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A Constituent Laboratory of Council of
Scientific & Industrial Research
New Delhi

NEWSLETTER

July-September 2006

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CSIR Foundation Day at CFTRI

Dr. G. Thyagarajan, former Director, CSIR laboratories and former Chairman, CFTRI Research Council, delivered CSIR Foundation Day 2006 lecture entitled "Technology in India: Bridging the gaps for global competitiveness" in a function arranged at CFTRI on September 26, 2006.

"If we can overcome the gaps in technological developments in the country, we could be world leaders in many areas", Dr. Thyagarajan said and accentuated the need for a 'Technological rating and evaluation system' to benchmark technologies against international standards. He also lauded the efforts made by the institute in various societal fronts.



Dr. G. Thyagarajan, former Director, CSIR laboratories, delivering the CSIR Foundation Day lecture at CFTRI, Mysore

Dr. Prakash, Director, CFTRI highlighted the achievements of the institute in his introductory speech.

Dr. D. Rama Reddy, Senior Hindi Officer, CFTRI presented a brief report on the implementation of the official language in the institute during 2005-06.

Awards were distributed to winners of the various competitions held as part of the foundation day and Hindi fortnight celebrations. The council employees who have retired since the last foundation day and those who completed 25 years of service in CSIR were feted on this occasion. CFTRI Annual awards for meritorious contribution of the staff for the year 2005-06 were also announced on this occasion.



Dr. G. Thyagarajan giving away cash award to a meritorious winner. Dr. V. Prakash looks on.

Independence Day celebration

The 60th Independence Day of the Nation was celebrated in the institute on 15th August 2006 with usual gaiety and colour. Dr. V. Prakash, Director, CFTRI unfurled the National flag and received salute from the scouts, guides and NCC cadets of CFTRI school during the parade.

Later addressing the staff, Dr. Prakash said "From the days of its inception, CFTRI has been looked upon as an institution of high standards". He also added that the institute has the potential to scale up its activities further to meet global challenges in the days ahead. Dr. (Mrs.) Jamuna Prakash distributed sweets to school children and staff on this occasion.



March Past Parade by CFTRI School students on Independence Day function

National Award for Innovative Product Development

CFTRI was selected for the National Award in product development, instituted by Coconut Development Board (CDB), Govt. of India, Kochi recently. The award was received by Dr. V. Prakash, Director, CFTRI from Shri Sharad Pawar, Hon'ble Union Minister for Agriculture, Consumer Affairs & Food and Public Distribution, in a function held as part of the World Coconut Day celebration on 2nd September 2006 at National Council of Agriculture Science Centre, ICAR, Pusa, New Delhi. Shri Vayalar Ravi, Hon'ble Union Minister for Overseas Affairs presided

over the function. Smt. Radha Singh, Secretary, Ministry of Agriculture, Govt. of India and Smt. Minnie Mathew, Chairman, CDB were present along with other dignitaries. Shri Pawar, later visited CFTRI stall in the exhibition arranged for the public as part of the celebration.

The award is to recognize and promote excellence in coconut cultivation, innovative methods in coconut farming, product development, product improvement, quality improvement, product diversification and marketing.

The citation reads as “*The technologies for processing of coconut into desiccated coconut and dehydrated coconut milk powder have been developed by the CFTRI. The institute has also developed and received patents for the process for detachment of coconut kernel from its shell using dehydration technique, a process for the preservation of deodorized coconut sap (neera), a nonthermal process for the preparation of tender coconut water concentrate and a process for the preparation of dietary fiber from coconut residue. CFTRI has also developed a process for the preparation of coconut honey from coconut sap, a novel coconut sap concentrate, a continuous grating machine for coconut and a process for coconut sap spread*”.

Some of the technologies have been successfully transferred to industry and a few more are in the pipeline including Virgin coconut oil. Currently, CFTRI is focusing on value addition to coconut based products.



Dr. V. Prakash, Director, CFTRI receiving the **Best Institution Award for Product Development** from Shri Sharad Pawar, Hon'ble Union Minister for Agriculture & Consumer Affairs, in the Silver Jubilee award function of Coconut Development Board at New Delhi; (to his right) Shri Vayalar Ravi, Hon'ble Union Minister for Overseas Affairs; Dr. KSMS Raghava Rao, Head, Food Engg. and Shri G.A. Krishna, Head, Planning and Monitoring are also seen

M.Sc. and ISMT Awards Day

The award ceremony of the M.Sc. (Food Technology) and Certificate course in Milling Technology was held on July 07, 2006 in the institute. Dr. Anup K Pujari, Principal Secretary, Information Technology, Biotechnology and Science & Technology, Government of Karnataka was the chief guest. Dr. V. Prakash, Director, CFTRI presided over the function.

Meritorious students were presented medals and scholarships instituted by well wishers of CFTRI and the academic programmes. Ms. Anwasha Sarkar and Maj. Suresh Kallai both from the M.Sc. stream received maximum number of awards. Successful students of the current batch of M.Sc. and ISMT were distributed with course completion certificates. Speaking on the occasion, Dr. Pujari dwelt upon the opportunities emerging in food processing sector. He also wished a bright future ahead of them with the excellent training imparted by CFTRI.



Chief guest of the award day, Dr. Anup K Pujari, Principal Secretary, Information Technology, Biotechnology and Science & Technology, Govt. of Karnataka (centre) and Dr. V. Prakash, Director, CFTRI with one of the award winners

Kennesaw State University (USA) students visit CFTRI

A group of undergraduate students from the Kennesaw State University, USA, accompanied by a senior faculty, visited CFTRI during July 26–August 03, 2006. The programme was arranged as part of the **Study Abroad Programme** of the University. The visiting students were given exposure in the area of biotechnology and molecular biology by the CFTRI faculty. Demonstrations and hands-on

practical sessions were held in the areas of plant molecular biology, PCR detection of food pathogens, molecular biology of lactic bacteriocins, traditional food fermentations, tissue culture technology and recombinant DNA technology. The visit also provided a platform for CFTRI in fostering greater institutional linkages in the changing global scenario.

Shelf stable *kabab* mix with chicken meat

Among the snack foods, *kabab* is a very popular product and different varieties of *kababs* are available in the market, based on meat and vegetable. The shelf stable *kabab* mix with chicken meat is a convenient product that can be easily reconstituted to make *kababs* of different shapes. The product can be consumed after frying / baking / toasting.

The *kabab* mix with chicken meat is a ready-to-use kind with an acceptable taste and meat flavour. The incorporation of onion, garlic and pepper enable in keeping the product shelf stable for six months under ambient conditions. The product is free from added chemicals and preservatives.

The deboned chicken meat with skin, corn starch, wheat flour, garlic and onion powder, skimmed milk powder and spices are the major raw materials used for the product. The meat is washed, cooked, minced and after adding other ingredients, it is to be dried and packed. Meat mincer, dry grinder, autoclave, steam generator, hot air drier and mixer are the equipments required. This product is an innovative one in the hygienic processing of comminuted meat.



Ready-to-eat amla products - candy and osmo air-dried segments

The Indian Goose-berry (*Emblica officinalis*), rich in vitamin 'C' and pectin, is valued for its medicinal properties. It is widely used in ayurvedic preparations, in view of its inhibition of platelet aggregation and cholesterol lowering properties.

Amla fruit is also used as an astringent and mouth freshner as the fruit is rich in polyphenols.

Amla products have very good internal and export market potential. The amla fruit is seasonal and it is available during October - January months. Processing of the amla fruit is essential in order to make the product available throughout the year.

CFTRI has developed amla candy, osmo air-dried amla-sweet and osmo air-dried amla-salty

ready-to-eat products with a shelf life of eight to ten months under ambient conditions.

These concentrated amla products have good taste, texture and nutritive value. The raw materials required include amla fruit, sugar, salt and permitted preservatives.

The processing comprises washing, cutting, syruling, osmotic treatment, drying and packing. Fruit washer, tray drier and boiler are the equipments required for a production unit.

The left over syrup can be flavored and profitably utilized for preparing ready-to serve beverages.

Process for obtaining a bound - phenolic acid rich dietary fiber (US Patent No. 7037537)

Phenolic acids such as ferulic and coumaric acids are covalently linked to mainly dietary fiber components such as arabinoxylans and pectins and influence their physicochemical properties in various food preparations.

Besides acting as flavor components, phenolic acids are known to possess anticarcinogenic, antimutagenic and antioxidant properties.

The presence of phenolic acid in dietary fiber components is very vital in the preparation of cereal-based health foods targeting geriatrics and infants.

Phenolic acids are also present as free acids in very small amounts in cereals and malts.

However, they undergo decarboxylation, thus tend to decrease their utility value. Hence, the bound phenolic acid is very important for the positive health benefits of dietary fiber components. Removal of the starch by specific enzymatic treatments is a prerequisite to prepare bound phenolic acid dietary fibre rich from cereals and their malts.

CFTRI has developed an economic and efficient process, for obtaining the bound - phenolic acid rich dietary fiber from cereal malts. Compared to the existing process, the present one eliminates the usage/addition of exogenous enzymes.

Process for the preparation of high arginine peptides (US Patent No. 7091001)

Arginine is present in most of the proteins including meats, nuts, milk, cheese and eggs. Arginine is essential for the removal of ammonia that is generated from protein breakdown. It is also needed to transport the nitrogen used in muscle metabolism. Arginine is one of the body building amino acids and influences several hormone functions. L-arginine is shown to influence the liver functions to lower cholesterol levels and to inhibit the growth of certain type of tumors in animal system. It is a precursor for potent blood vessel expander and main blood pressure regulator of the body.

A low lysine: arginine ratio in protein has been shown to reduce serum and aortic cholesterol.

CFTRI has developed a novel process for the preparation of high arginine peptides.

The advantages of this process are:

- It is a single step process with high yield of hydrolysates.
- The process provides enriched fraction of peptides with high arginine to lysine ratio of at least 5 times .
- The preparation can be used as an ingredient in health foods for treating cardio-vascular diseases.

E-Journals users' training - cum - workshop

An end-user training-cum-workshop on CSIR e-journal consortium was held in the institute on September 21, 2006. Around 300 members of CFTRI family including staff, research scholars and others got familiarized with various strategies for accessing the CSIR e-journal consortium comprising of more than 4950 e-journals under this remarkable venture for online access.

Dr. V. Prakash, Director, CFTRI, emphasized the need to bring information to user's desktop and the growing stake of open access, digital libraries and information consolidation. Representatives of major publishers such as John Wiley, Blackwell, Springer, Royal Society of Chemistry, Emerald, American Chemical Society, Taylor & Francis and Oxford University Press made their presentations in the workshop.

Shri HY Mahakuteswar, Head, FOSTIS, welcomed the audience and Mrs. Nishy, Scientist, NISCAIR, New Delhi, gave an introduction about various facets of this project.



CSIR E-Journal training - cum - workshop in progress at CFTRI

Nutrition literacy programme

CFTRI along with the Nutrition Society of India, Mysore Chapter organized a 'Nutrition Literacy Programme' at CFTRI on 3rd September, 2006 to mark the National Nutrition Week (Sept. 1-6). House-wives, children, teachers and nutrition practioners participated in the programme.

Dr. V. Prakash, Director, CFTRI, in his inaugural address urged scientists and practioners to look into positive aspects of traditional foods and to make efforts to understand age-old practices in the context of current advancements in Science and Technology.

A special informative poster in Kannada & English was released for distribution to public for creating the awareness and importance of nutrition towards a

healthy life. Later, Prof. G. Saraswathi, Department of Studies in Food Science & Nutrition, Manasagangothri, University of Mysore talked on 'Nutrition in health' and Dr. T.P. Krishnakantha, Scientist, CFTRI, Mysore spoke on 'Malnutrition'. The session was followed by a panel discussion.

Prizes were distributed to winners of the essay and drawing competitions held for school children as part of the celebrations.

Dr. P.V. Salimath, Head, Biochemistry & Nutrition Department, CFTRI, introduced the theme and Shri K.K. Bhat, Head, Sensory Science Department, CFTRI, wrapped up the session.

Ph.D. degree awarded

The following staff and students received Ph.D. degree from University of Mysore during the period.

- Asha M.R.
Effect of native and modified starches on the quality attributes of selected traditional foods
(Guide: Dr. N.S. Susheelamma)
- Ravi R.
Rheology of Chick pea (*Cicer arietinum* L.) flour suspensions and characterization of fried product - *Boondi*
(Guide: Dr. N.S. Susheelamma)
- Chidambara Murthy K.N.
Production of beta-carotene from cultured *Dunaliella* Sp. and evaluation of biological activities
(Guide: Dr. G.A. Ravishankar)

Forthcoming events

Short term training programmes (December 2006 - March 2007)

- Current scenario of Indian snack foods and breakfast foods (6 - 10 Nov. 2006)
- Food Flavourings: Technologies, formulations & applications (13 - 17 Nov. 2006)
- Processing and value addition to food grains (13 - 17 Nov. 2006)
- Texture analysis of processed foods by sensory and instrumental methods (20 - 22 Nov. 2006)
- Operation, maintenance and troubleshooting in instrumental analysis (27 Nov. - 1 Dec. 2006)
- Fumigation, prophylaxis and pest management techniques for stored products (8 - 22 Dec. 2006)
- Sensory analysis of aroma and flavour of food ingredients and packaged foods (3 - 5 Jan. 2007)
- Current advances in the development of technologies for value added bakery products (8 - 12 Jan. 2007)
- Strategies towards improvement of industrial microorganisms for metabolite production (8 - 12 Jan. 2007)
- Isolation of lactic acid bacteria with special reference to probiotics (29 Jan. - 2 Feb. 2007)

For the details on the short term courses,

Please contact :

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Honours

Dr. G.A. Ravishankar, Head, Plant Cell Biotechnology Department, CFTRI, Mysore was honoured as Fellow, International Academy of Food Science & Technology (IAFoST, Canada) for his outstanding contribution in the field of Food Science and Technology in the 13th World Food Congress held at Nantes, France recently.

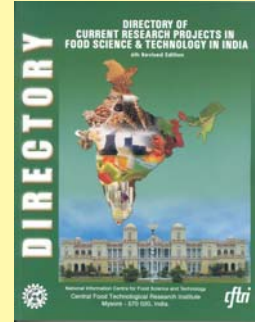
Dr. Ravishankar has contributed immensely in the area of food biotechnology. His current research areas include cell culture, genetic engineering, health foods, flavours and sweeteners with a focus on industrial applications.

Visitors to CFTRI

- Dr. S.R. Rao, Executive Director, EXIM Bank, Mumbai (August 15, 2006)
- Dr. Sven Thormahlein, Danone Research Centre, Daniel Carasso, France (August 26, 2006)
- Ole Chr Lindholm, Commercial Counsellor, Royal Danish Embassy, New Delhi (September 8, 2006)

Directory of 'Current Research Projects in Food Science & Technology' released

CFTRI has recently released the sixth edition of the directory of current research projects in Food Science & Technology in India covering more than 600 ongoing research projects in the area of food science and technology.



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Department, CFTRI on behalf of Director, CFTRI, Mysore
e-mail: pmc@cftri.res.in; website: www.cftri.com