

## National Award in the field of Ocean Science & Technology

### Prof. T. Balasubramanian



Prof. T. Balasubramanian is a renowned Academician for more than four decades and made significant contributions for the growth of Marine Sciences in general and Marine Biology in particular; in teaching, research and extension, by serving at Center of Advanced Study in Marine Biology, Annamalai University since the year 1978. On successful completion of Post-Graduation in Marine Biology &

Oceanography during 1973-75, he served as Junior Research Fellow for three years and then became a Lecturer, Reader and as a Professor in 1994. Later, he assumed headship & was designated as Director of the Center in the year 2000. He made enormous efforts towards building the Institution and sketched the road map for greater academic activities. Application oriented and skill enabled novel academic programmes such as Coastal Aquaculture; Marine Bio-technology, Marine Microbiology, Marine Food Technology and Marine Pharmacology at Post Graduate level and Fisheries Science at graduate level, besides a novel & unique five integrated course on Ocean Science and Technology in collaboration with National Institute of Ocean Technology was introduced at CAS in Marine Biology, Annamalai University. The research contributions are essentially through sponsored research projects, initially from the University Grants Commission, Department of Science & Technology, Department of Ocean Development and Department of Environment & Forests.

Major contributions have been made for the Ministry of Earth Sciences under network projects on various aspects of Marine Biology and related fields. The initial contributions were towards preparing ground truth information in an integrated way for critical coastal habitats such as mangroves, coral reefs and biosphere reserves. Active participation have been made by participating for more than a decade and gathering baseline data for Tamil Nadu, Pondicherry and Andhra Pradesh coasts under the Coastal Pollution Monitoring and Prediction Programme of this Ministry, presently known as Seawater Quality Criteria. The major contributions include the season wise variations observed in the coastal water quality but also the early warnings observed by way of occurrence of epibionts, tumors and parasites in fishes and increased incidence of microbial pollution through E.coli, Vibrio spp. and Pseudomonas spp.

A major land mark was accomplished with the support of MOES towards establishing Ocean Science and Technology Cell during 1999 which was later

elevated as the Centre of Excellence in Marine Biology by this Ministry in the year 2004. Visible and skill oriented research contributions have been made by augmenting marine bio-resources through these programmes, which are both in house as well as inter institutional in nature. The major breakthrough is the breeding and rearing of endangered species such as sea horse and pipe fish in addition to sepia spp., star fish, sea snakes etc. Technologies have also been perfected towards fattening of lobsters, mud crab and seed production of shrimps. In order to offer additional and alternate lively hood options for coastal communities, culturing of sea-weeds in the estuaries & backwaters and breeding & rearing of marine ornamental fishes were also accomplished. This resulted in the development of a major programme for this Ministry in the Laccadive Islands. Altogether through ESTC activities, more than 60 major research projects have been successfully completed.

Promising bioactive molecules have been screened and isolated from the marine bio-resources and supplied to the designated laboratories of the Ministry under the Drug from the Sea project. Participation has also been made to investigate the impact of tsunami, coastal vulnerability mapping, green belt development etc.

Active participation and desirable results have also been contributed for the Tamilnadu coast towards identifying / validating / designating and disseminating the Potential Fishing Zone information for the Ministry through the INCOIS sponsored project on PFZ and SATCORE projects.

The aforementioned teaching, research and extension activities received greater attention of the authorities and elevated the Department Status to Faculty of Marine Sciences in the year 2010 and Prof. Balasubramanian became the founder Director and Dean.

Coordination made in other related areas such as marine biodiversity, taxonomy & capacity building, marine biotechnology, augmentation of the laboratory facility through DST (DST-FIST and PURSE) was achieved. The documentation of east coast biodiversity for the Ministry of Environment and Forests during 2000-2003 is a major contribution.

The collaboration established with SAC-ISRO on OCM\_II validation and MOP\_II programme yielded regional nitrate retrieval algorithm and the collaboration between our Center & NRSC-ISRO resulted in the climate change resilience of the coral reefs of Lakshadweep Island.

The expertise has also been utilized for generating coastal Environmental Impact Assessment for the benefit of infrastructural establishment along the coast and thus known to many Industries.

The support extended by the Ministry of Earth Sciences provided ample opportunity not only for organizing number of national events but also collaborating with other agencies, industries and institutions. The hall mark event is the prestigious conduct of Indian Science Congress in the year 2006, for which the General President was none other than Dr. Harsh Gupta, former Secretary of the Ministry.

Prof. Balasubramanian's individual contributions include research publications in leading National and International Journals (more than 150), besides, Human Resource Development in terms of 10 M.Phil and 25 PhDs and several post graduate students. The expertise gained during the four decades of academic life is being utilized to serve as Chairman / Member / Expert for various Ministries with the focus on Marine Biology.

In recognition of his outstanding contributions to marine biology, the Ministry of Earth Sciences honors Prof. T. Balasubramanian with "National Award in Ocean Science & Technology for the year 2014".