof. Kenneth LEUNG, Dr. Phoebe RUAN

生態安全與環境風險評估 Eco-safety and Environmental Risk Assessment



SKLMP
海洋污染國家重點實驗室



Research Highlights

Pharmaceutical pollution of the world's rivers

全球河流的藥物污染



The study monitored 1,052 sampling sites along 258 rivers in 104 countries of all continents, thus representing the pharmaceutical fingerprint of 471 million people. We show that the presence of these contaminants in surface water poses a threat to environmental and human health in more than a quarter of the studied locations globally.

我們研究展示了全球河流藥物污染調查的結果。這項研究監測了各大洲 104 個國家 258 條河流沿岸的 1,052 個採樣點，代表了 4.71 億人的藥物指紋。研究表明，在全球超過四分之一的研究地點，地表水中存在的這些污染物對環境和人類健康構成了威脅。

Dr. Racliffe LAI & Prof. Kenneth LEUNG

Dr. Racliffe LAI & Prof. Kenneth LEUNG

Publication: Wilkinson, J.L., Boxall, A.B.A., Kolpin, D.W., Leung, K.M.Y., Lai, R.W.S., Galban-Malagon, C., et al., (2022). Pharmaceutical Pollution of the World's Rivers. *PNAS* 119, 2113947119. (impact factor 12.779)

Dr. Racliffe LAI & Prof. Kenneth LEUNG

Compliance of the proposal with the guidelines for a Regional Training and Research Center on Ocean Science and Ocean Decade Implementation Plan.

- Proposal submitted in May 2022
- Preliminary review in July 2022
- Proposal revised in September 2022
- Reviewed by the WESTPAC AG in October 2022
- Revised in November 2022 - Jan 2023
- Site visit and assessment made in early March 2023.
- Proposal found consistent and aligned with RTRC on Ocean Science guidelines



Institution's capacity, experience, and expertise at the regional or global level in relation to the proposed scope of work.



數字十年

Numbers in 10 Years

After 10 years of effort, finally we have...

十年來的努力 我們取得成果...

20

Top 1% Scientists

*Prof. Keith Ho & Prof. Tong Zhang have been recognised as the "Highly Cited Researchers"

*Data Source: Essential Science Indicators (ESI), Clarivate Analytics

首1%科學家

*何詒基教授及張彤教授獲譽為「高被引學者」

*數據來源：科睿暹安基本科學指標



295

Talents Nurtured

人才培育

*including Mphil and PhD

*包括哲學碩士及博士生

62

SKLMP Members

實驗室成員

60

Awards 獎項



7

Patents 專利

12

Highly Cited Papers

*Data Source: Web of Science (As of March 2021)

高引用率論文

*數據來源：Web of Science (截至2021年3月)

321

Projects

*including research and consultant projects

項目

*包括研究及顧問項目



700

SCI Papers Published

學術文章刊登

542 Million HKD

Grants Received

*including research grants and consultancy services

獲得資助金額

*包括研究資助及顧問服務費



27 Million HKD

Funding Provided by SKLMP

實驗室資助金額

4 of them are also Highly Cited Researchers

研究水平與貢獻

Research Performance and Contribution

獎項與讚譽

Awards and Recognitions

19 SKLMP Members Ranked as World's Top 2% Most Cited Scientists

19名SKLMP成員被評為全球前2%頂尖科學家

Nineteen SKLMP members ranked as World's Top 2% Scientists - 2021

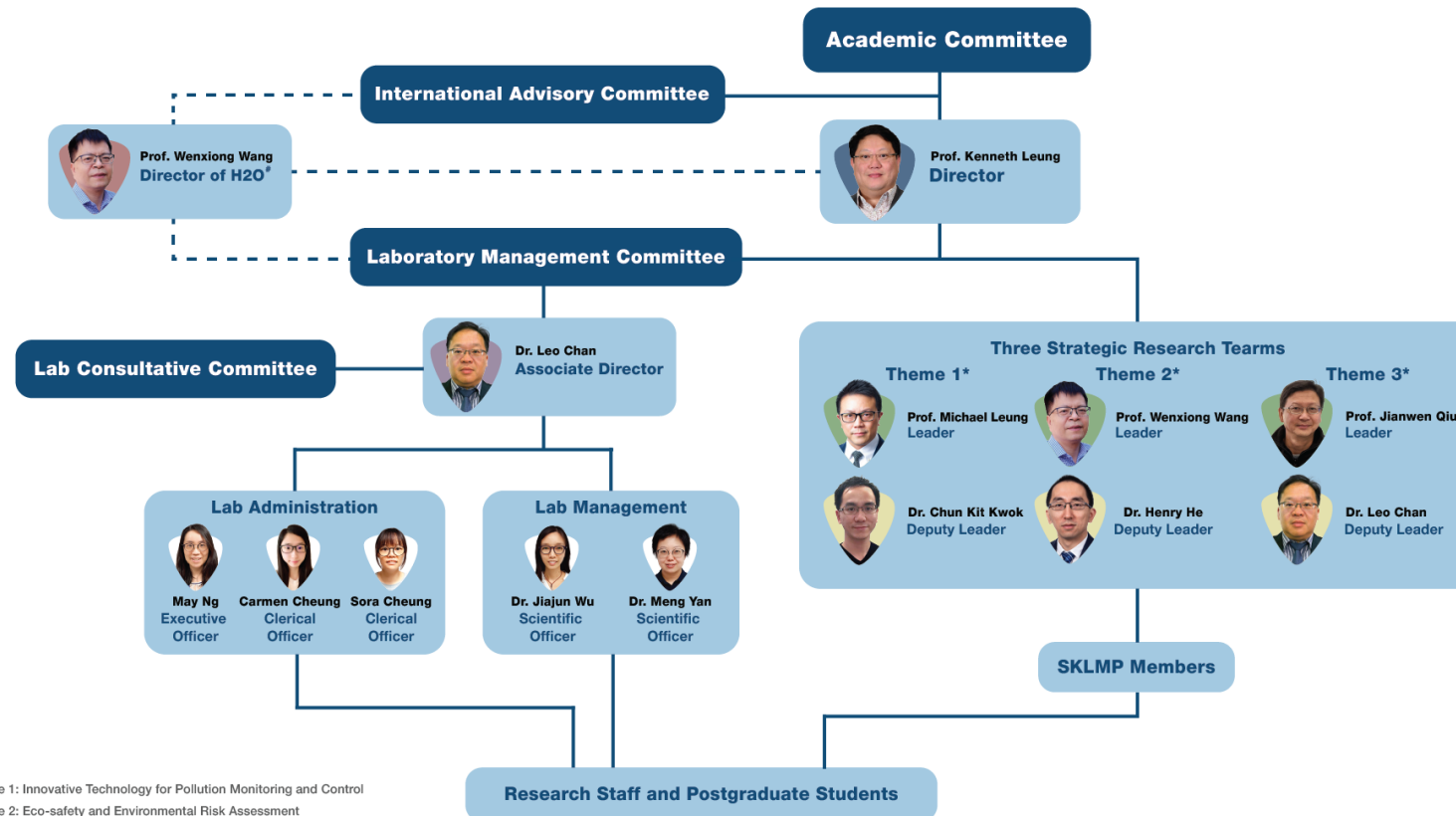



Source: Elsevier BV, Stanford University

19 members of SKLMP have been listed among the World's Top 2% Most Cited Scientists by Stanford University in 2022. Based on Scopus database, this global ranking is considered the most prestigious, reflecting the global academic influence of scientists.

SKLMP的19位成員在2022年被美國史丹福大學列為世界前2%頂尖科學家。根據Scopus數據庫中包含的文獻計量信息等指標，該排名被認為是全球最有聲望的排名，展示了科學家們的全球學術影響力。

Nature and quality of the institution's organizational arrangements, including management, governance, and accountability mechanisms, as well as those proposed for the operation of the RTRC



*Theme 1: Innovative Technology for Pollution Monitoring and Control
 *Theme 2: Eco-safety and Environmental Risk Assessment
 *Theme 3: Ecosystem Responses and Ecological Restoration
 *H2O: Research Centre for the Oceans and Human Health

Proposed human and financial resources for the RTRC, along with the quality of mechanisms and capacities to ensure sustainable institutional capacity and viability

 **研究水平與貢獻**
Research Performance and Contribution

外部研究資助
External Research Grants

Funding Scheme 研究資助類型

01 Hong Kong Grants 香港科研資助

Research Grants Council (RGC)
研資局

Government Contract Research (GCR)
政府合同研究

Environment and Conservation Fund (ECF)
環境及自然保育基金

Innovation and Technology Commission (ITC)
創新科技署

02 Mainland China Grants 內地科研資助

National Natural Science Foundation of China
國家自然科學基金委員會

National Key Research and Development Program
of China, Ministry of Science and Technology
科技部國家重點研發計劃

Shenzhen Science and Technology Innovation
Commission
深圳市科技創新委員會

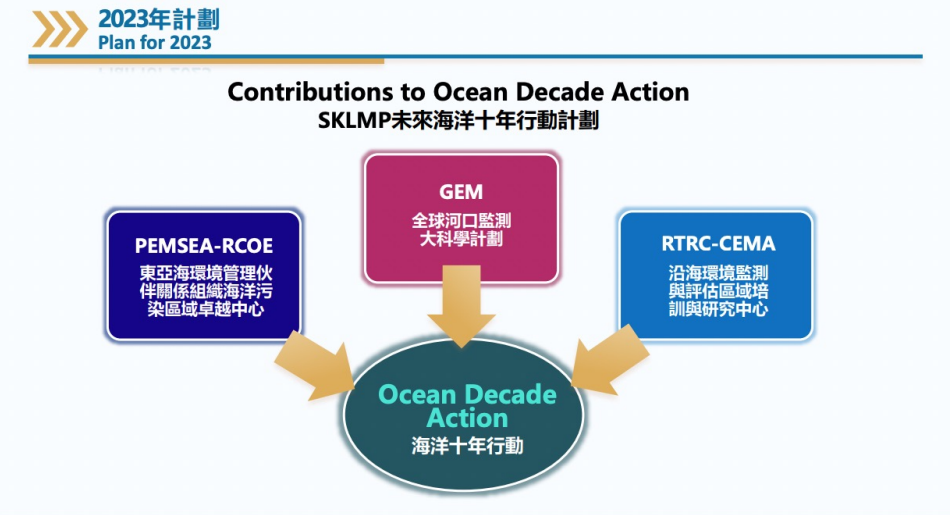
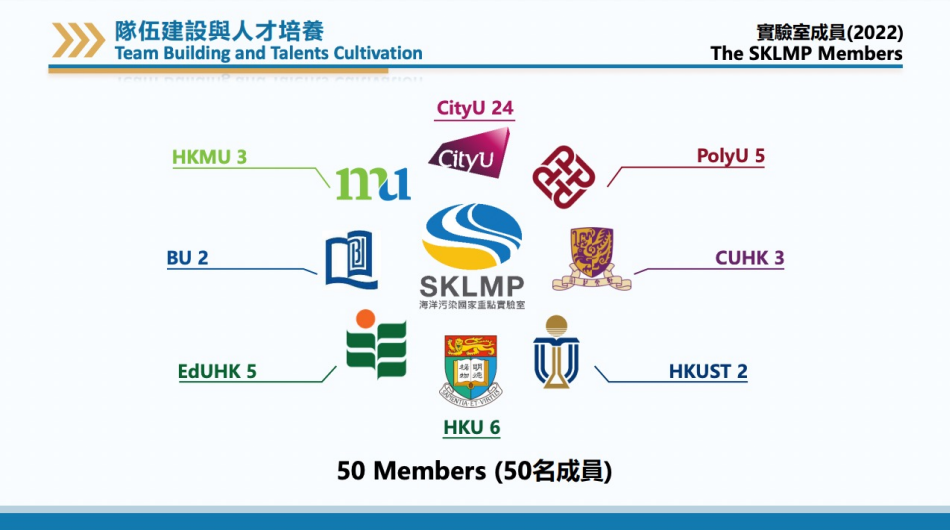
03 Grants from the Non-governmental Organizations 非政府機構基金

SKLMP commits significant funding per year to support RTRC activities in addition to contributions in kind (e.g., staff time, laboratory equipment and field resources, etc.)

Quality and extent of the institution's collaboration networks with relevant stakeholders for the proposed RTRC

SKLMP Leads A Ten-Year "Global Estuaries Monitoring (GEM) Programme, Endorsed By United Nations

08 Jun 2021



Inclusive and promotes linguistic, geographic, gender, and age balance to make the RTRC more effective and relevant to different beneficiaries' regional and thematic needs

Coral Academy 2021

Posted 22 Aug 2022



"Secondary School Coral Nursery Education Programme"



SKLMP
海洋污染國家重點實驗室

Dr. Huiju LIN
Postdoc

My research aims to improve the understanding of behaviours and risks of emerging organic contaminants and to strengthen the protection of human health and the environment.

New SKLMP Members (Start from 1 Jan 2023): ~69 in total

 Peggy Lo, Asso Prof Biosensors	 Alex Wong, Asso Prof Pollutant Sensors		 Z.P. Luo, Asst Prof Organic Chemistry	 Z.P. Luo, Asst Prof Material Science	 W.L. Cai, Asst Prof Fish Health
 T.Y. Leung, Prof Fetal Abnormality	 Simon Lam, Prof Neonatology	 R. Chan, Asso Prof Virology/Influenza	 A. Leung, Asst Prof Allergy in Child		 S. Chen, Chair Prof AMR/Microbiomes
 P. Ho, Researcher Neurology		 J.Y. Li, Asst Prof Eutrophication	 Ding He, Asst Prof Biogeochemistry	 M. Tsui, Asso Prof Biogeochem./Hg	 M. Seymour, Asst Prof Environ. DNA
 J.C. Astudillo, Asst Prof Ecological Restoration					

Assessment

Criteria	Rating
a. Relevance of the institution's programs and activities in meeting the needs of Member States in the region and achieving the UN's sustainable development goals.	Excellent
b. Compliance of the proposal with the guidelines for a Regional Training and Research Center on Ocean Science and Ocean Decade Implementation Plan.	Excellent
c. Institution's capacity, experience, and expertise at the regional or global level in relation to the proposed scope of work.	Excellent
d. Nature and quality of the institution's organizational arrangements, including management, governance, and accountability mechanisms, as well as those proposed for the operation of the RTRC.	Excellent
e. Proposed human and financial resources for the RTRC, along with the quality of mechanisms and capacities to ensure sustainable institutional capacity and viability.	Excellent
f. Quality and extent of the institution's collaboration networks with relevant stakeholders for the proposed RTRC.	Excellent
g. Inclusive and promotes linguistic, geographic, gender, and age balance to make the RTRC more effective and relevant to different beneficiaries' regional and thematic needs.	Excellent ₁₀



Assessment and Recommendation

- CityU through the SKLMP is qualified to host the RTRC for Coastal Contaminants Monitoring and Marine Innovative Technologies (RTRC Coast COMMIT)
- The WESTPAC XIV meeting favorably consider and support CityU's application to host and run the RTRC Coast COMMIT