

Training programme on “Microplastics in Marine Environment – analysis, mitigation and management”

Scheduled dates

**Phase I: 7th to 9th October 2023 &
Phase II: 10th to 12th November 2023**

Registration form for Training* Phase –I / Phase II

***Strike off whichever is not relevant**

1. Name (Dr./Mr./Ms.): _____
 2. Date of Birth: _____ M/F: _____
 3. Designation: _____
 4. Department/Institute: _____
 5. Educational Qualifications: _____
 6. Teaching/research area: _____

 7. Address for Communication: _____

- WhatsApp mobile Number _____
- E-mail: _____
8. Whether you have attended any training programmed in Microplastics earlier: _____
 9. State briefly how the present training will benefit you in the field of your teaching/research:

Date:
Place:

Signature of the candidate

**Signature of forwarding authority
Principal/Head/Research director**

*(A photocopy of the form may also be used)

Important Information

Application Deadline:

Phase – I: 2nd October 2023,
Phase – II: 30th October 2023.

Intimation of selection: Phase-I: 4th October, 2023

Phase-II: 4th November, 2023

(Selection of candidates will be based on qualifications, Teaching, research and work experience and informed through E-mail.)

Maximum intake of trainees for each phase is limited to 25 only.

No TA, DA and accommodation will be provided.

Working lunch will be provided.

Venue

**Conference hall, New Building
Department of Marine Living Resources,
Andhra University, Visakhapatnam, India.**

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Organized by

Dept. of Marine Living Resources
Andhra University
Visakhapatnam – 530 003
Andhra Pradesh, India

Sponsored by



European Commission and Erasmus

Training programme on: Microplastics in Marine Environment – analysis, mitigation and management.

About microplastics: In the past few decades, microplastics and nanoplastics have emerged as a global challenge due to an increase in worldwide plastic pollution rate with approximately 51 trillion microplastic particles (UN News, n.d.) being reportedly present in the ocean which is affecting the environment and biota adversely (Nguyen et al., 2019).

Microplastics are solid plastic particles of size ≤ 5 mm which are insoluble (Bergmann et al., 2015) in the aqueous environment. Plastic materials are added to the environment and made as microplastics by the action of environmental parameters on the plastic items. But some industries release small plastic items into the aquatic environment through sewage

Based on their source of origin microplastics are divided into primary and secondary microplastics. Primary microplastics are manufactured intentionally by industries for cosmetics purposes whereas secondary microplastics occur due to weathering/degradation of plastic residues in the environment by wave action, growth of bio-film, solar exposure, mechanical shear, and thermal oxidation. Continuous degradation of primary and secondary microplastics bring changes in their properties like color, the morphology of surface, size, crystallinity and density.

These changes affect their chemical and physical behavior and have an impact on environments and organisms. The presence of microplastics have not only been found in soil, water, and air sources but

also marine organisms, salt, beer, and very recently in bottled drinking water globally and also in the human blood. Microplastic on exposure may be accumulated and deposited in human tissue and body parts and can alter the immune system or may cause some other clinical complications.

In lower trophic level organisms, microplastics resemble prey because of their minute size, due to which these organisms get confused and they capture it and consume it, and be transferred to the higher trophic levels thus making its bioavailability in the food web. For example, microplastics get transferred from algae to zooplanktons then to fish. The resemblance of microplastic residues as prey for zooplankton as a feed is due to their color.

Leaching chemicals from plastic additives and monomers have the ability to trigger endocrine disruption and carcinogenesis. Microplastics are also adsorbed to other particulate materials from their nearby environment as they have an increased surface to volume ratio and minute size. These microplastics accumulate in the terrestrial solids beach sediments and also in the marine sediments of the seafloor and make the sediments loose and subject to erosion reducing the binding capacity between the sediment grains. These microplastics in the soil and sediments, reduces the ground water recharge, arresting the downward percolation of rain water thus affecting the ground water recharge.

This training program is being organized with an objective of giving knowledge about the microplastics in the aquatic environment, their effects on the environment and organisms and

management strategies. Hands on sessions will be given on sampling and analysis of microplastics in water, sediment and biota using quality assured methods. The training program will cover the following aspects

1. Aquatic pollution
2. Solid waste dumping
3. Microplastics
4. Mitigation measures and Management strategies
5. Hands on session on the analysis of microplastics in water, sediment and biota (fish)

Scheduled dates:

Phase-I: 7th to 9th October 2023 &

Phase-II: 10th to 12th November 2023.

Venue: Conference hall, Department of Marine Living Resources, Andhra University, Visakhapatnam, India.

Who are eligible to apply: Research scholars of all Universities and young scientists from research organizations, teachers/lectures of junior colleges and degree colleges, Officers of municipalities/NGO

Last date of receipt of applications:

Phase - I: 02/10/2023 &

Phase - II: 30/10/2023.

Filled in applications with CV mentioning the **phase** should be sent to

Prof. P. Janakiram

Principal Investigator

EC's-Eco Marine Project

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