



CGCRI

NEWS LETTER



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Diamond Jubilee Year, Dec 2010 - March 2011

Academies Honour CGCRI Scientists



Prof. Indranil Manna, Director elected by the Council for election of Fellow of Indian National Science Academy, New Delhi. Prof Manna has developed unique aluminium alloys with glassy structure and extraordinarily high strength and modulus. He pioneered studies on laser plasma surface engineering for improving surface properties of engineering alloys. The Fellowship has taken effect from January 1, 2011. He was also elected Fellow of West Bengal Academy of Science & Technology (WAST) for the year 2010.



Dr. Debabrata Basu, Scientist G and Head, Bioceramics & Coating Division elected Fellow of Indian National Academy of Engineering with effect from January 1, 2011 Dr Basu has made significant contribution in Materials Sciences with special references to Biomaterials, Biomedical implants, Drug delivery system and Ceramic Engineering starting from raw-material, powder synthesis, processing, characterization, in-vitro and *in-vivo* performance evaluation to humans.



Dr. P K Biswas, Scientist F, Sol-Gel Division has been elected as Fellow of West Bengal Academy of Science & Technology (WAST) for the year 2010. The fellowship was conferred upon Dr. Biswas with effect from December 27, 2010. Dr. Biswas has done significant work in the areas of Sol-gel processing, Nanostructured thin films, Antireflective coating, Transparent electrode and Low thermal emissivity film materials and Meso- and nano-porous materials.

Recognition for Young Researchers



Noble Laureate Dr Venkataraman Ramakrishnan awarding Ms Tirtha Som (Courtesy J Manoharan, The New Ind Exp, Jan 5, 2011, Chennai)

Ms. Tirtha Som, a CSIRNET-Senior Research Fellow (SRF) under supervision of Dr. Basudeb Karmakar, Scientist-F at the Glass Science and Technology Section, Glass Division of CGCRI received the Young Scientist Award of the year 2010-2011 in the Materials Science Category of the Indian Science Congress Association. The award carried a cash of Rs. 25,000 and a certificate.

She received the award from the hands of Noble Laureate Dr. Venkataram Ramakrishnan at the 98th Indian Science Congress during January 3-7, 2011 at Chennai. Ms Som also received the **Dr. R L Thakur Memorial Award – 2010** of the Indian Ceramic Society for her contributions in the Materials Science during the 74th Annual Session of the Society held during January 11-13, 2011 in Kolkata.

Mr. Arjun Dey, CSIR-Senior Research Fellow under supervision of Dr. Anoop Mukhopadhyay, Scientist F in the Mechanical Property & Evaluation Section of Non Oxide Ceramics & Composites Division received the **IEI Young**



Mr Arjun Dey receiving award from Sri Rana Som, CMD, NMDC Limited, Ranchi

Engineers Award 2010-2011 in Metallurgical and Materials Engineering discipline. The award will be conferred on him at the inaugural session of the 24th National Convention of the Metallurgical and Materials Engineers held on January 21st, 2011 at Ranchi. The prestigious award carried a national level citation and an honorarium of Rs 10000.

Professional and Poster Awards

- **Jui Chakraborty** selected for award of prestigious Raman Research Fellowship for the year 2011-12

- **S Ghosh, T K Mukhopadhyay, S Chakrabarti and S K Das**, received **Ganpule Award-2010** for their paper entitled "Influence of Kaolinitic Clay on the Physico-Mechanical Properties of Clay-Fly Ash Mix for Building Bricks" from Indian Ceramic Society at the 74th Annual Session of the Society held during January 11-13, 2011 in Kolkata

- **S Bhattacharyya, S K Das and N K Mitra** received **Ganpule Award-2010** for their paper entitled *Effect of Titania on Fired Characteristics of Triaxial Porcelain* from Indian Ceramic Society at the 74th Annual Session of the Society held during January 11-13, 2011 in Kolkata

- **R N Basu, A Das Sharma, P Kundu and S Ghosh** received the **Deokaran Award-2010** in *Glass* for their paper **Glass-based Sealants for Application in Planar Solid Oxide Fuel Cell Stack** from Indian Ceramic Society at the 74th Annual Session of the Society held during January 11-13, 2011 in Kolkata

- **S Majumdar, P Nag and P Sujatha Devi**, awarded poster award for their paper **CNT-SnO₂ composite as an efficient H₂ gas sensing material** at International Symposium on Advances in Nanomaterials held during December 6-7, 2010 in CGCRI, Kolkata

- **A Jana, N R Bandyopadhyay and P Sujatha Devi** awarded poster award for their paper **Size controlled synthesis of ZnO rods via sonochemical process** at the 22nd AGM meeting of the Materials Research Society of India held during February 14-16, 2011 at AMPRI, Bhopal

- **P Sujatha Devi, S Banerjee and K Priolkar** awarded poster award for their paper **Some Interesting Observations and New Insights into the Local Structure of Ce_{0.8}M_{0.2}O_{2-δ} (M = Ca, Gd, Sm) Solid**

Solutions at the International Symposium on Energy Materials: Challenges and Opportunities held during March 1-2, 2011 in CGCRI, Kolkata

- **D Jana and G De**, awarded 'best poster paper' for their paper **Shape conversion of silver nanoparticles in alumina sol** at International Symposium on Advances in Nanomaterials held during December 6-7, 2010 in CGCRI, Kolkata.

- **D Dandapat, D Jana and G De** awarded **best poster paper** for their paper **Mesoporous alumina films doped with metal nanoparticles as reusable catalysts** at National Review and Coordination meeting (NSNT-2011) of Nano Mission Council, DST held at IIT Delhi during February 25-27, 2011.

- **S Pramanik, S Pal and G De**, awarded 'best poster paper' for their paper **H₂ gas sensing properties of Au nanoparticles doped ZrTiO₄ films through plasmonic modification** at National Review and Coordination meeting (NSNT-2011) of Nano Mission Council, DST held at IIT Delhi during February 25-27, 2011.

Diamond Jubilee Seminars

International Symposium on Advances in Nanomaterials (ANM 2010, December 6-7, 2010)

The word nano has become a buzzword for common people. However, still the challenge before nanomaterials scientists is to explore the unraveled science with the urgency to rush into the technology market. In recent past, CGCRI has taken several important technology initiatives in the area of nanoscience & technology. With this backdrop, the event focused on the important areas of nanomaterials such as the (i) Novel methods of synthesis of nanomaterials, (ii) Characterization of nanomaterials, (iii) Functional nanomaterials, nanocomposites and coatings, (iv) Nanobiomaterials, (v) Nanomaterials for optic, electronic, magnetic and photonic applications and (vi) Fabrication of nanodevices.

Prof. D. Chakravorty, Former Director, Indian Association for Cultivation of Science, Kolkata was the



Prof. Indranil Manna greeting Prof. Herbert Gileter, from the Karlsruhe Institute of Technology, Germany

Chief Guest while Prof Herbert Gileter, from the Karlsruhe Institute of Technology, Germany acted as the Guest of Honour in the inaugural session at the Megnad Saha Auditorium in Institute.



Chief Guest Dr. Baldev Raj lighting lamp to inaugurate ISEM

About 150 researchers from India and abroad participated in the Symposium. The plenary lecture on **New Trends in Nanomaterials** was delivered by Prof. Herbert Gleiter. In addition there were six keynote lectures which included overseas speakers, Prof. P Mazzoldi (Italy) and Prof. A. Gedanken (Israel) and the Indian speakers, Prof. D Chakravorty, Prof. D D Sarma, Prof. M K Sanyal and Dr. Suresh Das. The Symposium also saw 16 invited talks by speakers from India, Austria, Taiwan and Poland and a special lecture on **Nanomaterials Activity in CGCRI**, Kolkata by the Convener, Dr. Goutam De. In all, 80 contributory papers were also presented in two poster sessions by young researchers six posters were awarded. The symposium provided a common platform to the researchers to abreast themselves with the state-of-the-art development in the area of nanomaterials.

International Symposium on Energy Materials: Opportunities and Challenges (ISEM-2011; March 1-2, 2011)

The aim of ISEM was to bring together academicians, scientists and technologists on a common platform providing a unique opportunity to them for communication and collaboration on energy crisis whose solution is now demanding concerted international approach.

The topics deliberated in the workshop were: Fuel Cell, Rechargeable Batteries, Solar Energy, Nuclear Energy, Hydrogen, Energy, Wind Energy, Hydropower, CO₂ Capture, Energy Efficiency and Policy.

About 150 delegates from India and abroad participated. The Keynote address was delivered by Dr. Baldev Raj, Director, IGCAR, Kalpakkam. Plenary lectures delivered by Dr. S P S Badwal, CSIRO Energy Technology, Australia, Prof. Doron Aurbach, Bar-Ilan University, Israel and Dr. S Sivaram, CSIR, India. Besides Australia, speakers from USA, Germany, UK, and Singapore also

delivered invited talk. In addition, speakers from various IITs; IISc-Bangalore; IACS-Kolkata, BARC-Mumbai, ARCI-Hyderabad, NMRL-Ambernath and a slew of CSIR laboratories such as NAL-Bangalore, CECRI-Karaikudi, NCL-Pune, IMMT-Bhubaneswar and host CGCRI-Kolkata also attended. One of the special attractions of the symposium was an Essay cum Poster competition. Three essays were awarded.

National Symposium on Ceramics : Energy and Environment

This Symposium was jointly organised by the Kolkata Chapter of the Indian Ceramic Society, CGCRI and Tata Refractories Limited, Indian Ceramic Society, All India Pottery Manufacturer's Association and Indian Institute of Ceramics during 11-13 January, 2011 at Taj Bengal, Kolkata.

The Symposium aroused major concerns mainly around the field of refractory, clay and potteries, electro-ceramics, solid oxide fuel cell, sensors, bioceramics etc. Swami Atmapriyananda, Vice-chancellor, R.K. Mission Vivekananda University, Belur, West Bengal acted as the Chief Guest while Honorable Mayor, Kolkata Municipality Corporation, Mr. Sovan Chattopadhyay was the Guest of Honour in the inaugural session. About 250 delegates from India and abroad participated in the Symposium.

National Conference on Sensor & Actuators (NCSA-2011; March 11-12, 2011)

The conference was organised in collaboration with Sensor Hub that has been established with financial assistance of DST and CSIR within the CGCRI premises. The objective was to highlight the R&D activities of eminent researchers in the field of sensor & actuator in the country. The Hub is a multi-dimensional platform that has BESU, C-DAC, Calcutta University and Jadavpur University apart from the host, CGCRI.

The event was inaugurated by Chief Guest Dr. Krishan Lal, President, INSA while Prof E S Rajagopal, Emeritus Professor, IISc, Bangalore was the Guest of Honour. About 125 delegates from different academic organisations attended the conference.

National Conference on Ceramic Scenario (CS-11, March 5, 2011)

This day long event was organized in a big way by the Outreach Centre of CGCRI at Naroda. On this occasion, an Innovation and Facilitation Unit set up with the sponsorship of Industries Commissionerate, Government of Gujarat was also inaugurated. Sri Saurabh Patel, Hon'ble Minister of State, Department of Civil Aviation I/C Industries, Mines, Minerals, Finance, Energy and Petrochemicals, Govt of Gujarat who presided over the inaugural session of the conference inaugurated the new facility. In his welcome address, Prof. Manna thanked the Hon'ble minister warmly for accepting the invitation to visit the outreach. Mr Patel in his address appreciated the



NCSA 2011: Prof Indranil Manna addressing the delegates

Government of Gujarat was also inaugurated. Sri Saurabh Patel, Hon'ble Minister of State, Department of Civil Aviation I/C Industries, Mines, Minerals, Finance, Energy and Petrochemicals, Govt of Gujarat who presided over the inaugural session of the conference inaugurated the new facility. In his welcome address, Prof. Manna thanked the Hon'ble minister warmly for accepting the invitation to visit the outreach. Mr Patel in his address appreciated the efforts put up by CGCRI in bringing the new innovation unit for the help of ceramic industries in Gujarat. He indicated that the Naroda outreach of CGCRI could be potential source of knowledge base and provide technical assistance and support to ceramic industries in the state especially in the Morbi area. He spoke about Gujarat Government's initiatives to improve the conditions of local ceramic industries.

Renown personalities from the tiles, sanitaryware, refractories, raw materials, plant and machinery industries were invited to deliver talks on different aspects of manufacturing. About 200 industrialist/entrepreneurs engaged attended the conference. An exhibition was also organized. A panel discussion concluded the programme.

National Seminar on Traditional Ceramics(NSIC-2011 ; February 24-25, 2011)

The CGCRI outreach centre, Khurja organised a two-day Seminar within its premises. Chief Guest Dr. Vinod Arya, Hon'ble State Minister and Vice President, Mati Kala Board, Uttarakhand inaugurated the seminar. The objective of the Seminar was to stress on the importance of such events for the development of the ceramic industries in the region. The programme was attended by 163 of delegates from industries, academic institutions and R&D organizations.

Short-term Course

DST-SERC School on Guided Wave Optics and Devices

A three-week School on Guided Wave Optics and Devices was staged from February 7-25, 2011 at the Institute. The programme inaugurated by Chief Guest, Prof. Ajoy Kumar Ray, Vice Chancellor, BESU, Shibpur. Prof. Ajoy Kumar Ghatak, former renowned Professor of

Guest, Prof. Ajoy Kumar Ray, Vice Chancellor, BESU, Shibpur. Prof. Ajoy Kumar Ghatak, former renowned Professor of IIT, Delhi graced the function as Guest of Honour. Around 45 students and teachers participated in the School. The programme was funded by SERC of DST, New Delhi.

New Facility



Waterjet machine

High pressure Abrasive Waterjet machine for hard ceramic cutting

The machine operates at a maximum of 62000 bar. The machine is installed for the first time in the eastern region and such a high pressure machine is the first of its kind in India.

42nd SSBMT for zone III indoor games (Feb 4-6, 2011)



The players take oath in the spirit of Team CSIR

A contingent of about 131 players from ten different CSIR laboratories participated in this zonal tournament. The tournament was inaugurated by veteran *Sukumar Samajpati*, a renown footballer of sixties. Many former sportsmen of the CGCRI Staff Club were invited in the inaugural function which added a nostalgic flavour to the occasion.

Diamond Jubilee Fixtures

- National Seminar on Information and Knowledge Dissemination : Present Status and Future Direction (May 6-7, 2011)
- A Cultural Programme on Rabindranath Tagore in Hindi (May 10-11, 2011)
- International Conference on Biomaterials and Implants : Prospects and Possibilities in the New Millennium -- BIO 2011, (July 21-23, 2011)
- International Conference on Glass Technology, (Aug 4-6, 2011)
- International Conference on Invention, Innovation & Technology (Jan 19-21, 2012)