



June 02, 2022

**CSIR-NML, JAMSHEDPUR
RESEARCH PLANNING & BUSINESS
DEVELOPMENT DIVISION**

CSIR-NML NEWSLETTER May- 2022



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SUMMARY OF SIGNIFICANT ACTIVITIES

For the period May,2022, CSIR-National Metallurgical Laboratory

1. Technology Development (New Product/Process Technologies)

Nil

2. Agreement(s) Signed

S.No.	Title	Client/Sponsor
1.	Recovery of copper and nickel as metal/salts from metal coated ABS scraps of automobiles (Sponsored)	Jai Mata Di Plastics
2.	Collaboration in R&D and Academic activities (General)	OP Jindal University
3.	Development of optimized methodology for hot rolled TWIP steel plates (10mm thickness) (Sponsored)	Surgiwear Ltd., Shahjahanpur





4.	Transfer of technological Know-How for the Recovery of Li, Ni, Mn, Co from spent Lithium-ion Batteries (Know-How Transfer)	ReCy Energy Pvt Ltd , Pune
5.	Transfer of technological Know-How for the Recovery of Li, Ni, Mn, Co from spent Lithium-ion Batteries (Secrecy)	ReCy Energy Pvt Ltd , Pune





3. Patent(s)/Copyright(s) Filed

S.No.	Title
1.	Patent Title: "Preparation of Non-Fused Flux for Dephosphorization and Desulphurisation of Steel in Induction Furnace"
Notification No: NML/PAT 0619/2022/IN; Funding Project: GAP 0281 [Development of a Cost-Effective Refractory Lining Materials for Induction Melting Furnace Suitable for Production of Quality Steel: Phase II (Industrial Trials)]; Assignee: CSIR; ; Inventors: AMMASI AYYANDURAI, DEO PRAKASH SINGH, SARBESWAR THATOI, MANOJ KR TOPPO	
2.	Patent Title:A Process for Refining of Commercial Magnesium through Vacuum Distillation
Notification No: NML/PAT 0618/2022/IN Funding Project: GAP0280 (Development of a process for refining commercial magnesium Metal through Vacuum distillation) Assignee: CSIR and ARDB, DRDO Inventors: Krishna Kumar, Manoj Kumar, Arvind Kumar Upadhyay	

4. S&T services that have created a national/visible impact

- **Metallurgical failure investigation of penstock steel of UHL-III HEP**

During the trial run of UHL-III HEP project of BVPCL, the penstock part made of steel, got ruptured under a very low stress. The damaged penstock material (service exposed) along with virgin plates of ASTM 517F and SAILMA 550HI, were received at CSIR-NML to investigate the root cause of failure and ascertain the quality of steel plates. Failure investigation was carried out through visual examination, bulk chemical composition analysis, evaluation of hardness, tensile test and fractography. From the investigation, it was revealed that there was a significant difference between the service exposed alloy and ASTM 517F in terms of chemical composition, microstructure and tensile properties. Considering the room temperature tensile properties, the service exposed SAILMA becomes at par with the specification, however, the UTS was exorbitantly high in comparison to specification and virgin SAILMA. The fracture surfaces were covered

- **Corporate Skill training program (9th-13th May 2022)**
Exposure training on metallic pipes (ETMP) (Graduate Trainees: 10)



- **Societal Skill training program (17th May - 16th June 2022)**
Internship training on innovation productivity prototype making (IPPM 2022) (Diploma students:46)



- **Corporate Skill training program (23rd - 26th May 2022)**
Minerals & Coal Characterization (MMC 2022) (Graduate Trainees: 6)



Minerals & Coal Characterization

6. Details of any New Facilitie(s)

- **De- Dusting System for Beneficiation Unit Capacity of Bag Filter ID Fan: 1700m3/hr**
- **100 KVA Furnace Transformer**

7. Details of any outstanding Honor(s)/Award(s) received by the staff

Nil

8. Any other items considered to be significant

- Mr. Chandan Dutta, CSIR-SRF was deputed to USA to participate in IEEE IAS Global Conference on
- **Emerging Technologies (Globconet), IEEE Industry Application Society organized by IEEE, Advancing Technology for Humanity during 20-05-2022 to 21-05-2022.**



- Mr. Avanish Kumar Chandan, Scientist was deputed to Germany to attend Symposium on “High
- **Entropy Alloys: Potential for Industrial Applications” organized by Fraunhofer Institute For Material And Beam Technology IWS on 12-05-2022.**



- Dr. Sushant K. Nath, Principal Scientist was deputed to Jamshedpur to participate in the the
- **International Conference on Refractories organized by ICS Jamshedpur Chapter, CSIR-NML and CSIR-CGCRI on 05-05-2022.**

- **Prof. Gordana Medunic, Full Professor of Environmental Earth Science, University of Zagreb, Faculty of Science, Department of Geology, Croatia delivered a talk on "Collaboration between**

Croatia and India and Erasmus Project". National Academy of Sciences India (NASI), Jharkhand Chapter & CSIR-NML jointly organized this lecture on 23rd May 2022 at CSIR-NML.



Prof. Gordana Medunic, Full Professor of Environmental Earth Science, University of Zagreb, Faculty of Science, Department of Geology, Croatia delivered a talk on "Opportunity on Post Doc Fellowship under European Union". National Academy of Sciences India (NASI), Jharkhand Chapter & CSIR-NML jointly organized this lecture on 24th May 2022 at CSIR-NML.



● **Swachchhata Pakhwada-2022 Celebrations(9th-13th May 2022)**

A number of events like cleaning of all residential and office campuses, competitions for staff (viz. Essay writing and Extempore) and staff children (viz. Drawing, Essay writing) were organized as part of the celebrations. The closing ceremony was graced by Mrs. Debarati Chatteraj and Mr. Sanjay Choudhury, Blood Bank, Jamshedpur as Chief guest and Distinguished guest respectively. The guests reemphasized upon the significance of cleanliness in all aspects of life. The winners of various competitions were also awarded in the ceremony.





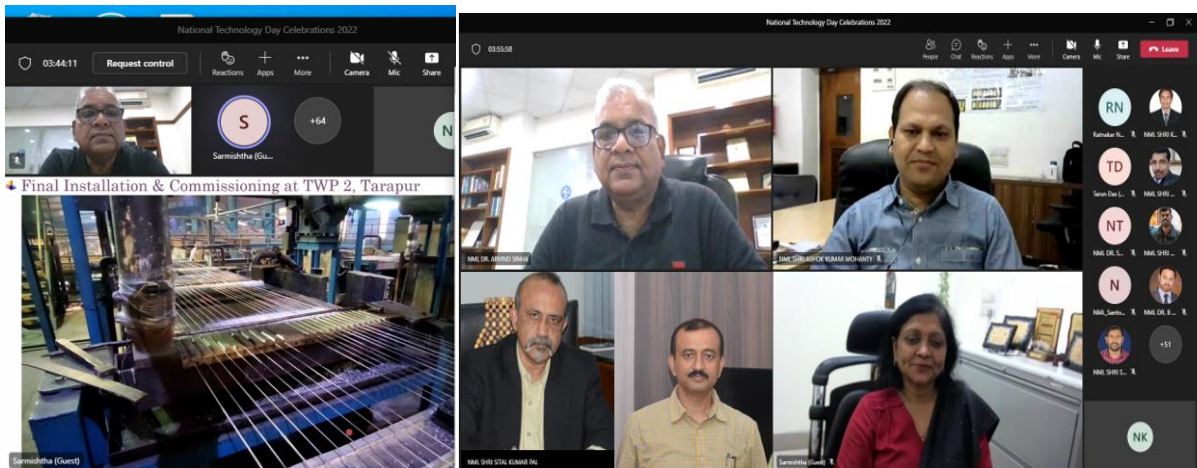
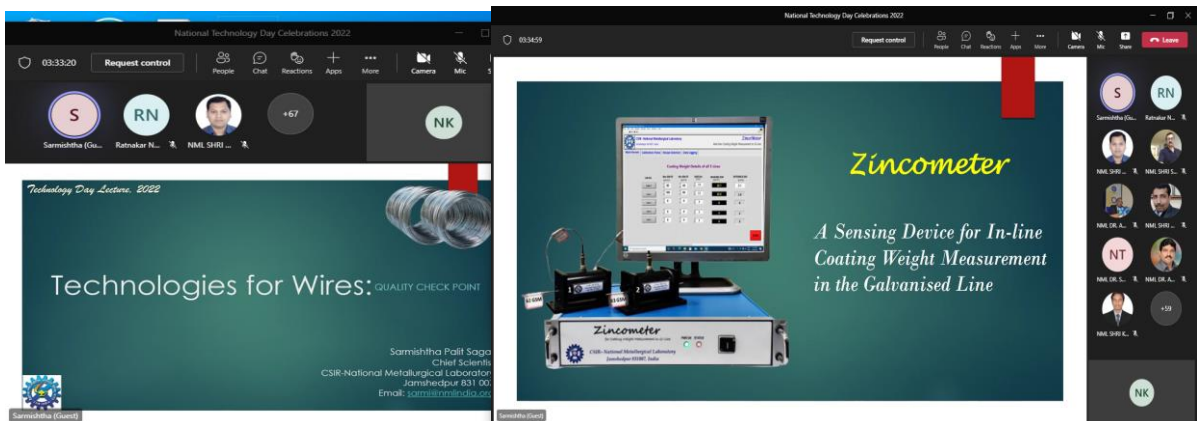
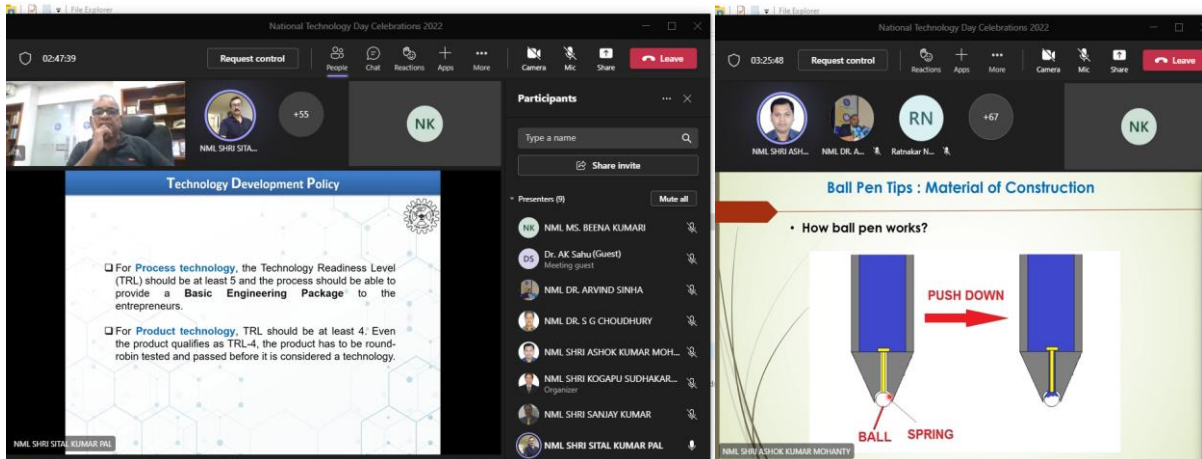




● **National Technology Day Celebrations (11th May 2022)**

The occasion was celebrated on virtual platform. The technological development of the laboratory was showcased and the success stories about reaching from lab. to market for the recent technologies were also presented during the ceremony.





9. Scientific & Technical Services rendered

During this period the following industrial houses viz. Ferro Scrap Nigam Ltd, Bhilai , Hindustan Aeronautics Ltd., Odisha , Inspectorate Griffith India Pvt Ltd.,Kolkata , Jindal Saw Limited, Maharashtra ,

M/s. Krishka Bharti Cooperative Ltd.,Gujarat , M/s. Mahandai Coalfields Ltd.,Odisha , M/s.Adhunik Power and Natural Resources Ltd. , M/s.Ambica Steels Ltd., Uttar Pradesh , M/s.Ambuja Cements Ltd., Maharashtra , M/s.Arihant Analytical laboratory Pvt. Ltd. , M/s.AURA Instruments, Surat , M/s.Bhalotia Auto Products Pvt. Ltd. , M/s.Colour Chromes Pvt. Ltd., Jaunpur , M/s.CSIR-CIMFR, Dhanabad , M/s.Custom House Laboratory, GOA , M/s.Desmet Reagent Pvt. Ltd., Jamshedpur , M/s.Frontier Springs Ltd., Kanpur , M/s.Hampi Chemicals, Ballari , M/s.Jai Mata Di Plastics, Delhi , M/s.KOTHI STEEL Limited, GUJARAT , M/s.LUCAS TVS, Chennai , M/s.M.E.Technical Services, Mumbai , M/s.Madhya Pradesh Power Generation Co. Ltd. , M/s.Madras Metallurgical Services Pvt. Ltd. , M/s.Maharashtra State Power Generation Com. , M/s.Malaviya National Institute ofTechnology, M/s.Minerals Lab Services Pvt. Ltd., Kolkata , M/s.Mounika Traders,Karnataka , M/s.MS Testing Laboratory, Ghaziabad , M/s.New Jyoti Scientific, West Bengal , M/s.NobelTech Industries Pvt. Ltd. , M/s.NTPC Limited, UP , M/s.Nutan ISPAT AND POWER PVT LTD. Raipur , M/s.NUVOCO Vistas Corp. Ltd., Jamshedpur , M/s.OM TEK Analytical Solution, Giridih , M/s.Ordnance Parachute Factory, Kanpur , M/s.Prayagraj Power Generation Company Ltd. , M/s.Quality Council of India, New Delhi , M/s.Sandeep Scientific, Gobindgarh , M/s.SASTHA SCIENTIFIC AGENCIES, BANGALORE , M/s.Sohm Analytical Services I pvt. Ltd. , M/s.Sri Siddhi Instruments & Chemicals, AP , M/s.Superintendence Co. of India Pvt. Ltd. , M/s.SV ENVIRO LABS and CONSULTANTS, Andhra , M/s.Thakur Industries, Karnataka , M/s.The Indian Steel & Wire Products Ltd , M/s.The West Benagl Power Development Corp. , M/s.VAS Spectrometers, Mumbai , Steel Authority of India Limited, , Tata Steel Limited, Jamshedpur, **received technical and scientific support from NML in the area of chemical analysis and physical test of their raw materials and finished products.**

10. ECF Details

External Cash Flow (ECF) Status During: 2022-5-1 TO 2022-5-31

Category	TOTAL (Figures in Rs. Lakh)
Sponsored R&D	66.73368
Grant-in-Aid R&D	36.78271
R&D Consultancy	4.5312
Technical Services	19.29564
Collaborative/ Cooperative R&D	0
Premia/Royalty	0
TOTAL	127.34323