

Registration

No Registration fee. First come first serve basis. Selected participants will receive a confirmation email. Participants are requested to register through the link below or scan the QR code.

<https://forms.gle/vfj6i1j5arhEG3m69>



Participants

Participants includes School students, College students, Research Scholars, and Women Self-help groups.

Date and Venue

Training cum Awareness Programme will be held on **20th March 2024** at **Pavendhar Illam, Bharathidasan University, Palkalaiperur Campus, Tiruchirappalli, Tamil Nadu.**

For further information and Contacts

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**Training cum Awareness Programme
on**

INTEGRATED RECIRCULATING MARINE AQUAPONICS (IRMA-2024)

20th March 2024



Organized by

SCHOOL OF MARINE SCIENCES

**BHARATHIDASAN UNIVERSITY
TIRUCHIRAPPALLI – 620024**

Sponsored by

**Tamil Nadu State Council for
Higher Education**

Govt. of Tamil Nadu, Chennai-600005

Preamble

In pursuit of sustainable aqua-agriculture practices and the conservation of environment, we are proud to announce the commencement of the Training cum Awareness Programme on “INTEGRATED RECIRCULATING MARINE AQUAPONICS (IRMA-2024)”. This innovative initiative aims to foster knowledge exchange, promote environmental stewardship, and empower communities with the transformative potential of integrated aquaponics systems.

Against the backdrop of escalating environmental challenges and the pressing need for resource-efficient food production methods, IRMA-2024 stands as a beacon of hope, offering a holistic approach to aquaculture that harmonizes with nature. By synergizing the principles of aquaculture and hydroponics, this program promises to revolutionize the way we cultivate the fish and plant crops, enhance food security, and mitigate ecological impact.

As we embark on this journey towards sustainability, IRMA-2024 endeavours to equip participants with the practical skills, theoretical knowledge, and ethical principles essential for the successful implementation of integrated recirculating marine aquaponics systems. Moreover, IRMA-2024 seeks to raise awareness about the importance of entrepreneurship development in aqua-agriculture, responsible resource management, biodiversity conservation, and the preservation of fragile marine ecosystems. By fostering a culture of environmental consciousness and stewardship, we aspire to inspire a new generation of leaders committed to safeguarding our ecosystems and promoting sustainable development.

In this context, the school of Marine Sciences, Bharathidasan university, Trichy- 620 024 is organizing one day programme entitled “**INTEGRATED RECIRCULATING MARINE AQUAPONICS (IRMA-2024)**” sponsored by Tamilnadu State Council for Higher Education, Government of Tamil Nadu, Chennai-600 005 to discuss various issues related to marine aquaponics technology and development.

About the University:

Bharathidasan University located in Tiruchirappalli, Tamil Nadu came into existence in 1982, and got its name after the great revolutionary Tamil Poet, Bharathidasan (1891-1964). The University motto is "We will create a brave new world" that has been framed from Bharathidasan's poetic words "புதியதோர் உலகம் செய்வோம்". The University endeavours to be true to such a vision by creating in the region a brave new world of academic innovation for social change. The University has 4 Faculties, 16 Schools, 37 Departments and 29 Specialized Research Centres. Around 151 programmes. are being offered to cater the needs of the students from different parts of the country and even from abroad. The University has been adjudged as one of the most reputed Universities in the country and is accredited with 'A+' Grade by the National Assessment and the Accreditation Council (NAAC). The institution continues to make rapid changes in various fields of higher education and research.

About the School of Marine Sciences:

The School of Marine Sciences encompasses the Department of Marine Science and Department of Marine Biotechnology.

The Department of Marine Science devours its virtuous starting from the year 2005 with prodigious exposure on different oceanographical research. The aim of the Department consists of providing inclusive knowledge to the students and researchers in the aspects of innumerable field of Oceanic Science with the contemporary progresses in worldwide. Research ongoing at this department in various fields includes Land-Ocean interaction, Seawater desalination, Microbial diversity and pollution, Heavy metal pollution, Marine Biology, Marine Planktonology, Aquaculture Technology, Fisheries Science, DNA Barcoding of marine resources, Marine pollution, Marine bioactive compounds for pharmaceutical applications, Global warming and Climate change, Paleo Oceanography etc. National and International collaboration through authorized MoU with CSIR-NIO (National Institute of Oceanography) Goa and ZMT (Leibniz Centre for Tropical Marine Research) Bremen, Germany could sort the department to conserve research as advanced level.

The Department of Marine Biotechnology established in 2008-09, with the vision of the vast and potential marine source to be explored for new foods, pharma, neutra, cosmaceuticals and energy to meet out the needs. The mission of the department is creating an arena for biospecting of marine organisms through innovative teaching and research. Research programs are supported by UGC, DST, DBT, DAE, DoEn, DRDO, ICAR, Coir Board Govt, TANSCH, RUSA bodies. With the research grant support we have publications in peer reviewed journals with high impact factor. The Department's faculty members teach and perform research in the areas of Marine Biotechnology, Aquaculture, Bioactive molecules, Bioremediation, Biofuel, Biofertilizer, Genome wide hunt and Bioinformatics.

About the Programme:

Aquaponics is a sustainable food production system that combines aquaculture (the raising of aquatic animals) with hydroponics (cultivating plants in water). In this integrated system, the waste produced by the aquatic animals serves as nutrients for the plants, while the plants help to filter and purify the water for the animals.

Aquaponics uses significantly less water compared to traditional soil-based agriculture, as the water is recirculated within the system. Additionally, it is not involved requires minimal external inputs such as fertilizers, pesticides, and herbicides, making it a sustainable and environment friendly method of food production.

One of the key components of aquaponics is the biological filtration provided by beneficial bacteria. These bacteria convert the ammonia produced by fish waste into nitrites and then into nitrates, which are essential nutrients for plant growth. This natural filtration process helps to maintain water quality and creates a symbiotic relationship between the fish and plants.

Aquaponics systems can support a wide variety of crops, including leafy greens, herbs, tomatoes, cucumbers, and even some fruiting plants. The flexibility of aquaponics allows for the cultivation of diverse crops year-round, regardless of climate or soil conditions.

By reducing the need for synthetic fertilizers and minimizing water usage, aquaponics has numerous environmental benefits. Aquaponics systems can be scaled to fit various sizes and settings, from small-scale home systems to large commercial operations. This scalability makes aquaponics suitable for urban environments, remote communities, and areas with limited arable land and water offering a sustainable solution to food production challenges.

Aquaponics provides valuable opportunities for education, research, and community engagement. It can be used as a teaching tool in schools to educate students about biology, ecology, and sustainable agriculture. The proposed training is organized with the following contend:

1. Basic principles and components of Aquaponics - Hydroponics.
2. Construction and layout of Aquaponics - Hydroponics systems.
3. Working procedure of Aquaponics – Hydroponics.
4. Integrated Recirculation culture of fish and plants in Aquaponics and Hydroponics.