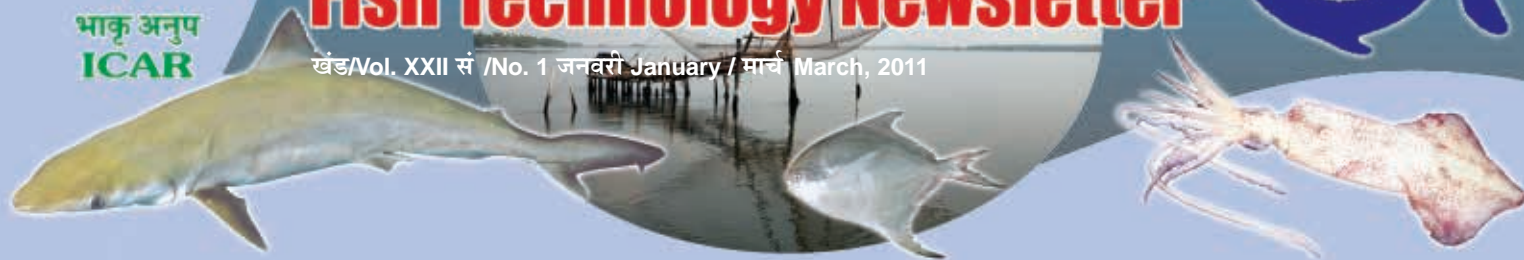




भाकृ अनुप  
ICAR

# मत्स्य प्रौद्योगिकी समाचार Fish Technology Newsletter

खंड/Vol. XXII सं /No. 1 जनवरी January / मार्च March, 2011



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## Editorial Committee

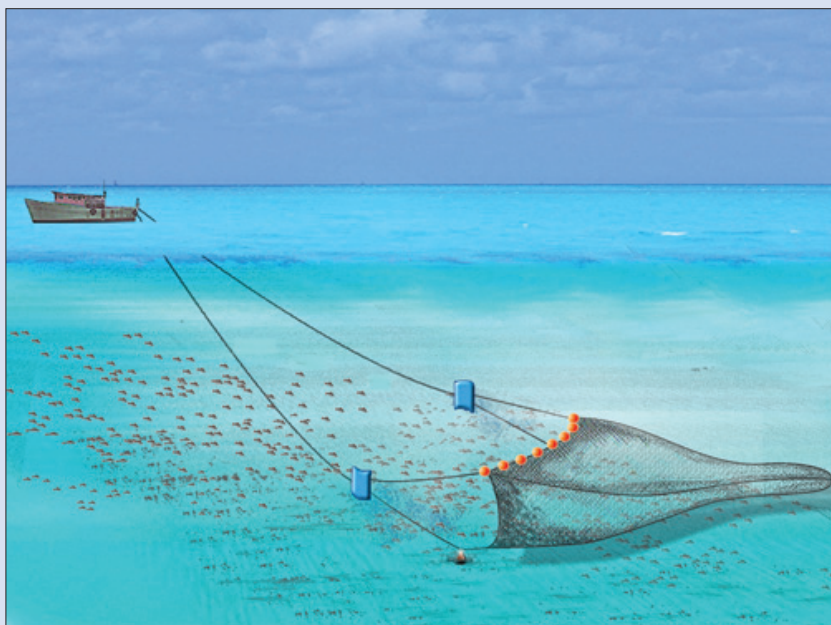
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## News from the Research Front

### CIFT Semi-pelagic Trawl System: An Eco-friendly Alternative to Bottom Trawling for Small-scale Mechanised Sector

Trawling industry in India tended to be shrimp-oriented, due to its economic importance and export value. The Indian trawler fishermen cannot depend on shrimp alone for viable commercial operations any more, due to proliferation of trawlers and overfishing of target resources. There are over 29000 trawlers operating in small-scale mechanised sector of India (CMFRI, 2006). Trawler fishermen require to adopt

appropriate fishing gear to expand their reach to harvest large demersal and semi-pelagic species which are beyond the reach of currently existing designs of shrimp/fish trawls. Responsible fishing regime, which is promoted in India and around the world, requires that selectivity of the gear has to be improved and its negative environmental impact has to be reduced, in order to protect the biodiversity and environment and to



Artist's perspective of CIFT SPTS

केन्द्रीय मात्स्यकी प्रौद्योगिकी संस्थान

सिफ्ट जंक्शन, मत्स्यपुरी पो.ओ., कोच्चिन - 682 029

**Central Institute of Fisheries Technology**

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



ensure long-term sustainability of the fishery resources. It is in this context, CIFT has developed a semi-pelagic trawl system, for the benefit of the mechanised trawling sector.

Resource specific trawls for semi-pelagic resources have comparatively low impact on the benthic biota (Brewer *et al.*, 1996; Mounsey and Prado 1997; He, 2007). In the semi-pelagic trawl system the otter boards remain in touch with the bottom, but the trawl floats at some distance above the bottom. Different aspects of semi-pelagic trawling and its advantages in the Indian context have been discussed by Vijayan *et al.* (1996), Vijayan *et al.* (1998), Remesan *et al.* (2003), Vijayan *et al.* (2003a), Vijayan *et al.* (2003b), Anon (2006), Vijayan and Baiju (2006), Devadasan and Boopendranath (2009), Boopendranath (2009) and Vijayan (2009). Semi-pelagic trawling of different designs are in use in Australian and North-Atlantic waters, targeted at snappers, blue whiting, silver smelt, Atlantic mackerel and other semi-pelagic resources, prevalent in these waters.

### CIFT semi-pelagic trawl system

CIFT semi-pelagic trawl system, christened as CIFT SPTS was developed as an alternative to shrimp trawling in the small-scale mechanised trawler sector, after extensive field-testing. It is capable of attaining catch rates beyond 200 kg.h<sup>-1</sup> in moderately productive grounds and selectively harvest fast swimming demersal and semi-pelagic finfishes and cephalopods, which are generally beyond the reach of conventional bottom trawls, currently used in commercial trawl fisheries in India. The version of CIFT SPTS released recently by CIFT was developed by a team of researchers of Fishing Technology Division of CIFT, viz. Shri V. Vijayan, Dr. M.P. Remesan, Dr. P. Pravin, Dr. S.K. Panda, Shri V.R. Madhu, Shri M.V. Baiju, and Dr. M.R. Boopendranath, under an ICAR funded Institute Project, *Development Studies on Responsible Trawl Systems*, operated from Cochin (Kerala) and Veraval (Gujarat), based on earlier investigations on semi-pelagic trawls by Shri V. Vijayan, Dr. M.D. Varghese, Shri P. George Mathai, Dr. V.C. George, Shri P. Dawson, Shri R.S. Manoharadoss and Shri M.V. Baiju (Vijayan *et al.*, 1996; Vijayan *et al.*, 1998; Vijayan *et al.*, 2003a; Vijayan

*et al.*, 2003b; Vijayan and Baiju, 2006). CIFT SPTS has been developed and perfected after extensive field trials and observations, using acoustic gear monitoring instrumentation and inference from statistical evaluation of catch, over an extended period.

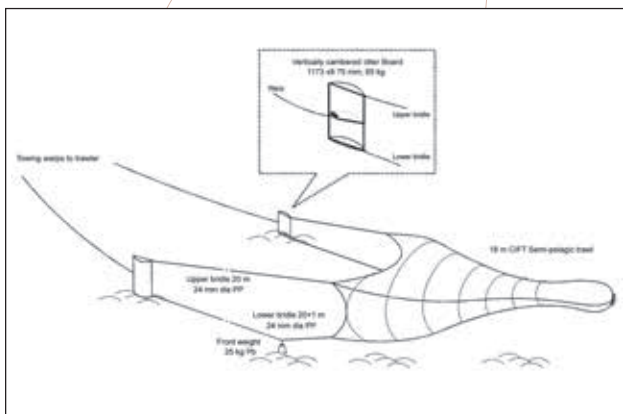
The system consists of an 18 m four panel semi-pelagic trawl with double bridles, front weights of 25 kg each and vertically cambered high aspect ratio otter boards (trawl doors) of 85 kg each.

### Advantages of the CIFT-SPTS over the conventional shrimp/fish trawl systems practiced in Indian fishing industry

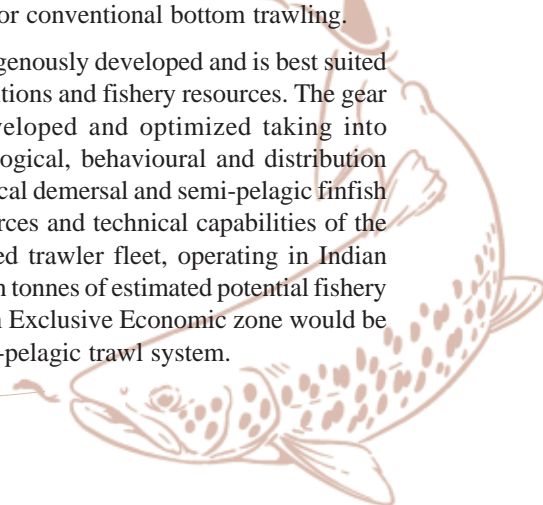
Major advantages of the CIFT SPTS over the conventional shrimp/fish demersal trawl systems in vogue in Indian fishing industry are enumerated below:

- Conventional bottom trawls are proven to cause high bottom impact on the benthos. As the semi-pelagic trawl is designed to operate at some distance above the bottom, the bottom impact of semi-pelagic trawl is significantly low, making it an ecologically friendly gear, compared to bottom trawls.
- Results of performance evaluation and biodiversity analysis have shown that CIFT SPTS has significantly high resource specificity for off-bottom (semi-pelagic) finfishes, which are generally large in size, fast swimming and exhibit shoaling characteristics. Conventional bottom trawls have poor resource specificity and size selectivity and have greater impact on biodiversity and sustainability.
- Conventional bottom shrimp and fish trawls have low vertical opening, mostly limited to 1-1.5 m and hence their catches are limited to species living close to the bottom. Due to higher vertical opening up to 4 m realized in CIFT SPTS, resources that are beyond the reach of conventional bottom trawls, could be efficiently harvested.
- Significantly high sheer-drag ratio of vertically cambered high aspect ratio otter boards, makes the system energy-efficient, compared to conventional flat rectangular and V-form otter boards. The vertically cambered high aspect ratio otter boards have dual-purpose capabilities and can also be deployed for conventional bottom trawling.

CIFT SPTS is indigenously developed and is best suited to Indian fishing conditions and fishery resources. The gear system has been developed and optimized taking into consideration the biological, behavioural and distribution characteristics of tropical demersal and semi-pelagic finfish and cephalopod resources and technical capabilities of the small-scale mechanised trawler fleet, operating in Indian waters. About 2 million tonnes of estimated potential fishery resources in the Indian Exclusive Economic zone would be accessible to the semi-pelagic trawl system.



Rigging of CIFT Semi-pelagic Trawl System







CIFT SPTS with exchangeable codends is prescribed for harvesting non-shrimp trawl resources (55 mm codend for small demersals like mackerel and horse mackerel and 166 mm codend for tall bodied fishes like pomfrets), based on codend selectivity studies.



Operation of CIFT SPTS, off Cochin

Trawler fishermen in India cannot depend on shrimp and associated species alone for viable commercial operations any more, and there is need to adopt responsible alternate trawl systems for harvesting large demersal and semi-pelagic species. CIFT SPTS has been developed and perfected after extensive field trials and observations onboard, over an extended period. Its adoption and responsible use will be a boon to the Indian small-scale trawling industry, to enhance fish production and profits and minimize environmental impacts of trawling. Shrimp trawls when operated should be equipped with Bycatch Reduction Devices (BRDs) and should target shrimp alone, in order to conserve fishery resources and minimise biodiversity loss due to trawling. CIFT SPTS with exchangeable codends (55 mm codend for small demersals like mackerel and horse mackerel and 166 mm codend for tall bodied fishes like pomfrets) is prescribed for harvesting non-shrimp trawl resources.

#### Release of Technology Advisory by DDG (Fisheries), ICAR, New Delhi

The technology was released for the benefit of the fishing industry by Dr. B. Meenakumari, Deputy Director General (Fisheries), ICAR, New Delhi at a function organized at CIFT, well-attended by representatives from State Fisheries Departments, fisheries development agencies, NGOs and fishing industry. The occasion was graced by the presence of Dr. K. Gopakumar, former DDG (Fisheries), ICAR; Dr. K. Ravindran and Dr. K. Devadasan, former Directors of CIFT, Dr. V.C. George, former HOD (Fishing Technology) and former Scientists and Technical Officers of Fishing Technology Division. The first copy CIFT Technology Advisory Series publication titled *CIFT Semi-pelagic Trawl System: An Ecofriendly Alternative to Bottom Trawling for Small-scale Mechanised Sector* was received by Smt. Saira Banu, Joint Director of Fisheries (Central Zone), Kerala,

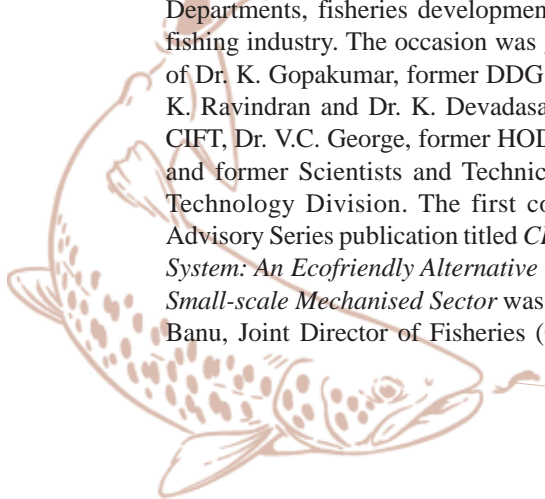
who also offered felicitations on the occasion. Dr. Leela Edwin, Head, Fishing Technology Division, CIFT welcomed the gathering; Dr. T.K. Srinivasa Gopal, Director, CIFT presided over the function; Dr. M.R. Boopendranath, Principal Scientist gave a brief introduction to the new technology and Dr. P. Pravin, Senior Scientist offered Vote of Thanks.



Dr. B. Meenakumari, Deputy Director General (Fisheries), ICAR releases Technology Advisory on CIFT SPTS, on 7 March 2011, at CIFT, (from Left: Dr. Leela Edwin, Dr. M.R. Boopendranath, Dr. B. Meenakumari, Dr. T.K. Srinivasa Gopal, Smt. Saira Banu and Dr. P. Pravin)

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**Dr. M.R. Boopendranath, Dr. M.P. Remesan, Dr. P. Pravin and Shri V.R. Madhu**  
Fishing Technology Division, CIFT, Cochin

\*Copies of the CIFT Technology Advisory Series Publication titled *CIFT Semi-pelagic Trawl System: An Eco-friendly Alternative to Bottom Trawling for Small-scale Mechanised Sector* can be ordered from the Director, Central Institute of Fisheries Technology, CIFT Junction, P.O. Matsyapuri, Cochin – 682 029, Kerala, India, specifying the number of copies and enclosing the DD for the total face value of the book (Rs. 50/- per copy), drawn in favour of the Director, Central Institute of Fisheries Technology, payable at Cochin.

### **Pangasius sutchi – An emerging species for value addition**

Presently catfish farming is gaining importance as an alternative to carps in different parts of the country; accordingly its contribution to the overall fish production is on the rise. The main species of catfishes recently adopted for culture with Indian major carps are yellowtail catfish (*Pangasius pangasius*) and sutchi catfish (*Pangasianodon hypophthalmus/Pungasius sutchi*). Since the fish doesn't have intramuscular bones, the flesh can easily be filleted. The absence of fishy odour, delicate flavour and the firm texture when cooked allow a wide range of preparations with *Pangasius* fillets.

The Fish Processing Division of CIFT, Cochin has initiated studies for developing post harvest technologies and value added products like balls, nuggets, pickle etc. from

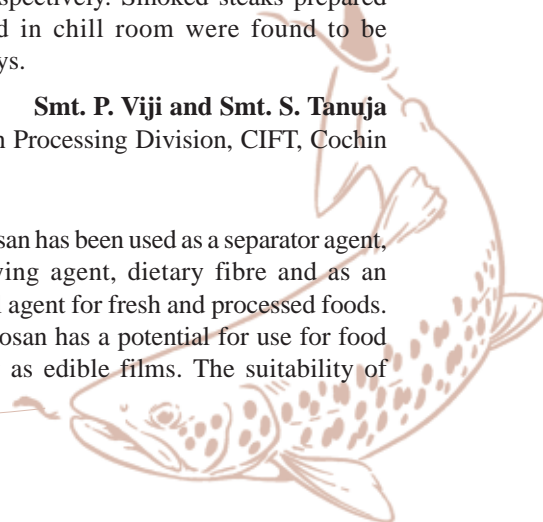
the farmed *P. sutchi* fillets. Fishes weighing 1.5-2 kg are the preferred size for harvest and marketing. Large specimens weighing above 2 kg contain significant quantity of subcutaneous fat and collagen in meat, and to be considered as inferior in table quality. Average yield of fish after gutting was found to be 76.8% and fillet yield from gutted fish was about 42%. *Pangasius* steaks had a shelf life of 15-17 days in chilled storage. Storage studies of whole and gutted samples in iced condition indicated a marked difference in the quality of meat. The colour as well as the texture was significantly better in the gutted samples. Shelf life of balls and nuggets during cold storage was found to be 15 and 11 days respectively. Smoked steaks prepared from *P. sutchi* stored in chill room were found to be acceptable upto 27 days.

**Smt. P. Viji and Smt. S. Tanuja**  
Fish Processing Division, CIFT, Cochin

### **Chitosan – A Promising biopolymer**

Biodegradable coating with polysaccharides and proteins are being widely used in food industry to suppress quality changes during storage. Chitosan [ $\beta$ -(1,4)-2 amino-2 deoxy-D-glucopyranose] is the second most abundant biopolymer in nature after cellulose. Due to its biocompatibility and

non-toxic nature, chitosan has been used as a separator agent, adsorbent aid, clarifying agent, dietary fibre and as an effective antimicrobial agent for fresh and processed foods. Apart from these, chitosan has a potential for use for food packaging, especially as edible films. The suitability of





chitosan coating in enhancing the shelf life of chilled stored cobia (*Rachycentron canadus*) was evaluated. Cobia steaks were coated with chitosan solution at 1% and 2% concentration in 1% acetic acid (w/v). Coating with chitosan solutions showed desirable effect in enhancing the shelf life of cobia steaks in terms of biochemical, microbial and sensory attributes. Chitosan treated samples were acceptable till 19<sup>th</sup> day of chilled storage compared to 10 days for control samples. Attempt has been made to develop packaging film

from chitosan. Chitosan films were prepared at different thickness. The films were characterized based on mechanical (tensile strength, elongation at break, elastic modulus etc.), physical (oxygen transmission rate, CO<sub>2</sub> transmission rate, surface colour measurement, water solubility and swelling index with respect to air and water) and optical properties (UV-VIS spectra). Based on the properties evaluated, it is evident that chitosan can be ideally used for making packaging films.

**Dr. P.K. Binsi and Dr. C.N. Ravishankar**  
Fish Processing Division, CIFT, Cochin

**Dr. K.V. Lalitha**

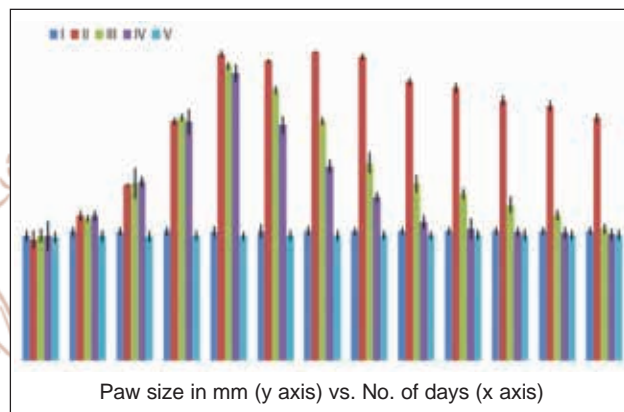
Microbiology, Fermentation and Biotechnology Division, CIFT, Cochin

### Effect of *Centrophorus scalpratus* liver oil against CFA-induced arthritis in Albino rats

Rheumatoid arthritis is a systemic autoimmune disease that causes chronic inflammation of the joints, a potential debilitating inflammatory disorder that affects more than seven million people in India every year. The most suitable remedy for the treatment of arthritis is to rely on the use of non-steroidal anti-inflammatory drugs (NSAIDs). But most NSAIDs available today have their negative side effects as they block the activity of the enzyme cyclooxygenase I (COX I) which otherwise produces metabolites required for the normal homeostasis. Natural drugs/nutraceuticals which can selectively inhibit the activity of COX II during inflammation are the need of the hour. Clinical trials on rheumatoid arthritis patients who relied on fish oil as a supplement of their diet have shown decreased joint tenderness, joint pain, swelling and morning stiffness.

The objectives of the study conducted in Biochemistry & Nutrition Division of CIFT, Cochin were to study the efficacy of *Centrophorus scalpratus* (CS) liver oil against Complete Freund's Adjuvant-induced arthritis and to compare the anti-inflammatory activity of this oil with a traditionally used anti-inflammatory substance-gingerol (oleoresin extracted from ginger).

Thirty wistar strain male Albino rats were divided into



Effect of *C. scalpratus* liver oil in comparison to gingerol on paw-sizes in CFA-induced arthritis in rats

five groups of six animals each and were fed with standard rat feed throughout the experiment (36 days). Group I served as normal control, Groups II, III and IV were induced with arthritis using CFA (0.01 ml suspension in paraffin oil – 10 mg/ml heat killed *Mycobacterium tuberculosis* injected into right hind paw), the animals were allowed to develop maximum inflammation (as recorded by monitoring the paw size) till the 14<sup>th</sup> day and from the 15<sup>th</sup> day onwards, Groups III and IV animals were treated with the CS liver oil and gingerol respectively. Group V served as the control group for the fish oil administered – no inflammation induced but treated with the CS oil from the 15<sup>th</sup> day.

The major results of the study were as follows. Significant lowering ( $p < 0.05$ ) of paw size/edema and a significant increase in bodyweights for III and IV animals were noted from the 15<sup>th</sup> day of the experiment. Significant ( $p < 0.05$ ) increase in liver weight of Group II animals was also observed. The faster multiplication of acute phase proteins during inflammation might be the probable reason for increase in liver mass noticed in Group II animals. The results of bone histopathology indicated peri-articular inflammation with edema and infiltration of polymorphonuclear neutrophils and lymphocytic cells, synovitis and synovial hyperplasia as well as a severe loss of cartilage and bone in Group II animals whereas administration of CS oil reduced leukocyte infiltration, inflammation, hyperplastic synovitis, erosion of articular cartilage and osteolysis and stabilized lesions in Group III and IV animals.

The presence of inflammation was confirmed with the significantly ( $p < 0.05$ ) elevated levels of marker enzymes of cyclooxygenase (COX), myeloperoxidase (MPO) and nitric oxide (NO) levels. COX levels were significantly high in paw tissue homogenates of Group II, III and IV animals; however there was a significant inhibition of COX II (70%) activity in Group III and IV treated animals, thus highlighting the anti-inflammatory properties of the CS oil and gingerol extracts. Corresponding and significant decline ( $p < 0.05$ ) in



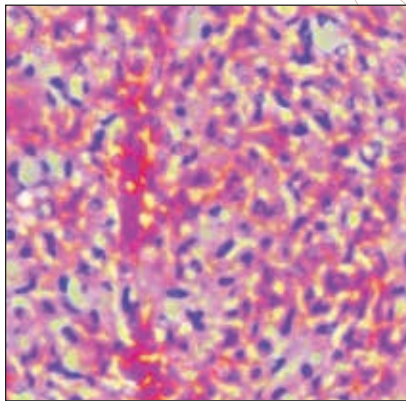


MPO and NO levels were observed in Group III and IV animals compared to Group II animals.

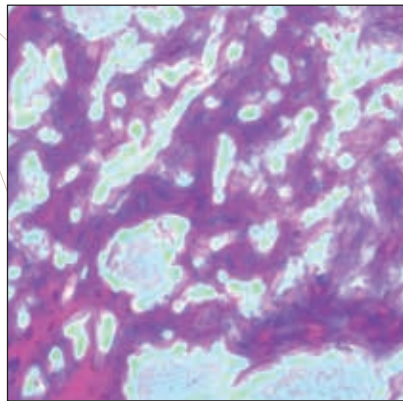
The results of the present study indicated that both C.

*scalpratus* liver oils as well as gingerol extracts proved to be effective natural remedies against CFA-induced arthritis in Albino rats.

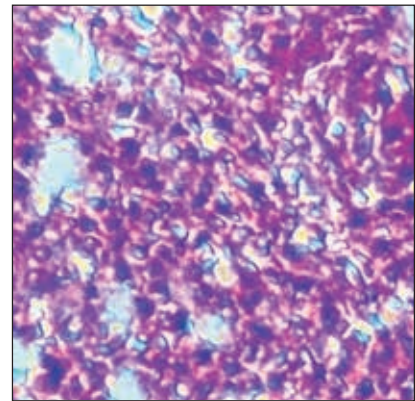
### Histopathology of bone tissues



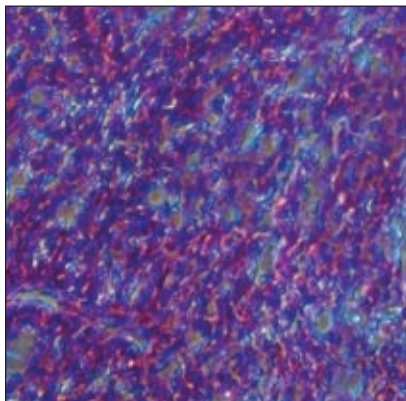
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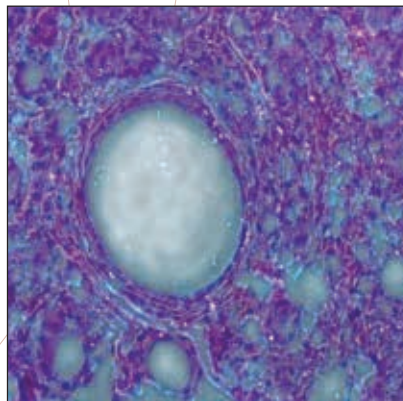
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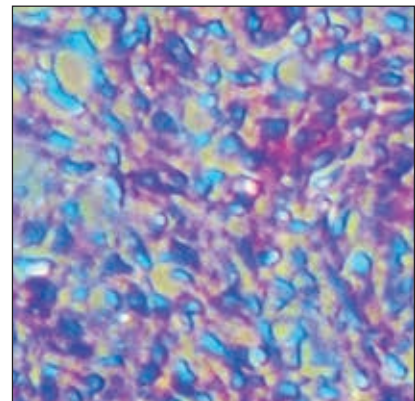
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(a, d) Normal architecture of rat bone tissue.

(b, e) CFA induced tissues with periarticular inflammation, edema and infiltration of polymorphonuclear neutrophils and lymphocytic cells, synovitis and synovial hyperplasia as well as a severe loss of cartilage and bone. Presence of more adjuvant filled globules observed.

(c, f) Administration of CS oil/gingerol extracts reduced leukocyte infiltration, inflammation, hyperplastic synovitis, erosion of articular cartilage and osteolysis. Stabilized lesions observed.

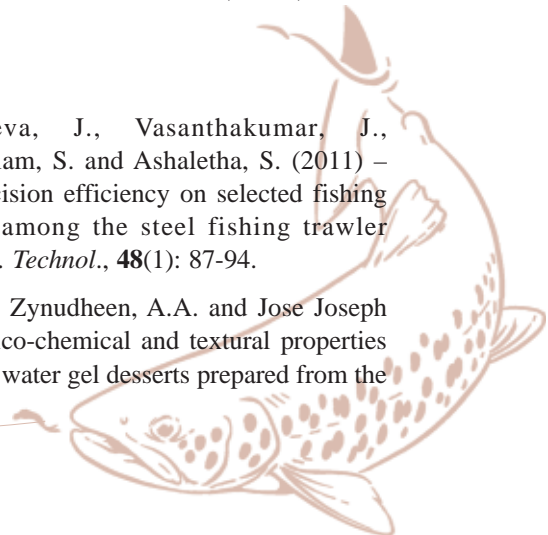
(Magnifications in both 20X (a, b, c) and 40X (d, e, f) using CKX-41 microscope)

- Dr. Mathen Mathew and Dr. Suseela Mathew  
Biochemistry & Nutrition Division, CIFT, Cochin

## Publications

### Research Papers

1. Asha, K.K. and Devadasan, K. (2011) – Taurine supplementation reduces the oxidative stress associated with galactosamine-induced fulminant hepatic failure in rats, *Fish. Technol.*, **48**(1): 51-58.
2. Boopendranath, M.R., George, V.C. and Hameed, M.S. (2010) – Energy efficiency in trawling operations, *J. Coast. Env.* **1**(1): 53-70.
3. Charles Jeeva, J., Vasanthakumar, J., Balasubramaniam, S. and Ashaletha, S. (2011) – Innovation decision efficiency on selected fishing technologies among the steel fishing trawler operators, *Fish. Technol.*, **48**(1): 87-94.
4. George Ninan, Zynudheen, A.A. and Jose Joseph (2011) – Physico-chemical and textural properties of gelatins and water gel desserts prepared from the





- skin of freshwater carps, *Fish. Technol.*, **48**(1): 67-74.
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  6. Madhu, V.R., Meenakumari, B. and Panda, S.K. (2011) – Codend mesh selectivity of *Uroteuthis (Photololigo) duvauceli* (d'Orbigny, 1848), *Fish. Technol.*, **48**(1): 33-40.
  7. Muhamed Ashraf, P. and Saly N. Thomas (2011) – Bio-accumulation of trace metals in biofilms formed on aluminium and steel in aquatic environment, *Fish. Technol.*, **48**(1): 25-32.
  8. Murthy, L.N., Panda, S.K. and Shamsundar, B.A. (2011) – Physico-chemical and functional properties of proteins of tilapia (*Oreochromis mossambicus*), *J. Food Process Engg.*, **34**: 83-107.
  9. Sabu, S., Gibinkumar, T.R., Pravin, P. and Boopendranath, M.R. (2011) – Performance evaluation of bigeye bycatch reduction device in the seas off Cochin, India, *Fish. Technol.*, **48**(1): 41-50.
  10. Sivaperumal, P. and Sankar, T.V. (2011) – Toxic effects of methyl parathion on antioxidant enzymes and acetylcholinesterase activity in freshwater fish, *Labeo rohita*, *Fish. Technol.*, **48**(1): 59-66.
  11. Smitha, N.R., Leejee James, Iyer, T.S.G. and Sanjeev, S. (2011) – Quantitative studies on halophilic pathogenic Vibrios in fish and fish products, *Fish. Technol.*, **48**(1): 75-80.

### Book

1. CIFT (2011) - CIFT Semi Pelagic Trawl System: An Eco-friendly Alternative to Bottom Trawling for Small-scale Mechanised sector, CIFT Technology Advisory Series, CIFT, Cochin , 16 p

### Book Chapters

1. Panda, S.K. (2011) – Microbiological issues in the farming bivalve of molluscs, In: Mussel Farming (Eds.) Ashokan, P.K. , CMFRI, Cochin
6. Comparative account on the kinetics of ATP degradation in Catla and Mullet on ice storage for quality determination (15 January – 18 March)
7. Studies on the biochemical and functional properties of fresh squid (15 January – 18 March)
8. Fish processing technology and value addition in fish (14-18 January)
9. Molecular methods for characterization of seafood borne pathogens (9 December, 2010 to 10 February, 2011, 9-10 February, 10 January – 10 March)
10. Detection and molecular characterization of *Vibrio cholera* in seafood (10 January – 10 March)
11. Changes in the biochemical constituents of green

## Training Programmes

### Cochin

1. Development of pet food from tuna canning waste (3 January - 3 February)
2. Development of canned fish (Lizard fish) in oil in TFS cans (3 January - 3 February)
3. Development of canned fish (Lizard fish) in its own body fluid (3 January - 3 February)
4. Fermentation of marine bacteria for production of industrial enzymes (9 December, 2010 to 10 January, 2011)
5. Seafood quality assurance (10-22 January & 21 March-2 April)



Dr. Balasubramaniam, HOD, EIS imparting training to women entrepreneurs



Dr. Femeena Hassan, Senior Scientist imparting Seafood quality assurance training





- mussel during thermal processing in brine in TFS cans (15 January – 11 March)
- 12. Changes in the nutritive value of squid during *Sous vide* process (15 January – 11 March)
- 13. Comparative study on the spoilage rate in the squid and the fin fish pearl spot during ice storage (15 January – 11 March)
- 14. Nutritional changes in the muscle of the oceanic squid during blanching (15 January – 11 March)
- 15. Study of nutritional changes in Indian white prawn during two methods of heat processing viz., blanching and microwaving (15 January – 11 March)
- 16. Comparative account on the kinetics of ATP degradation in Catla and Mullet on ice storage for quality determination (15 January – 18 March)
- 17. Studies on the biochemical and functional properties of fresh squid (15 January – 18 March)
- 18. Comparative studies on enumeration of *V. parahaemolyticus* in fish (20 January – 28 February)
- 19. Isolation and identification of bacteria of public health significance viz. *E. coli*, faecal Streptococci, *S. urens* and *Salmonella* from fish (20 January – 28 February)
- 20. Prevalence of potentially pathogenic halophilic Vibrios in fish (20 January – 28 February)
- 21. Detection of antibacterial substances in fish and fishery products by bacteriological method (20 January – 28 February)
- 22. Recent advances in fish processing and quality assurance (21-24 January)
- 23. Post harvest practices, hygienic handling and value added products (24 January)
- 24. HACCP concepts (7-11 February)
- 25. Characterization of Bhavani and Cauvery river waters to monitor the level of pollution and its impact on nutrient value of *Labeo rohita* (Rohu) (13 December 2010 to 13 March 2011)
- 26. Studies on biochemical constituents of Mrigal from polluted waters of rivers Bhavani and Cauvery (13

December 2010 to 13 March 2011)

- 27. Studies on the biochemical alterations in the nutrient profile of Black Bream (*Acanthapagous butchui*) during freezing (3 March - 21 April)
- 28. Electrophoretic separation of proteins using SDS-PAGE and quantitative analysis of amino acids using HPLC in *Johnius dussumieri* (3 March - 21 April)
- 29. Study on the nutrient properties of Milk fish (*Chanos chanos*) collected from Arabian sea (3 March - 21 April)
- 30. Biochemical studies on the amino acid composition, fatty acid profile and mineral status of Sharp tooth snapper (*Pristromoides filamentous*) caught off Indian West Coast waters (3 March - 21 April)
- 31. Evaluation of freshness and quality of Gar fish (*Xenentodan cancila*) using K-value and its amino acid profile (3 March - 21 April)

### Visakhapatnam

- 1. Post harvest practices, hygienic handling and value added products (24 January & 25 March)
- 2. Hygiene at fish landing centres/fishing harbours, utilization of low cost fish and conservation measures in relation to marine resources especially endangered species (9 March)
- 3. Microbiological examination of seafood (14-18 March)

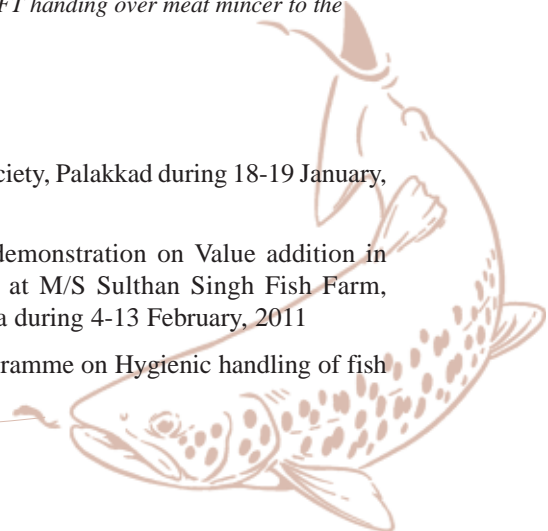


Dr. Leela Edwin, HOD, FT handing over meat mincer to the fisherwomen

## Outreach Programmes

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

- 1. Training on Freshness and quality in seafoods, Moothakunnam, Ernakulam on 14 January, 2011.
- 2. Workshop on Value chain oriented fishery micro enterprises through women at Chulliyar SC/ST Cooperative Society, Palakkad during 18-19 January, 2011.
- 3. Training cum demonstration on Value addition in freshwater fish at M/S Sulthan Singh Fish Farm, Karnal, Haryana during 4-13 February, 2011
- 4. Awareness programme on Hygienic handling of fish







Inauguration of training at Karaikal



Fisherwomen salting fish at Thiruvizha



Dr. G. Rajeswari delivering lecture at Kakinada



Dr. M.M. Prasad addressing the participants at Nizampatnam

in fish market at Nehru Bazar Fish Market, Visakhapatnam on 18 February, 2011.

5. Training on Post harvest technology of fish at Thiruvizha, Alappuzha district during 22-23 February, 2011.
6. Training on Value added products for women entrepreneurs at KVK, Karaikal during 22-23 February, 2011
7. Training cum awareness programme on responsible fishing practices organized jointly with State Institute of Fisheries Technology (SIFT) at Kakinada, Visakhapatnam on 23 February, 2011.
8. Training on Value added products for women entrepreneurs at KVK, Nagapattinam during 24-25 February, 2011
9. Awareness programme on Health benefits of fish, hygienic handling of post harvest fish and exposure

## Participation in Exhibitions

During the quarter the Institute participated in the following exhibitions:

1. Exhibition held in connection with Public Information

to value added fish products at Repalle, A.P. on 3 March, 2011.

10. Workshop on Tuna processing and value addition at Kavarathi, Lakshadweep on 4 March, 2011.
11. Training cum demonstration on Hygienic production of salt cured fish and preparation of value added fish products at Nizampatnam, A.P. on 4 March, 2011.
12. Awareness programme on Health benefits of fish, hygienic handling of post harvest fish and exposure to value added fish products at Kothapalem, A.P. on 4 March, 2011
13. Field level demonstration on Depuration system for oysters at Moothakunnam, Ernakulam on 11 March, 2011.
14. Workshop on Value chain oriented fishery micro enterprises through women at Kannur during 18-19 March, 2011.

Campaign organized by PIB, Govt. of Kerala at Njarakkal during 9-11 January, 2011.

2. Exhibition held in connection with Asian Pacific





'Fifth Assam Matsya Mahotsava-2011'



'Krishi Darpan - 2011'

Aquaculture – 2011 at Cochin during 17-20 January, 2011.

3. Exhibition held in connection with Workshop on Packaging of fresh and processed fish and seafood at Hyderabad on 22 January, 2011.
4. 'Karshika Sankethika Darsanam-2011', exhibition held at IISR, Kozhikode during 27-29 January, 2011.
5. 'Fifth Assam Matsya Mahotsava-2011' exhibition held at Guwahati, Assam during 27-29 January, 2011.
6. 'Technology Week' exhibition held at KVK, Amdalavalasa, Srikakulam district, A.P. during 27-31 January, 2011.
7. Rural Technology Mela exhibition, NIRD, Hyderabad during 2-5 February, 2011. CIFT stall was awarded the 'Best Stall Prize'
8. 'Aqua Aquaria 2011' organized by MPEDA, Cochin

at Chennai during 6-8 February, 2011.

9. 'Agrivision 2011' organized in connection with X<sup>th</sup> Agricultural Science Congress at NBFGR, Lucknow during 10-12 February, 2011.
10. 'Matsya Mela 2011' organized by Department of Fisheries, Govt. of Karnataka and NFDB, Hyderabad at Bangalore during 18-21 February, 2011.
11. 'Fish Festival 2011' organized by the Department of Fisheries, Govt. of Kerala at Thiruvananthapuram during 24-28 February, 2011.
12. 'Tech Festival' organized by Ilahia College of Engineering and Technology at Muvattupuzha during 25-26 February, 2011.
13. 'Krishi Darpan – 2011' programme organized under the NAIP on Mobilizing mass media support for sharing agro information at Cochin during 28-29 March, 2011.

## Workshop on Value Chain

To strengthen and improve the concept of fishery micro enterprises, a two day workshop was organized on "Value chain oriented fishery micro enterprises through women" on 18<sup>th</sup> and 19<sup>th</sup> January, 2011, at Chulliyar SC/ST Cooperative Society, Palakkad. The programme started with the welcome speech by Shri Narendran, Fishery Development Officer, Malampuzha. It was followed by a briefing on the project by Dr. S. Ashaletha, Sr. Scientist and Co-PI of the NAIP, CIFT, Cochin. The highlight ceremony of the day i.e., inauguration was done by Shri Selvan, Panchayath President, Muthalamada, Chulliyar. Felicitations were offered by Shri Ammanulla, Standing Committee Chairman, Chulliyar SC/ST Co-operative Society, Chulliyar. Shri Krishnan, Committee Member 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 from freshwater fishes" was lead by Dr. Martin Xavier, Tech. Asst., CIFT. In the afternoon practical

classes were held on Preparation of products such as fish cutlets, fish fingers, fish pickle, fish balls, fish sandwiches, fish burgers and fish ensilage out of Rohu fish caught from



Inauguration of the workshop on Value chain







Chulliyar dam. Technical sessions continued in the second day of the workshop also. The workshop was with full of energy and aspiring thoughts which motivated all the

participants and they decided to start commercial production of fishery based products as a micro enterprise at the earliest under the guidance of the project.

## National Training Programme / राष्ट्रीय प्रशिक्षण कार्यक्रम

The National Training on “Molecular diagnostics and fingerprinting of *Salmonella* and pathogenic Vibrios associated with seafood and aquatic environments” was conducted at CIFT, Cochin. The training sponsored by National Agricultural Innovation Project, ICAR, New Delhi was organized by the Microbiology, Fermentation & Biotechnology Division of CIFT, Cochin.

The programme was formally inaugurated by the internationally recognized scientist in food microbiology, Dr. Bala Swaminathan, Vice President, IHRC Inc. & Former Adviser to Centre for Disease Control (CDC), Atlanta, USA, at CIFT on 14 February. In his inaugural address, Dr. Bala



Dr. Bala Swaminathan inaugurating the training programme

Swaminathan highlighted that globally *Salmonella* causes 94 million cases of infectious diseases, out of which 80 million cases are estimated to have food borne origin. In this context, the rapid detection of *Salmonella* is of utmost importance. The meeting was presided over by Dr. T.K. Srinivasa Gopal, Director, CIFT. In his presidential address, Dr. Srinivasa Gopal briefed about the research works being carried out at CIFT in rapid detection of pathogenic bacteria, and their fingerprinting and their application in the area of disease investigation and food safety. He suggested the participants to make use of the training programme to develop their core competence in rapid diagnostic methods, since the presence of pathogenic microorganisms is a matter of great concern in this era of globalization, where there is potential scope for food borne illness due to import of food items. Dr. K. V. Lalitha, HOD, MFB welcomed the gathering. Dr. Rakesh Kumar, Scientist and the Course Director introduced the programme. Dr. Toms C. Joseph, Scientist (SG) proposed the vote of thanks.

राष्ट्रीय प्रशिक्षण "सलमोनला का अणु निदानसूचक और अंगुलिछाप और समुद्री खाद्य एवं जलीय पर्यावरण से संबंधित रोगजनक विब्रियोस" पर के मा प्रौ सं में संचालित किया गया। यह प्रशिक्षण राष्ट्रीय कृषि, नवोन्वेषण परियोजना, भा कृ अनु प, नई दिल्ली प्रायोजित और के मा प्रौ सं, कोचिन के सूक्ष्मजीव विज्ञान, किण्वन एवं जैव प्रौद्योगिकी प्रभाग द्वारा आयोजित किया गया।

इस कार्यक्रम का औपचारिक उद्घाटन, खाद्य सूक्ष्मजीवविज्ञान में अंतर्राष्ट्रीय मान्यता प्राप्त वैज्ञानिक डॉ. बाला स्वामीनाथन, उपाध्यक्ष, आई एच आर सी एल., और बीमारी नियंत्रण केन्द्र (सी डी सी) के पूर्व सलाहकार, एटलान्टा, अमेरिका द्वारा 14 फरवरी को के मा प्रौ सं में किया गया। अपने उद्घाटन भाषण में, डॉ.



Participants of the training programme with faculty and Director Incharge

बाला स्वामीनाथन ने कहा कि विश्व में सलमोनला 94 मिलियन संदूषण बीमारियों के मामलों को उत्पन्न कर रहा है, इस में से 80 मिलियन मामले खाद्य जान्य मूल के रूप में आकलित किए गए हैं। इस संदर्भ में, सलमोनला का तेज खोज परमावश्यक है। इस बैठक की अध्यक्षता डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं द्वारा की गई। अपने अध्यक्षीय भाषण में, डॉ. श्रीनिवास गोपाल, के मा प्रौ सं में किए जाने वाले रोगजनक विषाणु के तेज खोज और उनका अंगुलिछाप और बीमारी अन्वेषण एवं खाद्य सुरक्षा के क्षेत्र में उनका अनुप्रयोग की संक्षिप्त जानकारी दिए। उन्होंने इस प्रशिक्षण कार्यक्रम के प्रतिभागियों को सुझाव दिया कि तेज निदानसूचक पद्धति में अपनी आन्तरिक क्षमता का विकास करें क्योंकि इस वैश्विक युग में रोगजनक सूक्ष्मजीवों की उपस्थिति अत्यधिक चिन्ता का विषय है, जहाँ खाद्य पदार्थों के आयात के कारण खाद्य जान्य बीमारियों होने की संभावना है। डॉ. के.वी. ललिता, प्र.अ., सू कि एवं जै प्रौ उपस्थित का स्वागत की। डॉ. राकेश कुमार, वैज्ञानिक एवं पाठ्यक्रम निदेशक इस कार्यक्रम का परिचय कराया। डॉ. टॉमस सी. जोसफ, वैज्ञानिक (व श्रे) कृतज्ञता ज्ञापित किया।





The purpose of the training was to provide theoretical and hands-on training on molecular diagnostics and fingerprinting of bacteria of public health significance such as *Salmonella* and pathogenic *Vibrios* in seafood and aquatic environments. The programme focussed mainly on the conventional and molecular rapid diagnostic methods for seafood borne pathogens, identification of pandemic strains, and serotyping, real-time PCR assay, pulsed field gel electrophoresis analysis, ERIC-PCR for fingerprinting and characterization of virulence genes. The hands-on-training programme was designed to benefit the young Scientists/Teachers working in the field of Microbiology and Biotechnology in ICAR Institutes/Universities and other Colleges in the country. Seventeen participants from various Central Institutes, State Agricultural Universities and other colleges from different parts of the country participated in the two weeks training programme conducted from 14<sup>th</sup> to 27<sup>th</sup> February, 2011.

The valedictory function of the training was held on 26<sup>th</sup> February, 2011. In his valedictory address, Dr. T. Ramamurthy, Dy. Director, National Institute of Cholera and Enteric Diseases (NICED), Kolkata suggested the participants to make use of the core competence in rapid diagnostic methods learned at the training programme in their respective fields. He also congratulated the organizers for having organized the course in the era of globalization, where there is potential scope for food borne illness due to import of food items. Dr. P.T. Lakshmanan, Director-in-Charge, CIFT presided over the function. Dr. Rakesh Kumar gave a brief report on the training. Earlier Dr. K.V. Lalitha welcomed the gathering. Dr. B. Madhusudana Rao, Scientist (SG) and Course Coordinator proposed vote of thanks.

इस प्रशिक्षण का उद्देश्य समुद्री खाद्य एवं जलीय पर्यावरण में सलमोनला एवं रोगजनक विब्रियोस जैसे जनस्वास्थ्य विशेष के जीवाणु का अणु निदानसूचक एवं अंगुलिछाप पर सैद्धांतिक एवं प्रत्यक्ष प्रशिक्षण उपलब्ध करना था। यह कार्यक्रम समुद्री खाद्य जान्य रोगजनक, महामारी विततियों की पहचान, और सेरोटाइपिंग, रीयल टाइम पी सी आर आमापन, स्पन्द क्षेत्र जेल विद्युत कण-संचलन विश्लेषण, अंगुलिछाप के लिए ई आर आई सी-पी सी आर और विषाणु जीनों का चरित्र-चित्रण के लिए परम्परागत एवं अणु तेज निदान सूचक पद्धति पर अधिक जोर देना था। यह प्रत्यक्ष-प्रशिक्षण कार्यक्रम देश में सूक्ष्म जीव विज्ञान एवं जैव प्रौद्योगिकी के भा कृ अनु प के संस्थान/विश्वविद्यालय और अन्य महाविद्यालयों में कार्यरत युवा वैज्ञानिक/प्राध्यापकों के फायदों के लिए अभिकल्पित किया गया। 14 से 17 फरवरी, 2011 तक संचालित इस दो सप्ताह के प्रशिक्षण कार्यक्रम में देश के भिन्न भागों से सत्रह प्रतिभागी भिन्न केन्द्रीय संस्थान, राज्य कृषि विश्वविद्यालय और अन्य महाविद्यालयों से सहभागिता किए।

इस प्रशिक्षण का समापन समारोह 26 फरवरी, 2011 को संपन्न हुआ। अपने समापन भाषण में, डॉ. टी. राममूर्ति, उपनिदेशक, राष्ट्रीय कोलेरा एवं आन्त्र बीमारियों (एन आई सी ई डी), कोलकत्ता प्रतिभागियों को सूझाव दिए कि अपने अपने क्षेत्र में इस प्रशिक्षण कार्यक्रम में सीखे तेज निदानसूचक पद्धतियों की अत्यधिक क्षमता का उपयोग करें। वे इस वैश्विक युग में इस पाठ्यक्रम आयोजित करने हेतु आयोजकों को बधाई दिए, जहाँ खाद्य पदार्थों के आयात के कारण खाद्य जान्य बीमारियों होने की संभावना ज्यादा है। डॉ. पी.टी. लक्ष्मणन, प्रभारी निदेशक, के मा प्रौ सं इस समारोह की अध्यक्षता किए। डॉ. राकेश कुमार इस प्रशिक्षण कार्यक्रम पर एक संक्षिप्त रिपोर्ट प्रस्तुत किया। इस से पहले डॉ. के.वी. ललिता उपस्थित का स्वागत की। डॉ. बी. मधुसूधना राव, वैज्ञानिक (व श्रे) और पाठ्यक्रम समन्वयक कुतज्ञता ज्ञापित किया।

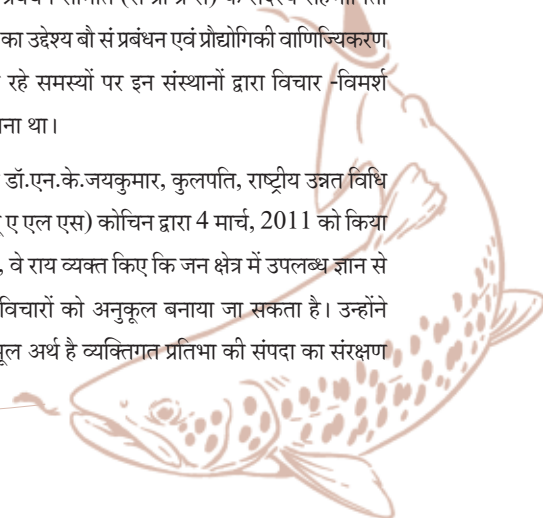
## Annual Meeting-cum-Workshop of ZTM & BPDU / जेड टी एम एवं बी पी डी यू की वार्षिक बैठक-सह-कार्यशाला

The Zonal Technology Management & Business Planning and Development (ZTM-BPD) Unit, South Zone under ICAR at CIFT, Cochin conducted the Annual Meeting-cum-Workshop 2010-11 on 4<sup>th</sup> and 5<sup>th</sup> March, 2011 at Cochin. The Members of Institute Technology Management Committees (ITMCs) from 20 ICAR Research Institutes in South Zone participated in the event. The Meeting-cum-Workshop was aimed to provide an opportunity for these institutes to deliberate on the issues faced by them in IP management and technology commercialization.

The event was inaugurated by Dr. N.K. Jayakumar, Vice Chancellor, National University of Advanced Legal Studies (NUALS), Cochin on 4<sup>th</sup> March, 2011. During his inaugural address, he opined that the traditional ideas on Intellectual Property should be reconciled with the knowledge available in the public domain. He added that the IPR in its original sense was meant to protect the property of the individual

के मा प्रौ सं, कोचिन में भा कृ अनु प के अधीन दक्षिण क्षेत्र, क्षेत्रीय प्रौद्योगिकी प्रबंधन एवं व्यापार योजना एवं विकास (क्षे प्रौ प्र एवं व्या यो एवं वि) की वार्षिक बैठक-सह-कार्यशाला 2010-11 का संचालन कोचिन में 4 एवं 5 मार्च, 2011 को किया गया। इस कार्यक्रम में दक्षिण क्षेत्र स्थित 20 भा कृ अनु प अनुसंधान संस्थानों से संस्थान प्रौद्योगिकी प्रबंधन समिति (सं प्रौ प्र स) के सदस्य सहभागिता किए। यह बैठक-सह-कार्यशाला का उद्देश्य बौ सं प्रबंधन एवं प्रौद्योगिकी वाणिज्यिकरण में उनके द्वारा सामना किए जा रहे समस्याओं पर इन संस्थानों द्वारा विचार-विमर्श करने का अवसर उपलब्ध कराना था।

इस कार्यक्रम का उद्घाटन डॉ. एन.के. जयकुमार, कुलपति, राष्ट्रीय उन्नत विधि अध्ययन विश्वविद्यालय (एन यू ए एल एस) कोचिन द्वारा 4 मार्च, 2011 को किया गया। अपने उद्घाटन भाषण में, वे राय व्यक्त किए कि जन क्षेत्र में उपलब्ध ज्ञान से बौद्धिक संपदा पर परम्परागत विचारों को अनुकूल बनाया जा सकता है। उन्होंने कहा कि बै सं अ बै सं अ का मूल अर्थ है व्यक्तिगत प्रतिभा की संपदा का संरक्षण







Dr. N.K. Jayakumar inaugurating workshop of ZTM & BPDU

intellect, but today it has changed to a law to protect the interests of the investor. Dr. K. Gopakumar, former Deputy Director General (Fisheries), ICAR, New Delhi presided over the function. In his presidential address Dr. Gopakumar said that in India, the system of patenting has to be revamped. Dr. Sanjeev Saxena, Principal Scientist (IP & TM), ICAR, New Delhi in his felicitation address, emphasized that IPR besides establishing our ownership will improve the visibility which will have an impact and in turn benefit the system. Similarly ICAR will enhance the quality of the process of transfer of technology.

Dr. Leela Edwin, Member Secretary, Zonal Institute Technology Management Committee (ZITMC), CIFT welcomed the gathering and Dr. C. N. Ravishankar, Principal Investigator, Business Planning and Development Unit, CIFT proposed the vote of thanks.

The technical sessions that followed, were chaired by Dr. K. Gopakumar and Dr. Sanjeev Saxena. Dr. Nikita Gopal, Senior Scientist and Dr. A.R.S. Menon, Tech. Officer (T9), CIFT were the Rapporteurs.

The participants from the Member Institutes were given an insight into the experiences and knowledge acquired by the experts in the field of IP management on 5<sup>th</sup> March 2011. Dr. Elizabeth Varkey, Advocate, Kerala High Court gave a talk on "Patents and Plant Variety Protection" and Adv. Binoy Kadavan, Advocate and Partner, Kadavan Legal Office, Cochin talked on "Copyrights and Trademarks in Agriculture". During the interactive session that followed, discussions were held on various issues faced by the ITMUs in IP and technology management.

The Online Zonal Database Management System developed by the ZTM-BPD Unit, South Zone was introduced to the participants by Shri Nitin Singh, Business Manager, CIFT, Cochin. Dr. Sanjeev Saxena formally released the User Manual for the Database by handing over the first copy to Dr. K. Gopakumar. The database was developed as part of the project website, [www.agriincubator.com](http://www.agriincubator.com) with the aim of efficiently managing the IP and technological assets owned by the Member Institutes of



Participants of workshop of ZTM & BPDU

करना, लेकिन आज निवेशक के हित की संरक्षा करना ही विधि हो गया है। डॉ. के. गोपकुमार, पूर्व उपमहानिदेशक (मात्स्यिकी), भा कृ अनु प, नई दिल्ली द्वारा इस समारोह की अध्यक्षता की गई। अपने अध्यक्षीय भाषण में डॉ. गोपकुमार ने कहा कि भारत में, पेटेंट की प्रणाली का पुनरुद्धार किया जाना चाहिए। डॉ. संजय सक्सेना, प्रधान वैज्ञानिक (बौ सं एवं मार्का), भा कृ अनु प, नई दिल्ली अपने आशीर्वाचन भाषण में जोर दिया कि बौ सं अ हमारे स्वामित्व की स्थापना के अलावा दृष्टि क्षेत्र में सुधार करता जिस का प्रभाव रहता और बदले में यह प्रणाली फायदा उठा सकती है। भा कृ अनु प समान रूप से प्रौद्योगिकी हस्तांतरण की प्रक्रिया की गुणता में वृद्धि करेगा।

डॉ. लीला एड्विन, सदस्य सचिव, क्षेत्रीय संस्थान प्रौद्योगिकी प्रबंधन समिति (क्षे सं प्रौ प्र सं), के मा प्रौ सं उपस्थित का स्वागत की और डॉ. सी.एन. रविशंकर, प्रधान वैज्ञानिक, व्यापार योजना और विकास यूनिट, के मा प्रौ सं कृतज्ञता ज्ञापित किया।

इस के उपरांत संपन्न तकनीकी सत्रों की अध्यक्षता डॉ. के. गोपकुमार एवं डॉ. संजीव सक्सेना द्वारा की गई। डॉ. निकिता गोपाल, वरिष्ठ वैज्ञानिक एवं डॉ. ए.आर.एस. मेनोन, तकनीकी अधिकारी (टी 9), के मा प्रौ सं रापोर्टर थे।

सदस्य संस्थानों के प्रतिभागी बौ सं प्रबंधन के क्षेत्र में विशेषज्ञों द्वारा प्राप्त अनुभव एवं ज्ञान की अंतरदृष्टी को 5 मार्च 2011 को प्रदान किया। डॉ. एलीजबेथ वर्की, अधिवक्ता, केरल उच्चन्यायालय ने "पेटेंट और संयंत्र विशेषता संरक्षण" पर एक भाषण प्रदान किया और अधिवक्ता बीनोए कंडावन, अधिवक्ता और साझेदार, कंडावन विधि कार्यालय, कोचिन ने "कृषि में कॉपीराइट एवं मार्का" पर भाषण दिया। अन्योन्यक्रिया सत्र के बाद बौ.सं.में सं प्रौ प्र यू और प्रौद्योगिकी प्रबंधन द्वारा सामना किए जाए रहे विभिन्न समस्याओं पर विचार विमर्श किया गया।

क्षे प्रौ प्र- व्या यो एवं वि यूनिट, दक्षिण क्षेत्र द्वारा विकसित ऑनलाइन क्षेत्रीय आँकड़ा आधार प्रबंधन प्रणाली का परिचय श्री नितिन सिंह, व्यापार प्रबंधक, के मा प्रौ सं, कोचिन द्वारा सहभागियों को कराया गया। डॉ. संजीव सक्सेना औपचारिक रूप से आँकड़ा आधार प्रयोक्ता नियमावली का विमोचन डॉ. के. गोपकुमार को प्रथम प्रति सौंप कर किया। यह आँकड़ा आधार वेबसाइट [www.agriincubator.com](http://www.agriincubator.com) इस परियोजना के भाग के रूप में दक्षिण क्षेत्र के सदस्य संस्थानों के स्वामित्व बौ सं एवं प्रौद्योगिकीय सम्पत्ति का कार्यक्षम प्रबंधन के





South Zone.

Dr. Sanjeev Saxena concluded the Meeting-cum-Workshop by summarizing the proceedings and proposing the recommendations of the technical sessions. Dr. Leela Edwin proposed the vote of thanks.

## India's first Integrated- Zero Waste Agri-Business Venture, Pioneered by CIFT Incubatee / भारत का पहला समेकित-शून्य रद्दी कृषि-व्यापार उद्यम, के मा प्रौ सं उद्भवी द्वारा पथप्रदर्शन

The CIFT, Cochin has set a model for the public private partnership through the establishment of India's first inland fish processing facility in the village of Bhutana, Karnal district of Haryana. The hard work and consistent efforts of a progressive fish farmer cum entrepreneur, Shri Sultan Singh has brought the village of Bhutana into the limelight. He is the man behind the establishment of the 'Sultan Singh's Fish Seed Farm', 'Sultan Singh's Food Court' and the Processing Unit for the production of value added products from fish.



Dr. S. Ayyappan, inaugurating the processing facility

The unit was inaugurated by Dr. S. Ayyappan, Secretary, DARE and Director, General, ICAR on 26<sup>th</sup> February 2011. During his inaugural address, he opined that the fish farm and the processing unit provided facilities as per international norms and standards, and is a model for the nation, in the field of diversified fisheries ventures.

Shri Sultan Singh is a registered incubatee under the Zonal Technology Management – Business Planning and Development Unit, South Zone, an agricultural business incubation initiative of ICAR at CIFT, Cochin. The processing unit at Karnal was set up in technical collaboration with the Fish Processing and Quality Assurance & Management Divisions at CIFT, Cochin. He has been associated with CIFT, Cochin since 2008. He is the first incubatee from CIFT, to establish a successful business venture in the field of inland fisheries in India. Scientists from CIFT have provided the technical guidance

उद्देश्य से विकसित किया गया।

डॉ. सजीव सक्सेना इस बैठक-यह-कार्यशाला की समाप्ति कारवाई एवं तकनीकी सत्रों के सिफारिशों के प्रस्ताव द्वारा किया। डॉ. लीला एड्वीन कृतज्ञता प्रस्तावित की।

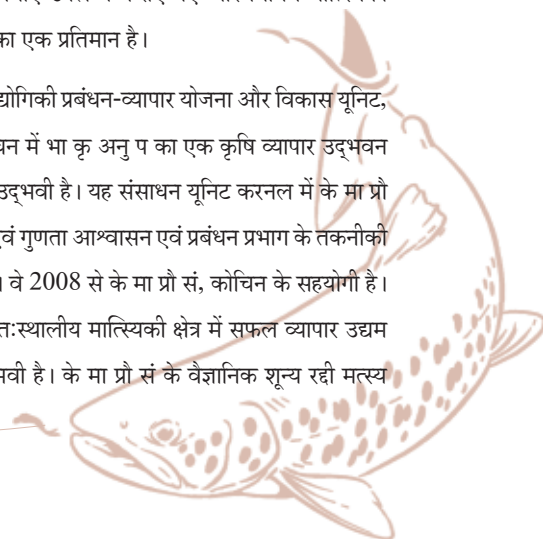
के मा प्रौ सं, कोचिन भारत में पहला अंतःस्थालीय संसाधन सुविधा सरकारी निजी भागीदारी की स्थापना से हरियाणा के भूटियाँ ग्राम करनाल जिल में एक प्रतिमान स्थापित किया है। श्री सुल्तान सिंह, प्रगतिशील मत्स्य किसान सह उद्यमी का कठोर परिश्रम और निरंतर प्रयास भूटियाँ ग्राम को लोकप्रसिद्धि दिलाया है। सुल्तान सिंह मत्स्य बीज फार्म, सुल्तान सिंह फूड कोर्ट और मत्स्य से मूल्यवर्धित उत्पादों के उत्पादन के लिए संसाधन यूनिट की स्थापना के पीछे ये ही है।



Dr. S. Ayyappan presenting the Incubatee Plaque to Shri Sultan Singh

इस यूनिट का उद्घाटन डॉ. एस. अय्यप्पन, सचिव, डेर एवं महानिदेशक, भा कृ अनु प द्वारा 26 फरवरी 2011 को किया गया। अपने उद्घाटन भाषण में, वे विचार व्यक्त किए कि यह मत्स्य फार्म और संसाधन यूनिट में अंतर्राष्ट्रीय मानकों एवं मानदण्डों के अनुसार सूविधाएं उपलब्ध कराएं गए और विविध मात्स्यिकी उद्यमों के क्षेत्र में यह इस देश का एक प्रतिमान है।

श्री सुल्तान सिंह क्षेत्रीय प्रौद्योगिकी प्रबंधन-व्यापार योजना और विकास यूनिट, दक्षिण क्षेत्र, के मा प्रौ सं, कोचिन में भा कृ अनु प का एक कृषि व्यापार उद्भवन पहल के अधीन एक पजीकृत उद्भवनी है। यह संसाधन यूनिट करनाल में के मा प्रौ सं, कोचिन के मत्स्य संसाधन एवं गुणता आश्वासन एवं प्रबंधन प्रभाग के तकनीकी सहयोग से स्थापित किया गया। वे 2008 से के मा प्रौ सं, कोचिन के सहयोगी है। वे के मा प्रौ सं के भारत में अंतःस्थालीय मात्स्यिकी क्षेत्र में सफल व्यापार उद्यम स्थापना करने वाले पहले उद्भवनी है। के मा प्रौ सं के वैज्ञानिक शून्य रद्दी मत्स्य







in setting up the zero waste fish processing unit and have imparted training in the production of fish based value added products.

Shri Sultan Singh has been working in this field for the past 27 years. The certified farm and processing unit are spread over a sprawling 27 acres of land and has a capacity to process one tonne of fish per day. The plant is expected to improve the economic status of hundreds of families engaged in fish farming in the village ponds, and other entrepreneurs. Several equipments and machineries for the production of value added products have been imported from China. The products like fish nuggets, burgers, fingers, balls etc. are being prepared and marketed under the brand name 'Fish Bite'. The Unit is designed in such a way that even the waste from fish processing would be converted into fish feed, thereby setting a fine example of zero waste agriculture. The fish and fish products from the farm are of superior quality.

The project is expected to open a new gateway to the entrepreneurs of Haryana, to market their produce. With the vision of establishing more successful ventures in this field, the Unit is also acting as a training center for progressive farmers and scientists.

The ZTM-BPD unit is providing further assistance to Shri Sultan Singh in strengthening their marketing channel by establishing retail kiosks at Delhi, Punjab, Haryana and Maharashtra. It is envisaged that in the near future, this initiative shall reach new heights through setting up of food chains, with a large variety of fish and fish products all over India and abroad.

## Setting up of Community Processing Centre

The landings from reservoirs in the state of Kerala are mainly sold as fresh fish resulting in low returns to the fishermen. Absolutely no value addition is taken up and the muddy flavour of the carps restricts trade in the premium consumption market. Chulliyar reservoir in Palakkad district is a highly productive reservoir with average monthly production of Rohu up to 90 tonnes. The entire production is sold as fresh fish at the rates fixed by the State Fisheries Department through the Fish Sales Counter at Chulliyar. Consumer preference studies conducted in Palakkad region indicated good demand for healthy fish based snack items among the consumers. A survey on willingness to pay conducted among the middle class group also indicated that the consumer is ready to pay more for a healthy and safe snack. The CIFT, Cochin has initiated a sub-project on 'Responsible harvesting and utilization of selected small pelagics and freshwater fishes' under the Component 2 (Production to Consumption System) of the NAIP. The project envisages multi-fold improvement in profitability and employment generation in fisheries sector through

संसाधन यूनिट की स्थापना के लिए तकनीकी मार्गदर्शन उपलब्ध कराए और मूल्यवर्धित उत्पाद आधारित मत्स्य उत्पादन में प्रशिक्षण भी प्रदान किए।

श्री सुल्तान सिंह इस क्षेत्र में पिछले 27 वर्षों से कार्य कर रहे हैं। यह प्रमाणित फार्म और संसाधन यूनिट 27 एकड़ क्षेत्र में फैला हुआ है और प्रतिदिन एक टन संसाधन की क्षमता रखता है। यह संयंत्र इस ग्राम के तालाबों में मत्स्य पालन में कार्यरत सौओं परिवारों और अन्य उद्यमियों की आर्थिक स्थिति में सुधार करने की आशा रखता है। मूल्यवर्धित उत्पादों के उत्पादन के लिए कई उपकरण एवं मशीनों को चीन से आयातित किया गया। फिश नगेट, बर्गर, फिंगर, बॉल्स आदि जैसे उत्पादों की तैयारी एवं वितरण 'फिश बाइट' ब्रांड नाम के अधीन किया जाता है। इस यूनिट का निर्माण ऐसा किया गया कि मत्स्य संसाधन से उत्पन्न रद्दी को मत्स्य चारे में परिवर्तित किया जाता है, इस से शून्य रद्दी कृषि का एक उत्तम उदाहरण स्थापित किया गया है। इस फार्म के मत्स्य एवं मत्स्य उत्पाद उत्कृष्ट गुणता को रखते हैं।

इस परियोजना से हरियाणा के उद्यमियों के लिए उनके उत्पादों के विपणन में एक नया प्रवेशद्वार खोलने की आपेक्षा की जाती है। इस क्षेत्र में, अधिक सफल उद्यमों की स्थापना की दृष्टि से, यह यूनिट प्रगतिशील किसान एवं वैज्ञानिकों के लिए प्रशिक्षण केन्द्र के रूप में कार्य भी कर रहा है।

क्षेत्र प्रौ - व्या यो वि यूनिट श्री सुल्तान सिंह को दिल्ली, पंजाब, हरियाणा और महाराष्ट्र में खुदरे किओस्की स्थापना द्वारा अपने विपणन चैनल मजबूती के लिए आगे की सहायता उपलब्ध करा रहा है। यह प्रतीत होता है कि निकट भविष्य में, यह पहल खाद्य श्रृंखला की स्थापना से पूरे देश और विदेशों में मत्स्य और मत्स्य उत्पादों की लम्बी विविधता द्वारा नई उँचाई प्राप्त करेगी।

product diversification, value addition, waste minimization and utilization and effective marketing of fishery products in partnership with farmers groups, the private sector and other stakeholders. A potential group of women belonging to the Chulliyar SC/ST Reservoir Fisheries Co-operative



Dr. Martin Xavier demonstrating the preparation of value added fish products





Society was trained under the project for commercial production of value added fish products in a sustainable manner from freshwater carps. Under the technical guidance from the project team the fish retail outlet “Meenoos” owned by the Society in Palakkad town was suitably modified as a modern fish vending joint. The formal inauguration of this outlet was held on 5<sup>th</sup> February, 2011 at SB Junction, Palakkad.

## NAIP Meeting

National Agriculture Innovation Project (NAIP) Monitoring and Advisory Committee Review Meeting was organized at CIFT, Cochin during 9-11 February, 2011.

## Awareness Programme on Hygienic Handling of Fish

An awareness programme on ‘Hygienic handling of fish in fish market’ under the project ‘Consumer preferences and its impact on domestic market’ was conducted at Nehru Bazar Fish Market, Visakhapatnam on 18<sup>th</sup> February, 2011. Forty three fisherwomen who sell wet fish and five fisherwomen who sell dry fish in the Nehru Bazar Fish Market, Visakhapatnam participated in the awareness programme. Dr. M.M. Prasad, Principal Scientist and Scientist-in-Charge, Visakhapatnam Research Centre of CIFT addressed the fisherwomen wherein he stressed the importance of quality of fish and spoke on the role of microorganisms in spoilage and health risks associated with fish. He asked the fisherwomen to keep the fish display surfaces and market premises clean. Dr. B. Madhusudana Rao, Scientist (SG) urged the fisherwomen to use potable water to clean fish and use only good quality ice and emphasized the use of chlorinated water for cleaning market floors. The fisherwomen were advised to place fish for sale on washable plastic sheets instead of keeping on dirty surfaces or on ground. Shri K.V.S.S.S.K. Harnath, Tech.

Officer (T5) and Shri N. Venkata Rao, Tech. Asst. (T4) provided technical assistance for the programme. Washable plastic sheets were distributed to the fisherwomen for hygienic display of fish. Pamphlets on ‘Hygiene in fish markets’ in Telugu language were also given to the fisherwomen.



Fisherwomen using washable plastic sheet for display of wet fish

## Capacity Building of Coastal Fisher Women

Under the ICAR-DRWA network project on ‘Capacity building of coastal fisher women through post harvest technologies in fisheries’ a two day training programme was organized by CIFT, Cochin in association with Gandhi Smaraka Grama Seva Kendram (GSGSK), Alappuzha at Thiruvizha, South Cherthala, Alappuzha during 22-23 February, 2011. The training was given to the fisherwomen group selected under the project. The main aim of the training was to give awareness for the need of hygiene in handling and drying of fish for better quality products.

is poor implementation that impedes the progress. Dr. C.N. Ravishankar, Principal Scientist, CIFT and PI of the Project, Dr. J. Bindu, Senior Scientist, CIFT, Smt. Maya, Coordinator, Non-farm Sector, GSGSK, Prof. K.N. Devadas, Chairman, Chertala South Sub-center of GSGSK and Smt. Mable Johnkutty, Secretary, Chertala South Sub-center of GSGSK were also present.



Dr. Bindu demonstrating proper method of gutting fish

In a brief inaugural session, Dr. Nikita Gopal, Senior Scientist, CIFT and Co-PI of the Project welcomed the participants to the training programme and spoke on the objectives of the project. Shri Gregory, Ward Member, Ward 18, South Cherthala Village, appreciated the efforts made by CIFT and offered full support from the side of the local government body. Shri Martin, Secretary, FWCS also offered their help and support to the fisherwomen group mainly in the area of marketing. Shri K.G. Jagadeesan, General Secretary, GSGSK formally inaugurated the training and said that there is no dearth of schemes in the state but it







The training session that followed led by Dr. Bindu and Dr. Ravishankar included demonstration on hygienic method of gutting fish and proper salting and drying techniques. The training was assisted by Ms. K.B. Biji, SRF, CIFT and Shri Radhakrishnan, SSS, CIFT. Simultaneously the method

of maintaining proper records for production and accounts was also highlighted. The salted fish samples were dried hygienically on PVC racks which were provided by CIFT under the project. Demonstration on hygienic packing of dried fish samples were carried out on the second day.

## Field level Demonstration of Depuration System for Bivalves

The potential food safety problems with bivalve molluscan shellfish is recognized internationally, and most countries have regulations that control the place from where it is collected. In 1997, the FDA implemented the Seafood HACCP Regulation that significantly advanced consumer protections from seafood contaminants by requiring processor measures to prevent the introduction of contaminants into the seafood. Bivalve molluscan shellfish accumulate contaminants from the water column in which they grow. These contaminants may then cause illness to humans when the bivalves are eaten raw or in partially cooked form. Bivalves may be rendered safe for human consumption by a process known as 'Depuration'. It is a process by which shellfish are held in tanks of clean seawater under conditions which maximize the natural filtering activity which results in expulsion of intestinal contents, which enhances separation of the expelled contaminants from the bivalves, and which prevents their recontamination. It is required to protect the customers and to satisfy the requirements of legislation in regions or counties to where it is exported. In general, all bivalve molluscs may be subjected to depuration in order to remove micro-organisms. While oysters have had a reputation as a delicacy in many countries on a world-wide basis, the main hazards associated with the consumption of oysters arise from the microbiological contamination of waters in which they grow, especially when the bivalve molluscs are intended to be eaten raw. Outbreaks of typhoid, cholera, dysentery, hepatitis, and

various forms of gastroenteritis have been linked to the consumption of contaminated oysters.

Under the DST project entitled "Location specific livelihood intervention in fisheries sector for the empowerment of fisherwomen in Kerala", in operation at CIFT, Cochin a field level demonstration on depuration system for oysters was conducted at Moothakunnam, Cochin on 11<sup>th</sup> March, 2011. Dr. Femeena Hassan, Senior Scientist, Quality Assurance and Management Division & Principal Investigator of the project imparted a brief introduction on food safety problems associated with consumption of contaminated oysters and need for depuration to the stakeholders. They were also given a demonstration on the depuration system designed by the project team.



Dr. Femeena Hassan demonstrating depuration system

## "Krishi Darpan 2011" - ICAR Window- showcasing of Agricultural Technologies / "कृषि दर्पण 2011" - भा कृ अनु प - कृषि प्रौद्योगिकियों की प्रदर्शन मंजूषा

Under the NAIP sub-project, "Mobilizing mass media support for sharing agro information" under the leadership of Directorate of Knowledge Management in Agriculture (DKMA), ICAR, New Delhi in which the CIFT is one of the executing institutes, a two-day Agricultural Exhibition and Farmer's Meet was organized at Cochin on 28 and 29, March, 2011. The programme was inaugurated by Dr. M. Beena, IAS, Director, Department of Fisheries, Govt. of Kerala and Dr. T.K. Srinivasa Gopal, Director, CIFT presided over the function. Dr. S. Ashaletha, Sr. Scientist & Coordinator of the programme welcomed the gathering. Smt. Sathyavathy, Joint Director of Fisheries, Shri Jose Joseph,

रा कृ नवो प की उप-परियोजना के अधीन "कृषि सूचना को आपस में बाँटने के लिए जनसंचार मध्यम की सहायता जूठाना" कृषि में ज्ञान प्रबंधन निदेशालय (कृ ज्ञा प्र नि), भा कृ अनु प, नई दिल्ली के नेतृत्वाधीन जिस में के मा प्रौ सं एक कार्य निष्पादन संस्थान है, एक दो दिन का कृषि प्रदर्शन एवं किसान भेंट कोचिन में 28 एवं 29 मार्च 2011 को आयोजित की गई। इस कार्यक्रम का उद्घाटन डॉ. एम. बीना, भा प्र से, निदेशक, मात्स्यिकी विभाग, केरल सरकार और इस समारोह की अध्यक्षता डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं द्वारा की गई। डॉ. एस. आशालता, व. वैज्ञानिक एवं इस कार्यक्रम की समन्वयक उपस्थित का स्वागत की। श्रीमती सत्यवती, मात्स्यिकी संयुक्त निदेशक, श्री जोस जोसफ, निदेशक,





Director, HRC, VFPC and Dr. S. Balasubramaniam, HOD, EIS, CIFT offered felicitations during the inaugural function. Dr. J. Charles Jeeva, Scientist, Sr. Scale proposed vote of thanks.



Dr. M. Beena, IAS inaugurating 'Krishi Darpan'

During the two days' programme, 18 exhibition stalls were put up involving Scientific Institutions under ICAR, Commodity Boards, Developmental Departments, NGOs and Self-Help Groups who have successfully commercialized new technologies, and exhibited their technology support for the farming community. Another five common stalls were arranged outside the main hall for the sale of value added products produced with the technical know-how of ICAR technologies. The scientist-farmer interaction meet arranged during the meet provided a unique opportunity to the farmers for clarification of their doubts and for the institutions for identification and prioritization of problems of farmers. Free training on product formulation from agricultural produces like fruits, spices, fish etc., and classes on terrace farming, pokkali-shrimp farming, coconut cultivation, pond aquaculture and fish processing by experts were also arranged.

Champion farmers who won awards in agriculture and fisheries were invited for deliberations with scientists as well as farmers. They were felicitated during the function by the Chief Guest. The best stall award was conferred to CTCRI, Thiruvananthapuram for displaying the stall attractively and most effectively.

The valedictory function was held on 29<sup>th</sup> March 2011. Dr. V. Geethalakshmi, Senior Scientist, welcomed the gathering. Dr. Remani Gopalakrishnan, Deputy Director, Coconut Development Board, Cochin was the Chief Guest. She appreciated the efforts being done under the project for dissemination of technological information to the farmers at the grass root level. Dr. P.T. Lakshmanan, HOD, B&N Division, CIFT presided over the function and explained about the necessity of the mass media project. Shri P.K. Vijayan, Acting HOD, F.P. Division, CIFT offered felicitations on the occasion. Dr. S. Ashaletha proposed a vote of thanks.

एच आर सी, वी एफ पी सी के और डॉ. एस. बालसुब्रमणियम, प्र अ, वि सू सां, के मा प्रौ सं उद्घाटन समारोह के दौरान आशीर्वचन प्रदान किए। डॉ. जे. चार्ल्स जीवा, वैज्ञानिक, व. वेतन कृतज्ञता प्रस्तावित किया।

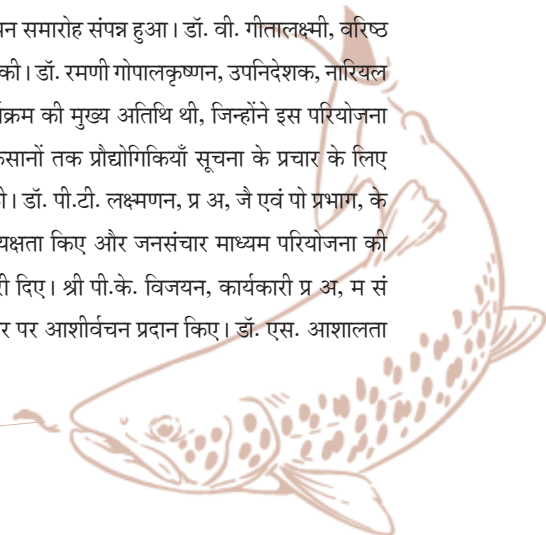


Dr. T.K. Srinivasa Gopal giving the Presidential address at the inaugural function

इस दो दिन के कार्यक्रम के दौरान भा कृ अनु प के अधीन के वैज्ञानिक संस्थान पदार्थ बोर्ड, विकसिय विभाग, गैर सरकारी संगठन और स्वसहायता समूह के 18 प्रदर्शन स्टॉल प्रदर्शित किए जो नई प्रौद्योगिकियों को सफलता पूर्वक वाणिज्यिकरण किया है और खेती समुदाय के लिए अपनी प्रौद्योगिकी सहायता को प्रदर्शित किया है। भा कृ अनु प प्रौद्योगिकियों के तकनीकी ज्ञान से उत्पादित मूल्यवर्धित उत्पादों की बिक्री के लिए अन्य पाँच साधारण स्टॉल मुख्य द्वार के बाहर आयोजित किए गए थे। इस भेंट के दौरान आयोजित वैज्ञानिक - किसान अन्यान्यक्रिया किसानों के लिए अपने संदेह के स्पष्टीकरण का एक अनुपम अवसर प्रदान किया और संस्थानों के लिए किसानों की समस्याओं के पहचान एवं प्रथमिकरण अवसर भी प्रदान किया है। कृषि उत्पादों जैसे फल, मसाले, मत्स्य आदि से उत्पाद निर्माण पर कुल प्रशिक्षण और टेरास खेती, पोक्कली, झींगा खेती, नारियल खेती, तालाब जलकृषि और मत्स्य संसाधन पर कक्षाओं का आयोजन भी विशेषज्ञों द्वारा किया गया।

चॉम्पीयन किसान जो कृषि एवं मात्स्यिकी में पुरस्कार प्राप्त किए उन किसानों के साथ वैज्ञानिकों से चिंतन-मनन के लिए आमंत्रित किया गया। इस समारोह के दौरान मुख्य अतिथि द्वारा उनका अभिनन्दन किया गया। सी टी सी आर आई, तिरुवनंतपुरम को अकर्षक एवं अत्यधिक प्रभावी रूप से स्टॉल को प्रदर्शित करने के लिए उत्तम स्टॉल से सम्मानित किया गया।

29 मार्च 2011 को समापन समारोह संपन्न हुआ। डॉ. वी. गीतालक्ष्मी, वरिष्ठ वैज्ञानिक, उपस्थित का स्वागत की। डॉ. रमणी गोपालकृष्णन, उपनिदेशक, नारियल विकास बोर्ड, कोचिन इस कार्यक्रम की मुख्य अतिथि थी, जिन्होंने इस परियोजना के अधीन जन-साधारण के किसानों तक प्रौद्योगिकियाँ सूचना के प्रचार के लिए किए गए प्रयासों की सराहना की। डॉ. पी.टी. लक्ष्मणन, प्र अ, जै एवं पो प्रभाग, के मा प्रौ सं इस समारोह की अध्यक्षता किए और जनसंचार माध्यम परियोजना की अनिवार्यता के बारे में जानकारी दिए। श्री पी.के. विजयन, कार्यकारी प्र अ, म सं प्रभाग, के मा प्रौ सं, इस अवसर पर आशीर्वचन प्रदान किए। डॉ. एस. आशालता कृतज्ञता प्रस्तावित की।







## Pangasius Fish Festival / पेंगेसीस मत्स्य मेला

Pangasius fish farmers are facing a crisis situation. Nearly ₹ 3000 crores worth of Pangasius is lying in the aquaculture ponds in Andhra Pradesh. In this context a 'Pangasius Fish Festival' was organized in the right time at the right place to cater to the needs of hundreds of aquaculturists. The Visakhapatnam Research Centre of CIFT and CIFT, Cochin organized 'Pangasius Fish Festival' at Elluru on 24<sup>th</sup> March, 2011 in association with National Fisheries Development Board, Hyderabad and Department of Fisheries, Government of Andhra Pradesh. The Pangasius Fish Festival showcased different value added products that can be made from Pangasius fish.

The festival created awareness on value added products from Pangasius among the fish farmers, entrepreneurs and general public. The business potential for value added products with special reference to Pangasius was discussed. An exhibition was arranged in DRDA building Elluru for the benefit of general public.



*Dr. T.K. Srinivasa Gopal, Director, CIFT inaugurating Pangasius Fish Festival*

पेंगेसीस मत्स्य किसान संकट स्थिति का सामना कर रहे हैं। करीब रु. 3000/- करोड़ राशि का पेंगेसीस आंध्रप्रदेश के तालाबों में पड़ा हुआ है। इस प्रकरण में एक पेंगेसीस मत्स्य मेला' सही समय और सही स्थान पर सौओं जल

पालकों की आवश्यकता को प्रदान करने के लिए आयोजित किया गया। के मा प्रौ सं का विशाखपट्टणम अनुसंधान केन्द्र और के मा प्रौ सं, कोचिन, राष्ट्रीय मात्स्यिकी विकास बोर्ड, हैदराबाद एवं मात्स्यिकी विभाग, आंध्र प्रदेश सरकार के सहयोग से 24 मार्च 2011 को ऐलूर में पेंगेसीस मत्स्य मेला आयोजित किया गया। यह पेंगेसीस मत्स्य मेला में पेंगेसीस मत्स्य से तैयार किए जाने वाले भिन्न मूल्यवर्धित उत्पादों को प्रदर्शित किया गया। यह मेला पेंगेसीस मत्स्य से मूल्यवर्धित उत्पादों की

जानकारी मत्स्य किसानों, उद्यमियों और आम जनता को देने में सफला रहा। पेंगेसीस के विशेष संदर्भ में मूल्यवर्धित उत्पादों की व्यापार संभावना पर विचार विमर्श किया गया। आम जनता के फायदे के लिए ऐलूर के डी आर डी ए भवन में एक प्रदर्शन आयोजित किया गया।

## Workshop on Official Language / राजभाषा कार्यशाला

A workshop in Official Language on 'Electronic media and science communication' was conducted at CIFT, Cochin during 24-25 March, 2011. The resource persons were Shri Prakash Dube, Group Editor, 'Dainik Bhaskar', Nagpur and Shri Vinod Verma, BBC correspondent, New Delhi. A total of 25 scientists of the Institute attended the programme.



*Participants of Official Language Workshop*

राजभाषा में 'इलक्ट्रॉनिक माध्यम और विज्ञान संप्रेषण' पर एक कार्यशाला 24-25 मार्च, 2011 के दौरान के मा प्रौ सं, कोचिन में संचालित की गई। संकाय सदस्य थे श्री राकेश दुबे, समूह संपादक, दैनिक भास्कर, नागपुर और श्री विनोद वर्मा, बीबीसी संवाददाता, नई दिल्ली। संस्थान के कुल 25 वैज्ञानिक इस कार्यक्रम में भाग लिए।

## Memorandum of Agreement signed / समझौता ज्ञापन

The following Memorandum of Agreements were signed by CIFT, Cochin during the quarter under report:

1. With the **Society for Advancement of Fisheries, Govt. of Kerala**. The MoA is signed for a consultancy to establish a value added fish production unit under the activity group, Swapna Activity Group, Kurankadavu,

रिपोर्ट अवधि की तिमाही के दौरान के मा प्रौ सं, कोचिन द्वारा निम्नलिखित समझौता ज्ञापनों पर हस्ताक्षर किए गए :

1. **सोसइटी फॉर अड्वैन्समेंट ऑफ फिशरिस, केरल सरकार** के साथ। यह समझौता ज्ञापन कार्यकलाप समूह, स्वप्ना एक्टिविटी ग्रुप, कुरनकडवू, केरल के पय्यानूर के अधीन मूल्यवर्धित मत्स्य उत्पादन यूनिट की स्थापना के लिए





Swapna Activity Group, Kurankadavu, Payyannoor



Fisheries Regional Shrimp Hatchery, Azhikode



Haritha Farmers Club, Perumpalam, Cochin



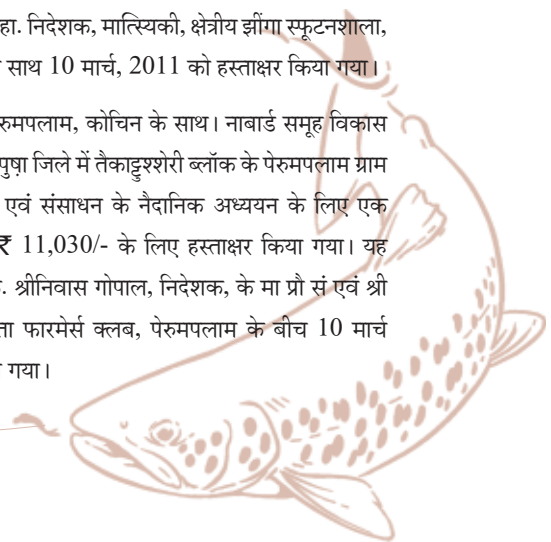
Britto Dry Seafoods, Tuticorin

Payyannoor 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 Smt. P.P. Annie, Group Leader, Swapna Activity Unit on 16 February, 2011.

2. With **Fisheries Regional Shrimp Hatchery**, Azhikode. The MoA is signed for a consultancy to set up a PCR laboratory at Fisheries Regional Shrimp Hatchery, Azhikode at the cost of ₹ 1,15,815/-. The Memorandum of Agreement was signed between Dr. T.K. Srinivasa Gopal, Director, CIFT and Shri K.G. Suguna Prasad, Asst. Director of Fisheries, Regional Shrimp Hatchery, Azhikode, Thrissur district on 10 March, 2011.
3. With **Haritha Farmers Club**, Perumpalam, Cochin. The MoA is signed for a consultancy for a diagnostic study of the collection and processing of clam in Perumpalam Grama Panchayath of Thycattussey Block of Alappuzha district under the NABARD Cluster Development Programme at the cost of ₹ 11,030/-. The Memorandum of Agreement was signed between Dr. T.K. Srinivasa Gopal, Director, CIFT and Shri Sreekumar, Convenor, Haritha Farmers Club, Perumpalam on 10 March, 2011.

परामर्श प्रदान करने के हेतु हस्ताक्षर किया गया। के मा प्रौ सं विद्युत समर्थन के साथ एक सौर शुष्कक (के मा प्रौ सं शुष्कक एस डी ई -10) की स्थापना में इस यूनिट की सहायता शुष्क मत्स्य के स्वास्थ्यकर उत्पादन के लिए रु. 1000/- के मूल्य में किया है। यह समझौता जापान डॉ. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं और श्रीमती पी.पी. एनी, समूह नेता, स्वप्ना एकटीवीटी यूनिट के बीच में 16 फरवरी, 2011 को हस्ताक्षर किया गया।

2. **फिशरिस रीजियनल श्रिम्प हैचरी**, एजीकोड के साथ। यह समझौता जापान फिशरिस रीजियनल श्रिम्प हैचरी, एजीकोड में पी सी आर प्रयोगशाला की स्थापना के लिए परामर्श प्रदान करने के हेतु ₹ 1,15,815/- के मूल्य में किया गया। यह समझौता जापान डॉ. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं और श्री के.जी.सुगना प्रसाद, सहा. निदेशक, मात्स्यिकी, क्षेत्रीय झींगा स्फूटनशाला, एजीकोड, त्रिशूर जिला के साथ 10 मार्च, 2011 को हस्ताक्षर किया गया।
3. **हरीता फारमेर्स क्लब**, पेरुमपलाम, कोचिन के साथ। नाबाई समूह विकास कार्यक्रम के अधीन आलप्पुषा जिले में तैकाडुशरी ब्लॉक के पेरुमपलाम ग्राम पंचायत में सीपी एकत्रण एवं संसाधन के नैदानिक अध्ययन के लिए एक परामर्श समझौता जापान ₹ 11,030/- के लिए हस्ताक्षर किया गया। यह समझौता जापान डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं एवं श्री श्रीकुमार, संचालक, हरीता फारमेर्स क्लब, पेरुमपलाम के बीच 10 मार्च 2011 को हस्ताक्षर किया गया।







4. With **M/S Britto Dry Seafoods**, Tuticorin, Tamil Nadu. The MoA is signed for a consultancy for setting up two numbers of Solar Dryer with LPG back-up (CIFT Dryer SDL -50 SM) for hygienic production of dry fish at the cost of ₹ 110,300/-. The Memorandum of Agreement was signed between Dr. T.K. Srinivasa Gopal, Director, CIFT and Shri J. Christian, Proprietor, Britto Dry Seafoods, Tuticorin on 29 March, 2011.

4. सर्वश्री ब्रिटो ड्राई सीफूड्स, टूटीकोरिन, तमिल नाडू के साथ। यह समझौता जापान दो एल पी जी समर्थित सौर शुष्कक की (के मा प्रौ सं शुष्कक एस डी एल-50 एस एम) स्थापना शुष्क मत्स्य के स्वास्थ्यकर उत्पादन के लिए ₹ 110,300/- मूल्य के साथ परामर्श प्रदान करने हेतु हस्ताक्षर किया गया। यह समझौता जापान डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं और श्री जे. क्रिस्टीन, मालिक, ब्रिटो ड्राई सीफूड्स, टूटीकोरिन के बीच 29 मार्च 2011 को हस्ताक्षर किया गया।

## Deputation Abroad / विदेश में प्रतिनियुक्ति

Dr. C.N. Ravishankar, Principal Scientist, Fish Processing was deputed to visit the Agrivalue Processing Business Incubator Facility at Ledue, Edmonton, Canada to familiarize with the Business Incubation and Management Techniques during 21-26 March, 2011. The Agrivalue Processing Business Incubator (APBI) is a multi-tenant facility providing the infrastructure and services to support and enhance the establishment and growth of new companies and new business ventures in Alberta. The APBI is a federally registered establishment enabling resident companies to market their products nationally and internationally. A key component of this initiative is to provide opportunity to a range of services like business planning, cost accounting, legal advice, marketing, distribution, quality assurance and other related services to Incubator clients in a shared environment.



Dr. Ravishankar with Mr. Robert Gibson, Senior Operations Manager, APBI

डॉ. सी.एन. रवीशंकर, प्रधान वैज्ञानिक, मत्स्य संसाधन को व्यापार उद्भवन एवं प्रबंधन तकनीक से परिचित होने हेतु 21-26 मार्च 2011 के दौरान एग्रीवैल्यू प्रोसेसिंग बिजनेस इंक्युबेटर फेसिलीटी, लेड्यू, एडमॉन्टन, कनाडा का दौरा करने के लिए प्रतिनियुक्ति की गई।

एग्रीवैल्यू प्रोसेसिंग, बिजनेस इंक्युबेशन एक बहुअधिभोक्ता सुविधा है जो एल्बेर्टा में नए कम्पनियों एवं नए व्यापार उद्यमी की स्थापना एवं वृद्धि की

अवसररचना एवं सेवाएं उपलब्ध करा रही है। ए पी बी आई एक पंजीकृत संघीय स्थापना है और यह स्थानीय कम्पनियों को अपने उत्पादों को राष्ट्रीय एवं अंतर्राष्ट्रीय बाजारों में विपणन को योग्य बना रही है। इस संघटक का एक मुख्य पहलू है भिन्न सेवाओं का अवसर प्रदान करना जैसे व्यापार योजना, लागत लेखा, कानूनी परामर्श, विपणन, वितरण, गुणता आश्वासन और अन्य सेवाएं उद्भवक को भागीदारी पर्यावरण में प्रदान कर रहा है।

इस सुविधा के अन्तर्निहित उद्देश्य है:

The underlying purpose of this facility is:

- To assist with the start-up of new food businesses, providing facilities and programmes to help manage the transition from new product development, through commercialization, market launch and growth in sales, resulting in graduation and the establishment of their own facilities.
- To provide a centre of excellence for agrivalue venture scale up, which will assist established food manufacturers in new product/process development, refinement, testing and manufacturing of market entry product volumes.
- To attract product/process development initiatives of established food industry companies to Alberta.

In order to understand more about establishment, operation and maintenance of business incubators, visit to various organizations like Food Processing Development

- नए खाद्य व्यापार को प्रारंभ करने में सहायता, नए उत्पाद विकास से परिवर्तन को प्रबंध में सुविधा एवं कार्यक्रमों में सहायता उपलब्ध करना, वाणिज्यिकरण द्वारा बाजार में प्रवर्तित करना और बिक्री में वृद्धि, अंशांकन में परिणाम और अपनी स्वयं की सुविधा स्थापित करना।
- एग्रीवैल्यू वेन्चर को बढ़ाने के लिए एक उत्कृष्ट केन्द्र को उपलब्ध करने, यह स्थापित खाद्य निर्माताओं को नए उत्पाद प्रक्रिया विकास, परिष्करण, परीक्षण और बाजार प्रवेश उत्पाद मूल्य को निर्माण में सहायता करता।
- एल्बेर्टा में स्थापित खाद्य उद्योग कम्पनियों के उत्पाद प्रक्रिया विकास पहला को आकर्षण कराना।

इस व्यापार उद्भव की स्थापना, परिचालन एवं अनुरक्षण के बारे में अधिक जानकारी के लिए, खाद्य संस्थान विकास केन्द्र, प्रयोगिक अनुसंधान एवं प्रौद्योगिकी





Centre, Applied Research and Technology Development Centre, Tec Edmonton, Edmonton Research park, Sobey's Super Store, Agri-Food Discovery Place, University of Alberta, Aliyas Foods, Agriculture and Rural Development, Govt of Alberta, etc. was undertaken. Discussion were held with Mr. Robert Gibson, Senior Operations Manager, Food Processing Division, ARD, Mr. Grant Winton, Trade Development Officer, Int'l Rel'n & Mktg Branch, ARD, Mr. Ken Gossen, Executive Director, ARD, Mr. Ron Lyons, Commercialization Manager, APBI, Mr. Bob Rimes, Agri-Food Discovery Place, University of Alberta, Mr. Neil Kaarsemaker, Manager, Edmonton Research Park, Mr. Joe Dermo, Manager, Agricultural Financial Service Corporation and Mr. Hugh Wyatt, Manager, Tec Edmonton.

विकास केन्द्र, टेक एडमॉन्टॉन, इडमॉन्टॉन रिसर्च पार्क, सोबीस सुपर स्टोर, एग्री-फूड डिस्कावरी प्लेस, एल्बर्टा विश्वविद्यालय, एलियस फूडस आदि जैसे भिन्न संगठनों का दौरा किया गया। श्री रोबर्ट जिब्सॉन, वरिष्ठ परिचालन प्रबंधक, खाद्य संसाधन प्रभाग, ए आर डी, श्री ग्रान्ट विन्टॉन, व्यापार विकास अधिकारी, अं खु एवं विपणन शाखा, ए आर डी, श्री केन गोसेन, कार्यकारी निदेशक, ए आर डी, श्री रोन लाइडपोन्स, वाणिज्यिकरण प्रबंधक, ए पी बी आई, श्री बॉब रिम्स, एग्री-फूड डिस्कावरी प्लेस, एल्बर्टा विश्वविद्यालय, श्री नेल कारसेमकर, प्रबंधक, एडमॉन्टॉन रिसर्च पार्क, श्री जोड डेरमो, प्रबंधक कृषि वित्त सेवा निगम और ह्यू वेट, प्रबंधक टेक एडमॉन्टॉन से चर्चा की गई।

## Bioved Award to Dr. Srinivasa Gopal / डॉ. श्रीनिवास गोपाल को बाइओवेद पुरस्कार

The 'Bioved Research Society' based at Allahabad has conferred this year's Honorary Fellowship Award to Dr. T.K. Srinivasa Gopal, Director, CIFT, Cochin. The award was conferred in recognition of his excellent contributions in the field of fish processing technology. The award was given away at the 13<sup>th</sup> Indian Agricultural Scientists and Farmers Congress jointly organized by C.S.I.R., D.R.D.O. and NABARD at Allahabad University.



इलाहाबाद की 'बाइओवेद अनुसंधान सोसाइटी' ने इस वर्ष का अवैतानिक अधिसदस्यता पुरस्कार डॉ. टी.के. श्रीनिवास गोपाल, निदेशक, के मा प्रौ सं, कोचिन को प्रदत्त किया। यह पुरस्कार उन्हें मत्स्य संसाधन प्रौद्योगिकी के क्षेत्र में उनके उत्कृष्ट योगदान की मान्यता में प्रदत्त किया गया। यह पुरस्कार वै औ अनु प., र अनु एवं वि सं और नाबार्ड द्वारा इलाहाबाद विश्वविद्यालय में संयुक्त रूप में आयोजित 13 वाँ भारतीय कृषि वैज्ञानिक एवं किसान काँग्रेस में प्रदान किया गया।

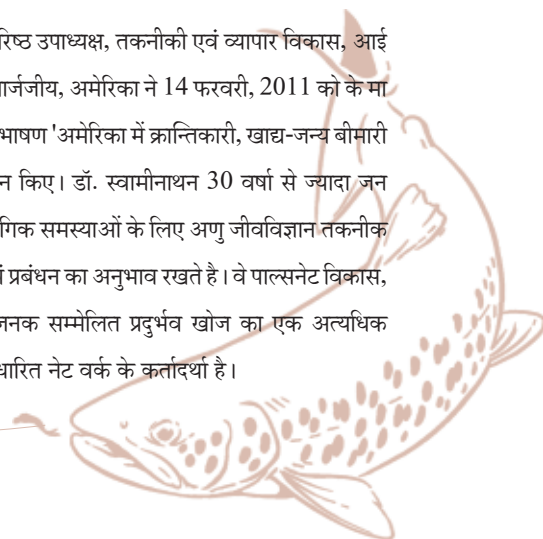
Bioved Research Society is an international organization for dedicated research in agriculture and related fields and for popularizing the outcome results among the common man of India. Bioved Research Institute of Agriculture and Technology functions under the Society. Apart from this the Society organizes various technology dissemination programmes, training programmes, Seminars etc.

बाइओवेद अनुसंधान सोसाइटी एक अंतर्राष्ट्रीय संगठन है। यह कृषि एवं संबंधित क्षेत्रों में अनुसंधान और भारत के सामान्य जनता में इस के परिणाम लोकप्रिय बनाने के लिए समर्पित है। इस सोसाइटी के अधीन कृषि एवं प्रौद्योगिकी बाइओवेद अनुसंधान संस्थान कार्यरत है। इस के अलावा यह सोसाइटी भिन्न प्रौद्योगिकी प्रचार कार्यक्रम, प्रशिक्षण कार्यक्रम, संगोष्ठी, आदि का आयोजन करती है।

## Dr. Bala Swaminathan Delivers Lecture / डॉ. बाला स्वामीनाथन का भाषण

Dr. Bala Swaminathan, Senior Vice-President, Technical and Business Development, IHRC, Inc., Atlanta, Georgia, USA, has delivered an invited talk on 'Revolutionising food-borne disease outbreak investigations in the United States', on 17 February, 2011 at CIFT, Cochin. Dr. Swaminathan has more than 30 years of research and management experience in the application of molecular biology techniques to the practical problems of public health and food safety. He was the driving force behind the development of PulseNet, a very successful molecular sub-typing-based network to detect outbreaks involving food-borne pathogens, in the US.

डॉ. बाला स्वामीनाथन, वरिष्ठ उपाध्यक्ष, तकनीकी एवं व्यापार विकास, आई एच आर सी, इन्क, एटलांटा, जार्जजीय, अमेरिका ने 14 फरवरी, 2011 को के मा प्रौ सं, कोचिन में एक आमंत्रित भाषण 'अमेरिका में क्रान्तिकारी, खाद्य-जन्य बीमारी प्रदुर्भाव का अन्वेषण' पर प्रदान किए। डॉ. स्वामीनाथन 30 वर्षों से ज्यादा जन स्वास्थ्य एवं खाद्य सुरक्षा के प्रयोगिक समस्याओं के लिए अणु जीवविज्ञान तकनीक का अनुप्रयोग पर अनुसंधान एवं प्रबंधन का अनुभाव रखते हैं। वे पाल्सनेट विकास, अमेरिका में खाद्य जन्य रोगजनक सम्मेलित प्रदुर्भाव खोज का एक अत्यधिक सफल अणु-सब-टाइपिंग -आधारित नेट वर्क के कर्तादर्या हैं।







The presentation covered molecular epidemiology, DNA fingerprinting and molecular characterisation (subtyping) of disease causing bacteria and networking of public health laboratories for disease surveillance and case studies on the success of PulseNet in the detection of disease outbreaks. The presentation and the discussions that followed highlighted the importance of developing a disease surveillance and food traceability system in India and the necessity for closer international collaboration in this area.

## Radio Talks

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

1. **Dr. M.P. Remesan**, Senior Scientist – Our fishing methods (In Malayalam), AIR, Kannur (27 January)
2. **Dr. B. Madhusudana Rao**, Scientist (SG) – Role of HACCP in assuring quality of meat food products, (In Telugu), AIR, Visakhapatnam (27 March)
3. **Dr. L.N. Murthy**, Scientist, Senior Scale – Preparation of analogue products from Surimi (In Telugu), AIR, Visakhapatnam (31 March)
4. **Shri M.S. Kumar**, Tech. Officer (T7-8) – Interesting facts about fish and technologies developed from prawn/fish shell waste and their uses (In Telugu), AIR, Visakhapatnam (31 March)

## Post Graduate Studies

### Ph. D. Awarded



**Shri Mathen Mathew**, Research Fellow, Biochemistry & Nutrition Division, CIFT, Cochin has been awarded Ph. D. degree of Cochin University of Science and Technology, Cochin for his thesis titled, “Biochemical and pharmacological evaluation of liver oils of selected deep sea sharks and chimeras of the Indian EEZ”. He worked under the guidance of Dr. Suseela Mathew, Senior Scientist, B&N Division, CIFT, Cochin.



**Shri R. Rajesh**, Research Fellow, Biochemistry & Nutrition Division, CIFT, Cochin has been awarded Ph. D. degree of Vinayaka Missions University, Salem for his thesis titled, “Bio-chemical studies on the protective effect of dietary squalene supplementation on arsenic poisoning in rats”. He worked under the guidance of Dr. P.T. Lakshmanan, Principle Scientist & Head, B&N Division, CIFT, Cochin.

P.T. Lakshmanan, Principle Scientist & Head, B&N Division, CIFT, Cochin.

इस प्रस्तुतिकरण में अणु मरक-विज्ञान, डी एन ए अंगुलिछाप और बीमारी उत्पन्न जीवाणु अणु चरित्र-चित्रण (सबटाइपिंग) और बीमारी निगरानी के लिए जन स्वास्थ्य प्रयोगशालाओं का नेटवर्किंग और बीमारी प्रदुर्भव के खोज में पल्सनेट की सफलता पर मामला अध्ययन शामिल थे। प्रस्तुतिकरण के बाद के विचार-विमर्श में भारत में बीमारी निगरानी एवं खाद्य खोज प्रणाली विकास एवं इस क्षेत्र में नज़दीकी सहयोग की आवश्यकता पर महत्व दिया गया है।

## Invited Talks

1. **Ms Bindu**, Brahmakumari Samaj, Cochin – “Stress management and positive thinking” at CIFT, Cochin on 27 January, 2011.
2. **Dr. Bala Swaminathan**, Vice President, Technical and Business Development, IHRC Inc., Atlanta, Georgia, USA – “Revolutionary food borne disease outbreak investigations in the United States” at CIFT, Cochin on 17 February, 2011.
3. **Smt. Bhadra Satheesh**, Deputy Major, Corporation of Cochin – “Women empowerment” at CIFT, Cochin on 8 March, 2011.



*Smt. Bhadra Satheesh delivering the talk in connection with 'Women's Day Celebrations'*

## RAC Meeting Held

A Research Advisory Committee Meeting was held at CIFT, Cochin on 14-15 March, 2011 for finalizing the research projects for the year 2011-12 and to review the completed projects and new project proposals.

Dr. K. Devadasan, former Director, CIFT, Cochin was the Chairman of the Committee. The other members of the Committee who attended the meeting were Dr. A.K. Upadhyaya, Head, Fish Processing Technology, College of Fisheries, GB Pant Univ. of Agriculture & Technology, Pant Nagar. Dr. C. Hridayanathan, former Director, School of Industrial Fisheries, CUSAT, Cochin and Dr. V. Venugopal, former Scientific Officer, BARC, Mumbai.





## Personnel News

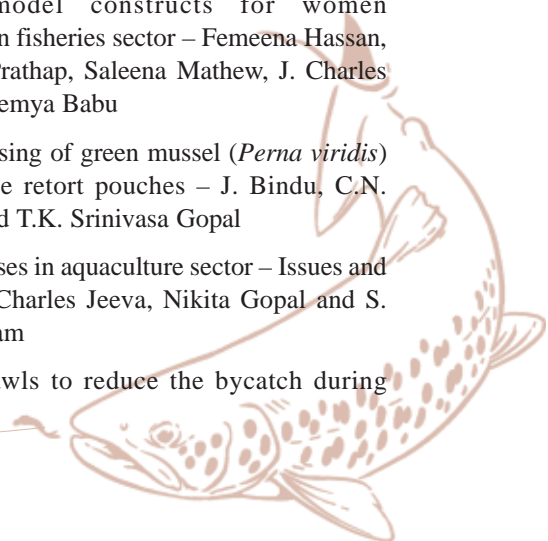
### Participation in Seminars/Symposia/Workshops etc.

- **Dr. T.K. Srinivasa Gopal**, Director – X<sup>th</sup> Agricultural Science Congress on Soil, plant and animal health for enhanced and sustained agricultural productivity, NBFGR, Lucknow (10-12 February)
- **Dr. T.K. Srinivasa Gopal**, Director – Workshop on Sustainability, livelihood and nutrition security, Allahabad (19 February)
- **Dr. T.K. Srinivasa Gopal**, Director – Workshop on Functional foods, BHU, Varanasi (20 February). Dr. Srinivasa Gopal was the Chief Guest who inaugurated the Workshop. He also delivered a talk on ‘Changes in nutritive value of fish during different methods of preservation’.
- **Dr. T.K. Srinivasa Gopal**, Director – Directors’ and Vice Chancellors interface meeting, ICAR, New Delhi (22 February)
- **Dr. T.K. Srinivasa Gopal**, Director – Director’s Conference, ICAR, New Delhi (23 February)
- **Dr. T.K. Srinivasa Gopal**, Director – Interaction meeting of the Secretary, DARE & DG, ICAR with the Chairs of RAC and Directors of the Fisheries Division Institutes, New Delhi (17 March)
- **Dr. T.K. Srinivasa Gopal**, Director, **Dr. Leela Edwin**, HOD, FT, **Dr. K.V. Lalitha**, HOD, MFB, **Dr. S. Balasubramaniam**, HOD, EIS, **Shri P.K. Vijayan**, Acting HOD, FP, **Dr. T.K. Thankappan**, **Dr. C.N. Ravishankar**, Principal Scientists, **Dr. P. Pravin**, **Dr. Suseela Mathew**, **Dr. Saly N. Thomas**, **Dr. Femeena Hassan**, **Dr. M.P. Remesan**, **Dr. A.A. Zynudheen**, **Dr. George Ninan**, **Dr. J. Bindu**, **Shri M.V. Baiju**, Senior Scientists, **Dr. J. Charles Jeeva**, **Dr. Rakesh Kumar**, Scientists, Sr. Scale, **Shri V.R. Madhu**, **Dr. Venkateswarlu Ronda**, **Smt. P. Jeyanthi**, **Shri V. Chandrasekar**, **Shri D.K. Meena**, **Dr. P.K. Binsi**, **Smt. S. Tanuja**, **Smt. P. Vijji**, **Shri A.K. Jha**, **Smt. Arathy Ashok**, Scientists, **Shri Ginson Joseph**, **Shri C.K. Kamalakanth**, **Shri R. Yathavamoorthy** and **Smt. V.R. Mumtaz**, Research Fellows – Seminar on Asian Pacific Aquaculture, Cochin (17-20 January). The following are the oral presentations made by them:
  1. Value added products from freshwater prawns for domestic and international markets - T.K. Srinivasa Gopal
  2. Microbial ecology of freshwater prawn farms in Kerala (India) – K.V. Lalitha

3. Factors affecting harvesting of shrimps in traditional shrimp filtration farms in Kerala – P. Pravin
4. Preventive effects of *Oscimum sanctum* and immune-stimulants on white spot syndrome virus (WSSV) infected *Penaeus monodon* – Suseela Mathew, K. Ashok Kumar and P.T. Lakshmanan
5. Effect of the incorporation of chitosan on rohu mince based fish curry during chilled storage – A.A. Zynudheen, George Ninan and P.M. Rafida
6. Shelf life and quality evaluation of rainbow trout *Oncorhynchus mykiss* in chilled condition – George Ninan, K.V. Lalitha, A.A. Zynudheen and Jose Joseph
7. Boats for aquaculture farming – M.V. Baiju
8. Detection and molecular characterization of *Salmonella* serovars and *Yersinia enterocolitica* in cultured fish and shrimp – Rakesh Kumar and K.V. Lalitha
9. Effect of selected neutral salts on functional and rheological properties of fish mince – P.K. Binsi, B.A. Shamsundar, P. Ramesh Kumar and V. Prakash

The following are the poster presentations made by them:

1. Quality issues in dried fish distributed in the north east hill states of India – P.K. Vijayan and G.R. Unnithan
2. A comparative study on the characteristics of marine and freshwater fish meal and oil – T.K. Thankappan
3. Standardization of ready to serve prawn Manchurian in opaque retortable pouches by C.N. Ravishankar, J. Bindu and T.K. Srinivasa Gopal
4. Catch characteristics of stake nets for penaeid prawns operated in Cochin backwaters, Kerala, India – Saly N. Thomas, P. Pravin and M. Baiju
5. Attitudinal model constructs for women empowerment in fisheries sector – Femeena Hassan, Sangeetha K. Prathap, Saleena Mathew, J. Charles Jeeva and M. Remya Babu
6. Thermal processing of green mussel (*Perna viridis*) curry in opaque retort pouches – J. Bindu, C.N. Ravishankar and T.K. Srinivasa Gopal
7. Post harvest losses in aquaculture sector – Issues and strategies – J. Charles Jeeva, Nikita Gopal and S. Balasubramaniam
8. Short belly trawls to reduce the bycatch during







trawling for *Penaeus monodon* brood stock – A study along coastal waters off Cochin – V.R. Madhu, M.P. Remesan, P. Pravin and M.R. Boopendranath

9. Market concentration and instability in Indian frozen scampi export – P. Jeyanthi and Nikita Gopal
10.  $\beta$ -glucan: A potent immunostimulant in aquaculture – D.K. Meena and S.K. Panda
11. Gillnet selectivity of Kooral (*Hypsleobarbus curmuca*) – M. Baiju and C. Hridayanathan

■ **Dr. T.K. Srinivasa Gopal**, Director and **Dr. M.R. Boopendranath**, Principal Scientist – Planning Commission interface meeting with ICAR Institutes, SAUs and State officials of Kerala, CMFRI, Cochin (31 January)

■ **Dr. T.K. Srinivasa Gopal**, Director and **Dr. J. Bindu**, Senior Scientist – 3<sup>rd</sup> CAC Meeting of the project on Studies on high pressure processing (HPP) of high value perishable commodities, New Delhi (10 January)

■ **Dr. T.K. Srinivasa Gopal**, Director, **Dr. M.M. Prasad**, SIC, Visakhapatnam, **Dr. G. Rajeswari**, **Dr. R. Raghu Prakash**, **Dr. U. Sreedhar**, **Dr. A.A. Zynudheen**, **Dr. George Ninan**, Senior Scientists, **Dr. B. Madhusudana Rao**, Scientist (SG) and **Dr. L.N. Murthy**, Scientist – Pangasius festival, Elluru (21-26 March)

■ **Dr. Leela Edwin**, HOD, FT – Stake holders meet-cum-tuber crops research – industry interface – Promotion and commercialization, CTCRI, Thiruvananthapuram (22 January). Dr. Leela Edwin also made a presentation on “Role of ZTM-BPD in IP and TM of south zone”.

■ **Dr. Leela Edwin**, HOD, FT – ILO Convention No. 188 concerning work in the fishing sector, Visakhapatnam (24-25 January). Dr. Leela Edwin also made a presentation on “ILO convention No. 188 concerning work in the fishing sector before we comply”.

■ **Dr. Leela Edwin**, HOD, FT – ZTM&BPD Meeting-cum-workshop 2010-11 (East Zone), NIRJAFT, Kolkata (28-29 January). Dr. Leela Edwin also made a presentation on “Achievements of ZTM-BPD of South Zone”.

■ **Dr. Leela Edwin**, HOD, FT – First global conference on Agri-business incubation, ICRISAT, Hyderabad (8-10 March)

■ **Dr. Leela Edwin**, HOD, FT, **Dr. T.V. Sankar**, HOD, QAM, **Dr. C.N. Ravishankar**, Principal Scientist, **Dr. K. Ashok Kumar**, **Dr. Nikita Gopal**, **Dr. A.A.**

**Zynudheen**, **Dr. George Ninan**, Senior Scientists, **Dr. A.R.S. Menon**, Tech. Officer (T 9), **Shri Rakesh T. Kurian**, **Shri Abhilash**, **Dr. Elizabeth Carolin**, **Smt. A.K. Anju**, **Smt. A. Razia Mohammed** and **Shri M. Kiran Das**, Research Associates – Zonal Technology Management Committee – Business Process Development Unit Annual meeting cum workshop, Cochin (4-5 March)

■ **Dr. K.V. Lalitha**, HOD, MFB – Colloquium on R&D industry interface for biotech development in Kerala, Cochin (12 January)

■ **Dr. T.V. Sankar**, HOD, QAM – Local auditors course on FSMS (IS/ISO-22000), NITS, Noida (3-7 January)

■ **Dr. T.V. Sankar**, HOD, QAM – ‘Sastra – 2011’, Childrens Science Congress, Campion School, Cochin (13 January). Dr. Sankar gave a talk on ‘An insight in to the foundations of life’.

■ **Dr. T.V. Sankar**, HOD, QAM – Sectional meeting of FAD 12, BIS, New Delhi (28 January)

■ **Dr. T.V. Sankar**, HOD, QAM – National seminar on Bio-security in aquaculture, Asmabi College, Kodungallur (28 February). Dr. Sankar gave a theme talk on “Food security – A fisheries perspective” in the Seminar.

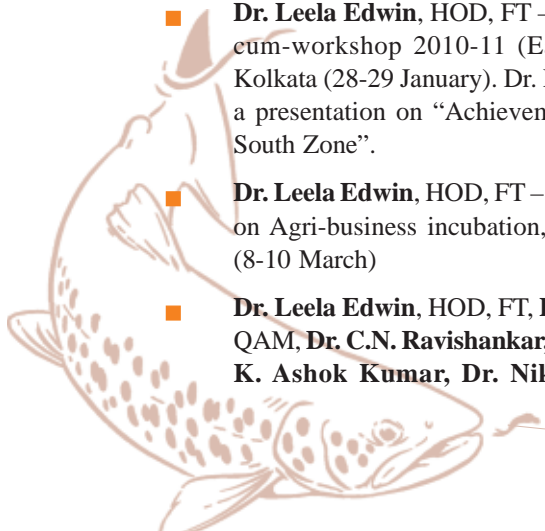
■ **Dr. S. Balasubramaniam**, HOD, EIS – Seminar held in connection with ‘Fifth Assam Matsya Mahotsav – 2011’, Guwahati (27-29 January)

■ **Dr. P.N. Joshi**, Acting HOD, Engg. – 3<sup>rd</sup> renewable energy Hyderabad – 2011 Conference on Accelerating the solar economies in India, Hyderabad (24 February)

■ **Dr. M.M. Prasad**, SIC, Visakhapatnam – ‘Technology Week’ celebrations, KVK, Amdalavalasa (27 January). Dr. Prasad also delivered a talk on ‘Value added products for betterment and socio-economic development for fisherwomen in rural areas’.

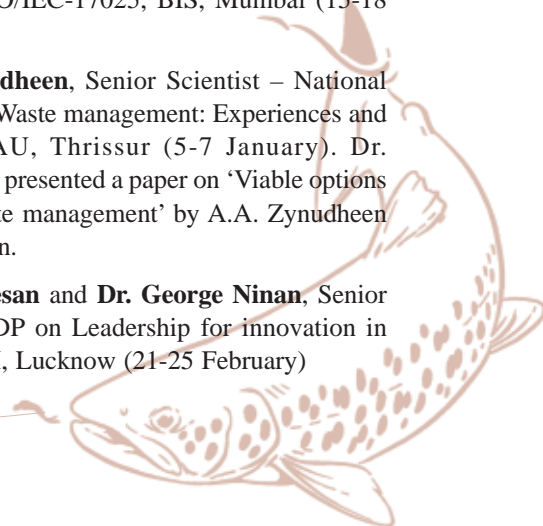
■ **Dr. M.M. Prasad**, SIC, Visakhapatnam – Awareness programme on Fish quality management for exports, organized by the Network for Fish Quality Management and Sustainable Fishing (NETFISH), Visakhapatnam (22 February)

■ **Dr. M.M. Prasad**, SIC, Visakhapatnam, **Dr. G. Rajeswari**, **Dr. R. Raghu Prakash**, Senior Scientists, **Dr. B. Madhusudana Rao**, Scientist (SG), **Dr. L.N. Murthy**, Scientist, Senior Scale and **Shri M.S. Kumar**, Tech. Officer (T7-8) – Workshop on Packaging of fresh and processed fish and seafoods, Hyderabad (22 January). Dr. Murthy also gave a talk on ‘Seafoods, value addition and latest trends in packaging of seafoods’.





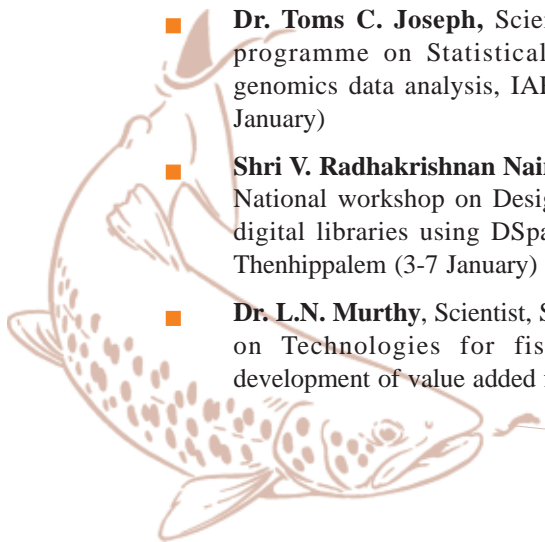
- **Dr. M.R. Boopendranath**, Principal Scientist – National Seminar on Conservation and management of biodiversity in 21<sup>st</sup> Century, Govt. Motilal Vigyan Mahavidyalaya, Bhopal (26-27 February). Dr. Boopendranath also presented a paper entitled, “Biodiversity conservation technologies in fisheries” by M.R. Boopendranath.
- **Dr. M.R. Boopendranath**, Principal Scientist – International Workshop on Towards a green fisheries and aquatic economy – Revisiting technology management and governance, CUSAT, Cochin (8-9 March). Dr. Boopendranath also delivered an invited lecture on ‘Reduction in carbon foot print in fisheries’ at the Workshop.
- **Dr. M.R. Boopendranath**, Principal Scientist – Meeting of the Nodal Officers of Research Framework Document, ICAR, New Delhi (11 March)
- **Dr. M.R. Boopendranath**, Principal Scientist – Meeting of the sub-committee constituted for establishing Faculty of Ocean Studies at Kerala University of Fisheries and Ocean Studies, Cochin (17 March)
- **Dr. M.R. Boopendranath**, Principal Scientist and **Shri M.V. Baiju**, Senior Scientist – Meeting of the Committee constituted by Govt. of Kerala to study issues related to registration of fishing vessels, Cochin (3 January & 13 January)
- **Dr. S. Sanjeev**, Principal Scientist – Meeting of the Project Monitoring Committee on shellfish growing waters of Padanna, Kasaragod, MPEDA, Cochin (7 March)
- **Dr. C.N. Ravishankar**, Principal Scientist – Workshop on Performance review of NAIP projects, OUAT, Bhubaneswar (18-22 January)
- **Dr. C.N. Ravishankar**, Principal Scientist – Technology Clinic on agro food processing, DIC, Thiruvalla (5 February)
- **Dr. C.N. Ravishankar**, Principal Scientist – Seminar on Harvesting innovations in food technology eminent, TKM Inst. of Technology, Kollam (19 February)
- **Dr. G. Rajeswari**, Senior Scientist – Seminar, Academic Staff College, Visakhapatnam (31 January). Dr. Rajeswari also delivered a talk on ‘Responsible fishing practices for conservation and resource enhancement’.
- **Dr. G. Rajeswari**, Senior Scientist – Meeting of the Tender committee held at the Office of the Commissioner of Fisheries, Hyderabad (21 February)
- **Dr. K. Ashok Kumar**, Senior Scientist – BIS FAD 15 meeting, BIS, New Delhi (12 February)
- **Dr. K. Ashok Kumar**, Senior Scientist – Syllabus committee meeting of CIFNET, Cochin (21 March)
- **Dr. K. Ashok Kumar** and **Dr. P. Pravin**, Senior Scientists – Technical workshop for Technical/Nodal Officers on National Knowledge Network, Delhi University, Delhi (25 March)
- **Dr. Saly N. Thomas**, Senior Scientist – International conference on Textiles light and weather-fastness, Mumbai (21 January)
- **Dr. Saly N. Thomas**, Senior Scientist – Meeting of the sectoral working group on coastal and fisheries resources to deliberate on the climate change related impacts and propose strategy for response of the state, Thiruvananthapuram (11 March)
- **Dr. Saly N. Thomas**, Senior Scientist – World water day celebrations, SH College, Cochin (22 March) (As resource person). Dr. Saly N. Thomas also delivered a key note address on ‘Exploitation of the seas – The gift of nature’.
- **Dr. Saly N. Thomas**, Senior Scientist – Sensitization training-workshop-cum-meeting on E-publishing and knowledge system in agricultural research, ICAR, New Delhi (26 March)
- **Dr. Nikita Gopal**, Senior Scientist – Training programme, IMG, Thiruvananthapuram (28 January) (As resource person). Dr. Nikita Gopal gave a lecture on “Free trade agreements: terms and conditions and FTAS: Experiences in other countries”.
- **Dr. Nikita Gopal**, Senior Scientist – International workshop on Towards a green fisheries and aquaculture economy – Revisiting technology management and governance, CUSAT, Cochin (8-9 March). Dr. Nikita Gopal also presented an invited paper on ‘FTA’ and green fisheries economy – Scientific perceptions.
- **Dr. Femeena Hassan**, Senior Scientist – Training programme on Laboratory quality system and internal audit as per ISO/IEC-17025, BIS, Mumbai (15-18 February)
- **Dr. A.A. Zynudheen**, Senior Scientist – National symposium on Waste management: Experiences and strategies, KAU, Thrissur (5-7 January). Dr. Zynudheen also presented a paper on ‘Viable options for fishery waste management’ by A.A. Zynudheen and P.K. Vijayan.
- **Dr. M.P. Remesan** and **Dr. George Ninan**, Senior Scientists – MDP on Leadership for innovation in agriculture, IIM, Lucknow (21-25 February)







- **Dr. George Ninan**, Senior Scientist and **Shri P. Vineeth Kumar**, RA – Training programme on Business incubator operations, management and technology transfer and the global agri business incubation conference, ICRISAT, Hyderabad (7-11 March)
- **Dr. S. Ashaletha**, Senior Scientist – Review workshop under the NAIP on Mobilizing mass media support for sharing agro information, ICAR, New Delhi (11-12 January)
- **Dr. S. Ashaletha**, Senior Scientist and **Shri Aswin Antony**, RA – Review meeting of the NAIP on Mobilizing mass media support for sharing agro information, Barapani (4-5 March)
- **Dr. J. Bindu**, Senior Scientist – National seminar on Climate change and food security: Challenges and opportunities for tuber crops, CTCRI, Thiruvananthapuram (20 January). Dr. Bindu also presented a paper entitled, 'Ready to serve tapioca and sardine curry in high impact polypropylene (HIPP) containers' by T.K. Srinivasa Gopal, J. Bindu and C.N. Ravishankar.
- **Dr. J. Bindu**, Senior Scientist – Thematic annual workshop on Basic and strategic research in frontier areas of resource management and engineering/processing, CISH, Lucknow (2 February)
- **Dr. J. Bindu**, Senior Scientist (As resource person) and **Dr. S.K. Panda**, Scientist – Training on Microbiological quality issues in bivalve molluscan farming, CMFRI Regional Centre, Calicut (15 January). Dr. Bindu gave a lecture on 'Product development and value addition in green mussel'
- **Shri M.V. Baiju**, Senior Scientist – Seminar, SH College, Cochin (3 March) (As resource person). Shri M.V. Baiju also delivered a Key note address on 'Modern trends in fishing boat construction'.
- **Dr. P. Muhamed Ashraf**, Senior Scientist and **Shri V.R. Madhu**, Scientist – Oceansat-2 International AO Science Meeting, SAC, Ahmedabad (23-25 March).
- **Dr. Toms C. Joseph**, Scientist (SG) – Training programme on Statistical and computational genomics data analysis, IARI, New Delhi (11-21 January)
- **Shri V. Radhakrishnan Nair**, Scientist, Sr. Scale – National workshop on Design and development of digital libraries using DSpace, Univ. of Calicut, Thenhippalem (3-7 January)
- **Dr. L.N. Murthy**, Scientist, Senior Scale – Training on Technologies for fish preservation and development of value added fish products from low priced fish, College of Fishery Sciences, Muthukur (28 February) (As resource person). Dr. Murthy gave a lecture on "Value addition and modern trends in packaging of seafoods".
- **Dr. Rakesh Kumar**, Scientist, Senior Scale – One day partners meet on Application of bioinformatics in fisheries domain, NBFGR, Lucknow (29 January)
- **Shri V.R. Madu**, Scientist – National training on Data analysis using SAS, CTCRI, Thiruvananthapuram (3-9 March)
- **Dr. S.K. Panda**, Scientist – National training on Molecular diagnostics and finger printing of *Salmonella* and pathogenic Vibrios associated with seafood and aquatic environments, CIFT, Cochin (14-27 February)
- **Shri V. Chandrasekar**, Scientist – Training programme on Institutional change for inclusive agricultural growth, IASRI, New Delhi (15 February – 7 March)
- **Shri Ankur Nagori**, Scientist – National workshop on Solar food processing technologies to rural women and youth for high income generation and job opportunities, Hyderabad (11-12 February)
- **Dr. V. Murugadas**, Scientist – Symposium on Genomics and biodiversity, CCMB, Hyderabad (23-25 February)
- **Dr. V. Murugadas**, Scientist – Training on Molecular methods for characterization, conservation and utilization of biodiversity, CCMB, Hyderabad (26 February - 15 March)
- **Smt. P. Viji**, Scientist – Training programme on Advanced analytical techniques for aquatic environment, CIFE, Mumbai (24 February – 16 March)
- **Smt. S. Tanuja**, Scientist – Agro food clinic, DIC, Kannur (16 March) (As resource person)
- **Shri Manoj Kumar**, Scientist – Seminar on Management of wetland resources for sustainable fisheries development: Current status and future challenges, BD College, Patna (25-26 February). Shri Manoj also presented a paper on "Potential of ornamental fisheries as a small scale enterprise in Kerala" by Manoj Kumar and V. Geethalakshmi.
- **Smt. Arathy Ashok**, Scientist – Workshop on Statistical applications in industry, business, agriculture and ecology, St. Thomas College, Palai (26-28 March)
- **Dr. A.R.S. Menon**, Tech. Officer (T9) – Inter Media Publicity Coordination Committee Meeting,



Thiruvananthapuram (28 January)

- **Dr. A.R.S. Menon**, Tech. Officer (T9) – Training programme on Improving transparency and accountability through effective implementation of the Right to Information Act – 2005, ISTM, New Delhi (18 March)
- **Smt. T. Silaja**, Tech. Officer (T6) – National conference on Agricultural libraries in the knowledge hub, IARI, New Delhi (24-25 February)
- **Dr. B. Ganesan**, Tech. Officer (T5) – National conference for the purpose of control and supervision of experiments on animals, Chennai (1 March)
- **Dr. Santhosh Alex**, Tech. Officer (T5) – International conference on Comparative literature: World culture and languages, Andhra University, Visakhapatnam (24-26 February)
- **Dr. Santhosh Alex**, Tech. Officer (T5) – Official language workshop, Visakhapatnam (18-19 January & 15 February) (As resource person)
- **Smt. V.K. Raji**, Asst. and **Shri T. Viswanathan**, PA – Training programme on Behavioural skills, ISTM, New Delhi (3-7 January)
- **Shri K.V. Mathai** and **Smt. D.A.L. Satyanarayananamma**, PAs – Training course for Personal Assistants (Refreshers), ISTM, New Delhi (24 January – 4 February)
- **Ms P. Minu**, SRF – Symposium on Contemporary trends in optics and optoelectronics, IIST, Thiruvananthapuram (17-19 January). Ms. Minu also presented a poster on ‘Seasonal variation of inherent bio-optical components of Cochin coastal waters’ by S.S. Shaju, P. Muhamed Ashraf, P. Minu, G. Archana and B. Meenakumari.

## Personalia

### Appointments

1. Smt D. Geetha, AO, Cochin
2. Shri C.J. Stephan, FAO, Cochin
3. Shri Ramesh Mirdha, LDC, Cochin

### Promotions

1. Shri M.V. Baiju, Tech. Officer (T7-8), Cochin as Senior Scientist (Naval Architect)
2. Dr. C. Jessy Joseph, AD (OL), Cochin as DD (OL)
3. Shri R.Viswanathan, Asst., Cochin as AAO
4. Shri K. Das, UDC, Cochin as Asst.
5. Shri M.N. Vinod Kumar, UDC, Cochin as Asst.
6. Shri Y. Kanaka Raju, UDC, Visakhapatnam as Asst.
7. Shri M.T. Udayakumar, SSS, Cochin as Tech. Asst.– 1 (JLA)
8. Shri G. Bhushanam, SSS, Visakhapatnam as Tech. Asst. – 1 (JLA)
9. Shri J.B. Malamadi, SSS, Veraval as Tech. Asst. – 1 (JLA)
10. Shri Amit Vengraj, SSS, Cochin as LDC

### Transfers

1. Shri C.G. Joshy, Scientist (Agricultural Statistics), CIAE, Bhopal to CIFT, Cochin
2. Shri R. Anil Kumar, AAO, CIFT, Cochin to CMFRI, Cochin as AO

### Retirements

1. Shri K.C. Nayak, UDC, Burla

### OBITURY / निधन - सूचना

We deeply mourn the sad and untimely death of **Shri Prakash B. Bait**, Tech. Asst., (T2), Mumbai Research Centre of CIFT on 23<sup>rd</sup> February, 2011 and **Shri Nande Oram**, SSS, Burla on 22<sup>nd</sup> March, 2011. May the departed souls rest in peace.

हम श्री प्रकाश बी. बेट, तक. सहा, (टी 2) के मा प्रौ सं, मुम्बई अनुसंधान केन्द्र के 23 फरवरी, 2011 और श्री नन्दे ओरम, कु स क, के मा प्रौ सं, बुरला केन्द्र के 22 मार्च, 2011 को हुए दुर्भाग्यपूर्ण एवं असमयिक निधन पर गहरा शोक प्रकट करते हैं। परमात्मा इन दोनों की आत्मा को शान्ति दें।

