



CECRI *News*

January - February 2010

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Central Electrochemical Research Institute, Karaikudi-6

National Science Day lecture

National Science Day was celebrated at CECRI on March 2, 2010. Professor M.Palaniandavar, FASc., Bharathidasan University, Tiruchirappalli graced the occasion as Chief Guest and delivered a lecture on "Electrochemical Techniques in Inorganic and Bioinorganic Chemistry".

He started his talk explaining the basics of natural photosynthesis process and food cycle with illustrations. His lecture mainly focused on emphasizing the importance of novel small protein molecules for better electron transfer reaction applications, using electrochemical techniques such as cyclic voltammetry and differential pulse voltammetry. He highlighted the contribution of the structural properties of the molecules for efficient electron transfer reactions citing Plastocyanin and Azurin molecules as examples. In his talk, he pointed out the importance of cyclodextrins (CDs) and among the CDs the beta version is useful for the selective inclusion of methyl viologen molecule. He also narrated the importance of micelles on the electrochemical behaviour of the small molecules.

He explained the organic copper (II) complexes as catalyst for aziridination process with structural models. He also explained in detail the interactions of DNA with metal complexes and the outcome of the study which lead to the development of anticancer agents. Finally he mentioned about the enzyme based degradation of aromatic pollutants using this copper based small organic molecules that will be useful in pollution abatement.

Dr.V.Yegnaraman, Acting Director presided over the function and delivered the Presidential Address. Dr.S.Syed Azim, Head, ICP proposed vote of thanks.



Consultancy services undertaken

Sl.No.	Title	Organization	Value in Rs.
1.	Vetting of cathodic protection design package for the underground pipeline of BPCL-Kochi refinery	Protech Anodes & Alloys Engineers, Karaikudi	273544/-
2.	Auditing of cathodic protection system in Cochin Shipyard	Cochin Shipyard Ltd., Cochin	661800/-
3.	Health survey of impressed current CP system provided for the product pipelines of M/s IOCL, Kochi	Indian Oil Corp.Ltd., Kochi	800778/-
4.	Vetting of cathodic protection design for the M/s HPCL Pipeline at Vishakapatnam	Jaihind Projects Ltd., Ahmedabad	209050/-

National Science Day celebrations at Kundrakudi Adigalar Education College for Women

To commemorate the National Science Day, Swadeshi Science Movement, Karaikudi and Central Electrochemical Research Institute, Karaikudi jointly organized science competitions for school children from VI Std. to XI Std. Competitions were held on 13.2.2010 at Maharishi Vidya Mandir Mat. Hr. Sec. School, Karaikudi.

National Science Day was celebrated on 20.2.2010 at Kundrakudi Adigalar Education College for Women at Kundrakudi. Dr.M.Vijayan, Secretary SSM welcomed the gathering. Dr.N.Palaniswamy, Scientist G delivered the inaugural address. Thavathiru Ponnambala Adigalar, Kundrakudi delivered the

Presidential Address. Dr.D.Velayutham, Scientist gave a report on science competitions organized by SSM. Dr.G.N.K.Ramesh Babu, Scientist proposed vote of thanks.

Technical services undertaken

Sl.No.	Title	Organization	Value in Rs.
1.	To supply one 250A Electrolyser of active area 60cm X 42cm with one coated Titanium Anode, one uncoated Titanium Cathode and two EPDM Gaskets	NOCIL Ltd., Navi Mumbai	100000/-
2.	Evaluation of Plante' cells 6 Nos. each in YHP 43 and YHP 25 as per IEC 896-1 (suitability for floating battery operation)	Exide Industries Ltd., Kolkata	1438753/-
3.	Evaluation of 2V Plante' lead acid cells as per specification IEEE 535-1986 three each of YHP 25 and YHP 43 cells for Ageing test (evaluated temperature)	Exide Industries Ltd., Kolkata	1438753/-
4.	Testing of protective coatings as per ISO 20340	Asian Paints Ltd., Mumbai	62279/-
5.	Testing of Painting material for bridge KM 0/2 of Vadakkupoiyuur-Akkaraipettai, Nagapattinam	Nabard and Rural Roads, Chengalpattu	11230013/-
6.	Evaluation of 12V/43 Ah battery as per SBA – S0101 – 2006 specification	Amararaja Batteries Ltd., Tirupathi	232458/-

Visit of foreign scientists

Dr.Pritam Singh, Emeritus Professor of Chemistry, Murdoch University, Australia was on a visit to CECRI during 17-19 January to discuss on the proposed MOU between CECRI and Murdoch University.

Professor Hwang Bing Joe, National Taiwan University of S&T and PI of Indo Taiwan joint collaborative project visited CECRI during 30th January – 3rd February, 2010 to work on the above project.

Professor Florence Epron, France University of Poitiers, France visited CECRI under Indo-French Collaborative Project (CLP 24/07) from 9.2.2010 to 19.2.2010.

Mr.Manfred Decker, Kurt Schwabe Institute for Sensor and Measuring Technology, Germany visited CECRI from 10th February to 13th March, 2010 under CSIR-IB, BMBF Cooperative Programme.

Invited Lectures

Sl.No.	Lecture Title	Date	Name & address of the Speaker
1.	Research Activities on Lithium ion Batteries in National Taiwan University of Science & Technology	2.2.2010	Professor Bing Joe Hwang National Taiwan University of Science & Technology Taipei, Taiwan
2.	Nitrate removal by catalytic reduction improvement of the selectivity of supported biometallic catalyst	12.2.2010	Professor Florence Epron University of Poitiers France
3.	Sieve-printed planer reference electrode – Gaining a new dimension	15.2.2010	Professor Manfred Decker Kurt Schwabe-Institute for Measuring and Sensor Technology Germany

Sl.No.	Title	Organization	Value in Rs.
1.	Lab-on-a Chip based Hybrid Sensor System for Environmental monitoring	Department of Biotechnology, Ministry of Science & Technology, New Delhi	2635000/-
2.	Studies on the electrolysis of cuprous chloride and recovery of copper energy optimization-Phase-II	Indian Oil Corpn.Ltd., New Delhi	1070241/-

*Grant-in-aid /
Sponsored
Projects
taken up*

National Convention of Electrochemists

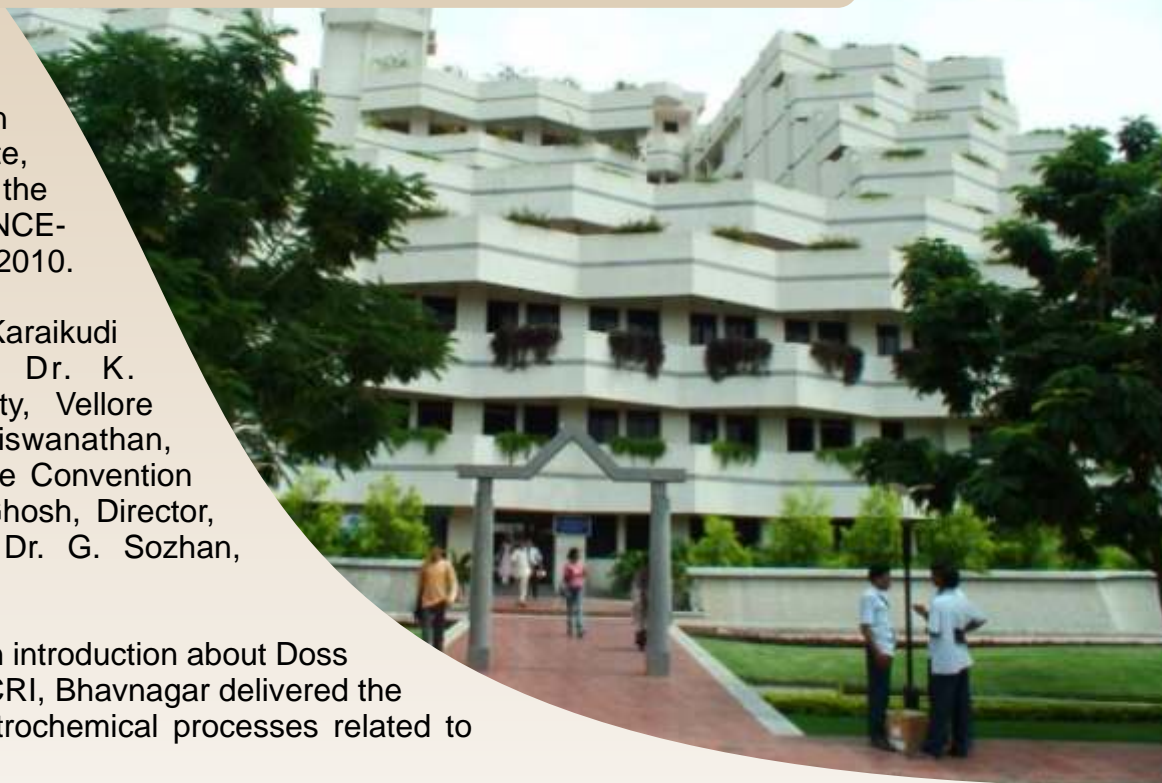
The Society for Advancement of Electrochemical Science and Technology (SAEST) in collaboration with Central Electrochemical Research Institute, Karaikudi and VIT University, Vellore organized the Fifteenth National Convention of Electrochemists (NCE-15) at VIT University, Vellore during February 18-19, 2010.

Dr. V. Yegnaraman, Acting Director, CECRI, Karaikudi presided over the inaugural function. Dr. K. Sathiyarayanan, Director, SAS, VIT University, Vellore delivered the welcome address. Dr. G. Viswanathan, Chancellor, VIT University, Vellore inaugurated the Convention and delivered the inaugural address. Dr. P.K. Ghosh, Director, CSMCRI, Bhavnagar released the Souvenir. Dr. G. Sozhan, Secretary, SAEST proposed vote of thanks.

Dr. V. Yegnaraman, Acting Director, CECRI gave an introduction about Doss Memorial Lecture. Dr. P.K. Ghosh, Director, CSMCRI, Bhavnagar delivered the Professor K.S.G.Doss Memorial Lecture on 'Electrochemical processes related to water and energy: recent work at CSMCRI'.

About 240 delegates from Universities, Industries and Research institutions all over the country participated. Invited talks were delivered by Dr. Florence Epron, University of Poitiers, France, Dr. D. Subhakar, VIT University, Vellore, Dr. S. Maruthamuthu, CECRI, Karaikudi and Dr. M. Decker, Kurt-Schwabe-Institute for Mess and Sensortechnik, Germany. In addition to these invited lectures, 162 research papers were presented in oral and poster sessions. 30 papers were presented in exclusive scholar session.

The valedictory function was held on February 19, 2010. Dr. G. Sozhan, Secretary, SAEST welcomed the gathering. Dr. S. Vasudevan, Treasurer, SAEST read out the names of the award winners. Dr. D.P. Kothari, Vice-Chancellor, VIT University, Vellore distributed the awards for best paper in oral presentations, Dr. V. Yegnaraman, Acting Director, CECRI, Karaikudi distributed the awards for the best paper in the poster presentations and Dr. K. Sathiyarayanan, Director, SAS, VIT University, Vellore distributed



awards for the best oral presentations in the scholar session.

One annual award of the Society viz. 'Best Electroplater Award' was conferred at the convention. Mr. S. Gunasekaran, Joint-Secretary, SAEST read out the award winners for the years 2005 and 2006 and Dr. V. Yegnaraman, Acting Director, CECRI, Karaikudi distributed the medals and certificates to the Award winners of the Best Electroplater Award for the year 2005 and 2006 respectively. Dr. A. Senthil Kumar, Professor, SAS, VIT University, Vellore and Convener, Local Organising Committee proposed vote of thanks.



AWARD

Dr.P.Veeramani, Scientist, IMF Division and Dr.S.Mohan, Scientist, EMFT Division have been selected for the Best Electroplater Award for the years 2005 and 2006 respectively. The Award was conferred on them at the valedictory function of the Fifteenth National Convention of Electrochemists (NCE-15) held at VIT University, Vellore during February 18-19, 2010.



Industry Oriented Technology Courses

Sl.No.	Name of the course	Duration	No.of participants	Amount in Rupees
1.	Electroplating Metal Finishing Technology Electroplating of Copper, Nickel, Chromium and Precious Metals (EMFT-1)	18.01.10 to 22.01.10	15	115815/-
2.	Trouble shooting in Electroplating and Metal Finishing (EMFT-2)	08.02.10 to 12.02.10	8	54047/-
3.	Electroplating and Anodizing Principles ad Practices (EMFT-3)	15.02.10 to 19.02.10	06	46326/-

Production of Tetra Butyl Ammonium Hydroxide by Membrane Electrolyser by M/s Tatva Chintan Pharma Chem Pvt Ltd., Ankleswar



Process released



Foreign Deputation



Dr. A.Sivashanmugam, Scientist was deputed to Taiwan from 25th February and 26th March to work under the Indo-Taiwan joint collaborative project. His visit was sponsored by DST-GITA and NSC, Taiwan.

Dr. B.Subramanian, Scientist was deputed to Korea to present a Paper at the 3rd International Workshop on Plasma Application & Hybrid Functionally Materials (IAPS'10). His visit was sponsored by JSPS, Japan and NWP-10.

Retirement on superannuation



Dr.J.Prabhakar Rathinaraj, Scientist Gr.IV(4)

Dr.P.Ramachandran, Scientist Gr.IV(5)