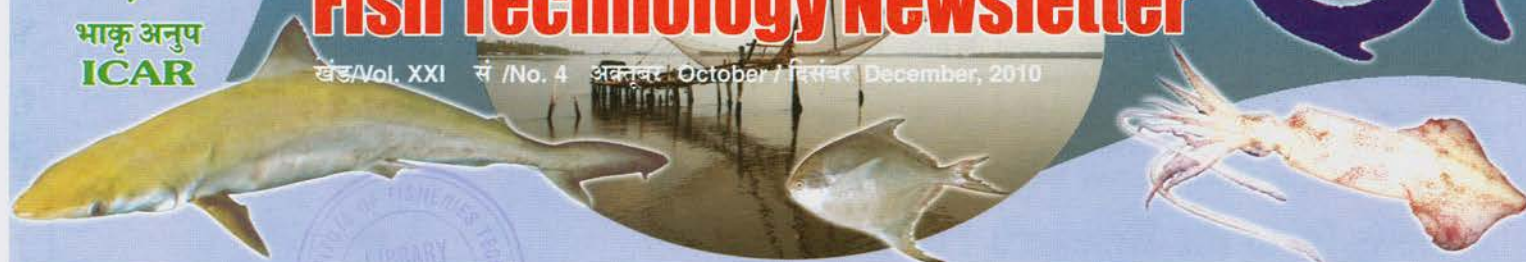




भारत अनुप
ICAR

मत्स्य प्रौद्योगिकी समाचार Fish Technology Newsletter

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Editorial Committee

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SOFTI Award 2009 presented to Dr. S. Ayyappan

Dr. S. Ayyappan, eminent scientist, policy maker and academician, Secretary to the Department of Agriculture Research and Education (DARE), Government of India and Director General of the Indian Council of Agricultural Research (ICAR), New Delhi, received the SOFTI Award 2009. Prof. V.N. Rajasekharan Pillai, Vice Chancellor, Indira Gandhi National Open University, New Delhi and Chairman, Distance Education Council, India handed over the biennial award consisting of a citation, a medallion and a cash component of ₹ 25,000/- to Dr. Ayyappan for his outstanding contribution to the field of fisheries in a simple function held at CIFT, Cochin on 26th November, 2010.

Dr. Ayyappan is the first fisheries scientist to adorn the coveted position of Director General of Indian Council of Agricultural Research, New Delhi and is the 9th recipient of the prestigious SOFTI Award. Dr. Ayyappan is a well accomplished fisheries scientist and his contributions to freshwater aquaculture, fisheries education and research, and fisheries development in India are well recognised. He has around 250 research publications to his credit in national and international journals. He is the recipient of several honours and awards of national and international importance. He has served and represented the country on the boards of international institutions/organizations such as



Dr. S. Ayyappan receiving the SOFTI Award 2009 from Prof. V.N. Rajasekharan Pillai. Others seen in the picture are (from left to right) Dr. T.K. Srinivasa Gopal, Shri A.J. Tharakan, Dr. B. Meenakumari, Dr. M.K. Mukundan, Dr. G. Syda Rao and Dr. T.V. Sankar

केन्द्रीय मात्स्यकी प्रौद्योगिकी संस्थान

सिफ्ट जंक्शन, मत्स्यपुरी पी.ओ., कोचिन - 682 029

Central Institute of Fisheries Technology

CIFT Junction, Matsyapuri P.O., Cochin - 682 029





Network for Aquaculture Centres in Asia-Pacific (NACA), Bangkok, Thailand and World Fish Centre, Penang, Malaysia. He is a Fellow of several National Scientific Academies including National Academy of Agricultural Sciences.

The Award Ceremony meeting held at CIFT was presided over by Dr. M.K. Mukundan, President, SOFTI. Prof. Rajasekharan Pillai in his address opined that for a country like India with a large coastal belt, and large population of coastal community, two aspects, ie. nutrition and basic education are the need of the hour. He also reiterated that

there is a need for enhancing the livelihood options of the people. The technologies emanating from research institutions should be made available to the common man. He also mentioned that complementarity of agricultural production and fisheries has to be sustained for a better livelihood option. Felicitations were offered by Shri A.J. Tharakan, Chariman, Amalgam Foods, Cochin, Dr. B. Meenakumari, Deputy Director General (Fisheries), ICAR, New Delhi and Dr. G. Syda Rao, Director, CMFRI, Cochin. Earlier Dr. T.K. Srinivasa Gopal, Director, CIFT welcomed the gathering. Dr. T.V. Sankar, Secretary, SOFTI proposed the vote of thanks.

News from the Research Front

Gill netting in Ganga lake

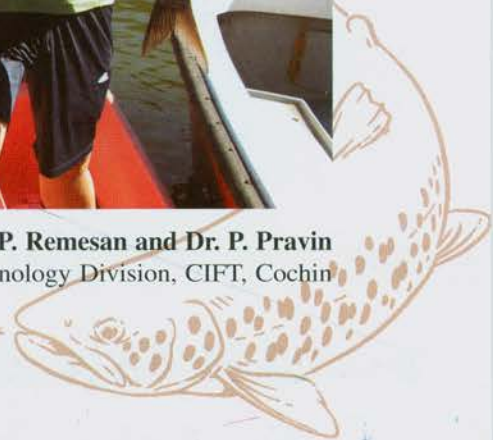
Experimental gill netting in Ganga lake, Itanagar was conducted using large mesh gill nets during 18-20 October, 2010. Trials were carried out using FRP canoes of OAL 5.5 m fabricated by CIFT. Polyamide multifilament gill nets of size 100 m x 8 m and 100 mm, 150 mm, 200 mm and 250 mm mesh size were used. Nets were set during late in the evening and were hauled at 10 pm and were again set. Next day all the nets were hauled before 6 am to avoid damage to the net by tourist boats in the lake. Silver carps, *Hypophthalmichthys molitrix* weighing up to 10 kg and *Catla catla* weighing up to 5 kg constituted the major share of catch.



The fishing trials in Ganga lake commenced in 2009 for the first time by CIFT, based on the request from the Directorate of Fisheries, Arunachal Pradesh, using nets having 100 mm mesh size. *Catla catla* and other carps weighing less than 5 kg dominated the catch. To catch bigger fishes, large mesh gill nets were fabricated and were successfully demonstrated in the present trial. The FRP sheathed *Poma* wood (*Dysoylum procetum*) canoes introduced in Ganga lake in 2007 under the ICAR Ad hoc project on Improved fishing craft and gear for NEH regions is appreciated by the fishermen mainly due to its low cost (₹ 2,200 per canoe) and appropriate overall dimensions for the lentic ecosystem. These craft and large mesh gill net combination is suitable for all other lakes in the NEH regions which are having carp resources and are currently under-exploited.



- Dr. M.P. Remesan and Dr. P. Pravin
Fishing Technology Division, CIFT, Cochin



Isolation of *Listeria monocytogenes* from fish and fishery environment of Cochin

The genus *Listeria* comprises of six species viz. *L. monocytogenes*, *L. innocua*, *L. ivanovii*, *L. welshmeri*, *L. grayi* and *L. seeligeri*. Amongst them, only *L. monocytogenes* is pathogenic to human beings and it causes abortion, encephalitis, gastroenteritis, arthritis, conjunctivitis, etc. Although *L. ivanovii* is a pathogen for animals, this species is not considered as a human pathogen. On the other hand, *L. innocua* is a non-pathogenic species of this genus, but it shares almost similar biochemical characters with the pathogenic species *L. monocytogenes*. In conventional method, the differentiation of *L. monocytogenes* and *L. innocua* is based on hemolysis test in which *L. monocytogenes* shows positive reaction. But the differentiation between these two species by hemolysis on blood agar is very often confusing because sometimes *L. innocua* shows false positive reaction particularly when the media contains sugar. However, these two species can easily be differentiated by multiplex PCR, which was previously standardized in the MFB Division of CIFT, Cochin.

In this Division, the fish samples as well as environmental samples have been regularly screened for the presence of *Listeria* spp. including *Listeria monocytogenes* using USDA-FSIS method with slight modifications. Briefly, 25 g of sample was macerated in UVM-I broth and after 24 hours 0.2 ml was transferred to Fraser's broth and was incubated at 37°C. At the same time, loopful of culture from UVM-I broth was streaked on *Listeria* selective agar (Oxford formulation) and PALCAM agar. After 24-48 hours of incubation, loopful of culture from Fraser's broth was also streaked on those selective agar i.e. *Listeria* selective agar (Oxford formulation) and PALCAM agar. Both Oxford and PALCAM agar were incubated at 37°C for 48 hours. The suspected colony of *Listeria* spp. (Tiny black colony with black halo and showing blackening of surrounding media) were picked up from both the selective agar media,

purified again on corresponding selective agar plate and were streaked on TSA agar slope for further use. Identification of the isolates was carried out both by conventional methods as well as multiplex PCR. In conventional methods, the isolates were subjected to different biochemical tests and β -hemolysis tests as mentioned in Bacteriological Analytical Manual (BAM) of United States Food and Drug Administration (USFDA). Multiplex PCR was done using boiling lysate of the isolates as template. The isolates were subjected to amplification using three sets of primers viz. *Listeria* genus specific primer, *L. monocytogenes* species specific primer and *L. innocua* species specific primer. *L. monocytogenes* was identified by the presence of 2 bands of 938 and 267 bp whereas, *L. innocua* was identified by presence of 2 bands of 938 and 749 bp (Fig. 1). In case of other *Listeria* spp., only one band of 938 bp was visible. Absence of any amplified product indicates the organism other than genus *Listeria*. The isolates were further confirmed by inoculation onto *Listeria* chromID Ottaviani Agosti agar (Biomareux). *Listeria monocytogenes* produced blue colony surrounded by a zone of opaque halo, whereas *L. innocua* produced blue colony without opaque halo (Fig. 2). After analyzing 276 samples including fish and environmental samples, over a period of four and an half hours, the presence of *L. monocytogenes* has

Table 1: *Listeria monocytogenes* in fish and fishery environment of Kerala

Sample	Number screened	<i>L. monocytogenes</i>
Marine finfish	104	1 (0.01 %)
Freshwater finfish	24	1 (4.1 %)
Prawn	30	0
Clam & Mussels	39	0
Fishery environments	56	1 (1.8 %)
Crab	23	0
Total	276	3 (1.09 %)

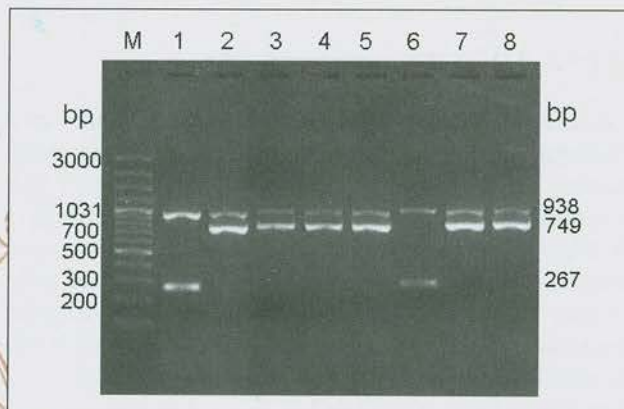


Fig. 1 Identification of isolates by multiplex PCR. Lane M: Generuler TM DNA ladder plus, Lane 1: *L. monocytogenes* NCTC 11994, Lane 2-5: *L. innocua* isolates, Lane 6: *L. monocytogenes* isolates from fish, Lane 7-8: *L. innocua* isolates

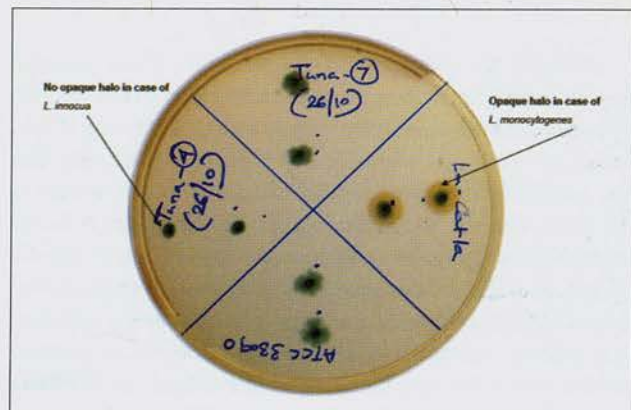


Fig. 2 Differentiation of *L. monocytogenes* and *L. innocua* on Chrom agar





been detected in three sample viz. one freshwater fish, one marine fish and one environmental sample (Ice) (Table 1).

This is the first isolation report of *Listeria mono-*

cytogenes from seafood and tropical fishery environment of Kerala. However, the incidence of *L. monocytogenes* was found to be low i.e. 1.09% (3 out of 276).

- Dr. Sanjoy Das and Dr. K.V. Lalitha

Microbiology, Fermentation and Biotechnology Division, CIFT, Cochin

High Performance Liquid Chromatography analysis of the root extract of *R. apiculata*

Mangroves are tropical and sub tropical swampy forests bordering the low lying coasts, river estuaries, deltas, backwaters and lagoons. They inhabit a very hostile habitat, different from that of marine and terrestrial plants and produce secondary metabolites. As many studies indicate, mangroves may be a rich source of novel compounds as also providing a new source for many already known biologically active compounds. Numerous mangrove plants are being used in folklore medicine and extracts from mangroves have proven activity against human, animal and plant pathogens but only limited investigations have been carried out to identify the metabolites responsible for their bioactivities. Increasingly, phenolics and flavonoids are becoming the subject of medical research. They have been reported to be present in several mangrove species and are known to possess many useful properties including anti-allergic, anti-inflammatory, antimicrobial, antiviral, antioxidant, oestrogenic, enzyme inhibitory, vascular and cytotoxic antitumour activity. Studies are underway in the Biochemistry & Nutrition Division of CIFT, Cochin in this regard. It has been established from several experiments that *Rhizophora apiculata* root is a rich source of flavonoids and phenolic compounds. Its antioxidant capacity as assayed by DPPH free radical scavenging assay has been quantified and is found to be comparable to that of standard Gallic acid, a phenolic compound. High Performance Liquid Chromatography analysis of the root extract of *R. apiculata* reveals the presence of three peaks corresponding to three

standard compounds (Rutin, Quercetin (flavonoids) and Gallic acid (phenolic compound)). The HPLC system (Shimadzu) equipped with a gradient pump, UV-Vis detector, and a Hypersil Column-C18, 250 x 4.6 mm, 5 mm particle size was used for analysis. Analysis was carried out in gradient mode with mobile phase A, 0.1% acetonitrile in



TLC image of the standards and *R. apiculata* extract. Lane 1: rutin, lane 2: quercetin, lane 3: gallic acid, lane 4: *R. apiculata* extract showing the 3 spots corresponding to the standards.

water and mobile phase B; the concentration of B was increased to 100% over 10 minutes. The eluate was monitored simultaneously at two wavelengths, viz., 254 nm and 370 nm. At 254 nm all three constituents have an absorption maxima, whereas at 370 nm only flavonoids ie. Rutin and Quercetin show peaks since flavo-

noids alone exhibit fluorescence. The presence of these compounds was previously ascertained by Thin Layer Chromatography analysis (See Figure).

- Smt. K.K. Asha

Biochemistry and Nutrition Division, CIFT, Cochin

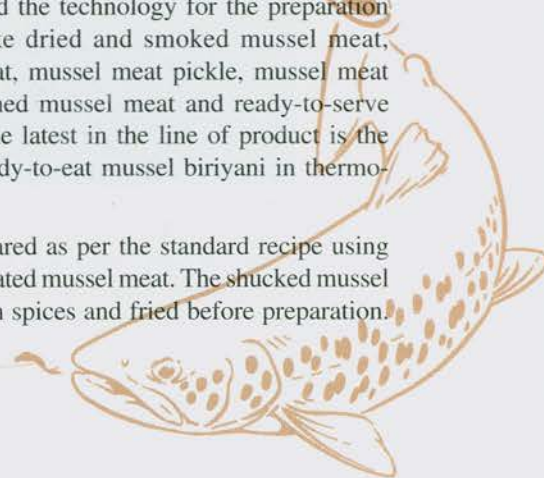
Development of Mussel Biryani in indigenously developed (HIPP) thermoformed containers

Mussels are sedentary bivalve mollusks found attached to submerged hard substratum with the help of byssus thread. Mussels can withstand wide variations in salinity and is also found in rivers, in harbours and mouths of estuaries. The commercially exploited mussel available in our waters is the green mussel. The green mussel, *Perna viridis*, is found in abundance along the rocky coastal belt, in the indo-pacific region. Mussels are consumed by people of all strata of life. In most of the developed countries, mussels form a delicacy. It is usually consumed in the raw condition in combination with a sauce for seasoning or in the blanched (partially cooked) condition.

Normally, the local population use mussels in the fresh

condition for preparation of different delicacies like 'arikaduka' (rice mussel), mussel stew, mussel curries, fried mussel, mussel fried rice and mussel biriyani. CIFT has successfully developed the technology for the preparation of many products like dried and smoked mussel meat, marinated mussel meat, mussel meat pickle, mussel meat chutney powder, canned mussel meat and ready-to-serve fried mussel meat. The latest in the line of product is the thermal processed ready-to-eat mussel biriyani in thermoformed containers.

Biriyani was prepared as per the standard recipe using basmati rice and depurated mussel meat. The shucked mussel meat was marinated in spices and fried before preparation.





Mussel Biriyani in thermoformed container

The biriyani was then packed in indigenous thermoformed containers made of high impact polypropylene and top

sealed under vacuum with the help of a polyester/cast polypropylene film. The containers were then packed in indigenously developed three layered see-through retortable pouches consisting of polyester coated with Silicone dioxide/nylon/cast polypropylene. The containers were then processed in a still over pressure retort at 121°C to a Fo value of 10. High Impact Polypropylene temperature data during heat processing was collected using an Eval data recorder cum Fo and cook value integrator and heat penetration characteristics were determined using formula method. Changes in biochemical parameters like FFA and TBA and organoleptic parameters during storage were studied at monthly intervals. The processed products were found to be sterile and remained in good condition for a period of three months in twin pack at ambient storage (28 ±2°C) with regard to all sensory attributes.

- Dr. J. Bindu, Dr. C.N. Ravishankar and Dr. T.K. Srinivasa Gopal

Fish Processing Division, CIFT, Cochin

Publications

Research Papers

1. Boopendranath, M.R. (2010) – Responsible fishing – Pointers from FAO Code of Conduct for Responsible Fisheries, In: Proc. National Seminar on Future of Indian fisheries: Emerging policy paradigms, 19 March, 2010, University of Kerala, Thiruvananthapuram, pp 17-31.
2. George Ninan, Jose Joseph and A.A. Zynudheen (2010) – Physical, mechanical and barrier properties of carp and mammalian skin gelatin films, *J. Food Sci.*, **75(9)**: 620-626.
3. Nikita Gopal, Charles Jeeva, J., Parvathy, R. and Nasser, M. (2010) – Assessment of group dynamics among fisherwomen self help groups: A participatory monitoring approach, *J. Global Commun.*, **3(2)**: 23-28.

Book

1. Meenakumari, B., Boopendranath, M.R., Leela Edwin, Sankar, T.V., Nikita Gopal and George Ninan (Eds.) (2010) – Coastal fishery resources of India – Conservation and sustainable utilization, SOFT(I), Cochin , 894 p.
2. Toms C. Joseph, Lalitha, K.V., Rakesh Kumar and George Ninan (Eds.) (2010) - Manual on Winter School on current trends in microbial biotechnology : Genomics, diversity and gene mining, CIFT, Cochin.

Book Chapters

1. Ashok Kumar, K. (2010) - Mass spectrometry in metabolite identification, In: Current trends in microbial biotechnology, CIFT, Cochin

2. Ashok Kumar, K. (2010) - Application of mass spectrometry in bio prospecting, In: Vistas of marine biotechnology, CMFRI, Cochin
3. Sankar, T.V. (2010) - Protein purification, In: Current trends in microbial biotechnology, CIFT, Cochin
4. Sankar, T.V. (2010) - Protein chemistry and its application, In: Vistas of marine biotechnology, CMFRI, Cochin
5. Sankar, T.V. (2010) - Pesticides, polychlorobiphenyls and polycyclic aromatic hydrocarbon residues as chemical hazards. In: Antibiotics, pesticide and insecticide residue contamination in sea/aqua foods (Eds.) L.N. Murthy, B. Madhusudana Rao and M.M. Prasad, CIFT, Visakhapatnam

The following chapters were contributed by the Scientists and Technical Officers in the book 'Coastal fishery resources of India - Conservation and sustainable utilization'.

1. Present scenario of the coastal and deep water trawl resources of the southeast coast of India – U. Sreedhar, R. Raghu Prakash and G. Rajeswari
2. Validation of potential fishing zones along Saurashtra coast, Gujarat – Sibsankar Das, V.R. Madhu, P.T. Sreejith, J.K. Jetva and B. Meenakumari
3. Pollution in the estuaries of North Kerala – P. Muhamed Ashraf, P.P. Abhilash, Saly N. Thomas and Leela Edwin
4. Control of CCA leaching from treated rubber wood panels – M. Ajith Peter, A. Sreeja, P. Muhamed Ashraf and Leela Edwin
5. Responsible fishing in coastal fisheries of India – B.





Meenakumari

6. Bycatch reduction technologies – M.R. Boopendranath
7. Improved large mesh purse seine for small-scale mechanized sector – B. Meenakumari, P. Pravin and Nikita Gopal
8. Ring seine for the small pelagic fishery – Leela Edwin, M. Nasser, V.I. Hakkim, V.G. Jinoy, P.H. Dhiju Das and M.R. Boopendranath
9. Gillnet fishing in India – Saly N. Thomas
10. Evaluation of square mesh codends for bycatch reduction in demersal trawling off Andhra Pradesh, India – G. Rajeswari, R. Raghu Prakash and U. Sreedhar
11. Size selectivity of 40 mm square mesh codend with respect to Japanese threadfin bream and moustached Thryssa – R. Raghu Prakash, G. Rajeswari and U. Sreedhar
12. Trawl codend selectivity estimates for goldband goatfish – V.R. Madhu, B. Meenakumari and S.K. Panda
13. Conversion of mechanized fishing vessels to tuna long liners – M.V. Baiju, Kuruvilla Thomas, G.D. Rajeev, J.R. Prabhakar Raj and P.M. Salim
14. Economic analysis of cast net operations in central Kerala – M. Baiju and C. Hridayanathan
15. Trawl codend selectivity in respect of Indian mackerel – P. Pravin, M.P. Remesan and M.R. Boopendranath
16. Trawl codend selectivity in respect of razorbelly scad – M.P. Remesan, P. Pravin and M.R. Boopendranath
17. Impact of bottom trawling on the meobenthos off Veraval coast, Gujarat – Usha Bhagirathan, B. Meenakumari, S.K. Panda, V.R. Madhu and D.T. Vaghela
18. Traditional practices and beliefs among coastal fisherfolk of Kerala – J. Bindu, M.A. George, Nikita Gopal and Leela Edwin
19. Effect of blanching on the physical and sensory properties of freeze dried Indian white shrimp (*Fenneropenaeus indicus*) – George Ninan, A.A. Zynudheen, Jose Joseph, P.T. Mathew and V. Geethalakshmi
20. Quality evaluation of freeze dried fish protein hydrolysate from Jew fish (*O. rubber*) – A.A. Zynudheen, George Ninan and P.T. Mathew
21. *Sous-vide* processing of condiment incorporated Indian white shrimp (*Fenneropenaeus indicus*) – C.O. Mohan, C.N. Ravishankar, T.K. Srinivasa Gopal and K.V. Lalitha
22. Development of ready to serve tuna and vegetable in tin free steel cans – C.N. Ravishankar, C.O. Mohan, P.K. Vijayan and T.K. Srinivasa Gopal
23. Development of ready to eat tuna sausage in synthetic casings – Sanam Basheer, R. Yathavamoorthi, J. Bindu, C.O. Mohan, C.N. Ravishankar and T.K. Srinivasa Gopal
24. Comparison between conventional and extruded bread crumbs on the quality and storage stability of fish cutlet during frozen storage – J. Santhi, J. Bindu, C.O. Mohan, C.N. Ravishankar and T.K. Srinivasa Gopal
25. Effect of HTST processing on quality and shelf life of ready to serve seafood cocktail soup in retortable pouches – K. Sihabudheen, C.N. Ravishankar, C.O. Mohan, J. Bindu and T.K. Srinivasa Gopal
26. Biomedical applications of collagen and chitosan – T.V. Sankar
27. Myctophids: An alternative protein source from deep sea – P.K. Mahato, L. Baby, T.V. Sankar, R. Anandan, P.K. Vijayan, George Ninan and A.A. Zynudheen
28. Quality standards in sea food industry – Femeena Hassan, M.K. Mukundan and K.P. Sangeetha
29. Determination of total mercury in finfish and shellfishes using direct mercury analyser – P.T. Lakshmanan and Femeena Hassan

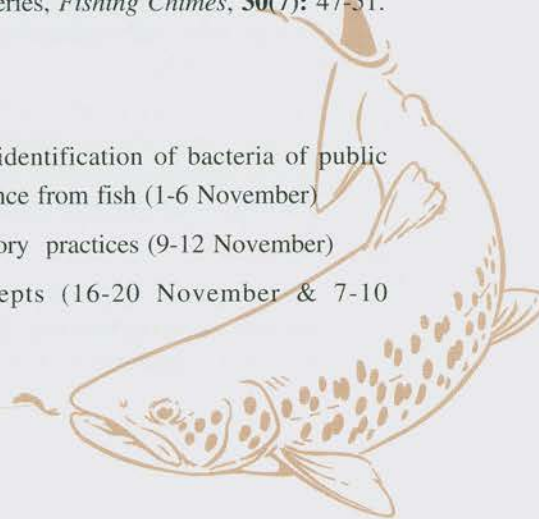
Popular Articles

1. De, H.K. and Charles Jeeva, J. (2010) – Organized retailing in aqua food products – Prospects and potential, *World Aquaculture*, **41(3)**: 8-11.
2. Nikita Gopal, Charles Jeeva, J. and Pravin, P. (2010) – Fisheries development agencies and cooperatives in India – Successful interventions towards sustainable fisheries, *Fishing Chimes*, **30(7)**: 47-51.

Training Programmes

Cochin

1. Hygienic fish handling and quality assessment (11-16 October)
2. Seafood quality assurance (12 October)
3. Food safety, processing and quality assurance (19-28 October)
4. Isolation and identification of bacteria of public health significance from fish (1-6 November)
5. General laboratory practices (9-12 November)
6. HACCP concepts (16-20 November & 7-10 December)





7. Fish processing and value addition (13-18 December)
8. Prawn processing techniques and value added products from prawn meat (18 December)
9. Food safety and quality assurance (27-28 December)



HACCP concepts

Visakhapatnam

1. Laboratory methods for microbiological examination of seafood (18 October – 2 November)
2. Hygienic fish processing and fish handling (25 November)



Fish processing and value addition

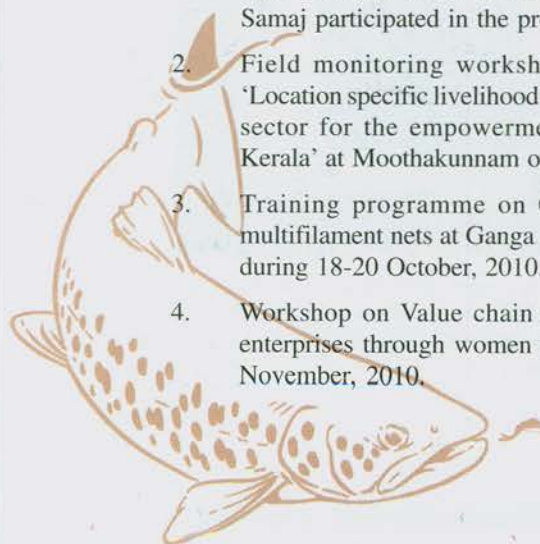
Laboratory methods for microbiological examination of seafood
- Participants with faculty

Hygienic fish processing and fish handling - Participants with faculty

Outreach Programmes

During the quarter the following outreach programmes were conducted by the Institute:

1. Awareness programme on Remote sensing data for effective fishing at Bhidia, Gujarat on 7 October, 2010. Around 25 fishermen belonging to the Koli Samaj participated in the programme.
2. Field monitoring workshop under the project, 'Location specific livelihood interventions in fisheries sector for the empowerment of fisherwomen of Kerala' at Moothakunnam on 8 October, 2010.
3. Training programme on Gill netting using PA multifilament nets at Ganga lake, Arunachal Pradesh during 18-20 October, 2010.
4. Workshop on Value chain oriented fishery micro enterprises through women at Kollam during 11-12 November, 2010.
5. Workshop on Value chain oriented fishery micro enterprises through women at Kannur during 2-3 December, 2010.
6. Training programme on Seafood based micro enterprises for fisherwomen empowerment at Azheekkal on 15 December, 2010.
7. Training programme on Hygienic handling of fish and value added fish products at Ramballi village, Narsipatnam, Visakhapatnam on 18 December, 2010.
8. Workshop on Value chain oriented fishery micro enterprises through women at Vriddhachalam during 22-23 December, 2010.
9. Training programme on Post harvest technology and value addition of freshwater fish at Baramati, Maharashtra during 27-30 December, 2010.





Participation in Exhibitions

During the quarter the Institute participated in the following exhibitions:

1. National Fish Festival and Exhibition, 'Benaqua – 2010', organized by Dept. of Fisheries, West Bengal at Kolkatta during 1-4 October, 2010. The dignitaries who visited the CIFT pavilion include Shri Kiranmoy Nanda, Hon'ble Minister for Fisheries, Govt. of West Bengal and Dr. P. Krishnaiah, Chief Executive, NFDB, Hyderabad.
2. 'Agri Fair 2010' organized as part of the International Conference on Coconut biodiversity for prosperity, CPCRI, Kasaragod during 25-28 October, 2010. The CIFT pavilion bagged the best stall award during the exhibition.



'Matsyagandha Mumbai 2010'



'Benaqua – 2010'

3. 'Pondicherry Fish Festival 2010' held in connection with 'World Fisheries Day' organized jointly by the Government of Pondicherry, Department of Fisheries & Fishermen Welfare and NFDB, Hyderabad at Yanam, Pondicherry during 20-22 November, 2010
4. 'Swasraya Bharat -2010' exhibition organized by Swadeshi Science Movement, Cochin during 15-20 December, 2010.
5. 21st All India Congress of Zoology Exhibition at CIFRI, Barrackpore during 21-23 December, 2010.
6. 'Matsyagandha Mumbai 2010 – Maha Fish Festival India' Exhibition organized by NFDB, Hyderabad at Mumbai during 26-28 December, 2010.
7. 'Haritham – 10' exhibition organized by Integrated Rurla Technology Centre, Palakkad at Thrissur during 26-31 December, 2010.

Foundation stone for new ZTM-BPD Block Laid at CIFT, Cochin

Dr. S. Ayyappan, Secretary to the Department of Agriculture Research and Education (DARE), Government of India and Director General of the Indian Council of Agricultural Research (ICAR) laid the Foundation Stone for the new Zonal Technology Management & Business Planning and Development (ZTM-BPD) Block at CIFT, Cochin on 26th November 2010.

The ZTM-BPD Unit was established at CIFT with the aim of helping new and existing entrepreneurs to start successful business ventures and thereby commercialising the potential technologies in the field of fisheries and agriculture developed by ICAR institutes in India. The ZTM-BPD Unit will assist in pilot level production, test marketing, technology refinement, syndicating funds, staffing assistance, setting up of independent enterprises and its commissioning.

The new office facility for the Unit will come up within the premises of CIFT, located at Willingdon Island, Cochin

and will have exclusive in-house facilities such as air-conditioned office suites with shared facilities of secretarial



Dr. S. Ayyappan unveiling the plaque. Also seen are Dr. T.K. Srinivasa Gopal, Director, CIFT, Dr. B. Meenakumari, DDG (Fy.), Dr. Bangali Baboo, National Director, NAIP and Dr. G. Syda Rao, Director, CMFRI





assistance, video conferencing and communication facilities for the entrepreneurs. Selected entrepreneurs can avail the facilities for a period of three years. Entrepreneurs with a

good business idea or promising technologies are also encouraged to approach and register with the Unit at CIFT.

Winter School on Current Trends in Microbial Biotechnology: Genomics, Diversity and Gene Mining

The Winter School on "Current Trends in Microbial Biotechnology: Genomics, Diversity and Gene Mining" commenced from 9th November, 2010 for a period of 21 days at CIFT, Cochin. The Winter School was sponsored by Indian Council of Agricultural Research, New Delhi.



Dr. A.G. Ponniah releasing the manual of the Winter School.

Others seen are (left to right) Dr. Rakesh Kumar, Dr. V.I. Bishore, Dr. Paul Kunnath, Dr. T.K. Srinivasa Gopal, Dr. K.V. Lalitha and Dr. Toms C. Joseph

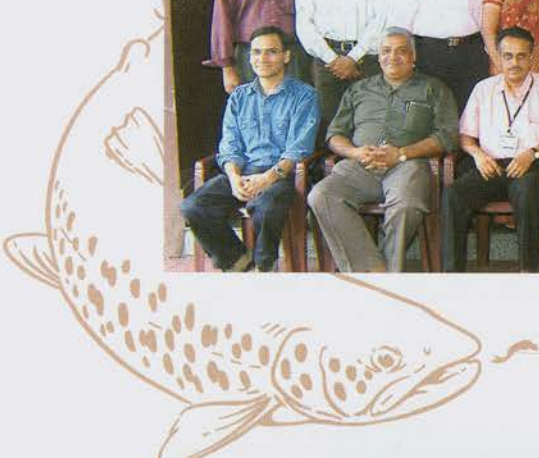
About 30 participants from various Central Institutes, State agricultural Universities and other colleges from different parts of the country participated in the Winter School. The purpose of the programme was to provide theoretical and hands-on practical training on various aspects of microbial biotechnology to the teachers, researchers and other professionals associated with microbiology and

biotechnology in fisheries, animal, agricultural and basic sciences. Dr. Toms C. Joseph, Scientist (SG), Microbiology, Fermentation and Biotechnology Division was the Course Director of the Winter School. The Winter School gave participants the opportunity to learn and experience the various facets of microbial biotechnology. The frontier molecular topics such as recombinant DNA technology, real-time PCR, bacterial fingerprinting methods, next generation sequencing, DNA microarray technology, suppression subtractive hybridization, application of bioinformatics, and bio-computation potential, genetic aspects of bacterial virulence, bio-prospecting of marine microbes for novel genes and gene products etc. were covered. Molecular approaches in bacterial taxonomy, food-borne bacterial and viral pathogens, bioactive compounds from marine sponges, anaerobic bacteria, understanding the structure and functions of genomics etc. were dealt in detail. Other related topics like mass spectrometry for metabolites, IPR issues in microorganisms, and laboratory accreditation were addressed during the Winter School. Apart from theory and practical classes, there were field trips to Kinfra Biotechnology Park and Genome Lab at Cochin Special Economic Zone, Kakkanad.

The Winter School was inaugurated by Dr. A.G. Ponniah, Director, CIBA, Chennai on 9th November. The meeting was presided over by Dr. T.K. Srinivasa Gopal, Director, CIFT. In his inaugural address, Dr. Ponniah, stressed the need for the focus on the application of biotechnology to mankind. The huge investments in the biotechnology sector should



Participants and Faculty of Winter School





reflect in the deliverables to the stake holders. In his presidential address, Dr. Srinivasa Gopal, briefed about the research works being carried out at CIFT in microbial biotechnology and the multiple applications in the fields like food preservation and food safety.

Dr. Toms C. Joseph, introduced the Winter School to the participants and audience. Dr. Paul T. Kunnath, Deputy Director, State Laboratory for Livestock, Marine and Agri-

products, Govt. of Kerala and Dr. V.I. Bishore, Director, Ubio Biotechnology Systems Pvt. Ltd., offered felicitations on the occasion. Earlier Dr. K.V. Lalitha, Head, MFB Division welcomed the gathering. Dr. Rakesh Kumar, Scientist proposed vote of thanks.

Dr. J. Jena, Director, NBFGR, Lucknow was the chief guest of the valedictory function held on 30th November. He also distributed certificates to the participants.

Training on General Laboratory Practices

A training programme on "General Laboratory Practices" was conducted for officials of Dairy Development Department, Government of Kerala during 9-12 November, 2010. This second batch of training was conducted as per the consultancy agreement between CIFT and Dairy Development Department, which was attended by 20 Dairy



Training on GLP in progress

Development Officers working in various districts of Kerala. The topics included implementation of GLP as per international norms, theory and demonstration on analysis of various chemical hazards and quality index parameters

Training on HACCP Concepts

A revised and updated module based training programme on HACCP Concepts was organized by Quality Assurance and Management Division of CIFT during 7-10 December 2010, which was attended by around 30 participants from Kerala and Tamil Nadu. The training curriculum was made consistent with USFDA Code of Federal Regulations CFR 21, PART 123 with a continual case-study approach. In the updated "HACCP workbook" individual participants can fill in various elements of HACCP as the course progresses and get conversant with important skills like design of process flow, hazard analysis using severity-risk matrix, identification of CCPs using Codex decision tree, filling HACCP worksheet and HACCP plan forms, document requirements and developing SSOP.

International Training

The Institute organized an International Training Course on 'Hygienic fish handling and quality assessment' during 11-16 October, 2010. A delegation of 10 officials from Sri Lanka participated in the programme which was sponsored by Food and Agriculture Organization (FAO), Rome.



International training in progress

using HPLC, GC, LC-MS-MS, ELISA, IC, etc., familiarization with isolation and identification of bacteria of public health significance and laboratory accreditation norms as per ISO 17025.



Training on HACCP Concepts in progress





Value Added Fish Products Unit Inaugurated

The CIFT, Cochin under the project on 'An alternate sustainable livelihood model for coastal fisher folk through market-led extension of value added products' identified a Fishermen's Society at Munambam in Ernakulam district for setting up an industrial unit of fisheries value added products. For the purpose, the women members were motivated and efforts for building up entrepreneurship were done. Effort is being made to establish linkages with external agencies for establishing the unit at a commercial scale. The unit was inaugurated on 1st November, 2010 by Shri S. Sharma, Fisheries Minister, Govt. of Kerala.



Launching of the logo FISHMAN by Shri S. Sharma

The inaugural function was presided over by Dr. T.K. Srinivasa Gopal, Director, CIFT. Dr. S. Ashaletha, Project Leader & Sr. Scientist, CIFT welcomed the gathering. The logo of the unit named "FISHMAN" was launched by the Minister. The dignitaries who attended the function included Shri M.K. Purushothaman, MLA, Vypeen and Shri T.N. Prathapan, MLA, Nattika. Shri M. Nasser, Principal Scientist, CIFT delivered a talk on "Fish industrial units". The first sale of the products was done by Smt. Lalithamma Punnoose, General Manager, District Industrial Department. Shri N.D. Velunni, President, Dharmasastha Paripalana Samithi, Munambam explained about the 'FISHMAN' products. Dr. S. Balasubramaniam, Acting HOD, EIS, CIFT, Shri P.K. Vijayan, Acting HOD, FP, CIFT, Shri P.A. Joseph, Extension Officer, Industrial Department, Vypeen, Rev. Fr. Babu Muttikkal, Vicar, Holy Family Church, Shri P.F. Sadanandan, Manager, UCO Bank and Shri P.P. Gireesh, President, Araya Maha Sabha, Munambam offered felicitations during the function. Shri K.K. Velayudhan, Vice-President, Dharmasastha Paripalana Samithi proposed vote of thanks.

The Industrial Unit is named as "Fresh n Fish" and their products are Fish Cutlet, Fish Samosa, Squid Roll, Fish Papad, Fish Pickle, Fish Sughian etc. They started selling these products in the brand name of "FISHMAN".

Workshops on Value Chain Oriented Fishery Micro Enterprises through Women

Under the NAIP on 'Responsible harvesting and utilization of selected small pelagics and freshwater fishes' at CIFT, Cochin a Workshop on 'Value chain oriented fishery micro enterprises through women' was organized during 11-12 November, 2010, at Quilon Social Service Society, Kollam. Shri Prasannakumar, Deputy Director of Fisheries, Kollam, formally inaugurated the workshop by lighting the traditional lamp. Dr. S. Ashaletha, Co-PI of the project welcomed the gathering and briefly explained about the objectives of the Workshop. Shri M. Nasser, PI gave the concept of the project. Rev. Fr. Rajesh Martin, Executive Director, QSSS, in his presidential address, gave an overview of the services of QSSS in coastal sector. Felicitations were offered by Dr. S. Balasubramaniam, Acting HOD, EIS and Dr. A.A. Zynudheen, Co-PI, NAIP. Ms Roshni Pillai, Project Coordinator, QSSS proposed the vote of thanks.

The Workshop was held in three Technical Sessions. On the first day the Technical Session I on 'Entrepreneurship in woman' was presented by Shri V.S. Sukumaran, Associate Senior Faculty, Entrepreneurship Development Institute (India). The Technical Session II on 'Small-scale enterprises development and management' was handled by Smt. Helen Jerome, Manager, DIC, Kollam. The Technical Session III

in the afternoon on 'Development of value added products' was under the guidance of Dr. A.A. Zynudheen and Dr. Martin Xavier, CIFT. The Session continued in the second day of Workshop till evening.

On the final day of Workshop, an interaction phase between participants of the Workshop and organizers was conducted. The women explained their present livelihood options and issues. Traditional dry fish makers expressed



Shri Prasannakumar inaugurating the workshop at Kollam



their constraints, for which the organizers offered technological and market solution through the project. The participants got motivated and decided to start fishery based micro enterprises under the project with the financial support of QSSS, Kollam. Dr. Balasubramaniam extended vote of thanks to all participants.

Another workshop was organized on 1st and 2nd of December, 2010, at Moplabay Fisheries Complex, Matsyafed, Kannur. The workshop was organized in collaboration with Matsyafed, Kannur. Shri C.P. Kunjiraman, Matsyafed Board Member inaugurated the programme. In his presidential address Shri Kunjiraman gave an overview of the services of Matsyafed in Moplabay, Kannur. Smt. K. Vanaja, District Manager, Matsyafed welcomed the gathering and briefly explained the objectives of the workshop. Shri Gangadharan Kalyadan, Assistant Manager, Matsyafed explained the importance of the Workshop in his special address. Shri Madhu, Matsyafed proposed vote of thanks.

The Workshop was held in two Technical Sessions. On the first day the Technical Session on "Development of value added products" was lead by Dr. Martin Xavier, CIFT. In the afternoon, practical classes on preparation of fishery based products such as fish cutlet, fish pickle, fish ball, fish fingers and fish ensilage were conducted. Participants also demonstrated the preparation of some of the traditional fish recipes. The training caught enough media attention. Shri Daniel Raj and Shri Muhammad Azharudeen of the project helped in conducting the practical classes.



Dr. S. Balasubramaniam explaining about the workshop at Vriddhachalam

The participants of the Workshop got motivated and decided to start commercial production of fishery based products as a micro-enterprise at St. Angelo Fort, Kannur

Entrepreneurship Development Programme

Baramati near Pune in Maharashtra occupies a prominent position in the agricultural map of India as the land of sugar-cane and sugar production. Baramati has a number of water



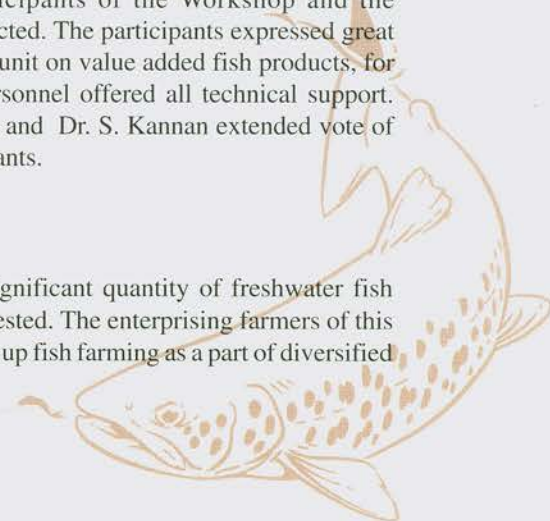
Participants and faculty of workshop at Kannur

under the guidance of the project in collaboration with Matsyafed. Smt. K. Vanaja, District Manager, Matsyafed extended vote of thanks to all participants.

The third Workshop in the series was organized on 22nd and 23rd December, 2010, at Krishi Vigyan Kendra (KVK), Vriddhachalam, Cuddalore district, Tamil Nadu. The inaugural ceremony was held on 22nd December. Dr. S. Balasubramaniam, Acting Head, EIS Division, CIFT welcomed the gathering and briefly explained about the objectives of the Workshop. Dr. M. Raju, Asst. Professor (Agro), Head Incharge, KVK, Vriddhachalam, in his presidential speech, gave an overview of the services and achievements of KVK in Vriddhachalam. Dr. R. Marimuthu, Professor and Head RRS, TNAU, Vriddhachalam explained the importance of the workshop in his special address. Felicitations for the meeting were offered by Dr. A.A. Zynudheen, Senior Scientist & CO-PI of the project, CIFT. Dr. S. Kannan, Asst. Professor (H. Sc), KVK, Vriddhachalam, proposed the vote of thanks.

The Workshop was held in two Technical Sessions. On the first day the Technical Session on "Entrepreneurship in women and small-scale enterprises" was presented by Dr. S. Balasubramaniam. The next Technical Session on "Development of value added products" was lead by Dr. A.A. Zynudheen.

On the concluding day of the Workshop, an interaction phase between participants of the Workshop and the organizers was conducted. The participants expressed great enthusiasm to start a unit on value added fish products, for which the project personnel offered all technical support. Dr. Balasubramaniam and Dr. S. Kannan extended vote of thanks to the participants.





Inauguration of the programme

ventures in agriculture. Higher levels of fish production always warrant efficient post harvest technologies for utilization and value addition. With this background, the Fish Processing Division of CIFT has conducted a three day training programme on Post harvest technology and value addition of freshwater fish at Baramati supported by the School of Biotechnology, Vidya Pratishthan Trust, Baramati and College of Fisheries, Ratnagiri during 27-30

December, 2010. The objective of the training programme was to equip prospective entrepreneurs who intend to start small scale units for fish based value added products. Around 40 entrepreneurs including fish farmers attended the programme.

The programme was formally inaugurated by Shri Imtiasbhai Shikilkar, Worshipful Mayor, Baramati Municipality in a function held at the School of Biotechnology. Dr. Sushma Chapalkar, Director, School of Biotechnology presided over the function. Classes were conducted on hygienic handling of freshwater fish and preparation of value added products with hands-on training sessions. On 30th December, a brainstorming session was held in which the prospects for establishing a retail unit for value added fishery products under Agri-Bio village programme was discussed. The session was attended by Dr. Sushma Chapalkar, Shri P.K. Vijayan, Acting HOD, Fish Processing, CIFT, Dr. George Ninan, Senior Scientist, CIFT, Shri Bhosle, Joint Commissioner of Fisheries, Pune, Dr. Prakash Shingare, Head, Processing Division, College of Fisheries, Ratnagiri and other officials. It was agreed to establish a unit under the technical guidance of CIFT near Baramati.

Monitoring Workshop and Training

Under the project on 'Location specific livelihood interventions in fisheries sector for the empowerment of fisherwomen of Kerala', culture of edible oyster was introduced among Self Help Groups (SHG) in the selected locations of Moothakunnam in Ernakulam and Azheekkal in Kollam district. The first round of culture activities was initiated in December 2009 and the harvest took place in May 2010. Training on value addition and net mending was also imparted to the groups. A field monitoring workshop was conducted on 8th October, 2010 at Moothakunnam to assess the performance of the participating groups. An appraisal was carried out to assess the group dynamics of the SHG groups. Groups were asked to appraise themselves by responding (scoring) to the questionnaire. Dr. Femeena Hassan, Dr. J. Charles Jeeva and Dr. Saleena Mathew, Project Investigators coordinated the group appraisal activity. Group dynamics of the participating respondents was in the workshop using the 'H' form method. The overall Group Dynamics Index was found to be 90%. The parameters like perceived significance of self help, accountability, level of satisfaction of being in a group, sustainability, team spirit, group cohesion, mutual cooperation, perceived importance of group activity, mutual trust among group members, adherence to norms and values of the group, sense of belongingness/'we' feeling and decision making ability were assessed.

Another training programme was conducted at Azheekkal on "Seafood based micro enterprises for fisherwomen empowerment" for the women stakeholders in Azheekkal in Kollam district on 15th December 2010. Smt. Sathyavathi, Joint Director of Fisheries and Shri Shan, Project Officer, Matsyafed spoke during the function. Smt. Sathyavathi spoke on "Micro enterprises and financing support from State Fisheries Department". Dr. Femeena Hassan also delivered a talk on "Importance of micro enterprises producing value added seafood items as an alternative avocation".



Dr. Femeena Hassan speaking to SHG groups at Azheekkal





National Seminar on Aquatic Biodiversity

The Society of Fisheries Technologists (India), (SOFTI), Cochin in collaboration with CIFT, Cochin organized a National Seminar on 'Aquatic biodiversity and its conservation' at CIFT, Cochin on 31st December, 2010. The Seminar was organized recognizing the importance of conservation of biodiversity and long-term sustainability of ecosystem services. The Seminar focused on the issues related to biodiversity and its conservation in the marine and inland sectors of India. The target audience of the Seminar were academicians, researchers, entrepreneurs, NGO representatives and students who were interested in the conservation of biodiversity and sustainability of aquatic resources. The Seminar was formally inaugurated by Dr. V.V. Sugunan, Former Asst. Director General (Inland Fisheries), ICAR, New Delhi. The meeting was presided over by Dr. M.K. Mukundan, President, SOFTI and Dr. G. Syda Rao, Director, CMFRI, Cochin delivered the Special address. The Director Incharge, Dr. P.T. Lakshmanan welcomed the gathering and Dr. T.V. Sankar, Secretary, SOFTI proposed the vote of thanks.

The Technical Sessions which followed were chaired by Dr. K. Devadasan, Former Director, CIFT, Cochin. The Sessions had the following invited lectures:

- i. Inland aquatic biodiversity – Dr. V.V. Sugunan, Former ADG (Inland Fisheries), ICAR, New Delhi
- ii. Marine biodiversity: Issues and challenges – Dr. Mary K. Manisseri, Head, Marine Biodiversity Division, CMFRI, Cochin
- iii. DNA barcoding and aquatic biodiversity – Dr. A. Gopalakrishnan, SIC, NBFGR Unit, Cochin
- iv. Fishing technology interventions for conservation of biodiversity – Dr. M.R. Boopendranath, Principal Scientist, CIFT, Cochin
- v. Economic valuation of aquatic biodiversity – Dr. K.T.

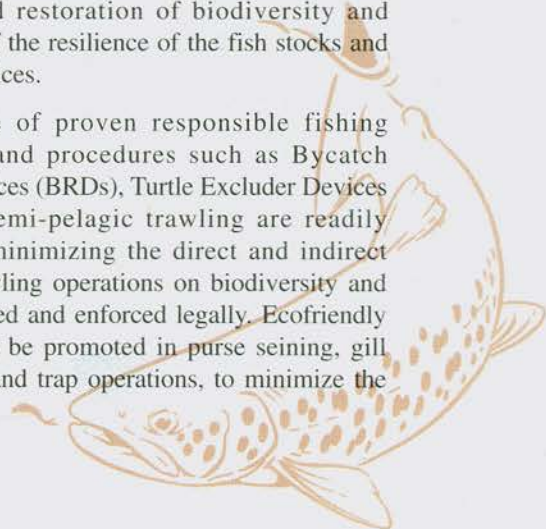


Dr. V.V. Sugunan inaugurating the Seminar. Also seen are (L-R) Dr. T.V. Sankar, Dr. P.T. Lakshmanan, Dr. M.K. Mukundan and Dr. G. Syda Rao

Thomson, Professor, School of Industrial Fisheries, CUSAT, Cochin

The recommendations with bearing on the significance of study and conservation of the aquatic biodiversity in India which emanated during the deliberations of the Seminar are listed below:

- In view of the strong dependence of the human wellbeing on the aquatic biodiversity and the related ecosystem services, greater attention need to be given to the study and documentation of aquatic biodiversity, the drivers which lead to the loss of aquatic biodiversity and the mitigation measures, in the Indian context.
- Inland waters, which constitute less than 0.02% of the global water resources account for a significant proportion of global biodiversity and, hence, need prioritized attention as it is increasingly under threat due to competition for resources from multiple use sectoral interests.
- There is an imperative need to adopt ecosystem based management with a strong national participatory governance regime, for achieving synergy between development needs and aquatic biodiversity conservation. Effective enforcement of existing national regulations and active participation in the international initiatives and conventions, pertinent to biodiversity conservation are needed.
- The use of DNA barcoding which has applications in resolving taxonomic ambiguity, identification of cryptic species, forensics to prevent illegal trade of endangered species, detecting fish product adulteration and development of a national digital identification system and database of life forms may be expanded to cover all possible components of Indian aquatic biodiversity.
- Strict regulation of fishing capacity at sustainable levels and establishment of a network of Marine Protected Areas (MPAs) may be facilitated for protection and restoration of biodiversity and enhancement of the resilience of the fish stocks and ecosystem services.
- A wide range of proven responsible fishing technologies and procedures such as Bycatch Reduction Devices (BRDs), Turtle Excluder Devices (TEDs) and semi-pelagic trawling are readily available for minimizing the direct and indirect impacts of trawling operations on biodiversity and may be promoted and enforced legally. Ecofriendly practices are to be promoted in purse seining, gill netting, lining and trap operations, to minimize the





impact on non-target species and environment. Adoption of such technologies may only be successful with the active involvement of stakeholders in the process, supported by a system of incentives and disincentives and training, under a participatory management regime.

- Technologies and procedures for minimization of greenhouse gas (GHG) emissions from the fishing fleet which have direct and indirect impacts on environment need to be promoted through legislation, stakeholder education and training.
- Procedures for minimization of plastic wastes originating from abandoned, lost or discarded fishing gear, need to be adopted. Strict compliance of MARPOL regulations for safe disposal of garbage, oil, oily mixtures and other residues originating from fishing vessel operations need to be promoted and

implemented.

- Economic valuation of biodiversity based on direct and indirect use and non-use values is necessary for informed decisions, when conflicting interests prevail during development process with ecological implications.
- The research institutions, in view of their limited manpower and resources for extension, may focus on Training of Trainers and the state government fisheries departments may actively involve in the extension of responsible fishing technologies to the stakeholders.
- Web-based National Registers of Aquatic Biodiversity of India may be developed and maintained, to provide easy access to researchers, planners and resources managers, educators, students and other stakeholders.

MoA signed with Department of Fisheries, Govt. of Kerala



Handing over of MoA to Royal Fish Processing Unit

CIFT, Cochin has signed a Memorandum of Agreement with Society for Fisheries, Govt. of Kerala. The MoA is signed for a consultancy to establish a value added fish production unit under the activity group, Royal Fish Processing Unit, Anapuzha, Thrissur district of Kerala. CIFT will help the Unit in setting up a Solar Dryer with Electrical back-up (CIFT Dryer SDE-10) for hygienic production of dry fish.

The Memorandum of Agreement was signed between Dr. T.K. Srinivasa Gopal, Director, CIFT and Ms. Seema (Group Leader) and Ms. Gayathry (Group Treasurer), Royal Fish Processing Unit, Anapuzha in presence of the members of Institute Technology Management Unit, in a simple function held at CIFT, Cochin on 13 December, 2010.

DG, ICAR visits Visakhapatnam Research Centre



Dr. S. Ayyappan, DG, ICAR in light hearted vein with CIFT scientists

Dr. S. Ayyappan, Director General, ICAR was in Visakhapatnam for a brief period of time en route official visit to Research Farm at Sunabeda, Koraput district, Orissa of Central Soil and Water Conservation Research and Training Institute (CSWCR&TI). Scientists of Visakhapatnam Research Centre of CIFT met with Dr. Ayyappan and Dr. M.M. Prasad, Principal Scientist and SIC of the Research Centre accompanied the visiting dignitary to Sunabeda on 21st November 2010. The official engagements of Dr. Ayyappan included visit to Integrated Farming System (IFS) established in 2008 in Sunabeda. IFS is a large facility and fishes cultured consisted mainly of Rohu, Catla and Mrigal, Exotic carps (Grass carp and Common carp) with a stocking density of 6000 and the fish harvested was 2 tonnes





Dr. Ayyappan, DG, ICAR inspecting Integrated Farming System

per hectare. In the ensuing discussion Director General suggested that CIFT shall under take collaborative projects with CSWCR&TI.

Quami Ekta Week Celebrations

The Institute celebrated 'Quami Ekta Week' during 19-25 November, 2010. On 23rd November Flag Day was celebrated. The staff of the Institute assembled together and took National Integration Pledge.

Invited Talk

Dr. Soman, Associate Professor, School of Legal Studies, CUSAT, Cochin delivered a talk on 'Criminal law and human rights' at CIFT, Cochin on 28 October, 2010 as part of the observance of Vigilance Awareness Week at the Institute.

ASRB Member and Director, CSWCR&TI visit Visakhapatnam

Dr. N.K.Tyagi, Member, ASRB, New Delhi and Dr. V.N. Sharda, Director, Central Soil and Water Conservation Research & Training Institute (CSWCR&TI), Dehra Dun were on official visit to CIFT Visakhapatnam Research Centre on 10th and 11th December, 2010. Both the visiting dignitaries were extended warm welcome and research activities of both Fish Processing Technology and Fishing Technology and technologies developed at CIFT were explained in detail by the scientists of the Research Centre. Dr. Tyagi had a special interactive session with scientists and explained to the scientists measures taken by the ASRB for the benefit of the scientists. He also addressed the scientists of both CMFRI and CIFT. The visiting dignitaries expressed happiness over the work carried out by the scientists and the efforts made at CIFT for the development of fisheries in the country.

MoU signed with UT of Lakshadweep

A Memorandum of Understanding was signed between the Director, Department of Fisheries, U.T. of Lakshadweep and the Director, CIFT, Cochin for providing consultancy services for acquiring two numbers of Tuna Long Liners for U.T. of Lakshadweep.

Radio Talks

The Scientists and Officers of the Institute delivered the following radio talks during the quarter:

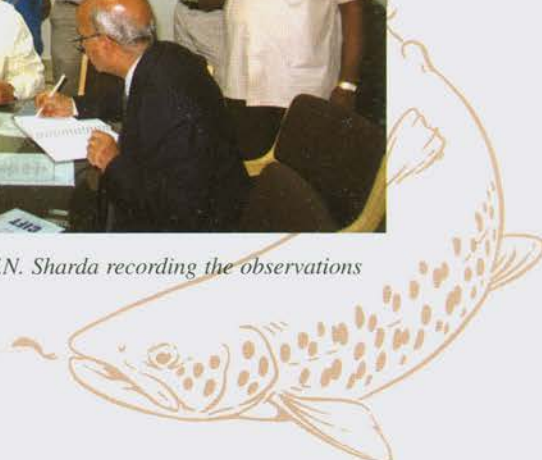
1. **Dr. G. Rajeswari**, Senior Scientist - Preventive measures of bycatch in trawling operations (In Telugu) - AIR, Visakhapatnam (3 October)
2. **Shri M.S. Kumar**, Tech. Officer (T7-8) – Status and progress in fishing technology (In Telugu) – AIR, Visakhapatnam (14 November)



Dr. Soman delivering the talk



Dr. N.K. Tyagi and Dr. V.N. Sharda recording the observations in visitor's book





Scientists visits Endosulfan affected areas

Dr. P.T. Lakshmanan, HOD, B&N and Dr. R. Anandan, Senior Scientist visited the Endosulfan affected areas in Mooliyar, Kasaragod district for assessing the extend of misery created by the pesticide in the area. They have planned for a nutritional intervention and are in the process of formulating a nutritional supplement, containing Selenium, other essential elements and Tyrosine. After completing the animal studies, these diet supplements will be supplied to the victims.



Dr. P.T. Lakshmanan with an Endosulfan victim

Post Graduate Studies

Ph. D. Awarded

Dr. Toms C. Joseph, Scientist, Sr. Scale, Microbiology, Fermentation & Biotechnology Division, CIFT, Cochin was awarded Ph. D. degree of Cochin University of Science and Technology, Cochin, for his thesis titled, "Molecular and biological investigations on viral diseases affecting farmed penaeid shrimps in Kerala". He worked under the guidance of Dr. P.K. Surendran, former Principal Scientist & Head, MFB Division, CIFT, Cochin.



Shri Rakesh Kumar, Scientist, Sr. Scale, Microbiology, Fermentation & Biotechnology Division, CIFT, Cochin was awarded Ph. D. degree of Cochin University of Science and Technology, Cochin, for his thesis titled, "Biochemical and molecular investigations on *Salmonella* serovars from seafood". He worked under the guidance of Dr. P.K. Surendran, former Principal Scientist & Head, MFB Division, CIFT, Cochin.



Shri Gipson Edappazham, Senior Research Fellow, Fishing Technology Division, CIFT, Cochin was awarded Ph. D. degree of Cochin University of Science and Technology, Cochin,



for his thesis titled, "Performance evaluation of commercially important Indian and imported fishing hooks". He worked under the guidance of Dr. Saly N. Thomas, Senior Scientist, FT Division, CIFT, Cochin.

Shri S. Hari Senthil Kumar, Senior Research Fellow, Biochemistry & Nutrition Division, CIFT, Cochin was awarded Ph. D. degree of JNTU, Hyderabad for his thesis titled, "Biochemical studies on the effect of Glutamine on experimentally induced myocardial infarction in rats". He worked under the guidance of Dr. R. Anandan, Senior Scientist, B&N Division, CIFT, Cochin.



Awards and Recognitions

Shri Damodar Rout, Technical Assistant (T4), won the second prize in the Town Official Language Committee's 'Hindi Debate competition' held at Visakhapatnam on 8 November, 2010.



Shri Damodar Rout receiving prize in Hindi Debate competition

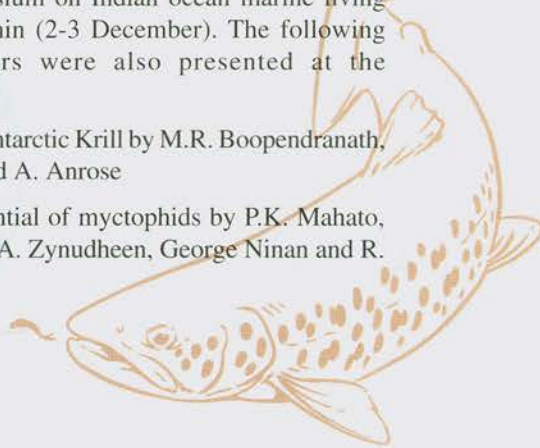




Personnel News

Participation in Seminars/Symposia/Workshops etc.

- **Dr. T.K. Srinivasa Gopal**, Director – International conference on Greening food processing sector for sustainable, safe food supply, IICPT, Thanjavur (30 October)
- **Dr. T.K. Srinivasa Gopal**, Director – National seminar on Inclusive growth of food processing industries, New Delhi (1 December)
- **Dr. T.K. Srinivasa Gopal**, Director, **Dr. K. Ashok Kumar** and **Dr. U. Sreedhar**, Senior Scientists – ‘Ben Aqua – 2010, CIFE Regional Centre, Kolkatta (1-4 October). Dr. Srinivasa Gopal also delivered a Key Note address on ‘Technological developments in fish processing and packaging’. Dr. Ashok Kumar delivered a talk on ‘Traceability in food safety’.
- **Dr. R. Badonia**, SIC, Veraval – XII Meeting of ICAR Regional Committee No. VI, Rajasthan Agril. University, Bikaner (21-22 October)
- **Dr. M.M. Prasad**, SIC, Visakhapatnam – Interface meeting on Review of implementation of NFDB funded schemes draft action plan for 2011-12 seed action plan, NFDB, Hyderabad (15-16 December)
- **Dr. R. Chakrabarti**, SIC, Mumbai – Seminar on Enhancing food safety, security and international trade through radiation technology, Mumbai (20 November)
- **Dr. P.T. Lakshmanan**, HOD, B&N, **Dr. Leela Edwin**, HOD, FT, **Dr. K.V. Lalitha**, HOD, MFB, **Dr. T.V. Sankar**, HOD, QAM, **Dr. P.N. Joshi**, Acting HOD, Engg., **Dr. S. Balasubramaniam**, Acting HOD, EIS, **Dr. M.R. Boopendranath**, **Dr. T.K. Thankappan**, **Dr. S. Sanjeev**, Principal Scientists, **Dr. P. Pravin**, **Dr. Suseela Mathew**, **Dr. M.P. Remesan**, **Dr. V. Geethalakshmi**, **Dr. K. Ashok Kumar**, **Dr. Suseela Mathew**, **Dr. A.A. Zynudheen**, **Dr. S. Ashaletha**, **Dr. J. Bindu**, **Dr. P. Muhd. Ashraf**, Senior Scientists, **Shri V. Radhakrishnan Nair**, Scientist, Sr. Scale, **Shri V.R. Madhu**, **Smt. K.K. Asha**, **Dr. S.K. Panda**, **Shri V. Chandrasekar**, **Shri A.K. Jha**, **Shri Manoj Kumar**, **Smt. Arathy Ashok**, **Dr. P.K. Binsi**, **Ms. S. Thanuja**, Scientists, **Dr. A.R.S. Menon**, Tech. Officer (T9), **Dr. K. Sobha**, **Smt. P.K. Shyma**, Tech. Officers (T6), **Dr. G. Usha Rani**, **Smt. G. Remani**, Tech. Officers (T5), **Smt. P.A. Jaya**, **Smt. N. Lekha**, Tech. Assts., **Ms. G. Archana**, **Shri S.S. Shaju**, **Shri B. Santhosh Kumar**, **Ms. P. Minu** and **Shri K.P. Manu**, Research Fellows – National seminar on Aquatic biodiversity and its conservation, CIFT, Cochin (31 December). Dr. Boopendranath also presented an invited paper on “Fishery technology interventions for conservation of biodiversity” in the Seminar.
- **Dr. Leela Edwin**, HOD, FT – Horticulture meet, Bangalore (11 November)
- **Dr. Leela Edwin**, HOD, FT – First meeting of the Task Force for Gap Analysis of ILO Convention No. 1882, Ministry of Labour and Employment, New Delhi (18 November)
- **Dr. Leela Edwin**, HOD, FT – 39th Institute Management Committee Meeting, CIFRI, Barrackpore (29 November)
- **Dr. T.V. Sankar**, HOD, QAM – Institute Management Committee Meeting, CIBA, Chennai (6 December)
- **Dr. P.N. Joshi**, Acting HOD, Engg. – Meeting to discuss the proposal submitted by NRDC, New Delhi on establishment of solar fish drying plants, NFDB, Hyderabad (24 November)
- **Dr. S. Balasubramaniam**, Acting HOD, EIS – National symposium on Extension management reforms: Initiatives and impact, TNAU, Coimbatore (11-12 December). Dr. Balasubramaniam also presented a paper entitled, “Project based extension approaches for technology transfer” by S. Balasubramaniam.
- **Shri P.K. Vijayan**, Acting HOD, FP – Brainstorming workshop on Technology initiatives organized by Kerala State Council for Science & Technology, Thiruvananthapuram (4 November)
- **Shri P.K. Vijayan**, Acting HOD, FP – Interaction meeting on Post harvest technology and value addition, New Delhi (13 December)
- **Shri P.K. Vijayan**, Acting HOD, FP, **Dr. M.R. Boopendranath**, Principal Scientist, **Dr. M.P. Remesan**, **Dr. A.A. Zynudheen**, **Dr. George Ninan**, Senior Scientists, **Shri P.K. Mahato**, **Shri T. Jose Fernandez**, **Shri K. Pradeep** and **Shri Renju Revi**, SRFs – Symposium on Indian ocean marine living resources, Cochin (2-3 December). The following research papers were also presented at the Symposium:
 - i. Harvesting of Antarctic Krill by M.R. Boopendranath, M.K.R. Nair and A. Anrose
 - ii. Utilization potential of myctophids by P.K. Mahato, P.K. Vijayan, A.A. Zynudheen, George Ninan and R. Venkateswarlu



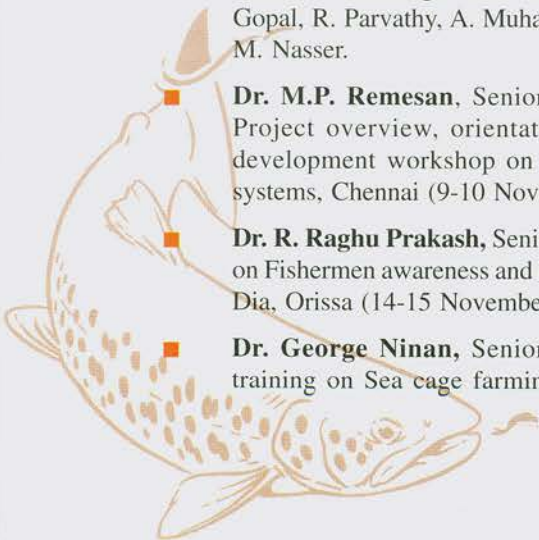


- iii. Myctophid discards from deep sea shrimp trawlers based at Sakthikulangara and Neendakara harbours by T. Jose Fernandez, K. Pradeep, P.M. Vipin, Renju Revi, M.P. Remesan and M.R. Boopendranath
- **Dr. T.K. Thankappan**, Principal Scientist – 20th Swadeshi Science Congress, CMFRI, Cochin (6-8 November)
 - **Dr. K. Ashok Kumar and Dr. Femeena Hassan**, Senior Scientists – Training on HACCP – ISO 22000 FSMS, CFRD, Konni held at Cochin (28-30 December) (As resource persons)
 - **Dr. P. Pravin**, Senior Scientist – Meeting regarding organizing training programme to Coast Guard Officers, FSI, Mumbai (18 November)
 - **Dr. P. Pravin**, Senior Scientist – Network for Sustainable development of aquaculture in NER, Guwahati (6-7 December)
 - **Dr. Saly N. Thomas**, Senior Scientist – National training on Sea cage farming, Research Centre of CMFRI, Vizhinjam (27 October) (As resource person). Dr. Saly also delivered a talk on 'Net and mesh specifications with respect to cage farming of seabass and lobsters'.
 - **Dr. Suseela Mathew**, Senior Scientist – Seminar on Biofuels, Mangalore (2 December) (As resource person). Dr. Suseela Mathew presented a paper on "Biological significance of n-3 fatty acids extracted from marine resources".
 - **Dr. V. Geethalakshmi**, Senior Scientist and **Smt. P. Jeyanthi**, Scientist – International conference on Climate change and environment, CUSAT, Cochin (24-26 October)
 - **Dr. Nikita Gopal**, Senior Scientist – 18th Annual Agricultural Economics Research Association (AERA) Conference on Value chains of agricultural commodities and their role in food security and poverty alleviation, NAARM, Hyderabad (18-20 November). Dr. Nikita also presented a paper on 'Establishing a viable value chain in the fisheries sector – Challenges and lesson learnt' by Nikita Gopal, R. Parvathy, A. Muhammad Azhurudeen and M. Nasser.
 - **Dr. M.P. Remesan**, Senior Scientist – FIMSUL Project overview, orientation and methodology development workshop on fisheries management systems, Chennai (9-10 November)
 - **Dr. R. Raghu Prakash**, Senior Scientist – Workshop on Fishermen awareness and use of TED, Kali Bhang Dia, Orissa (14-15 November)
 - **Dr. George Ninan**, Senior Scientist – National training on Sea cage farming, Research Centre of CMFRI, Vizhinjam (1 November) (As resource person). Dr. Ninan also delivered a talk on 'Post harvest options for seabass and lobster'.
 - **Dr. P. Muhd. Ashraf**, Senior Scientist – Nanotech India 2010 conference, Cochin (19-21 November). Dr. Ashraf also presented a paper entitled, "Electrochemical evaluation of nano titanium oxide and nano cerium oxide incorporated aluminium for use in marine environments" by P. Muhd. Ashraf and Leela Edwin.
 - **Shri V. Radhakrishnan Nair**, Scientist, Sr. Scale – Workshop on Cyber security, Cochin (8 December)
 - **Dr. B. Madhusudana Rao**, Scientist, Sr. Scale – Meeting of policy makers, administrators, technical experts, progressing entrepreneurs and farmers on the status of *Pangasius* fish farming in Andhra Pradesh, NFDB, Hyderabad (14 October)
 - **Dr. J. Charles Jeeva**, Scientist, Sr. Scale – Winter school on Information communication technologies mediated agricultural extension: Basics to advances, BHU, Varanasi (15 December, 2010 to 5 January, 2011)
 - **Smt. K.K. Asha**, Scientist – Demonstration workshop on Software package for nutrient profile data compilation and clinic-epidemiological survey, CIFRI, Barrackpore (29-30 November)
 - **Shri V.R. Madhu**, Scientist – Training on Satellite data processing and enumeration of zooplankton for developing abandon models, SAC, Ahmedabad (15-19 November)
 - **Dr. L.N. Murthy and Dr. C.O. Mohan**, Scientists – Winter school on Nutraceuticals: Challenges and opportunities in 21st century, UAS, Bangalore (29 November – 19 December)



Participants and faculty of Winter School at UAS, Bangalore

- **Dr. Venkateswarlu Ronda**, Scientist – Training programme on HPLC and GC: Operational, preventive and corrective measures, CFTRI, Mysore (25-29 October)
- **Dr. S. Vishu Vinayagam and Dr. V. Muruga Das**, Scientists – Winter School on Current trends in





microbial biotechnology: Genomics, diversity and gene mapping, CIPT, Cochin (9-29 November)

- **Shri Manoj Kumar**, Scientist – National conference of Agricultural Research Statisticians of ICAR Institutes on the theme National priorities in agricultural statistics and informatics, IASRI, New Delhi (23-24 December)
- **Shri K.J. Francis Xavier**, Tech. Officer (T9) – Upgradation and revalidation course for Masters and Deck Officers, Hindustan Institute of Maritime Training, Chennai (22 November – 2 December)
- **Dr. A.R.S. Menon**, Tech. Officer (T9) – Sensitization cum training workshop for Nodal Officers of PIMS-ICAR, NAARM, Hyderabad (25 October)
- **Dr. A.R.S. Menon**, Tech. Officer (T9) – Inter Media Publicity Coordination Committee Meeting, Thiruvananthapuram (30 November)
- **Dr. A.R.S. Menon**, Tech. Officer (T9) – 11th International conference on Public communication of science and technology (PCST-2010) on the theme Science communication without frontiers, New Delhi (6-9 December). Dr. Menon also acted as one of the panelists of Plenary Session on Future challenges for science communication.
- **Shri M.V. Baiju**, Tech. Officer (T7-8) – Meeting of the Port State Control, MMD, Cochin (4 October)
- **Shri M.V. Baiju**, Tech. Officer (T7-8) – Meeting of the Committee to finalize the design of a new vessel, CMFRI, Cochin (25 November & 17 December)
- **Shri M.V. Baiju**, Tech. Officer (T7-8) – Meeting for finalizing the specification of Training-cum-Rescue boat, Directorate of Fisheries, Thiruvananthapuram (2 December)
- **Shri Thomas Teles**, Tech. Officer (T5) – Course on Radar Observer Simulator and Automated Radar Plotting Aid, M/S Eurotech Maritime Academy, Cochin (5-20 October)
- **Dr. Santhosh Alex**, Tech. Officer (T5) – South and west Regional Official Language Conference,

Visakhapatnam (21 December)

- **Dr. Santhosh Alex**, Tech. Officer (T5) – Town Official Language Committee meeting, Visakhapatnam (28 December)
- **Smt. Pushpalatha Viswambharan**, AAO – Training on Administrative vigilance, ISTM, New Delhi (6-10 December)
- **Smt. K.A. Anju, Smt. Elizabeth and Shri Rakesh**, Research Associates – Workshop on Managing intellectual property rights in collaborative R&D and marketing of products, Bangalore (10-11 December)

Personalia

Appointments

1. Smt. Arathy Ashok, Scientist (Agricultural Extension), Cochin
2. Shri Charles Ekka, SAO, Cochin

Promotions

1. Dr. P. Muhd. Ashraf, Scientist (SG), Cochin as Senior Scientist
2. Dr. J. Bindu, Scientist (SG), Cochin as Senior Scientist
3. Dr. U. Sreedhar, Scientist (SG), Visakhapatnam as Senior Scientist
4. Dr. George Ninan, Scientist (SG), Cochin as Senior Scientist
5. Shri Laxmi Narayan Badi, UDC, Burla as Asst.
6. Shri G. Chinna Rao, UDC, Visakhapatnam as Asst.
7. Shri A.N. Agawane, UDC, Mumbai as Asst.
8. Smt. V.P. Vijaykumari, PA, Cochin as PS
9. Shri P.P. George, SSS, Cochin as LDC

Retirements

1. Shri N.M. Vasu, Tech. Officer (T5), Cochin
2. Shri K. Prakash Rao, Tech. Officer (T5), Visakhapatnam

