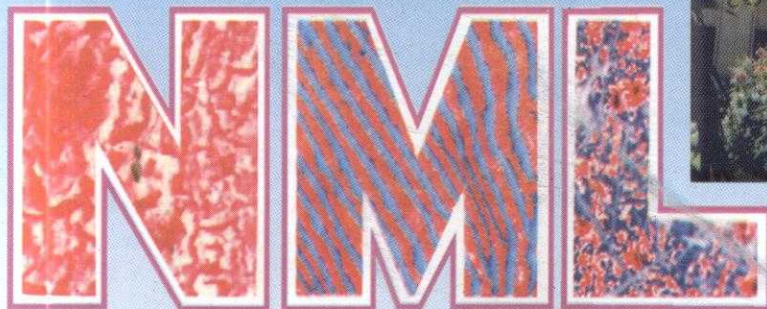




A Quaterly Inhouse Bulletin



NEWS

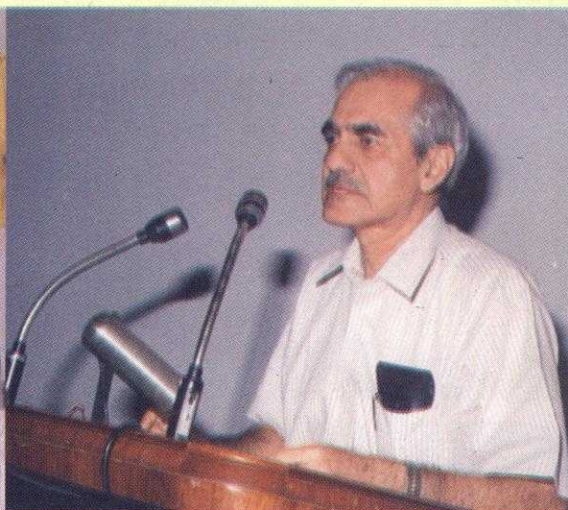


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No. 4

CSIR FOUNDATION DAY CELEBRATIONS



Prof. S. P. Mehrotra, Director, NML welcoming the gathering during the Inaugural Function in NML Auditorium

The day-long CSIR Foundation Day Celebration at National Metallurgical Laboratory, Jamshedpur included, besides the formal function at the NML Auditorium, an essay competition among the staff, a debate competition among the school children and an Open Day for students, entrepreneurs and general public. About one hundred children from ten different schools were invited. Visits to different divisions of NML and lectures were arranged for the children.

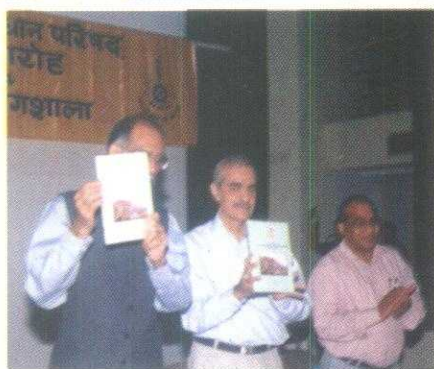
Prof. S. Banerjee, Former Director, National Metallurgical Laboratory, Jamshedpur & RDCIS, Steel Authority of India Ltd.,

Ranchi formally inaugurated the function by lighting the lamp in a traditional way. The function was attended by eminent scientists, local entrepreneurs, school students, dignitaries, and special invitees including retired personnel and the press.

Prof. S.P.Mehrotra, Director, National Metallurgical Laboratory (NML) - a constituent establishment of CSIR, in his welcome address gave an overview of CSIR. He said that CSIR had performed its assigned role in consonance with national needs and priorities. The decade of the fifties was a period of institution building. Over two-thirds of the CSIR

laboratories were established during this decade. These laboratories provided to the indigenous industry, in its incipient stages of growth back-up support in metrology, standardisation, testing, analysis and supply of trained scientific manpower. Most of the research scientists in industry have, at sometime or other in their career, had an association with one of the CSIR laboratories.

The sixties could be termed a period of consolidation for the CSIR laboratories and the founding of specialized institutions for Industrial Toxicology, Structural Engineering etc. Also, CSIR assisted industry



in the day-to-day technological problems and import substitution. The beginning of the seventy to eighties saw industry and CSIR attaining technological maturity. The CSIR laboratories had by then moved on to the stage of development of indigenous technologies for pesticides, electronics, instrumentation, glass and ceramics, metals and alloys, and building materials.

By nineties the industry had also realized the importance of Research and Development and set-up in-house R&D units. Linkages were established between national laboratories and industrial R&D units for technological co-operation.

CSIR today is well knit co-ordinated, action oriented network of 38 research laboratories with over eighty extension centres and regional stations spread throughout the country. These laboratories cover the whole gamut of Research and Development activity ranging from microelectronics to metallurgy; medicinal plants to industrial machinery; chemicals to molecular biology.

Prof. Mehrotra mentioned, "CSIR believes in progress through partnership at all levels: local, national and global. And the strategy has not only thrown up wonderful opportunities, it has transformed the organization. Opportunity arose from the fact that the concept-to-commercialization chain necessarily crosses international boundaries. In an era of global connectivity through modern information technology, the virtual laboratory is gaining ground. As a part of their global innovation, strategies, several companies world over are scouting for new ideas and patents. The ability to assemble and manage an effective global knowledge network in a short time, rather than developing in-house capability, is becoming the key determinant of competitiveness."

Taking advantage of this strategic shift under the dynamic leadership of Dr. R.A. Mashelkar, Prof. Mehrotra said Council of Scientific and Industrial Research (CSIR) with its chain of 38 Laboratories had become a partner of industry around the world. Mobil and Indian Institute of Petroleum (IIP) have joined hands to jointly develop and market Mobil/IIP technologies

world-wide. In Latin America, Glaxo Smith Kline Becham has joined hands with Indian Institute of Chemical Technology in exciting new projects on drugs. National Chemical Laboratories' partnerships with giants such as General Electric, a company with R&D budget higher than India's total R&D budget, was declared as a model for external R&D alliances by GE in 1998.

SARAS made its successful maiden flight on 29th May, 2004. The aircraft has been indigenously designed and built by our own scientists and engineers. Swaraj or Sonalika tractor has been designed by CMERI. The Amul baby food has been developed by CFTRI. When a doctor prescribes E-MAL to a patient suffering from cerebral malaria, he does not realise the role of CDRI. When a paternity dispute is solved by using DNA finger printing technique, little does one realise that it was pioneered in India by CCMB. When 650 million voters receive indelible ink marks, they hardly realise that the original technology was developed by NPL. All this represents path-breaking activities of CSIR laboratories. Now a plan is being worked out to mitigate the distress of farmers by forging a partnership between ICAR, CSIR, DST, DBT and others.

While CSIR is forging global corporate level partnerships, it is also forging unusual local partnerships by reaching the unreached in the remote corners of India. A village called Athaoni, on the border of Maharashtra and Karnataka, is the place from where Kolhapuri chappals come to us. Till recently, they were made using a traditional technique. Our Scientists from Central Leather Research Institute (CLRI) studied this and helped reduce processing time from 30 days to 10 days through the application of some good science. The stamping process was standardised. Innovative changes in design, were made to give the wearer more comfort. Today CLRI has trained several artisans. This has not only enhanced the family incomes of the villages but also changed their perception of science, development and change in short, a micro social transformation. Similarly, NML Jamshedpur has also been working in the societal

mission projects in the area of rural drinking water, agriculture implements, artisan technology and so on. As for CSIR, it has learnt to be conscious about socio-economical and socio-cultural aspects as well as techno-economics.

In early January 1996, CSIR prepared CSIR 2001: Vision and Strategy. This was an explicit agenda with a detailed road map for CSIR to attain its true potential, visualised not in relation to what it used to do in the past but in relation to what others, the world over, were likely to do in the future.

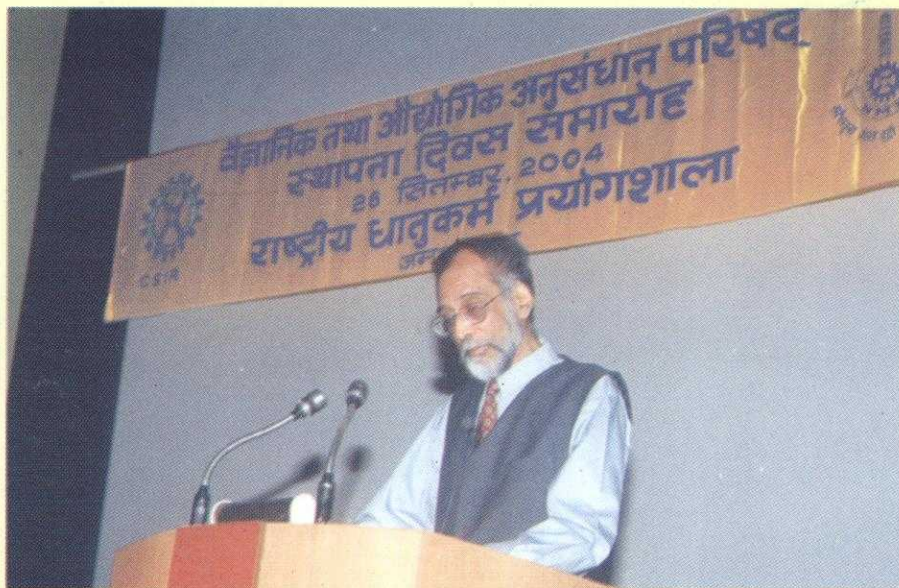
Dr. R. N. Ghosh, Director Grade Scientist introduced the chief guest, Prof. S. Banerjee, the former Director RDCIS, SAIL Ranchi and also NML.

Chief Guest, Prof. S. Banerjee presented the Annual Awards and Prof. S. P. Mehrotra presented the memento to the NML Staff for year 2004. Prof. Banerjee also released a book on 'A Compendium of CSIR Diamond Jubilee Lectures held at NML' edited by Dr. R. P. Goel and Dr. N. G. Goswami.

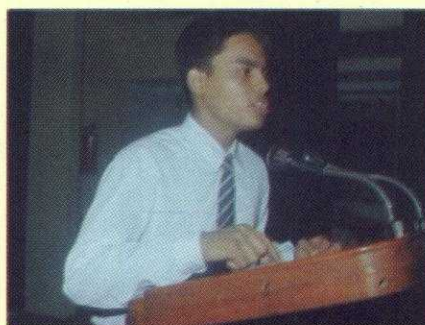
Later, Prof. S. Banerjee addressed the gathering and delivered the CSIR Foundation Day Lecture on the topic "Micro-planning of R&D Projects: Impact and Problems".

Prof. Banerjee made his presentation with reference to the case studies of RDCIS, SAIL, Ranchi and CMMACS, Bangalore. He stressed as to how through Micro Planning tremendous and unbelievable changes can be brought into an organisation. Prof. Banerjee said while planning set objectives to achieve a particular goal but making continuous improvements on the set objectives was the Micro Planning Strategy. He dealt with the relationship among Man, Machine, Materials, Money and Minutes. Various research results were also presented in the area of micro planning along with numerous opportunities in the field in a very lucid and thought provoking manner.

Shri Rameshwar Dass, Controller of Administration, NML proposed the vote of thanks.



Prof. S. Banerjee delivering the CSIR Foundation Day Lecture



A student participant in the debate competition

Inter School Science Debate - 2004 : As part of CSIR foundation celebration, Inter School Science Debate was held at NML on 22nd September, 2004 wherein nine schools, namely, : (1) Church School, Beldih Triangle; (2) D.A.V Public School, Bistupur; (3) Jamshedpur Public School, Baridih; (4) Kerala Samajam Model School, Sakchi; (5) Loyola School, Beldih; (6) Motilal Nehru Public School, Sakchi; (7) Rajendra Vidyalaya, Sakchi; (8) Little Flower School, Telco and (9) Sacred Heart Convent, Sakchi participated. In a close contest, the winning fortune was showered on Shri Ashish Trivedi and Shri Nirmalya Banerjee, Little Flower School, Telco Colony. The runners - up team was Sacred Heart Convent School, Sakchi, represented by Ms. Shobhana Iyer and Ms. Ishani Singh. Shri Ashish Trivedi has been adjudged as the best speaker.

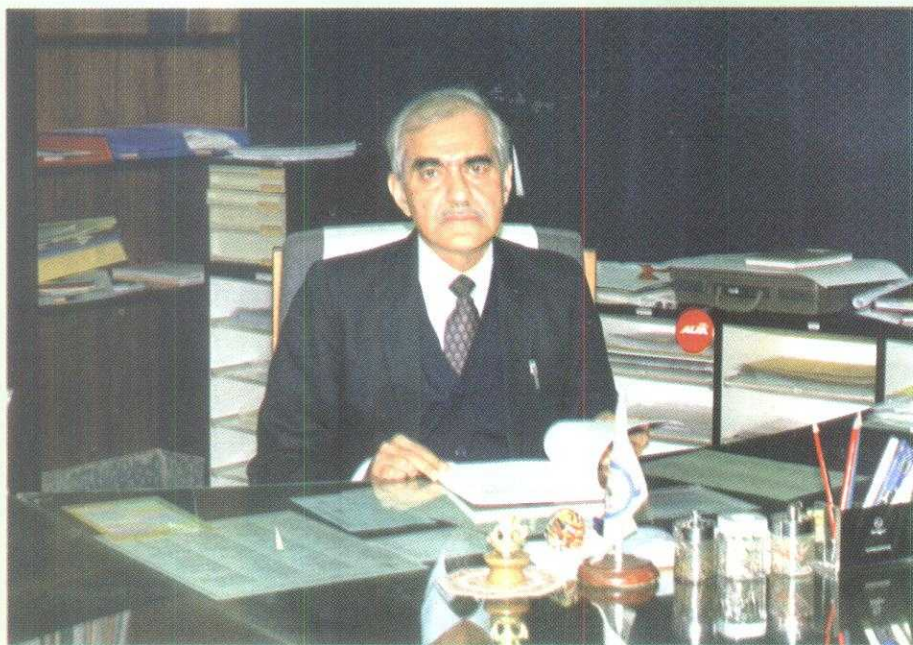
CSIR Foundation Day Essay Competition - 2004 : As part of CSIR foundation celebration, Essay competition was held at NML on 16 September, 2004 in Hindi and

English. The topic for the essay competition was "A Vibrant Democracy Needs a Strong Opposition". The winners are as follows: In Hindi Group, Shri A. K. Thakur received the 1st prize; Shri S. K. Khiste second prize and Shri Parmarth Suman received the third prize. In English Group 1st prize was awarded to Shri Alope Kumar, followed by second and third prizes to Dr. S. K. Das and Dr. J. Konar respectively.

Meritorious Prize in Science Subject - 2004 : Sri P.V. Kiran Kumar (Class XII) was given a lump sum cash award of Rs.2,000/- for securing above 90% marks in all the three Science subjects.

Congratulation !

- Dr. A. Chattopadhyay, Scientist, has been awarded the Silver Medal of The Mining, Geological and Metallurgical Institute of India, Calcutta for his paper on "Petro-Mineralogical Characteristics & Genesis of Gold in Banded Iron Formation from Ajjannahalli Area, Tumkur District, Karnataka for the year 2002-2003.
- Dr. Arvind Sinha, Scientist, has been awarded the MRSI Medal for 2005 which will be presented during the Annual General Meeting of MRSI to be held at Pune during 9-12 February, 2005
- Dr. S. Srikanth, Scientist, NML Madras Centre, has been selected for "Metallurgists of the Year" awards of the Indian Institute of Metals for the year 2004.



Prof. S. P. Mehrotra

It gives me great pleasure in sharing with you the information of various events at NML that have taken place since my last communication in February, 2004. During this period a number of luminaries visited our laboratory. Dr. R.A. Mashelkar, DG, CSIR visited us on 10.04. 2004 and addressed the staff members of NML. He spoke of the great strides made by Science & Technology in India in the recent past and the contributions of the CSIR in these advancements. He was apprised of the technological breakthroughs of NML through posters and brief presentations. The other dignitaries who visited NML during this period include Prof. David Jenkins of CSIRO, Australia, Dr.G.V.Sinha of PEAK, GmbH., Germany, Shri S.Thawani, MD, Jamipol, Prof. A.K.Lahiri, Department of Metallurgy, IISc., Bangalore, Prof. Y.Sahai, Ohio State University, USA, Shri A.S.Mathur, President (Works), Usha Martin. They all addressed the scientists and shared their knowledge and experiences with us. Air Marshal A.K. Singh visited NML along with his engineering experts. He was very appreciative of NML's contributions in investigating failures in aircraft components. He stated that NML had directly helped in saving several human lives. A delegation from CII, Eastern Region visited NML on August 17. The

delegation visited our facilities and was apprised of the capabilities and potentials of NML towards solving the industrial problems. The members of the delegation expressed their desire to work in close collaboration with NML in finding solutions to their problems.

The functioning of a professionally managed organisation is facilitated by a master plan that defines its vision and objectives. Following this line, it has been felt necessary to prepare an R&D master plan and vision document for the NML. A number of meetings and brain storming sessions have been held in the laboratory to identify the niche areas to be pursued at NML to optimally utilise its manpower and infrastructure. For an R&D organisation (Like NML), the following aspects are identified as the essential parts of the vision document.

- i. Identification of the areas in which R&D should be pursued by the laboratory singly or in collaboration with other organisations (within the country and abroad) - in the short and long run.
- ii. Discussion on methodology (in terms of manpower deployment, infrastructure development and financial outlay) as to how the R&D activities should be pursued.

The finalisation of the document on the master plan has been consciously delayed as we decided to first carry out a rigorous SWOT analysis for the laboratory. A scan of the internal and external environment is an important part of the strategic planning process. It is a tool for auditing an organisation and its environment and is the first stage of planning on key issues. We intend to have a detailed discussion on SWOT analysis in today's RC Meeting. The master plan vision document will be finalised immediately after today's discussion and will be presented to the RC in its next meeting.

The ambitious network research project entitled 'Technology for Engineering Critical Assessment (TECA)', initiated under the 10th five year plan of CSIR, has been formally launched on 01.04.2004. In this project besides NML several other CSIR laboratories (CMERI, CGCRI, NAL, SERC, RRL, Bhopal, CBRI, CRRI), IIT, Kharagpur, IGCAR, Kalpakkam are participating with NML on 19.07.2004 in which all the participating laboratories/organisations took part. The planning for the implementation of TECA was discussed at great length and the immediate milestones were identified. Ten other networking projects in which NML is participating are progressing satisfactorily.

Significant progress has been made under the SDF supported project 'Maximising blast furnace productivity with Indian iron ore'. Process models developed and validated with plant data are being further calibrated for implementation at plant(s). Promising results have been obtained from the experimental activities under the project. On the initiative of Secretary, Ministry of steel (MoS), the above findings were presented in a workshop organised on May 07, 2004 in Kolkata which was attended by more than 70 experts from several steel plants who appreciated the work accomplished and strongly recommended continuation of the work for successful implementation. Subsequently, on Empowered Committee's strong recommendations the MoS has approved project extension till December 2005 with expanded mandate for successful implementation of the process

model/real time simulator at the designated furnaces.

The steering committee meeting for the project on 'Mechano-chemical activation in improved blended cement processing' was held at NML on July 2, 2004. The progress made in the project was highly appreciated by the Steering Committee.

For the Processing of Polymetallic Sea Nodules Project sponsored by Department of Ocean Development (DOD), Govt. of India, Rs.173.00 lakhs have been received in the current financial year. Four activities related to the cobalt recovery improvement in NML's Reduction Roast, Ammonia Leaching Process and Utilisation of Leached Sea Nodules Residue are being carried out under this programme. In the recent Standing Committee of DOD at NIO, Goa, the members appreciated the work on improvement of cobalt recovery from 50 to 80%. Work on setting-up a pilot plant to produce ferro-silico-manganese from leached sea nodules residue is in progress.

A process developed and patented internationally on 'Extraction of nickel from spent catalyst' has been demonstrated to M/s SMC Technology, Malaysia during August 23 to 26, 2004. The process ensures very high recovery of nickel and the know-how transfer would involve earning of foreign exchange for the laboratory, with a scope of transferring NML's technology to several other global players.

Beside TECA and other CSIR networking project, forty-six new projects have been assigned to us since my last communication. I congratulate all the PLs and their team members for securing these projects and wish that the projects are executed as per their schedule culminating into results that satisfy the customers.

Five MoUs have been signed during the period with the following organisations: BARC, Mumbai; Meghalaya State Electricity Board, Shillong, Meghalaya; Indian Ocean Garnet Sanda Co. Pvt. Ltd., Tuticorm; NMITLI/ CSIR; NRDC, New Delhi.

(Source: Director's Desk, 30th August, 2004)

The 49th Research Council Meeting



RC Meeting in progress

The 49th Research Council meeting was held on August 30, 2004. The meeting was attended by its Chairman, Shri B.Muthuraman, Managing Director, Tata Steel and members: Prof. M. Chakraborty, IIT Kharagpur; Dr. Pradip, TRDDC Pune; Dr.V.N.Misra, Director, RRL, Bhubaneswar; Dr.N.Ramakrishnan, Director, RRL Bhopal; Dr.S.K.Tamotia; Prof. S.P. Mehrotra, Director, NML and Shri K.K. Gupta, Sr. Scientist, NML.

Prof. S.P. Mehrotra, Director, NML in his opening remarks gave a hearty welcome to the Chairman, RC members, Special invitees - Dr. Amit Chatterjee, Chief Technology Officer; Dr. D.Bhattacharya, Chief R&D and Scientific Services. Dr. S.Chandra, R&D Head of Tata Steel and Dr. A.K.Verma from CSIR, HQ, New Delhi, and the Scientists present. A large number of NML Scientists and Technical Officers of Tata Steel also attended the meeting. The programme started with an open door session in the Lecture Hall.

Prof. S.P.Mehrotra in his presentation on the state of NML's R&D programme informed the Research Council members about the visits of numerous luminaries who came to NML and shared their knowledge with the scientists. Prof. Mehrotra in his address mentioned the importance of a master plan defining its vision and objectives for a professionally managed organisation like NML. He apprised the Research Council members about the meetings and brain storming sessions held at NML to identify the niche areas to be addressed by the laboratory to optimally utilise its resources, chart the requisite road map to achieve the targeted goals. The progress made on various project, such as TECA - the CSIR network project (where NML is working as a nodal agency); SDF sponsored project on 'Maximising blast furnace productivity with Indian iron ore'; 'Mechano-chemical activation in improved blended cement processing'; and 'Processing of polymetallic sea nodule' project were presented to the RC members.

Shri B.Muthuraman, Chairman, Research Council opined that with the kind of changes taking place at NML and the laboratory's initiative in taking up projects are 'Implementable in nature' will see a double ECF for the laboratory in the very near future. The action taken on the recommendations of the 48th Research Council Meeting held on 26th June, 2004 was discussed and the minutes were confirmed. The Research Council reviewed all Sponsored Projects, Grant-in-Aid Projects, Collaborative Projects, CSIR Network Projects, Technical Services Projects, Exploratory Projects both ongoing and completed projects.

The SWOT analysis for NML was presented before the Research Council, which contained a detailed description of the procedure involved in collection and collation of data and the process of identification of the strength, weakness, opportunities and threats.



RC Chairman Shri B. Muthuraman with Director NML

Shri K.K.Gupta, Secretary, RC thanked the chairman and the members of the Research Council for taking up their valuable time for attending the meeting and reviewing the laboratory's R&D programme and said that the inputs and suggestions provided by them will give an appropriate direction to the ongoing activities of the laboratory.

Seminar on Corrosion, Failures and Mitigation (CFM-2004)



Chief Guest Dr. T. Mukherjee lighting the lamp at the Inaugural Function of CFM 2004

A seminar on Corrosion, Failures and Mitigation (CFM-2004) was held at the laboratory during 18-19 August, 2004. It was jointly organised by National Metallurgical Laboratory, Electro-chemical Society of India and the Indian Institute of Metals (IIM), Jamshedpur Chapter. The seminar was inspired by the United Nations declaration of the last decade as International Decade of Natural Disaster Reduction. Dr. T. Mukherjee, Deputy Managing Director (Steel) Tata Steel was the chief guest of the seminar.

Prof. S.P.Mehrotra, while delivering the welcome address, highlighted on the importance and relevance of corrosion. "India loses about 3-4 percent of Gross National Product (GNP) running into thousands of crores of rupees every year, out of which, at least 20-50 percent of these colossal losses could be avoided," he informed. Prof. Mehrotra emphasised on the implementation of new and multi-dimensional methods to combat corrosion. "The need of the hour is to combine various fields of science to check corrosion," he added. Prof. Mehrotra further pointed out that bridges, power plants, fertilizer plants fail because of corrosion, leading to loss of lives and productivity.

Dr. S.K. Narang, chairman of the seminar talked about the theme of the seminar and described NML's contribution in the field of corrosion and its mitigation, since

its inception in 1950.

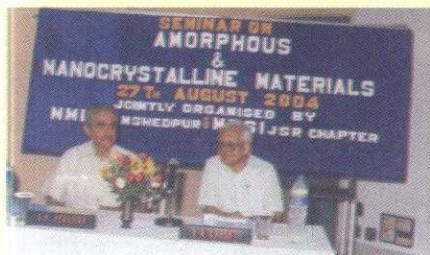
Dr. S.K.Narang chairman, organising committee of the seminar spoke about the seminar and introduced the chief guest to the gathering. He spoke about the corrosion and how can it be prevented or minimised. He said a certain percentage of the nation's GDP is being spent for the prevention of corrosion. To prevent corrosion many known methods are available and it should be implemented effectively.

Chief Guest and Deputy Managing Director (Steel), Tata Steel, Dr. T. Mukherjee after releasing the souvenir and inaugurating the seminar stressed on total prevention of corrosion. "We should not take corrosion as granted and that it would always be there to live with," said Dr. Mukherjee citing the example of Howrah and some other railway bridges in India, which are still working efficiently. He also talked about the steel houses being marketed by M/s BHP, Australia who guarantees 50 years life of the Steel Houses, even in areas near the sea coast and market these houses throughout the world. He added that corrosion can be prevented through known methods. In India the steel is used by automobile industries, railways, industries etc. We should keep updating the methods and knowledge of prevention of corrosion on a regular basis. On this occasion he also spoke about the steel house. The steel houses are more cheaper

than the concrete house and the life of steel houses are more. The methods of the metal protection was elaborated in the seminar. NML has been playing a pivotal role in championing the cause of corrosion prevention in India. The United Nations has acknowledged the influence of corrosion in our lives by declaring the last decade as international decade of national disaster reduction. Dr. Mukherjee has also laid special emphasis on minimizing disasters due to corrosion. This national seminar was organised at an opportune moment to reiterate the significance of corrosion. The phenomenon of corrosion is the centre of R&D activities today to identify various factors that have influence on the design of components.

The seminar addressed many issues of national relevance and industrial concern pertinent to corrosion. This seminar provided a forum for exchange and dissemination of novel ideas and knowledge related to the science and engineering of corrosion and also be a suitable platform for launching meaningful solutions for mitigation of corrosion. He specified that NML is on the job of developing new methods to prevent the corrosion in certain aspects. The seminar had four technical sessions and spread over two days in which about 22 papers including five keynote lectures were deliberated. The seminar was attended by 40 delegates from all over India.

Seminar on "Amorphous and Nano-materials: Synthesis and Characterisation"



Materials Research Society of India (MRSI), Jamshedpur Chapter in collaboration with NML, organized a one-day seminar on "Amorphous and Nano-materials: Synthesis and Characterisation" on 27th August, 2004.

The event started with the inaugural function, followed by presentations of research papers by the participants. The presentation was divided into three technical sessions. The technical presentations were as followed :

- Self-Propagating High Temperature Synthesis of Nano and Fine in-situ Ceramic Hard Composite by S.K.Mishra
- Formation of Bulk Amorphous Phase in T-Binary Alloys Through Low Temperature Annealing - A Thermodynamic Analysis by S.Ranganathan
- Bulk Glass Formation in Fe-Co-Ni-Zr(Nb)-B Soft Magnetic Alloys by B.Majumdar
- Effect of Sintering on Magnetic Properties of Bulk Glassy Fe₇₁ Nb_{3.7} Cu₁ Al₃ Mn_{0.8}Si_{13.5}B₇ Powder Compacts by A.K.Panda
- Biomedical Aspects of Magnetic Nanoparticles by Suprabha Nayar
- Studies on Nanocrystalline Nickel synthesized by electrodeposition by Rajiv Mishra
- Development of Conducting Polyaniline Coating for Superior Corrosion Resistance by T.K.Rout
- Synthesis, Transport and Dielectric Properties of Polypyrrole Fe₃O₄ Nanocomposite by Ashis Dey
- Dynamic Elastic Properties of Metallic Alloys and Metglasses by P. K. Mukhopadhyay
- Processing of Nanostructured Ultrasoft Magnetic Materials by B.Majumdar
- Borate based Spintronics Material by Glass-Ceramic Route by M.Pal
- Nano-sized Alumina by A.K.Verma
- Effect on Joule Heating on Giant Magneto-Impedance Behaviour in Co-Fe based Amorphous Wire by S.K.Pal
- Crystallisation and Electrochemical Behaviour of CoFeCrSiB based Amorphous Alloys by Seema Kumari
- Synthesis of Nano Crystalline Cobalt Oxide and Cobalt Nickel Oxide by M. Bhattacharya
- Crystallisation Studies on (Fe_{0.79}Co_{0.21})_{75-x}Si_{15-4x} (0-10) Alloys by A.K. Khanra
- Synthesis and characterization of spray dried Sm doped PZT ceramics by Manish Raj.

Wishing a Happy Retired Life...

Shri Basudev Patra (T.A.Gr.II/4); Dr. Venkatesh Rao (Scientist 'G'); Dr. S.K. Narang (Scientist 'F'); Shri Haripal Singh (T.O. 'C'); Shri S.K. Jena (Tech. Gr.I/4); Ms. Rita Biswas (Asstt.'G'Gr.I); Shri R.C. Behra (T.A.Gr.II/4); Shri Afzal Ahmed (SO 'G'); Shri Samar Das (T.O. (E-I)); Shri T.N. Goswami (T.O. 'A' Gr.II/5); Shri S.P. Chakraborty (T.A.Gr.II/4); Shri V. Hariharan (T.A.Gr.II/4); Ms.Mejari (Safaiwala).

Welcome at NML

Dr.(Mrs.)S. Nayar, (Sct C); Dr. R.K.Sahu, (Sct C); Dr. A. K. Panda, (Sct B); Dr. S. K. Sahoo, (Sct B); Shri P.Poddar, (Sct B); Dr.D.Mishra, (Sct B); Shri N.Narasaiah, (Sct B); Shri M.Ghosh, (Sct B); Dr. A. K. Pramanik, (Sct B); Shri A. K. Mandhyan, (Sct B); Shri G. K. Mandal, (Sct B); Miss Emila Panda, (Sct B); Shri D. Mandal, (Sct B); Shri O. P. Dhawan, A. O.; Shri A. Kujur, F&A Officer; Shri K.D.Pathak, S.O.(F&A); Shri V.K.Gond, S.O. (G) (Admn).

Recognition

- Prof. S.P.Mehrotra, Director, NML has been appointed as The National Academy of Sciences, India nominee to the Council of Indian National Academy of Engineers.
- Dr.B.R.Nayak, Scientist has been awarded the CSIR Young Scientist Award - 2004 in the field of Earth, Atmosphere, Ocean and Planetary Sciences.

European Universities tie-up with NML, IEMS

Four leading universities of Europe teamed up with the city based Institute of Environmental Management and Studies (IEMS) and the National Metallurgical Laboratory (NML) for a project to combat arsenic contamination in ground water in eastern India.

The University of Stuttgart (Germany), Queen's University (Belfast), University of Leideer (Netherlands) and Miguel Hernandez University (Spain) along with the IEMS and NML have launched a two-year project to reduce arsenic contamination in groundwater in West Bengal. The six partners would then expand their coverage area to Jharkhand and Bihar followed by other parts of Eastern India. The same technology will be applied for treatment of contaminated water and then duplicate it in other affected areas like Midnapur and Purulia.

Later the project will stretch over to other affected countries like Bangladesh, China, Malaysia and Germany. For the pilot project the six partner team would identify the worst affected village in 24 Parganas, West Bengal.

The overall objective is to formulate practice-based guidelines for a rural water treatment scheme for Eastern India that ensures arsenic-free water for consumption and irrigation at low cost.

The reason behind choosing Eastern India is that the arsenic content in this part of the country is alarming. With low economic growth, over 75 percent of the rural population does not have access to drinking water. And, the rural community is in urgent need of a low cost and eco-friendly technology to combat arsenic contamination.



Chief Guest Shri-R. Gupta releasing the Souvenir (SALIL-2004) on his left, Prof. S. P. Mehrotra, Director NML and right side, Dr. S. K. Narang

A two day long seminar in Hindi on 'Water: Conservation, Purification and Harvesting' was conducted during 9-10 September, 2004. The seminar was inaugurated by Shri Ramendra Gupta, Chairman-cum-Managing Director of Uranium Corporation of India Limited.

While welcoming the Guests and participants, Prof. S. P. Mehrotra, Director NML, said "National Metallurgical Laboratory will soon set up a water laboratory-the first of its kind in the eastern region of the country. The vital instruments for the purpose has already been procured. 'The state-of-the-art laboratory would conduct different tests related to water. We are waiting for more instruments and in process of completing the installation,'" Prof. Mehrotra added, "The laboratory would test the insecticide and pesticide levels in water and would also conduct Biological Oxygen Demand (BOD) and Chemical Oxygen Demand tests. A large section of the population residing in rural areas of the country do not get water fit to drink. These people are not even able to earn enough for their daily bread. Our aim will be to provide such poor people with a water-purifying technology that will be either free of cost or get at a nominal charge to have drinking water".

Over 40 delegates from premier institutions across the country took part in the two-day seminar which were divided into five technical sessions. Scientists of national and international repute presented around 26 papers on the first day of the seminar and threw light on the water scenario in the country. In the three technical sessions held on the first day the various topics dealt with were rainwater conservation, arrangement of water on the domestic and community level, water management and water pollution.

In one of the presentations, it was revealed that the water in Dorkasai village has a high level of iron content. NML Scientists has solved the problem by devising a special method of water purification. 'High iron content makes water non-potable. It was also making the tubes non functional. We solved the problem by way of a special filter,' said one of the Scientist.

Dr. R. P. Bhagat, Scientist and convener of the seminar proposed the vote of thanks.

Hindi Pakhwada Celebrated



Hindi Pakhwara was celebrated during 1-14 September, 2004. On this occasion various programme in Hindi were also organised.

Prof. S. P. Mehrotra, Director NML and Chairman, Nagar Rajbhasa Karanyay Samiti in his inaugural speech said that different languages are spoken in India and almost all of them understand Hindi. What is needed now is the self-confidence. Efforts should be made amongst people so that one can do work in Hindi comfortably.

Speaking on this occasion former senior scientist Dr. S.K. Narang said that Hindi language has been flourishing all over India. Shri Rameshwar Dass, Controller of Administration said that most of the staff at NML are taking interest and doing their work in Hindi.

Shri Jayanandan, Editor, Tisco Samachar was the Chief Guest during the Closing Ceremony. The Chief Guest gave away the prizes to the winners of the competition conducted during the fortnight. In the Non Hindi short story writing competition Ms. Jhumki Hait won the first prize while Mr. Mahendra K. Mahato and Ms. Swati Dey shared the second and the third prize respectively. In the essay competition, Shri Ram Kumar was adjudged as first, Ms. Swati Dey as second and Dr Jayant Konar as third prize winners. In Hindi essay competition Ms. Sushma Minz was given the first prize followed by Mr. Rakesh Singh Roshan as second and Mr. Ajay Kumar Thakur as third respectively. In the administrative vocabulary competition, Shri P. Patnaik was declared first followed by Ms. Swati Dey as second and Mr. Jayant Konar as the third prize winner. In Hindi section Mr. A.K.Thakur received the first prize, while Mr. R.K.S. Roushan and Mr. Alok Kumar shared the second and the third prize. In the quick speech competition Mr. Alok Kumar, Mr. R.K.S. Roushan, Ranu Verma and Mr. Lal Mahajan were adjudged first, second, third and fourth respectively. The vote of thanks was proposed by Dr. Aruna Bahadur.