



# CIFT

## Newsletter



### IN THIS ISSUE

Meetings and Workshops	
Training Programmes	2
Outreach Programmes	6
Exhibitions	7
Tribal Sub Plan Programmes	
Celebrations	8
Personnel News	16
Personalia	21

### EDITORIAL BOARD

#### Editor

**Dr. K. Ashok Kumar**

*Principal Scientist*

#### Members

**Dr. S. Ashaletha**

*Principal Scientist*

**Dr. V.R. Madhu**

*Senior Scientist*

**Shri V. Chandrasekar**

*Scientist*

**Smt. Arathy Ashok**

*Scientist*

**Dr. A.R.S. Menon**

*Chief Technical Officer*

## National Consultative Meeting

The ICAR-CIFT, Kochi conducted a National Consultative Meeting on Management of ring seine fishing for conservation of resources and reduction of carbon footprint on 13 March, 2015. Dr. E.G. Silas, Former Vice Chancellor, Kerala Agricultural University, Thrissur and Former Director, ICAR-CMFRI, Kochi inaugurated the meeting which was primarily aimed at discussing the technical status of the present ring seine fishing along the Indian coast. Dr. Silas observed that it was the ingeniousness of the fishermen that led to the development of this fishery and its role in taking Kerala to the forefront in marine fishery resource exploitation. The meeting was presided over by Dr. C.N. Ravishankar, Director, ICAR-CIFT. A total of 21 invited participants from State Fisheries Departments, research institutions and academia attended the meeting.

Presentations were made on Contribution of ring seine sector in marine fish production by Dr. M. Sivadas, Principal Scientist, ICAR-CMFRI; Evolution and growth of ring seine fishing systems by Dr. Leela Edwin, Principal Scientist and Acting Head, FT, ICAR-CIFT; and Life Cycle Assessment and carbon footprint by Shri P.H. Dhiju Das, Research Associate, ICAR-CIFT. Participants



Dr. C.N. Ravishankar delivering the Presidential Address. On the dias are: Dr. P. Pravin, Dr. M.R. Boopendranath, Dr. E.G. Silas and Dr. Leela Edwin



हर कदम, हर डगर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*Agrisearch with a human touch*

**भाकूअनुप - केन्द्रीय मात्स्यिकी प्रौद्योगिकी संस्थान**

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

**ICAR - Central Institute of Fisheries Technology**

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

discussed the technical issues raised in the presentations which was moderated by Dr. M.R. Boopendranath, former Principal Scientist, ICAR-CIFT. The participants felt that the fishing systems need to be standardized; low cost user friendly sonar system appropriate for ring seiners need to be developed; and appropriate material with high breaking strength may be identified for partial replacement of areas which are vulnerable to dolphin and puffer fish attack. It

was also felt that fibre glass construction has got high potential for global warming, acidification and eutrophication compared to steel and hence steel as construction material is more advisable. It was also felt that there is a need to improve the resolution of landing statistics to facilitate techno-economic analysis leading to identification of more profitable craft and gear combinations.

## National Workshop on Extracting Opportunities in the Fisheries Sector

A National Workshop on “Extracting opportunities in the fisheries sector” was jointly organized by the Zonal Technology Management Centre (ZTMC), ICAR-CIFT, Kochi, District Industries Centre (DIC), Ernakulam and Federation of Indian Export Organizations (FIEO), Ernakulam during 20-21 January, 2015 at ICAR-CIFT, Kochi. The Workshop brought together 50 entrepreneurs from the field of fisheries, scientific community and business development officials on the same platform. The Workshop was aimed at identifying the emerging technological trends in seafood industry, creating awareness about the Business Incubation Centre at ICAR-CIFT and also meeting the challenges in international and national trade.

The Workshop was inaugurated by Shri K.S. Pradeep Kumar, General Manager, DIC. During his inaugural address, Shri Pradeep urged the entrepreneurs to take up business projects in technical collaboration with ICAR-CIFT, so as to garner the benefits of the Institute and thus fuel innovations in fisheries business sector to bring benefits to the large section of the society. Dr. T.V. Sankar, Director-in-Charge,

ICAR-CIFT presided over the inaugural meeting. Dr. Sankar briefed about the good number of entrepreneur-ready technologies available with ICAR-CIFT and the need for more intensive partnerships with the private industry. Dr. George Ninan, Principal Investigator, ZTMC delivered the welcome address and Shri K. Sajithkumar, Assistant Director, DIC proposed the vote of thanks.

The technical session on the first day witnessed a lecture on ‘Value addition in the field of fisheries sector’ by Dr. George Ninan and a talk on ‘Role of business incubators in business development’ by Shri K.J. Aravind, Research Associate, ZTMC. The participants visited the Business Incubation office complex and the Pilot Plant Facility established at the ICAR-CIFT premises. On the second day, Dr. Rejikumar, Faculty for International Trade, FIEO, gave a talk on ‘Export opportunities in marine fisheries sector’ and Shri Sajithkumar of DIC talked about the ‘Schemes and services of Industries Department’. The session came to an end with the vote of thanks proposed by Shri Sajithkumar.



*Inaugural session in progress*



*Shri K.S. Pradeep Kumar delivering the inaugural address*

## Consultation Workshop

One day Stakeholder Consultation Workshop for Finalization of fishing systems design was conducted at ICAR-CIFT, Kochi on 28 February, 2015. The Workshop was conducted as part of the ad hoc project on “Green

fishing Systems for Tropical Seas”. The Workshop was attended by 20 stakeholders representing different fields. Discussions regarding the problems faced by the fishing industry and fishing technology were discussed during the Workshop.



A pre-conference workshop on “An overview of harvest and post harvest fisheries technologies” was organized by ICAR-CIFT, Kochi during 2-3 February, 2015 as part of the First World Ocean Science Congress (WOSC) held at Kochi during 5-8, February, 2015. Dr. V. N. Sanjeevan, Former Director, CMLRE, Kochi and Secretary General, WOSC 2015, inaugurated the Workshop. Dr. C.N. Ravishankar, Director, ICAR-CIFT presided over the function and outlined the role

# Workshop on Harvest and Post Harvest Fisheries Technologies



*Dr. C.N. Ravishankar delivering the Presidential Address*



*Dr. V.N. Sanjeevan delivering the Inaugural Address*

of ICAR-CIFT in organizing the Congress. Dr. Leela Edwin, Head, Fishing Technology Division and Co-ordinator of the Workshop welcomed the gathering and Dr. T.V. Sankar, Head, Quality Assurance Management Division, proposed the vote of thanks. Twenty research students from CIFNET, CMLRE, CUSAT, KUFOS and ICAR-CIFT participated in the two day workshop.

## Stakeholder Meeting for Priority Setting

The Visakhapatnam Research Centre of ICAR-CIFT conducted a stakeholder meeting for priority setting of research projects on 17 March, 2015. Meeting included representatives from Mechanized Fisheries, Small Scale fisheries, Fish Processing Industry, State Fisheries Depart-

ment, Marine Product Export Development Authority (MPEDA), NETFISH-MPEDA, Central Marine Fisheries Research Institute (CMFRI) and Non-Government Organization (NGO).

## Training Programmes

During the quarter the following in-house training programmes were conducted:

### Kochi

1. Modern analytical techniques in biochemical analysis of food (12-22 January)
2. Laboratory techniques for the determination of antimicrobial activity of seaweed extracts (12-23 January)
3. Drying aspects of fish using solar dryer (9-12 February)
4. Various applications of electronic and communication equipments used onboard fishing vessels (9 February – 7 March)
5. Study on the production and characterization of bio surfactant from newly identified gamma proteo bacterium (17 November 2014 to 16 February 2015)
6. Screening of actinomycetes for antimicrobial activity against Methicillin-resistant *Staphylococcus aureus* (17 November 2014 to 16 February 2015)



HACCP concepts (Kochi)



Seafood quality assurance (Kochi)

7. Microbiological analysis of water (24-28 February)
8. Chitin and chitosan production technology (25-26 February)
9. Value addition and hygienic handling of fish (12-13 March & 20-21 March)
10. Seafood quality assurance (16-26 March)
11. HACCP concepts (23-27 March)
12. TDH positive *Vibrio parahaemolyticus* from aquatic ponds or farms (25 March – 23 May)
13. Antifungal effect of chitinase from *Paenibacillus elgii* (25 March – 23 May)
14. Value added fish products (30-31 March)

## Visakhapatnam

1. Laboratory methods for microbiological examination of seafoods (27 January – 7 February)
2. Microbiological methods (27 January – 26 February)

## Veraval

1. Microbiological quality of seafood (19-24 January)
2. Production of improved quality dried fish using solar dryer (9-12 February)
3. Biochemical techniques of fish quality analysis (13-19 February)
4. Responsible fishing techniques for resource conservation (24-26 March)



Biochemical techniques of fish quality analysis (Veraval) - Participants and faculty

## Outreach Programmes

During the quarter, the following outreach programmes were conducted:

1. Training programme on Conversion of diamond mesh to square mesh codend and experimental fishing demonstration of large mesh semi pelagic trawl system at Vengurla, Maharashtra on 11 January, 2015.
2. Training programme on Conversion of diamond mesh to square mesh codend and experimental fishing demonstration of large mesh semi pelagic trawl system at Malvan, Maharashtra on 13 January, 2015.
3. Awareness programme on Five keys to food safety at Kasaragod on 16 January, 2015.





4. Awareness programme on Food-borne illness, preventive measures and treatment at Kasaragod on 17 January, 2015.
5. Awareness programme on Turtle Excluding Device at Chennai Fishing Harbour during 20-22 January, 2015.
6. Awareness workshop on Fish/shellfish diseases at Thrissur on 10 March, 2015.
7. Awareness workshop on Fish/shellfish diseases at Palakkad on 11 March, 2015.
8. Training cum demonstration programme on Harvest and post harvest technologies at Vizianagaram on 18 March, 2015.
9. Awareness workshop on Shrimp/fish diseases and farm management at Pattanakkad, Alappuzha on 24 March, 2015.
10. Awareness workshop on Fish/shellfish diseases at Kottayam on 27 March, 2015.
11. Training cum demonstration on "Employment of eco-friendly fishing gears and preparation of value added products with low cost fish" was conducted at Siltiguda, Rayagada District, Odisha during 30 March to 1 April, 2015.

## Participation in Exhibitions

During the quarter, the Institute participated in the following exhibitions:

1. Exhibition held in connection with Turtle Festival at Srikakulam during 6-7 January, 2015.
2. Rural Technology Mela-2015 at NIRD, Hyderabad during 8-12 January, 2015
3. Exhibition held in connection with the Maritime Expo Anchorage 2015 organized by Department of Ship Technology, CUSAT, Kochi during 10-11 January, 2015.
4. Kerala Science Congress at Alappuzha during 27-30 January, 2015
5. Exhibition held at V.S. Krishna College, Visakhapatnam on 3 February, 2015.
6. Exhibition held in connection with 'Technology Week celebrations' at Krishi Vigyan Kendra, Amadalavalasa, A.P. on 5 February, 2015.



*Rural Technology Mela, Hyderabad*



*AIR Exhibition, Kochi*



*Aqua Aquaria – 2015, Vijayawada*



*World Ocean Science Congress, Kochi*





7. Exhibition held in connection with World Ocean Science Congress – 2015 at Kochi during 5-8 February, 2015.
8. Machinery exhibition organized by District Industries Department at Kochi during 17-20 February 2015.
9. Aqua Aquaria 2015 at Andhra Loyola College, Vijayawada during 20-22 February, 2015.
10. Machinery exhibition organized by District Industries Department at Kochi during 17- 20 February 2015.
11. Karma – 2015 exhibition held at KMCT College of Engineering, Kozhikode during 26 February to 1 March, 2015.
12. Exhibition held in connection with “Nutra India Summit-2015” at Mumbai during 18-19 March, 2015.
13. Exhibition held in connection with the Silver Jubilee celebrations of All India Radio FM Station, Kochi on 31 March, 2015

## Training Programme on Responsible Fishing Techniques

In association with National Fisheries Development Board (NFDB), Hyderabad a three day training programme on “Responsible fishing techniques for resource conservation” was conducted at Veraval Research Centre of ICAR-CIFT for the benefit of fishermen of Veraval during 24-26 March, 2015. The programme was inaugurated by Shri Ramji Bhai Vanik, Vice President, Veraval Boat Owners Association. Dr. Leela Edwin, Acting Head, Fishing Technology Division, ICAR-CIFT, Cochin presided over the function. Shri Sumit Ravat, Assistant Commanding Officer, Indian Coast Guard, Shri V.K. Hakkim, Assistant Director, MPEDA and Shri Mohammed Koya, Scientist In-Charge, Veraval RC of ICAR-CMFRI offered felicitations. Dr. G.K. Sivaraman, Scientist In-Charge, Veraval

RC of ICAR-CIFT welcomed the gathering while Dr. K.K. Prajith, Scientist and Co-convenor of the programme proposed vote of thanks. Later, during the technical sessions, a class on “Safe fishing” was handled by Shri Sumit Ravat and talk on “Responsible fishing techniques” was delivered by Dr. P. Pravin, Principal Scientist. Dr. V.R. Madhu, Senior Scientist and Dr. K.K. Prajith, Scientist were the other resource persons. There was a practical session after technical sessions. About 80 fishermen from Sree Kharva Samyukth Machimar Boat Owners Association (Sagarputhra Foundation), Veraval, Sree Bhidia Kharwa Samaj Boat Owners Association, Sree Bhidia Koli Samaj and Samyukth Machimar Boat Association attended the programme.



*Shri Ramji Bhai Vanik inaugurating the programme*



*Shri Sumit Ravat taking classes on Safe fishing*



*Participants and faculty of the programme*

## Training programme on CIFT Solar dryer

A training cum demonstration programme under Tribal Sub-Plan (TSP) on “Production of improved quality dried fish using solar dryer” was organized at Veraval Research Centre of ICAR-CIFT during 9-12 February 2015. The beneficiaries of the training were tribal fisherfolk from “Bharat Adim Juth Matsyadhyog Sahkari Mandali”, a Society formed for the welfare of “Siddi tribes from Talala region near Veraval, Gujarat. Siddi is a very well known tribal group in Gujarat. They are known by various names such as Africans of India, Habshi, Badsha etc. They are believed to be of African origin. But there are controversies regarding their actual time of arrival to India. But now Siddis are an integral part of Indian society and falls under primitive tribes. They are generally in occupation like labourers, agriculture farm workers and also known to be associated with fisheries activity like fish vending and fish processing workers etc.

The inaugural session of the programme was presided over by Dr. G.K. Sivaraman, Senior Scientist and SIC of the Centre. Dr. A.K. Jha, Scientist welcomed the gathering. Shri Jeyapalan, Deputy Director, EIA, Shri Hakkim, Assistant Director, MPEDA and Shri Mohammad Koya, SIC of ICAR-CMFRI, Veraval Centre offered felicitations.

During the training programme the faculty of VRC of ICAR-CIFT, Smt. V. Renuka, Dr. A.K. Jha, Smt. S. Remya, Shri V. Chandrasekar and Dr. K.K. Prajith gave hands on training to the participants regarding Good manufacturing practices for dry fish, Salt curing of fish by hygienic and scientific methods, Economic as well as operational procedure of solar dryer etc.



*Training in progress*



*Participants and faculty*

## Tribal Sub Plan Programmes

In the valedictory function, Dr. G.K. Sivaraman welcomed the gathering. Shri Jeyapalan, Deputy Director, EIA was the Chief Guest. Shri Jeyabal, Deputy Director, MPEDA and Shri Mohammad Koya, SIC of ICAR-CMFRI, Veraval Centre also graced the occasion with their presence. Smt. Renuka proposed the vote of thanks. A brochure prepared on local language titled “Solar Dryer- An improved and hygienic method of fish drying” distributed among the participants. An interactive session of faculty with the trainees was arranged and feedback was also obtained at the end of programme.

### Skill Development Programme

The Veraval Research Centre of ICAR-CIFT organized a programme on 25 February, 2015 to hand over a Solar Dryer to a group of tribal beneficiaries belonging to Siddi tribe, associated with “Bharat Adim Juth Matsyaudyog Sahakari Mandali” Veraval in order to empower the Siddis to start small scale enterprise by its own and become self-reliant in due course of time. Before handing over of the Solar Dryer, the community was given training on fish drying method and operation of solar dryer.

Dr. C.N. Ravishankar, Director, ICAR-CIFT handed over the Solar Dryer to Shri Hasam Bhai Jummabhai, President, Bharat Adim Juth Matsyaudyog Sahakari Mandali, Veraval in presence of eminent fish processors of Veraval like Shri Lakham Bhai Bhensla, President Seafood Exporters Association, Gujarat, Shri Jagdish Fofandi, Vice President, Seafood Exporters Association and President Trawl Owner's Association, Veraval along with many other fish processors from Veraval.



*Handing over of the solar dryer*





## Training cum Demonstration Programme

The Visakhapatnam Research Centre of ICAR-CIFT conducted a Training cum Demonstration on 'Employment of eco-friendly fishing gears and Preparation of value added products with low cost fish' at Siltiguda, Rayagada District Odisha from 30 March to 1 April 2015 under TSP.

The programme started with lighting of traditional lamp by Dr. M.M. Prasad, SIC of the Centre. While addressing the participants Dr. Prasad explained about the importance of fish as food, health benefits of consuming fish at regular intervals, hygiene in handling fish and the importance having practical knowledge in preparation of value added products with low cost fish. Dr. R. Raghu Prakash, Principal Scientist explained about eco-friendly fishing gears, foldable fish traps and the nets designed and fabricated at ICAR-CIFT Visakhapatnam Research Centre with appropriate mesh size so as to minimize catching small and juvenile fishes. Shri Dwivedi, ADF, Rayagada addressed the participants in local language. Vote of thanks was given by Shri B.K. Panda, ACTO.

During the three days programme the participants were given lectures on handling of fish at different stages right from harvest to post harvest, product development, storage till it reaches the consumer/plate; reasons for spoilage of fish and the measures to control the same, preparation of different value added fish products and uses of gears of eco-friendly nature and less toil and advantages of the same over traditional ones employed by them. The value added fish products demonstrated were fish pickles, cutlets and pakoda. Among the participants 95% were women.



*Demonstration of value added fish products*

The technology inputs such as foldable fish traps, gillnets, insulated fish bags from ICAR-CIFT Visakhapatnam Research Centre were given 'gratis' to the participants besides ice boxes to transport fish from landing centre, heat sealer to help proper packaging of the product in hygienic conditions, and also posters showing importance of consuming fish at regular basis to cater nutritional needs and also for increasing awareness among the tribal fishers.

Impressed by the efforts made by the ICAR-CIFT both NGOs and personnel of JK Paper Mills promised to extend the help to further the cause of tribal fishers, especially the women as a part of their corporate social responsibility.

At the end of the programme, an interactive session was held in which the following technology needs of the stakeholders were identified:

1. Technology inputs for making value added fish products
2. FRP coracles
3. More training cum demonstration programmes.



*Distribution of inputs to the beneficiaries*



*Feedback session in progress*

## Workshop on 'Five Keys to Food safety'

One day workshop on 'Five Keys to Food Safety' was organized under the project on 'Food safety interventions for women in fishery based micro enterprises in coastal Kerala' sponsored by Department of Science and Technology on 16 January, 2015 for fishery micro enterprise units viz., Matsyaganthi, Mahatmaji and Sahridaya in

Valiyaparamba Panchayath Office, Kasaragod. Technical sessions were handled by Dr. Vanaja, Kasaragod District Manager of Matsyafed, Shri K. Sherief, Project Officer, Matsyafed and Dr. Femeena Hassan, Senior Scientist, ICAR-CIFT, Kochi.



## 'Fish Maid' Launched



*Dignitaries after the launching function*

The first 'Fish Maid' outlet, an initiation of Kerala State Coastal Area Development Corporation (KSCADC), selling value-added and ready-to-eat fish-based products developed under NAIP-RHSSP project under operation at the Institute was inaugurated on 23 February, 2015 by Shri

K. Babu, Minister for Fisheries, Excise and Ports, Govt. of Kerala. The outlet was opened at the Centre Square Mall on MG Road, Ernakulam. The Minister did the first sale by handing over the product to actor Ms Swetha Menon in the presence of Shri Dominic Presentation, Shri Luidy Louis and Shri Hibi Eden, MLAs; Mayor Shri Tony Chammany; District Collector Shri M.G. Rajamanickam, IAS, KSCADC MD Dr. K Ampady and Director, ICAR-CIFT, Dr. C.N. Ravishankar. The technological contributions of the NAIP-RHSSP by way of introducing business models on value added products like 'Fish Maid', high quality dry fish branded under "Drish" were appreciated by the minister.

## Awareness Campaign on Food-borne Illness

An awareness campaign on 'Food-borne illness, preventive measures and treatment' was conducted for the stakeholders on 17 January, 2015 at Valiyaparamba

Panchayath office, Kasaragod. Smt. T.V. Savithry, Development Standing Committee Chairperson, inaugurated the programme.

## ICAR-CIFT Participation in Rural Technology Mela-2015

The Visakhapatnam Research Centre of ICAR-CIFT participated in the Rural Technology Mela-2015 held at NIRD, Hyderabad during 8-12 January. The team comprised of Dr. M.M. Prasad, Principal Scientist and Scientist in Charge, Shri P. Radha Krishna, Technical Officer and Shri G. Bhushanam, Technician. During the event technologies developed at CIFT including value added fish products, different products with fish waste and eco-friendly fishing gears were exhibited. Visitors included, students, housewives, fishers, academicians, NGOs, SHG, ARS Trainee scientists from NAARM, NAARM faculty, Scientist from other

ICAR Institutes located in Rajendranagar, Hyderabad, persons with entrepreneurial ambitions and government officials. At the end of the five day Mela, Dr. M.V. Rao, DG, NIRD and CEO, NFDB visited each stall and had interactive feedback that went live all over the exhibition area. Dr. M.V. Rao asked for more contributions from premier fisheries institutes like ICAR-CIFT in the form of training cum demonstrations that are beneficial to rural fishers especially those who are economically under-privileged and women fishers.



*Dr. M.V. Rao, DG, NIRD and CEO, NFDB at ICAR-CIFT stall*

## Women's Day Celebrations

The Institute celebrated International Women's Day on 9<sup>th</sup> March, 2015. Dr. Nirmala Padmanabhan, Head, Department of Economics, St. Teresa's College, Ernakulam was the Chief Guest of the function.

*Dr. Nirmala Padmanabhan delivering the Chief Guest's address*





# Best Exhibitor Award to ICAR-CIFT

International Society for Nutraceuticals, Nutritionals and Naturals (ISNNaN) jointly with MM Activ and Sci Tech Communications organized two days programme on “Nutra India Summit-2015” during 18-19 March, 2015 at Mumbai.

Dr. L. Narasimha Murthy, Senior Scientist & Scientist In-Charge and his colleagues of Mumbai Research Centre of ICAR-CIFT actively participated in the conference and displayed the products and technologies developed by the Institute in the exhibition stall with the help of Business Planning and Development Unit of the Institute. Products included Chitin, Chitosan, Glucosamine hydrochloride, Chitosan sponge, Calcium capsules, Hydroxyapatite, Collagen peptide, Succinyl chitosan hand sanitizer, ready to eat fish curry in retort pouch, extruded snacks, fish feed etc. Further, detailed information regarding the technologies were displayed as posters. The exhibition was formally inaugurated by Dr. R.A. Mashelkar, FRS, President, Global Research Alliance. Dignitaries from national and international organizations, many private entrepreneurs, medical professional, scientists, students and academicians



*Dignitaries visiting ICAR-CIFT stall*

from national and international Institutes visited ICAR-CIFT stall.

International Advisory Council conferred upon ICAR-CIFT the award for ‘The Best Exhibitor’ in the category of Content and Information. This Award was instituted by ISNNaN to recognize the achievement of Institute/Industry for their performance excellence. The award was presented to ICAR-CIFT by Dr. Pingfan Rao, Governing Council Member, International Union of Food Science and Technology and Director, Institute of Biotechnology, Fuzhou University, China in the presence of Dr. V. Prakash, Distinguished Scientist of CSIR & Chairman, 10<sup>th</sup> Nutra India Summit, 2015.

## Awareness Workshops on Fish Diseases and Farm Management Issues

Under the Project on National surveillance programme on aquatic animal diseases funded by National Fisheries Development Board, Hyderabad four awareness workshops were conducted in four districts of Kerala. In Thrissur district, 52 farmers and 12 Panchayat co-ordinators attended the programme. An interactive session on different fish diseases prevalent in farms located at Thrissur and farm management issues were held with farmers wherein farmers shared their experiences. In Palakkad district, 39 participants including 20 farmers and 19 Panchayat co-ordinators attended. Technical session on Importance of water quality parameters in aquaculture and fish disease management was elab-

orated. In Alappuzha district, 51 participants including 47 farmers and 4 Panchayat co-ordinators attended the awareness programme. A detailed discussion on finfish and shrimp diseases and farm management issues in farms located at Alappuzha district was held by the project team with farmers where in farmers shared their experiences and issues related to water quality due to dumping of fishery waste from pre-processing shed. Health card was introduced to the farmers. In Kottayam district, nine farmers attended the programme. In technical session, water quality parameters and their association with fish/shrimp diseases was elaborated.



*Awareness workshop at Thrissur*



*Interaction with participants*





*Dr. M.M. Prasad making the presentation at 12<sup>th</sup> ASC at Karnal*

ICAR-CIFT, Kochi was the only fisheries organization invited to present a talk during 12<sup>th</sup> Agriculture Science Congress held at Karnal from 3 to 6 February, 2015. The invited talk by Dr. C.N. Ravishankar, Director, ICAR-CIFT, Kochi on “Low cost processing and packaging technologies for small scale fish producers” was published in the Proceedings of the ASC as extended abstract. Due to pre-occupation of the Director

## ICAR-CIFT Presentation at 12<sup>th</sup> Agriculture Science Congress

the invited talk was delivered by Dr. M.M. Prasad, Principal Scientist, Visakhapatnam Research Centre in Session 7: Mechanization and post harvest technologies for small farmers on 5 February, 2015. Dr. S. Ayyappan, Director General, ICAR and Secretary, DARE, Govt. of India and host of dignitaries appreciated the participation of ICAR-CIFT in 12<sup>th</sup> ASC. Dr. Prasad also participated in the sessions that included Session 10: Empowerment of women in agriculture Chaired by Dr. B. Meenakumari, DDG (Fy.), ICAR, New Delhi.

### IAS Officer Trainees visit ICAR-CIFT

A batch of 18 IAS Officer Trainees of the 2014 batch visited ICAR-CIFT on 4 February 2015 as a part of their Winter Study Tour (Bharat Darsan) and Public Sector Attachment Training. An interactive meeting of the Trainees with the Heads of research divisions was held. The meeting was

chaired by Dr. C.N. Ravishankar, Director, ICAR-CIFT, Kochi and Dr. T.V. Sankar, Head, Quality Assurance and Management Division gave a presentation highlighting the activities and achievements of the Institute. Dr. Nikita Gopal, Principal Scientist was the Nodal Officer for the visit.



*Director interacting with the visitors*



*IAS Officers visiting FT laboratories*

### ARS Scientist Probationers attend FET Programme at ICAR-CIFT

A team of six ARS Scientist probationers belonging to 101st FOCARS from ICAR-NAARM, Hyderabad was attached to ICAR-CIFT, Kochi for their Field Experience Training from 19 February 2015 to 11 March 2015. Perumbalam Island in Ernakulam district was selected for conducting field survey and application of PRA tools.

The team visited the Perumbalam Grama Panchayat, Krishi Bhavan, Veterinary Hospital, Co-operative Society, Prawn peeling units, Coir society etc. in the island. They also interacted with key informants and progressive farmers. A visit was organized to a fish processing factory named Moon Fisheries, Aroor, and ICAR-Central Marine Fisheries Research



*Village seminar in progress*

Institute, Kochi. The team also underwent onboard training on the Institute fishing vessel-Sagar Shakthi. A village seminar was conducted on 6 March 2015, at the Krishi Bhavan, Perumbalam under the guidance and supervision of FET Coordinator Dr. Nikita Gopal, Principal Scientist, ICAR-CIFT and Monitoring Faculty Dr. Ganesh Kumar, Principal

*ARS probationers on field visit*

Scientist, ICAR-NAARM, Hyderabad. About 38 farmers and fishers attended the seminar. Smt. V.P. Sherly, Gram Panchayat President and Smt. Latha, Agricultural Officer were also present. The training programme concluded with a seminar organized in the Institute on 7 March, 2015 which was presided over by Dr. C. N. Ravishankar, Director, ICAR-CIFT.

## Swachh Bharat Abhiyan

The Veraval Research Centre regularly carried out cleaning activities of their office premises and the adjoining areas. On making awareness about the importance of cleaning, Swachh Bharat programme were conducted on 24 January, 2015 and also on the Republic day on 26 January, 2015.

Swachh Bharat Mission is being observed in the Visakhapatnam Research Centre on every Saturday for two hours. Office premises, lab and fishing vessel cleaning activities are being undertaken during the time.

*Swachh Bharat programme at Veraval*

## Deputation Abroad

Dr. Nikita Gopal, Principal Scientist, EIS Division, ICAR-CIFT, Kochi was deputed to Thailand to attend a Seminar on Gender in aquaculture: Equity and empowerment on the fisheries and aquaculture value chain during 24-25 February, 2015. Dr. Nikita Gopal also made a lead presentation on "Gender challenges in aquaculture and fisheries" in the Seminar. The Regional Gender and Aquaculture Workshop brought together aquaculture experts and stakeholders to debate and discuss on the findings of the project that was being carried out in Cambodia, Lao PDR, Thailand and Vietnam. The findings of the project focussed on the roles, constraints and opportunities which women in the aquaculture value chain faced, and allowed stakeholders to comment on the findings. Twenty two participants including the researchers in the project and representatives from international organizations like Network of Aquaculture Centres in Asia-

*Dr. Nikita Gopal (sitting second from right) along with other participants*

Pacific, USAID/ MARKET, Oxfam, UN Women, Mekong River Commission and Kenan Institute, Asia attended the two day workshop. Dr. Nikita also led a group activity for the 'Gender networks : Creating Change in the ASEAN region'



# Review of Fishing Systems in Reservoirs of Himachal Pradesh

Himachal Pradesh is having four major man-made reservoirs viz; Gobind Sagar, Pong, Chamera and Ranjeet Sagar with mean water spread of 26000 ha. These reservoirs have a big potential for fish production and provide livelihood to over 6000 fishermen families. The Himachal Pradesh Government has enacted Fisheries Act in 1976 and laid down Himachal Pradesh Fisheries Rules 1979. The state maintains strict management regulations for sustainable harvesting of resources in the reservoirs.

To review the reservoir fisheries of Himachal Pradesh with respect to fishing gear dimensions fixed for fishing, Department of Fisheries, Government of Himachal Pradesh approached ICAR-CIFT. Accordingly a team comprising Dr. Saly N. Thomas, Principal Scientist along with Technical Officers Shri P.S. Nobi, Shri Aravind Kalangutkar and Shri H. V. Pungera undertook the study by visiting Himachal Pradesh in two spells, in October 2014 and February 2015. The study covered Gobind Sagar, Pong and Chamera reservoirs of HP.

A basic survey was conducted at different stations and data on fishing craft and gear were collected. Morphometric data of important species of fish caught as well as their quantity and value were collected by observing fish sale at selected centres. Team held meetings with fishermen groups at different landing centres and collected information pertaining to fishing operation, season and other related matters.

In the reservoirs, fishing is carried out from 1<sup>st</sup> April to 31<sup>st</sup> March and fishing rights are given to fishers who are

members of fishermen societies. Gillnets of mesh size not less than 100 mm and nets of 80 m length and 5 m depth only are permitted to be operated in the reservoir. Fishing craft used by the fishermen is wooden plank built canoe known as 'Kishti'. Catla, rohu, mirror carp, mahseer, mrigal and silver carp were the predominant fish species landed. In Chamera reservoir, the team conducted fishing trials with experimental nets. Also a demonstration on scientific rigging of the gillnets was conducted for the benefit of the fishermen.

The team had discussions with Director-cum-Warden of Fisheries, Himachal Pradesh and Deputy Director and Asst. Directors of different Reservoir Divisions. The officials briefed on the management measures undertaken by the Dept. and expressed their concerns regarding the low catch at Chamera reservoir and difficulties in operation of nets due to underwater tree stumps. ICAR-CIFT's recommendations regarding changes if any required in mesh size, material and dimension of gillnets operated in the reservoirs of Himachal Pradesh were sought after by the Department officials.



ICAR-CIFT team carrying out fishing trials in Chamera reservoir



Collection of data on craft and gear used in Gobind Sagar reservoir



Interaction with fishers of Pong reservoir



Discussion with Dr. Gurcharan Singh, Director-cum Warden of Fisheries and other Dept. Officials



# Awards and Recognitions

## Poetry Award to Dr. Santhosh Alex

Dr. Santhosh Alex, Senior Technical Officer, OL Section, ICAR-CIFT, Kochi received the “Sirjanlok Kavi Samman” during the function held in SRM University, Chennai on 13 March, 2015. Dr. S. Balasubramaniam, Director, Science and Humanities Department, SRM University gave away the award in presence of Shri Shreyans, Chairman, Sirjanlok Organization.



Dr. Santhosh Alex receiving the award

## Carrom Championship to Shri Rajasaravanan

Shri K.R. Rajasaravanan, Skilled Support Staff, ICAR-CIFT, Kochi bagged the Winner position of Men Team Championship of the ‘S. Ramaswamy Memorial’ Kerala State 30<sup>th</sup> Carrom Championship held at Thiruvananthapuram during 21-23 February, 2015.



Shri Rajasaravanan (centre) receiving the Championship

## Consultancy Agreements Signed

During the period under report ICAR-CIFT, Kochi signed the following consultancy agreements:

1. With **Department of Fisheries, Govt. of Maharashtra, Taraporewala Aquarium, Mumbai** for providing the detailed specifications, general arrangement drawing and estimate for a 15 m long FRP training cum patrolling vessel.
2. With **Kerala State Co-operative Federation for Fish-**

**eries Development Ltd. (Matsyafed), Thiruvananthapuram** for providing technical assistance for the modernization of chitin and chitosan plant functioning at Neendakara, Kollam District with GMP certification. The consultancy charge is ₹ 30,000/-.

3. With **Marine Products Export Development Authority, Kochi** for undertaking the CFC-FAO project on ‘Promotion of processing and marketing of fresh water fish products’. The consultancy charge is ₹ 6,48,485/-.

## Publications

### Research Papers

1. Anandan, R., Chatterjee, N.S., Sivakumar, R., Suseela Mathew, Asha, K.K. and Ganesan, B. (2015) – Dietary chitosan supplementation ameliorates Isoproterenol-induced aberrations in membrane-bound ATPases and mineral status of rat myocardium, *Biol. Trace Elem. Res.*, .....
2. Aneesh Kumar, K.V., Pravin, P., Meenakumari, B., Khanolkar, P.S. and Baiju, M.V. (2015) – Shark bycatch in the experimental tuna longline fishery in Lakshadweep sea, India, *J. Appl. Ichthyology*, 10.111/jai.12682.
3. Arathy Ashok, Murthy, L.N., Madhusudana Rao, B., Jesmi Debbarma, Prasad, M.M., Geethalakshmi, V. and Nikita Gopal (2015) – Impact of Pacific white shrimp (*Litopenaeus vannamei*) on shrimp production and seafood processing in Andhra Pradesh, *Fish. Technol.*, **52(1)**:53-57.
4. Jeyakumari, A., Venkateswarlu, R., Chousey, M.K. and Anandan, R. (2014) – Effect of essential oil and aqueous extract of ginger (*Zingiber officinale*) on oxidative stability of fish oil-in-water emulsion, *J. Food Process. & Technol.*, **6**: 412
5. Madhusudana Rao, B. and Lalitha, K.V. (2015) –





- Bacteriophages for aquaculture: Are they beneficial or inimical, *Aquaculture*, **437**: 146-154.
6. Mohan, C.O., Remya, S., Murthy, L.N., Ravishankar, C.N. and Ashok Kumar, K. (2015) – Effect of filling medium on cooking time and quality of canned yellow fin tuna (*Thunnus albacares*), *Food Control*, **50**: 320-327.
  7. Muhamed Ashraf, P., Lalitha, K.V., Chakraborty, S.K. and Jaiswal, A.K. (2014) – Length- weight relationships for five species of Clupeidae caught from Mumbai coast, India, *Fish. Technol.*, **51(4)**: 291-294.
  8. Muhammed Sherief, P.S., Sreejith, P.T., Sayana, K.A., Dhiju Das, P.H., Saly N. Thomas, Remesan, M.P. and Leela Edwin (2015) – Drift gillnets made of Sapphire and Polyamide in Gujarat, India, *Fish. Technol.*, **52(1)**: 62-66.
  9. Murthy, L.N., Madhusudana Rao, B., Anandan, R., Suseela Mathew, Lakshmanan, P.T. and Prasad, M.M. (2015) – Nutritional composition, quality and hazards profiling of commercial post-larval feeds used in *Litopenaeus vannamei* hatcheries, *Indian J. Fish.*, **62(1)**: 85-94.
  10. Murthy, L.N., Madhusudana Rao, B., Asha, K.K. and Prasad, M.M. (2014) – Extraction and quality evaluation of yellow fin tuna bone powder, *Fish. Technol.*, **51**: 38-42.
  11. Murthy, L.N., Madhusudana Rao, B., Asha, K.K. and Prasad, M.M. (2015) – Nutritional composition, product development, shelf -life evaluation and quality assessment of pacu *Piaractus brachypomus* (Cuvier, 1818), *Indian J. Fish.*, **62(1)**: 101-109.
  12. Obulesu, T., Asha, K.K., Anandan, R., Suseela Mathew, Ganesan, B., Krishna, G. and Lakra, W.S. (2015) – Antioxidant defence of dietary squalene supplementation on n-3 poly unsaturated fatty acids (PUFA)-mediated oxidative stress in young and aged rats, *Fish. Technol.*, **52(1)**: 48-52.
  13. Susmitha, V., Divya K. Vijayan, Anandan, R., Ravishankar, C.N. and Suseela Mathew (2015) – Amino acid profiling of Malayan Deep sea boarfish *Antigonia malayana* – An attempt to attenuate malnutrition, *Cutting Edge*, 12-15.
  14. Therasilin Louis, Yuvaraj, P., Madhavachandran, V. and Anandan, R. (2015) – Anti diabetic and anti hyperlipidemic activities of different extract of *Ailanthus malabarica* stem bark in Alloxan-induced diabetic rats, *Intl J. Biol. & Pharma. Res.*, **6**: 327-331.
  15. Visnuvinayagam, S., Binsi, P.K., Viji, P. and Thriveni Adiga (2014) – Monitoring pathogenic bacteria in fish processing, *Food and Beverages News*, **6(22)**: 35-38.

## Official Language Implementation

Two workshops were conducted during the quarter. The first Workshop for the administrative staff of the Institute was held on 2 February, 2015. Dr. Santhosh Alex, Senior Technical Officer was the resource person. The second Workshop was held on 2 March, 2015 for the Private Secretaries and Personal Assistants of the Institute. Dr. P. Shankar, Technical Officer was the resource person.

During the quarter two technical talks in Hindi were also conducted. On 13 February, 2015 Shri O.B. Satish Kumar, Technical Officer 'A', NPOL, Kochi delivered a talk on "Transducers and Sonar". On 21 March, 2015 Dr. P. Pravin, Principal Scientist, Fishing Technology, ICAR-CIFT, Kochi delivered a talk on "Pole and line fishing in Lakshadweep".



Shri O.B. Satish Kumar delivering the talk

## Post Graduate Studies

**Smt. P. Viji**, Scientist, Visakhapatnam Research Centre of ICAR-CIFT was awarded Ph.D. Degree of ICAR-Central Institute of Fisheries Education (CIFE), Mumbai (Deemed University) for her thesis entitled "Effects of plant extracts on the quality of Indian mackerel, *Rastrelliger kanagurta* (Cuvier, 1817),



preserved by chilled and frozen condition". She worked under the guidance of Dr. T.K. Srinivasa Gopal, Former Director, ICAR-CIFT, Kochi.

**Shri Ginson George**, Senior Research Fellow, ICAR-CIFT, Kochi was awarded Ph.D. Degree of Cochin





University of Science and Technology, Kochi for his thesis entitled "Optimization of high pressure processing parameters for Indian White Prawn (*Fenneropenaeus*

*indicus*) and its shelf life evaluation during chilled storage". He worked under the guidance of Dr. J. Bindu, Principal Scientist, Fish Processing Division, ICAR-CIFT, Kochi.

## Personnel News

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

- **Dr. C.N. Ravishankar**, Director—Executive Development Programme on Leadership Management, NAARM, Hyderabad (19-23 January)
- **Dr. C.N. Ravishankar**, Director and **Dr. S.K. Panda**, Senior Scientist— Indo-French Workshop on Scientific cooperation for agricultural research, ICAR, New Delhi (9-11 March). Dr. Ravishankar also made a presentation on "Food processing and packaging" in the Workshop.
- **Dr. C.N. Ravishankar**, Director, **Dr. K.V. Lalitha**, HOD, MFB, **Dr. T.V. Sankar**, HOD, QAM, **Dr. Suseela Mathew**, HOD, B&N, **Dr. A.A. Zynudheen**, Acting HOD, FP, **Dr. Leela Edwin**, Acting HOD, FT, **Dr. Saly N. Thomas**, **Dr. P. Pravin**, **Dr. M.P. Remesan**, **Dr. Nikita Gopal**, Principal Scientists, **Dr. Femeena Hassan**, **Dr. R. Anandan**, **Dr. P. Muhamed Ashraf**, **Dr. S. Ashaletha**, **Dr. George Ninan**, **Dr. J. Bindu**, **Shri M.V. Baiju**, **Dr. S.K. Panda**, **Dr. K.K. Asha**, **Dr. V.R. Madhu**, Senior Scientists, **Dr. C.O. Mohan**, **Smt. P. Jeyanthi**, **Shri V. Chandrasekar**, **Dr. V. Murugadas**, **Dr. N.S. Chatterjee**, **Dr. P.K. Binsi**, **Shri G. Kamei**, **Dr. A. Jeyakumari**, **Smt. S. Remya**, **Smt. S.J. Laly**, **Smt. U. Parvathy**, **Kum. H. Mandakini Devi**, **Shri G.M. Siddaiah**, **Shri S. Sreejith**, **Smt. T.K. Anupama**, **Dr. Pankaj Kishore**, **Shri Karankumar K. Ramteke**, Scientists, **Shri P.S. Muhammed Sherif**, **Shri Rithin Joseph**, **Kum. K.A. Sayana**, **Shri P.H. Dhiju Das**, **Smt. V.P. Souda**, **Kum. Divya K. Vijayan**, **Shri K.V. Vishnu**, **Shri K.K. Ajeeshkumar**, **Kum. Natasha Nayak**, **Smt.V. Susmitha**, **Shri P.K. Mahato**, **Smt. Liya Jayalal**, **Smt. P. Sruthi**, Research Fellows and **Shri V. Vipin Kumar**, Tech. Asst. – World Ocean Science Congress, Kochi (5-8 February). They also presented the following research papers in the Congress:
  1. Preparation and quality evaluation of squid silage by U. Parvathy, A. Jeyakumari, A.A. Zynudheen and George Ninan
  2. Mechanized gillnet fishing systems of Odisha by P.S. Muhammed Sherif, Saly N. Thomas and Leela Edwin
  3. Large mesh mechanized gillnets in operation along Indian coast by P.S. Muhammed Sherif, P.H. Dhiju Das, Rithin Joseph, K.A. Sayana, Saly N. Thomas, V.R. Madhu, M.P. Remesan, M.V. Baiju, P. Pravin and Leela Edwin
  4. Longline fishing systems of India by Rithin Joseph, K.A. Sayana, P.H. Dhiju Das, P.S. Muhammed Sherif, V.R. Madhu, M.P. Remesan, M.V. Baiju, Saly N. Thomas, P. Pravin and Leela Edwin
  5. Purse seine systems of India by P.H. Dhiju Das, P.S. Muhammed Sherif, Rithin Joseph, K.A. Sayana, Saly N. Thomas, V.R. Madhu, M.P. Remesan, M.V. Baiju, P. Pravin and Leela Edwin
  6. Bio-optical studies in Indian sector of Southern ocean by P. Minu, V.P. Souda, S.S. Shaju, R.K. Mishra, N. Anilkumar, P. Muhammed Ashrf and Leela Edwin
  7. Optical properties of coastal waters off Southeastern Arabian sea by P. Muhammed Ashraf
  8. Compliance of marine fishing regulation acts (MFRAs) along coastal states of India by G. Kamei and Leela Edwin
  9. Comparative analysis of B-carotene content in liver and serum of mice following administration of microencapsulated and pure B-carotene by K.K. Asha, N.S. Chatterjee, K.K. Ajeeshkumar, R. Anandan and Suseela Mathew
  10. Export performance of Indian tuna – A time series analysis by P. Jeyanthi, V. Chandrasekar and Nikita Gopal
  11. Hydrodynamic analysis of design of 19.8 L<sub>OA</sub> energy efficient combination fishing vessel by M.V. Baiju, V. Vipin Kumar and Leela Edwin
  12. Identification and molecular typing of fungus from the dried fish samples of Gujarat by G.K. Sivaraman
  13. Pathotyping of *Escherichia coli* isolates by multiplex PCR from seafood by G.K. Sivaraman, A.K. Jha, S. Sanjeev, Toms C. Joseph, K.V. Lalitha, S. Remya and V. Renuka
  14. Evolution and growth of ring seine fishing systems and its spread along the Indian coast by P.H. Dhiju Das and Leela Edwin
  15. Selectivity of diamond and square mesh codends for *Trichiurus lepturus* Linnaeus, 1758 along Veraval coast, Gujarat by V.R. Madhu and B. Meenakumari
  16. Cut away top belly trawl – A new eco-friendly shrimp trawl design by V.R. Madhu, M.P. Remesan,





- P. Pravin and M.R. Boopendranath
17. Validation of PFZ advisories along Gujarat coast – Preliminary result of studies on ecological linkages between plankton production and *Acetes* sp. abundance by V.R. Madhu, K.K. Prajith and B. Meenakumari
  18. Quality evaluation of seaweed-incorporated fish jerky by H. Mandakini Devi, A.A. Zynudheen, George Ninan and S.K. Panda
  19. Quality evaluation of fish soup powder supplemented with carrageenan by A. Jeyakumari, Christin Joseph, A.A. Zynudheen, George Ninan, C.N. Ravishankar and R. Anandan
  20. Effect of chitosan incorporation on the quality of restricted products from *Pangasius (Pangasianodon hypophthalmus)* surimi during chilled storage by A. Jeyakumari, George Ninan, U. Parvathy, A.A. Zynudheen, K.V. Lalitha and V. Ronda
  21. Evaluation of anti-pyretic and anti-ulcer activities of *Centrophorus scalarpratus* liver oil available in Indian waters by Divya K. Vijayan, V. Susmitha, Mathen Mathew, K.V. Vishnu, R. Anandan and Suseela Mathew
  22. Cytotoxic evaluation of liver oil from *Echinorhinus brucus* (Bramble shark) on neuroblastoma cell lines (SH-SY5Y) by K.V. Vishnu, K.K. Ajeeshkumar, Suvanish Kumar, G. Remani and Suseela Mathew
  23. Biomineral and trace element profiling of selected deep sea fishes from Indian EEZ by K.K. Ajeeshkumar, K.V. Vishnu, K.K. Binesh, K.R. Remyakumari, G.M. Siddaiah, T.V. Sankar and Suseela Mathew
  24. Biochemical composition and nutrient profiling of selected deep sea (200-1200M) species from Indian EEZ by Suseela Mathew, Mathen Mathew, G.M. Siddaiah, K.K. Asha, N.S. Chatterjee and R. Anandan
  25. Gelation and functional characteristics of gelatin-gum polymer blends by P.K. Binsi, Natasha Nayak, P.C. Sarkar and C.N. Ravishankar
  26. Microencapsulation of fish oil/Sage essential oil blends: Characterization and *in vitro* Release kinetics by P.K. Binsi, Natasha Nayak, A. Jeyakumari, P.C. Sarkar and George Ninan
  27. Microwave assisted extraction of gelatin from fish scale by P.K. Binsi
  28. Dietary influence of squalene and w-3 polyunsaturated fatty acids on mitochondrial function in experimentally induced myocardial infarction in rats by R. Anandan, B. Ganesan, N. Dhandapani, K.K. Asha and Suseela Mathew
  29. Physico-chemical quality changes in *Caranx melampygus* (Cuvier, 1833) during chilled storage by Femeena Hassan, K.K. Asha, K.V. Nija and T.V. Sankar
  30. Square mesh codends benefit the trawl industry – A case study along Sindhudurg district, Maharashtra by Pareshe S. Khanolkar, V.R. Madhu, Leela Edwin, Merwyn Fernandes, S.K. Ghosh and N. Vasudevan
  31. n-3/n-6 polyunsaturated fatty acid profile (PUFA) and antioxidant defense potential of selected seaweeds collected from south east coast of India by V. Susmitha, Divya K. Vijayan, Usha G. Rani, N.S. Chatterjee, K.K. Asha, Suseela Mathew, C.N. Ravishankar and R. Anandan
  32. Solar boat for green fishing by M.V. Baiju and Leela Edwin
  33. Popularization of CIFT semi pelagic trawl system (CIFT-SPTS) for mechanized trawlers in India by P. Pravin, M.P. Remesan, V.R. Madhu, G. Rajeswari, U. Sreedhar, K.K. Prajith and K. Karan
  34. Characterization of edible films based on *Scomberoides lysan* and *Epinephelus malabaricus* skin gelatin by K. Shyni, George Ninan, G.S. Hema and Suseela Mathew
  35. Biochemical and microbial quality of commercially available dry fish in Cochin by T.K. Anupama, S.J. Laly, S. Sanjeev and T.V. Sankar
  36. State of Indian recreational fishing sector by Saly N. Thomas and P. Pravin
  37. Reduction of carbon foot print for sustainable fisheries by Pradip Kumar Mahato, Dhiju Das, P.H. and Leela Edwin
  38. Effect of nanochitosan and drumstick gum composite edible coating on the quality of chilled stored fish steak by S. Remya, C.O. Mohan, George Ninan, A.A. Zynudheen, and G.K. Sivaraman
  39. A gendered perspective on the value chain in fisheries by Nikita Gopal, Liya Jayalal, P. Sruthi and B. Meenakumari
  40. Optimizing fermentation conditions of *Acetobacter ghaensis* for enhanced production of bacterial cellulose by Toms C. Joseph, V. Murugadas and K.V. Lalitha
  41. Inhibition of biogenic amine development and associated microflora changes in high pressure treated Yellowfin tuna by S.K. Panda, C.K. Kamalanth, K. Ashok Kumar, T.V. Sankar and J. Bindu



42. Estimation of drag of commercial trawls along Indian coast and an arethematical study on drag reduction by K.A. Sayana, P.H Dhiju Das, M.P. Remesan and Leela Edwin
  43. Isolation and partial characterization of crystalline proteins from fish eyeball by P.K. Binsi, A.A. Zynudheen and C.N. Ravishankar
  44. Edible antioxidant and antimicrobial microspheres of chitosan ferulate as carrier systems of thiamine and pyridoxine by N.S. Chatterjee, K.K. Asha, K. Ashok Kumar, R. Anandan and Suseela Mathew
  45. Effect of seaweed on the fatty acid profile and lipid oxidation of ready-to-eat tuna curry by CO. Mohan, S. Sreejith George Ninan, C.N. Ravishankar and T.K. Srinivasa Gopal
  46. Effect of disinfectants on selected species of halophilic pathogenic Vibrios by N.R. Smitha and S. Sanjeev
  47. w-3 polyunsaturated fatty acid content of non-edible myctophid fish species by R. Navaneethan, K.R. Remyakumari, K.K. Ajeeshkumar, Suseela Mathew, M.P. Remesan and R. Anandan
  48. Dietary supplementation of fish oil modulates w-3/w-6 polyunsaturated fatty acid profile and nutritive quality in broiler chicken by E.S. Sumi, R. Navaneethan, Suseela Mathew, K.V. Lalitha, M. Nasser, S. Ashaletha and R. Anandan
  49. Long term time-series study on the environmental control on phytoplankton biomass in coastal waters off southeastern Arabian sea by S.S. Shaju, Aneesh A. Lotliker, S.K. Baliarsingh, P. Minu, P. Muhamed Ashraf and B. Meenakumari
  50. Preparation and quality evaluation of squid silage by U. Parvathy, A. Jeyakumari, A.A. Zynudheen and George Ninan
- **Dr. T.V. Sankar**, HOD, QAM – Advanced lecture series, CUSAT, Cochin (10 February). Dr. Sankar gave an invited lecture on “Food safety issues with reference to chemical hazards” in the Programme.
  - **Dr. T.V. Sankar**, HOD, QAM – Scientific panel on Biological sciences of FSSAI, New Delhi (20 March)
  - **Dr. A.A. Zynudheen**, Acting HOD, FP and Engg. and **Shri C.R. Gokulan**, Asst. Chief Tech. Officer – Stakeholders meeting for Cochin Solar City Programme, Cochin (14 January)
  - **Dr. Leela Edwin**, Acting HOD, FT – Review meeting of the Vigilance Officers, CIBA, Chennai (24 January)
  - **Dr. Leela Edwin**, Acting HOD, FT and **Dr. P. Pravin**, Principal Scientist – Review Committee Meeting of NASF project on “Green fishing systems for tropical seas”, New Delhi (12 February)
  - **Dr. M.M. Prasad**, SIC, Visakhapatnam and **Dr. Toms C. Joseph**, Senior Scientist- 12<sup>th</sup> Agriculture Science Congress on ‘Sustainable livelihood security for small holder farmers’, NDRI, Karnal (3-6 February). Dr. Prasad delivered the following invited talks in the Conference:
    1. Low cost processing and packaging technologies for small scale fish producers.
    2. Mechanization and post harvest technologies for small farmers.
 Dr. Toms C. Joseph presented a poster entitled, “Development of low-cost diagnostic microarray platform for the detection of shrimp viruses” by Toms C. Joseph, Kuttan Karthik and K.V. Lalitha in the Congress.
  - **Dr. M.M. Prasad**, SIC, Visakhapatnam - Global Conference on Agribusiness innovations and contract research, Visakhapatnam (3 February)
  - **Dr. M.M. Prasad**, SIC, Visakhapatnam – Training workshop on Science journalism for women in Andhra Pradesh, Andhra University, Visakhapatnam (25 March). Dr. Prasad also delivered a talk on “Importance of fish as food in diet and scientific approach to promote fish as food through journalism” in the Workshop.
  - **Dr. G.K. Sivaraman**, SIC, Veraval – Lokvani Radio Advisory Committee Meeting, Kodinar (3 February)
  - **Dr. L.N. Murthy**, SIC, Mumbai - Blue Paper Forum 2015, India Aquaculture pathfinder, Bengaluru (5-6 February)
  - **Dr. L.N. Murthy**, SIC, Mumbai -10<sup>th</sup> Nutra India Summit, Mumbai (18-19 March)
  - **Shri M. Nasser**, Principal Scientist – 14<sup>th</sup> Meeting of Inland, Harbour Crafts and Fishing Vessels Sectional Committee, TED 18, BIS, New Delhi (9 March)
  - **Dr. Saly N. Thomas**, Principal Scientist – Meeting of the Expert Committee for the implementation of New Fishnet Factory Project, Thiruvananthapuram (20 and 27 February)
  - **Dr. Saly N. Thomas**, Principal Scientist – Meeting of the BIS Sub Committee on Textile material for fishing/ marine purpose - TXD 18, CIFNET, Kochi (25 February)
  - **Dr. Saly N. Thomas**, Principal Scientist – Workshop on Training needs assessment of HRD Nodal Officers of ICAR, ICAR-NAARM, Hyderabad (26 February)
  - **Dr. Saly N. Thomas**, Principal Scientist – Meeting of the Biotechnology Association, St. Peter’s College, Kolencherry (26 March). Dr. Saly N. Thomas also delivered an invited talk on “Synthetic fibres, a treat to marine biodiversity and biotechnological interventions for conservation” in the Meeting.





- **Dr. M.P. Remesan**, Principal Scientist – FAO-TCP Thematic workshop on Development of fisheries co-management strategy for Tamil Nadu and Pondicherry, Chennai (10-11 February)
- **Dr. M.P. Remesan**, Principal Scientist – Workshop on Traditional knowledge, Kannur (14 February). Dr. Remesan also delivered an invited talk on “Traditional knowledge in fisheries” in the Workshop.
- **Dr. Nikita Gopal**, Principal Scientist – Seminar on Gender in aquaculture: Equity and empowerment on the fisheries and aquaculture value chain, Bangkok, Thailand (24-25 February). Dr. Nikita Gopal also made a lead presentation on “Gender challenges in aquaculture and fisheries” in the Seminar.
- **Dr. Nikita Gopal**, Principal Scientist – Workshop on International trade in fish products, CUSAT, Cochin (4-7 March). Dr. Nikita Gopal also delivered an invited lecture on “Trade Barriers” in the Workshop.
- **Dr. R. Raghu Prakash**, Principal Scientist and **Dr. M.S. Kumar**, Chief Tech. Officer – Turtle Festival, Sriakulam (6-7 January). They also conducted an awareness programme cum demonstration on the use of CIFT TED for sea turtle conservation.
- **Dr. U. Sreedhar**, Senior Scientist – Fifth User interaction workshop, INCOIS, Hyderabad (3 March)
- **Dr. R. Anandan**, Senior Scientist - National Seminar on New vistas in marine biotechnology, Vels University, Chennai (28 February). Dr. Anandan also delivered an invited lecture on “Nutraceutical and biomedical applications of marine biomolecules” by R. Anandan, Suseela Mathew, K.K. Asha, N.S. Chatterjee and G.M. Siddaiah in the Seminar.
- **Dr. Toms C. Joseph**, Senior Scientist - Meeting convened by DBT-BBSRC-DFID on ‘Developing aquaculture for food security, development and poverty reduction in developing countries’, RGCBT, Thiruvananthapuram (23-27 February)
- **Dr. Toms C. Joseph**, Senior Scientist (As resource person), **Shri Ranjithkumar Nadella**, Scientist, **Shri K.K. Ajeeshkumar** and **Shri K.V. Vishnu**, Senior Research Fellows – Short term training programme on Development of finfish cell lines for viral disease diagnosis, PMFGR, Cochin (23-28 February). Dr. Toms C. Joseph delivered a lecture on “Molecular methods for detection of food-borne pathogens” in the Programme.
- **Dr. S.K. Panda**, Senior Scientist – Workshop on International trade in fish products, CUSAT, Kochi (6 March). Dr. Panda also delivered a talk on “Food safety regulations and harmonization” in the Workshop.
- **Dr. V.R. Madhu**, Senior Scientist – Seminar on Fisheries sector and coastal development, Alappuzha (17 February). Dr. Madhu also delivered an invited talk on “Development of fishing technology in India – Contributions of CIFT” in the Seminar.
- **Dr. V.R. Madhu**, Senior Scientist – State project steering committee meeting of BRJED project, Mumbai (23 February)
- **Shri V. Radhakrishnan Nair**, Scientist – Meeting of Experts-Stakeholders to discuss on the draft on ‘Repeat study on assessment of quantitative harvest and post harvest losses of major crops/commodities in India, IIT, Chennai (23 January)
- **Smt. P. Jeyanthi**, Scientist – Training programme on ICTs in Fisheries Sector, SAMETI, Thiruvananthapuram (8 January)(As Faculty). Smt. Jeyanthi delivered a talk on ‘E-Commerce and e-trading in fisheries marketing’ in the Programme.
- **Smt. Arathy Ashok**, Scientist – Workshop on Implementing the FAO voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication, ICSF, Chennai (6-7 March)
- **Dr. V. Murugadas**, Scientist – Workshop on Electron Microscopy: Theory, application and sample preparation techniques, CUSAT, Kochi(4-7 March)
- **Dr. S. Visnuvinayagam**, Scientist – Training programme on Data analysis through statistical software SPSS, ICAR-CIFE, Mumbai (24-27 March)
- **Dr. Niladri S. Chatterjee**, **Smt. U. Parvathy**, **Smt. S.J. Laly** and **Shri G. Kamei**, Scientists – Training programme on Laboratory management system and internal audit, CETE, Bangalore (24-27 February)
- **Dr. P.K. Binsi**, Scientist and **Kum. Natasha Nayak**, SRF – National symposium on Current trends in biopolymers of commercial significance, ICAR-IINRG, Ranchi (11-13 February). They also presented the following research papers in the Symposium:
  1. Surface modified and reinforced fish skin pads for effluent water treatment by P.K. Binsi, A.A. Zynudheen and C.N. Ravishankar
  2. Characterization of fish gelatin gels cross-linked with plant polyphenols and flavonoids by P.K. Binsi, Suseela Mathew and C.N. Ravishankar
  3. Properties of functional fish roe powder stabilized with gum Arabic by P.K. Binsi, Natasha Nayak, P.C. Sarkar, Upali Sahu and George Ninan
- **Dr. A. Jeyakumari**, Scientist – Symposium on Advances in microbiology of food, agriculture, health and environment, BAARC, Mumbai (3-5 February). Dr. Jeyakumari also presented a research paper entitled,

“Effect of spice extracts on the biochemical and textural characteristics of *Pangasius (Pangasianodon hypophthalmus)* chunks during chilled storage” by A. Jeyakumari, Reeshma Roy, George Ninan and A.A. Zynudheen in the Symposium.

- **Dr. Pankaj Kishore, Smt. U. Parvathy, Smt. T.K. Anupama, Kum. H. Mandakini Devi and Shri Karankumar K. Rameteke**, Scientists – National workshop on Ensuring quality in scientific research, CUSAT, Kochi (7-8 January)
- **Dr. Pankaj Kishore and Shri K. Ahmad Basha**, Scientists – National training programme on Microbial risk assessment in fresh and processed aquafoods, FC&RI, Tuticorin (26 February – 18 March)
- **Shri Ranjithkumar Nadella**, Scientist, **Shri K.V. Vishnu, Shri K.K. Ajeesh Kumar, Shri K. Rushinadha Rao, Kum. B. Prema Raju and Kum. S. Lavanya**, Research Fellows – Training programme on Molecular markers, PMFGRI, Kochi (9-14 February)
- **Shri Ranjithkumar Nadella**, Scientist – Workshop on Microbial systematics: Soil to sequences, CSIR-IIMT, Chandigarh (2-12 March)
- **Dr. A.R.S. Menon**, Chief Tech. Officer – Training workshop on “Innovative/Best practices in National e-Governance Plan (NeGP) – Agriculture and allied sectors

(Animal Husbandry, Veterinary Sciences and Fisheries), Port Blair, Andaman and Nicobar islands (24-26 March)

- **Smt P.K. Shyma**, Asst. Chief Tech. Officer and **Smt. N.C Shyla**, Sr. Tech. Asst. – Training programme on “Office automation using Oracle ERP”, ICAR-IASRI, New Delhi (16-20 March)
- **Dr. Santhosh Alex**, Senior Tech. Officer and **Dr. P. Shankar**, Tech. Officer – Regional Official Language Conference (South and South-west), Mangalore (27 March)
- **Shri P.S. Nobi**, Tech. Officer – 6<sup>th</sup> Capacity Building Programme for Technical Assistant, IIPA, New Delhi (2-13 February)
- **Smt. P. Sruthi and Smt. Liya Jayalal**, SRFs – International conference on Economic reforms, growth and sustainable development: Changing role of institutions, Central Univ., Kasaragod (16-18 February). They also presented a research paper entitled, “A gender perspective of the shift from Pokkali to prawn monoculture in Kerala” by P. Sruthi, Liya Jayalal and Nikita Gopal
- **Shri M.M. Lijin Nambiar and Shri Rahul Ravindran**, JRFs – Training workshop on Modern statistical tools in fisheries – Application of SYSTAT-13, CUSAT, Kochi (26-27 February)

## Personalia

### Appointments

1. Shri Rakesh M. Raghavan, Technical Assistant (Field/Farm), ICAR-CIFT, Kochi
2. Smt. P. Sruthi, Technical Assistant (Field/Farm), ICAR-CIFT, Kochi
3. Smt. U.P. Prinetha, Technical Assistant (Laboratory Technician), ICAR-CIFT, Kochi
4. Shri Rahul Ravindran, Technical Assistant (Laboratory Technician), ICAR-CIFT, Kochi
5. Smt. V. Susmitha, Technical Assistant (Laboratory Technician), RC of ICAR-CIFT, Veraval

### Promotions

1. Smt. S. Kamalamma, PA, ICAR-CIFT, Kochi as PS

2. Shri T.N. Shaji, UDC, ICAR-CIFT, Kochi as Assistant
3. Smt. K.V. Suseela, LDC, ICAR-CIFT, Kochi as UDC
4. Shri P. Rajeev, LDC, ICAR-CIFT, Kochi as UDC

### Transfers

1. Shri B.K. Pradhan, Asst. Chief Tech. Officer, ICAR-CIFT, Kochi to Visakhapatnam RC of ICAR-CIFT
2. Kum. Megha Chopra, Asst., ICAR-CIFT, Kochi to ICAR-IASRI, New Delhi

### Retirements

1. Dr. S. Balasubramaniam, Principal Scientist & HOD, Extension, Information & Statistics, ICAR-CIFT, Kochi
2. Shri Thomas Teles, Tech. Officer, ICAR-CIFT, Kochi
3. Shri C. Rajendran, Tech. Officer, ICAR-CIFT, Kochi