



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION OCÉANOGRAPHIQUE INTERGOUVERNEMENTALE
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ
اللجنة الدولية الحكومية لعلوم المحيطات
政府间海洋学委员会

UNESCO – 7 Place de Fontenoy - 75352 Paris Cedex 07 SP, France
<http://ioc.unesco.org> - fax: +33 (0)1 45 68 58 12 - contact phone: +33 (0)1 45 68 39 83/84
E-mail: v.ryabinin@unesco.org

IOC Circular Letter No
(English only)

IOC/VR/WZ
06 July 2017

- To** : Official National Coordinating Bodies for Liaison
with the IOC in the Western Pacific
- Cc** : Permanent Delegates/Observers Missions to UNESCO of IOC Member
States in Western Pacific;
National Commissions for UNESCO of IOC Member States in Western
Pacific IOC;
Other IOC Member States
IOC and WESTPAC Officers

Subject: **WESTPAC Training Workshop on Distribution, Source, Fate and
Impacts of Marine Microplastics in Asia and the Pacific, Phuket,
Thailand, 20-22 September 2017**

Action required: To nominate suitable experts to the Training Workshop, preferably no later
than **31 July 2017**

I am delighted to inform you that the WESTPAC Training Workshop on Distribution, Source, Fate and Impacts of Marine Microplastics (MPs) in Asia and the Pacific will take place in Phuket, Thailand, on 20-22 September 2017 with generous financial support of the Thai National Commission for UNESCO, and kind offer of the Phuket Marine Biological Center to host the training workshop.

As a newly established programme, the inception workshop aims to: (i) establish the MP research network among scientists, institutions and agencies in the region; (ii) identify knowledge gaps on microplastic pollution in the region; (iii) review and standardize MP field sampling and laboratory analyzing methods; (iv) initiate joint research plans for the distribution, source and fate of MPs in the region; and (v) discuss the feasibility of developing marine ecological risk assessment of MPs.

To this end, I encourage you to nominate one or two scientists, particular those who are engaged in marine MPs related research and monitoring, and/or able to lead and carry out marine MP

Chairperson

Prof. Peter M. HAUGAN
Research Director II, Institute of Marine
Research/Geophysical Institute
University of Bergen
P.O. Box 1870 Nordnes
5817 Bergen
NORWAY

Executive Secretary

Dr Vladimir RYABININ
Intergovernmental Oceanographic
Commission — UNESCO
7 Place de Fontenoy
75352 Paris Cedex 07 SP
FRANCE

Vice-Chairpersons

Ms Monika BREUCH-MORITZ
President
Federal Maritime and Hydrographic
Agency (BSH)
Bernhard-Nocht-Str. 78
20359 Hamburg
GERMANY

Dr Alexander POSTNOV
Deputy Director
State Oceanographic Institute
ROSHYDROMET
6, Kropotkinsky Lane
119034 Moscow
RUSSIAN FEDERATION

Mr Ariel Hernan TROISI
Head, Oceanography Department
Navy Hydrographic Service
Av. Montes de Oca 2124
C1270ABV Buenos Aires
ARGENTINA

Dr Somkiat KHOKIATTIWONG
Marine Biodiversity Research Specialist
Department of Marine and Coastal
Resources
Government Compact B
Changwattana Road
Laksi
12010 Bangkok
THAILAND

Dr Ashley S. JOHNSON
Director, Oceans Research
Department of Environmental
Affairs
Foretrust Building
Martin Hammerschlagt Way
Foreshore
SW Cape 8012 Cape Town
SOUTH AFRICA

research and monitoring in their countries. To facilitate your nomination, the concept document of the training workshop and the application form to be filled in are attached hereafter.

Given the limited financial resources available, a joint committee will be established for the selection of most suitable participants that would be provided with financial support. Updated information on the training workshop will be made available, in due course, at the WESTPAC website (<http://iocwestpac.org>).

I would appreciate your assistance in providing detail of suitable experts from your country by sending application forms duly completed to Ms Orathai Pongruktham at the WESTPAC Office (o.pongruktham@unesco.org), with a copy to Ms Nachapa Saransuth (n.saransuth@unesco.org) and Mr Daoji Li (daoji@sklec.ecnu.edu.cn), before **31 July 2017**.

I would take this opportunity to thank you once again for your continued cooperation.

Yours sincerely,

Vladimir Ryabinin
Executive Secretary

Enclosures (2):

- I. Concept Paper on “WESTPAC Training Workshop on Distribution, Source, Fate and Impacts of Marine Microplastics in Asia and the Pacific”
- II. Application Form

ANNEX I

CONCEPT PAPER

WESTPAC TRAINING WORKSHOP ON DISTRIBUTION, SOURCE, FATE AND IMPACTS OF MARINE MICROPLASTICS IN ASIA AND THE PACIFIC

(v.2, 4 July 2017)

Justification

Since its industry manufacture in the mid-20th century, annual global plastic production has increased exponentially, reaching 322 million metric tons in 2015 (Plastic Europe 2016). As a result of deliberate dispose and accidental release, 10% of all plastic will end up as wastes in the marine environments (Jambeck et al. 2015). By 2050, it is expected to be more plastics than fish (by weight) in the oceans (Neufeld et al. 2016). Plastic marine debris (PMD) contamination is thought to be capable of posing a planetary boundary threat (Jahnke et al. 2017).

Microplastics (MPs), which had a diameter of <5 mm (Thompson et al. 2004; Arthur et al. 2009), may originate from weathered remnants of larger plastic waste (secondary MPs) and engineered micron-sized plastic products (primary MPs), such as plastic nurdles, cosmetics and cleaning agents, and industrial shot-blasting abrasive. MPs are causing global-scale exposure and had been recovered throughout the world's oceans from the Arctic to the Antarctic (Sul et al. 2013; Cózar et al. 2014; Obbard et al. 2014); from the sea surface and shoreline down to the seafloor (Cauwenberghe et al. 2013; Fischer et al. 2014; Woodall et al. 2014; Zhao et al. 2017).

Due to its ubiquitous nature and minute size, MPs are available for the uptake by various organisms in the marine environments. The consumption of plastic particles by marine biota can cause sublethal physical injury, input and accumulate the virulence of pathogens, chemical contaminants (containing both chemical additives and reversibly orbbed water borne-pollutants), potentially pass these toxicities to the upper trophic levels (including humans) (Rochman et al. 2013; Zettler et al. 2013; Rochman 2015; Mincer et al. 2016). To date, many mechanisms by which MPs interact with individual organisms and render adverse impacts have been identified in the laboratory dose-response experiments (Rochman et al. 2016).

Nevertheless, the deleterious effects of MPs on population, community and ecosystem level upon the ecotoxicological studies at environmentally realistic concentrations are still poorly understood (Rochman et al. 2016; Sussarellu et al. 2016). Risk assessments of ecological impacts in nature associated with plastic hazards is of critical importance to help decision-maker improve legislation to mitigate PMD accumulation (Rochman 2016; Rochman et al. 2016).

Marine MP concentrations have been proved to be statistically and positively correlated with population density and proportion of urban/suburban development (Yonkos et al. 2014; Zhao et al. 2015). The East Asia is one of the most populous regions in the world. Approximately 75% of the population in the East Asian region, which is close to 2 billion people, lives in the coastal areas. The region has experienced rapid population growth with economic development in coastal areas, putting pressure on coastal and marine ecosystems. The region is also known for one of the world's highest concentration of shipping and fishing vessels activities. The ongoing rate of urban and industrial development along the coastlines in the region suggests that marine litter will continue to be a major problem in marine pollution. Asian coastlines have been considered as one of the major contributions to the largest mass of plastic marine debris in the North Pacific Ocean (Jambeck et al. 2015).

Considering the status of marine MP pollution in the Western Pacific, the IOC Sub-Commission for the Western Pacific (WESTPAC) established, at its 11th Session (21-23 April 2017, Qingdao, China), a regional programme with a view to assisting its Member States to comprehensively understand the distribution, source, fate and effects of marine MPs in the Western Pacific and provide scientific guidance for remediation measures. Meanwhile, standardized and internationally accepted sampling and analyzing procedures to compare spatiotemporal MP pollution across marine environments, shall be considered.

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Training Workshop Objectives

The first training workshop aims to

- establish a marine MP monitoring and research network among scientists, institutions, and agencies in the region;
- share existing MP monitoring and research approaches, learn from each other and further develop regional capability of research and monitoring on marine MPs in the region;
- identify challenges and gaps in monitoring and assessing the impacts of MPs on marine ecosystems;
- discuss the possibility of developing a joint-monitoring plan on the distribution and concentration of MPs, and a shared ecological risk assessment model for MPs in the region.

Based on outputs of this training workshop, the second regional training workshop, supposed to be organized about 6-10 months later, will aim to: (i) recommend the most efficient, robust, and cost-effective monitoring approaches for MP investigation in this region; (ii) map gaps in current capabilities and select pilot study areas for the application of the identified approaches; (iii) construct a joint-monitoring plan for the occurrence and abundance of MPs; (iv) identify assessment indicators of MP ecological risk and impacts on marine ecosystem in the region.

The third training workshop, one year after the second one, will be convened to assess and refine monitoring approaches and compare the collected data, provide solutions to any technical problems incurred, and come up with a roadmap for the future.

Tentative Programme for the First Training Workshop

The first training workshop will take place in Phuket, Thailand, 20-22 September 2017. The training workshop would comprise plenary and breakout sessions.

During plenary sessions, invited keynote presentations will be given about marine MP research, including the status of marine MP distributions in global and regional, known potential impacts on marine organisms and ecosystems; global programmes on marine MP research and monitoring efforts; and present practices of ecological risk assessment on marine MPs to marine ecosystems. National experts nominated and/or identified from each country will be invited to provide reports on research and monitoring efforts on the effects of marine MPs on marine organism and Ecosystems, or related activities, in their respective countries.

The participants will break into several groups (probably by sub-regions) to have detailed discussions about gaps, challenges, and opportunities to initiate a cooperative regional network to monitor and conduct research on the impacts of marine MPs on marine ecosystems.

Qualification of Invited Experts

Preferably one or two scientists who have experience in conducting marine MP related research and monitoring, and are able to lead and carry out marine MP research and monitoring in their countries will be invited from each country.

ANNEX II

WESTPAC TRAINING WORKSHOP ON DISTRIBUTION, SOURCE, FATE AND IMPACTS OF MARINE MICROPLASTICS IN ASIA AND THE PACIFIC

Phuket, Thailand, 20-22 September 2017

APPLICATION FORM

The Government of proposes the nomination of the following trainee to participate in the training workshop.

First name	<input type="checkbox"/> Dr / <input type="checkbox"/> Mr / <input type="checkbox"/> Ms
Family name	
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Nationality	
Date of birth	
Education level	<input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> PhD Graduated from: Major: Supervisor/Advisor:
Job title	
Affiliation	
Years of experience in current job	
Address	
Tel. number(s)	
Fax number(s)	
Email(s)	
Contact person, in case of emergency	
Dietary Restriction	<input type="checkbox"/> None <input type="checkbox"/> No pork <input type="checkbox"/> No beef <input type="checkbox"/> Bachelor <input type="checkbox"/> Other, please specify
Major and/or Research Area	
Previous Training Courses/Workshops attended and related to this training course	<input type="checkbox"/> No <input type="checkbox"/> Yes, please specify the workshop titles: (a) (b)

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Self-descriptions and brief statement of research activities that is linked to this training workshop, and related publication if any (**This part is crucial for qualifying, so separate pages could be annexed to this form**)

Please provide with name and E-mail address of two referees whom can be contacted to support your application

Referee #1	Name	
	Job title	
	Affiliation	
	Email	
	Tel	
Referee #2	Name	
	Job title	
	Affiliation	
	Email	
	Tel	

Financial assistance

I could cover my expense.

I would apply for the financial assistance.

Fully (including round trip airfare, accommodation);

On airfare in the amount of US\$_____

On accommodation.

Date:

 (Signature of Head/Director of the Institution)

Please return the completed form with your CV (with a 2-inch photo), by fax or e-mail to the following addresses before **31 July 2017**:

Ms Orathai Pongruktham
 IOC Sub-Commission for the Western Pacific (WESTPAC)
 Intergovernmental Oceanographic Commission of UNESCO
 Fax: +66 2 143 9245; E-mail: o.pongruktham@unesco.org

With a copy to:

Ms Nachapa Saransuth
 IOC Sub-Commission for the Western Pacific (WESTPAC)
 Intergovernmental Oceanographic Commission of UNESCO
 Fax: +66 2 143 9245; E-mail: n.saransuth@unesco.org

and

Mr Daoji Li
 Institute of the Estuarine and Coastal Research
 East China Normal University
 E-mail: daoji@sklec.ecnu.edu.cn