



CSIR-CGCRI

NEWS LETTER

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December 2012 - March 2013

SPOTLIGHT

CSIR-CGCRI wins Hussain Zaheer Memorial Bridge Tournament



Team CSIR-CGCRI receiving trophy from Dr Tushar Chakraborty, Director, CSIR-CDRI

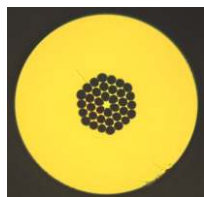
CSIR-CGCRI has emerged Champions of the Hussain Zaheer Memorial Bridge Tournament held during February 19-21, 2013 at CSIR-CDRI, Lucknow. Team CGCRI comprised of Mr Shyamal Ghosh, Mr Gopal Chandra Das, Mr Chandan Kumar Dutta, Mr V K Gond and Mr Gopal Debnath.

The Institute also qualified for the final round of the 44th Shanti Swarup Bhatnagar Memorial Tournament as Champions in the Contract Bridge event from Zone II held during February 1-3, 2013 at CSIR-NEERI, Nagpur.

TECHNOLOGY NEWS

Demonstration of Non Linear PCF Technology

Prototype Demonstration of Supercontinuum Source under CSIR-NMITLI Project on the 'Design and Fabrication of All-Fiber Supercontinuum Light Source with application demonstration of a Confocal Microscope'.



Cross-section of PCF



Visible part of SC source

CSIR-CGCRI, Kolkata and Vinvish Technologies Pvt Ltd, Trivandrum, Kerala, have jointly demonstrated the prototype of all-fiber based supercontinuum (SC) source under the CSIR-NMITLI project initiated in March-

2012. CSIR-CGCRI has fabricated the specified high non-linear Photonic Crystal Fiber (PCF) and filed an Indian patent in July 2012. Vinvish Tech Ltd has produced the mode-locked pico-second fiber laser of average power 3.0 W, pulse-width 3.5ps, repetition rate 20MHz at 1064nm. Actual laser power of 1.5W was coupled to 10 meter length of PCF after integration of all the necessary components and packaging. Finally, the prototype of SC source of average power 650mW covering the wavelength range from 400- 2400 nm was demonstrated in the presence of the Monitoring Committee at Trivandrum. This source has potential application in the field of bio-medical imaging, confocal microscopy and spectroscopy.

AGREEMENT SIGNED

Agreement with NIT, Jaipur

An MoU was signed between CSIR-CGCRI and Malaviya National Institute of Technology, Jaipur, on February 1, 2013 for Academic Collaboration and Training of Students of CSIR-CGCRI.

WORKSHOP & SEMINAR

International Workshop on Recent Advancement in Membranes for Liquid & Gas Filtration (December 27, 2012)

The event was organized with the aim to share the knowledge and experience amongst the experts of ceramic membranes, drinking water, waste-water treatment, hydrogen production and separation, and carbon dioxide capture and to promote bilateral scientific cooperation with different countries in the relevant fields to develop cutting edge technologies and to demonstrate those technologies under different Mission Mode programmes of CSIR-India.

The day-long Workshop had three well-attended technical sessions that included Invited Lectures and also, about 20 Poster presentations. Delegates included participants from Laboratoire Sciences des Matériaux Environnement, Tunisia; BARC, Mumbai; Entech Metals Pvt. Ltd., Kolkata; Heritage Institute of Chemical Technology, Kolkata; Genesis Membrane Sepratech, Mumbai; Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal and Indian Institute of Technology, Kharagpur.

The topics covered were (i) Membrane development, (ii) Membrane-based de-contamination of drinking water, (iii) Membrane-based wastewater treatment & (iv) Gas separation membrane and storage materials.

Acting Director, Mr Kamal Dasgupta extended a warm welcome to the delegates. Dr S N Roy, Head, Ceramic Membrane Division, briefed the participants about the Workshop.

Chief Guest Prof Binay K Dutta, Chairman, West Bengal Pollution Control Board stated that the entire world is trying to become more energy efficient and trying to explore alternative sources of energy. One aspect of becoming more energy efficient involves developing better and newer separation processes.

The Vote of Thanks was delivered by Convener Dr Ganesh C. Sahoo. Mr Swachcha Mazumdar anchored the Inaugural programme.



Address by Noted Environmentalist Prof Binay K Dutta

High Tech Aluminas and Unfolding their Business Prospects:

ALUMINAS-2013 (March 7-9, 2013)

ALUMINUS 2013 was the third in the series after the two successful events hosted in 2008 and 2010 respectively. ALUMINUS 2013 was jointly organized by CSIR—CGCRI with the Indian Ceramic Society and International Ceramic Federation, Italy. Ceramic Forum International was the media partner of the conference. There were 11 technical sessions in which 7 speakers from overseas and 9 from within the country participated. There were contributory lectures, poster session, exhibition and interactive sessions for representatives from industry and academia. In all, there were a special plenary, a keynote, 6 plenary, 14 invited lectures, 10 contributory papers and 13 posters were displayed.

The participants deliberated on the R&D interventions to foster stronger links between R&D and industry to enhance business prospects in the rich alumina sector. Mr G S Patnaik, CEO, (IPNR & International operation), H R Jhonson India Ltd., Mumbai, was the Chief Guest. Mr Marcel Spreij, Almatris GmbH, Germany was the Guest of Honour.



Mr G S Patnaik delivering the inaugural address

PEER RECOGNITION

Professional

- Dr Swapan Kumar Das, Chief Scientist was elected as Fellow of the West Bengal Academy of Science and Technology

- Dr Kasushik Biswas, Junior Scientist won the INSA Medal for Young Scientist for the year 2012



- Dr R N Basu, Chief Scientist received the ISEAC Eminent Scientist Award – 2013 from the Indian Society for Electroanalytical Chemistry. He has also been elected as the Secretary, West Bengal Academy of Science & Technology and he was also inducted Member, Editorial Advisory Board, Transactions of the Indian Ceramic Society and Bulletin of Materials Science



- Dr P Sujatha Devi, Principal Scientist, has been elected Fellow of the West Bengal Academy of Science and Technology. She has also been elected as a Member of the Executive Council of the Society for Materials Chemistry, Bhabha Atomic Research Centre, Mumbai, for the next three years
- CSIR-CGCRI Khurja Centre was awarded the Prof Sasadhar Ray Memorial Award for the year 2012 by the Indian Ceramic Society for its commendable achievements towards energy savings at its Annual Conference at Ahmedabad

Posters

- Quazi Arif Islam, S Nag and R N Basu received the First Prize for their poster entitled Tb-doped Barium Cerate: A High Temperature Proton Conductor for Dense Ceramic Membrane at the International Workshop on Recent Advancement in Membranes for Liquid & Gas Filtration held on December 27, 2012 in Kolkata
- Debaleena Bhattacharya and Subrata Dasgupta received Second Prize for their poster entitled 'Synthesis and Mechanistic Studies of Rectangular Palladium Nanoparticles' at the International Workshop on Recent Advancement in Membranes for Liquid & Gas Filtration held on December 27, 2012 in Kolkata
- Sourav Ghosh and Milan Kanti Naskar won the First position for Best poster entitled A Novel Sol-Gel Synthesis of Mesoporous Alumina Nanorods and Nanofibres at the 3rd International Conference on "High-Tech Aluminas and Unfolding their Business Prospects" (Aluminas-2013)
- M. Bhattacharya, A. Dey, R. Chakraborty, A. K. Mandal, S. Bysakh, and A. K. Mukhopadhyay were awarded second position for their poster entitled Grain and Grain Boundary Nanohardness of Alumina at the 3rd International Conference on "High-Tech Aluminas and Unfolding their Business Prospects" (Aluminas-2013)

OVERSEAS PROJECTS

The Institute bagged two new collaborative overseas projects which are:

★ AGATHA-Advanced Grating for Thin Films Solar Cell

This project is between the Department of Science & Technology New Delhi and European Union, Brussels under FP7 Collaborative Programme (Contract Value: Rs 1062.778 lakhs; Duration: 3 years)

★ Regenerated Fiber Bragg Gratings as Sensors for Structural Health Monitoring at Extreme Conditions

This collaborative project is between the Department of Science & Technology New Delhi and DAAD under Indo-German Collaborative Programme (Contract Value: Rs 4.920 lakhs, Duration: 3 years)

12th FYP PROJECTS

CSIR-CGCRI received financial clearance from CSIR Head Quarters for three ambitious projects to be pursued under 12th Five Year Plan Period. The nine other projects partnered with other CSIR laboratories are under consideration.

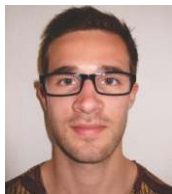
OVERSEAS RESEARCHERS



Prof Uday B Pal, Division of Materials Science and Engineering and Department of Mechanical Engineering, Boston University, USA, worked under CSIR's Initiative to attract foreign scientists to CSIR Laboratories scheme. He worked for a month in November, 2012 to evaluate performance, lifetime and efficiency and provide feedback in improving solid oxide fuel cell stack.



Dr Ajanaku Kolawole Oluseyi, Faculty member, Dept of Chemistry, College of Science & Technology, Covenant University, Nigeria, joined on September 10, 2012 under the 2011- CSIR - TWAS Postdoctoral Fellowships Scheme for one year. He is working under Dr Swapan K Das, Head, Refractory Division on "Development of Ceramic Matrix Composite for Structural Application using Industrial Wastes".



Mr Phillip Braun, Masters Student of Electrical Engineering Department, Karlsruhe Institute of Technology, Germany, joined for a period of 4 months on October 1, 2012 under the Generic Scheme, Internship for Foreign students in CSIR Labs. Mr Braun underwent training under the supervision of Dr R N Basu, Head, Fuel Cell & Battery Division.

VISITORS

Prof Ajoy Ghatak, Member, Research Council of the Institute and former Professor of Physics, Indian Institute of Technology, Delhi, delivered two tutorial lectures entitled 'Delta Function, Fourier Transforms and Concept of Modes' and 'Matrix Methods' respectively at the A P C Roy Seminar Hall of CSIR-CGCRI during 21-22 February 2013.

Finland Team

A team of professor and researchers from the University of Turku, Finland, visited CSIR-CGCRI under the Biomaterials Research Programme in connection with the ongoing project "Structure of gradient nanocomposites: interaction of bioactive glasses with nanoparticles and polymers (MoreBAGS)' awarded under the Department of Science & Technology, New Delhi and Academy of Finland Joint programme.

The team from Finland comprised of Dr Mervi Puska, Senior Research Scientist, Turku Clinical Biomaterials Centre, University of Turku; Dr Leena Hupa, Associate Professor, Inorganic Chemistry, Åbo Akademi University, Finland and Dr Susanne Fagerlund, Post Doctoral Fellow,

Inorganic Chemistry Dept, Åbo Akademi University. They greatly appreciated their visit to CSIR-CGCRI Kolkata.



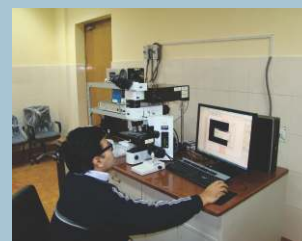
Dr Susanne Fagerlund, Dr Leena Hupa and Dr Mervi Puska in the Fiber Optics & Photonics laboratory

MAJOR FACILITIES

Equipment

RENOVATION OF POWER SUPPLY SYSTEM

The electrical power capacity of CSIR-CGCRI has been doubled with effect from February 1, 2013. The system has been equipped with automatic emergency power. The system can now withstand a short circuit capacity of 100 KA. The CESC supply voltage has been raised to 11 KV from 6 KV with overall capacity of transformer raised from 1500 KVA to 3500 KVA.



Clockwise:
ICPM Spectrometer
Micro Raman Spectrometer
Tilting Glass Melting Furnace
Optical Fiber Drawing Tower

IMPORTANT MEETINGS

With BARC

Mr Sekhar Basu Director, BARC, Mumbai, visited CSIR-CGCRI on November 20, 2012 and held discussions on important issues such as Strategic glasses, Glass Frits and DAE sponsored projects.



SENSOR HUB

The meeting of the 7th Steering Committee of DST-CSIR Sensor Hub was held at CSIR-CGCRI on January 12, 2013 under the Chairmanship of Dr G J Samathanam, Chairman, Advisor & Head, Technology Development & Transfer, DST, Gol. The maiden brochure on Sensor Hub was also released on the occasion.



With Canadian High Commissioner



Mr Stewart Beck, High Commissioner of Canada to India visited CSIR-CGCRI on January 13, 2013 and held discussions on the possibilities of tie-ups on R&D innovations.

ERP IMPLEMENTATION

As a part of the enterprise transformation, CSIR-CGCRI organized a day-long meeting on March 21, 2013 with the CSIR-HQ technical team led by Dr Jayakumar, Joint Secretary (Administration) and Dr G Radhakrishnan. The team monitored the status of implementation and gave hands on training/overview of CSIR-ERP portal to the technical and administrative staff. The team also held detailed discussions with the Institute's 2-Tier internal committee set up for the ERP implementation.

VIGILANCE INSPECTION

The Vigilance Inspection Team from CSIR conducted inspection of the Institute from March 11-15, 2013 and monitored the activities. The Chief Vigilance Officer, Mrs Sushma Singh interacted with the Divisional/Sectional Heads on March 13, 2013. She also went around a few labs in the Institute.

RC MEETING

The Institute conducted its 47th Research Council Meeting on February 9, 2013. The RC members appreciated the various developments. The



Chairman Dr SriKumar Banerjee, Homi Bhabha Professor, DAE emphasized on a concerted and focused approach to the 12th Five Year Plan projects so that the ambitious projects could lead to tangible outputs in the areas of specialty glass, specialty fiber and laser devices, novel health technology and advanced materials for energy and strategic applications.

EXHIBITION

CSIR-CGCRI participated during January 3-7, 2013 in CSIR Pavilion at a fair held during Centenary Session of Indian Science Congress in Kolkata.

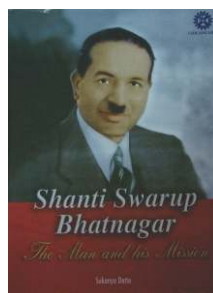


LECTURE

11th Swarna Jayanti Lecture in Hindi

Prof B K Sharma Rohitaswa, Former Head and Dean of Department of Hindi, Goa University, delivered the Golden Jubilee Lecture entitled *Bharatiya Bhasaon mein Antarsambandh aur Hindi* in the AP C Ray Seminar Hall in the Institute on March 23, 2013.

BOOK RELEASE



The book entitled Shanti Swarup Bhatnagar: The Man and his Mission, written by Dr Sukanya Datta, Scientist Director's Cell, CSIR-CGCRI to mark CSIR's 70th Foundation Day was formally released by Prof N Mukunda, former Vice President, Indian Academy of Sciences, Bangalore, at a function organized by CSIR NISCAIR at New Delhi on February 28, 2013.

The first copy of the book was presented to Mr D S Bhatnagar, the son of Dr S S Bhatnagar.

OBITUARY



Mr Haran Chandra Dey, Sr Technician 1, Programme Management Division of the Institute, breathed his last on September 28, 2012. CSIR-CGCRI deeply mourns his sudden demise.

FORTHCOMING EVENT

April 23, 2013: Workshop on Arsenic in water and removal technologies to be jointly organized by CSIR-CGCRI, Kolkata and CSIR-CSMCRI, Bhavnagar.