



July 02, 2022

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

CSIR-NML NEWSLETTER June- 2022



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SUMMARY OF SIGNIFICANT ACTIVITIES

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

1. Technology Development (New Product/Process Technologies)

Nil

2. Agreement(s) Signed

Nil

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

Nil

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

• DEVELOPMENT AND COMMERCIALIZATION OF ECOFRIENDLY REAGENTS FOR LIMESTONE AND SILLIMANITE FLOTATION

The objectives of this study were: Validation of performance efficiency of newly developed flotation reagents at pilot / commercial scale plants (field trials). • Flotation of low grade limestone to obtain a concentrate of $\leq 5\%$ silica and $\leq 2\%$ MgO for cement manufacturing using newly developed eco-friendly flotation reagent. • Enrichment of sillimanite grade from 40-55% to 85-90%. Summary: commercial plant scale trials were taken up using the new reagent for sillimanite flotation on a 1.0metre diameter, 11metre height, 120 tonnes per day flotation column at the Mineral Separation Plant of M/s Kerala Minerals and Metals Limited. Though better grade of sillimanite concentrate ($\geq 90\%$) from the feed analyzing 46.9 - 51.0% sillimanite was obtained, the flowability properties of sillimanite concentrate after its filtration were found to be not satisfactory in the downstream process in the fluidized bed dryer and while it was being conveyed through the chute/bin in the plant. The composition of the reagent needed to be tweaked to overcome these issues before it could be commercialized. Efforts are being made in this direction.

5. Details of important Workshop(s)/Symposia(s)/Conference(s)/Training Course(s)/ Meeting(s) Organized

• Societal Skill Training Program

Training on Animation Video Making for Matric (28th June 2022- 01st July 2022; 32 Participants)



- **Societal Skill Training Program**

Internship Training on Innovative Product Prototype Making (IPPM 2022) Batch II for Graduate (06th June 2022- 05th July 2022 ; 146 Participants)

- **Societal Skill Training Program**

Industrial R & D Training on Materials and Metallurgical Engineering (ITMME2022) for Undergraduate (14th June 2022- 30th July 2022; 70 Participants)

6. Details of any New Facilitie(s)

Nil

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

- **Dr. Sanjay Prasad, Principal Scientist received “Best Paper Award “**



- **Dr. Manis Kumar Jha, Sr. Principal Scientist received “N.M.Sampat Award -2021”.**

The award was conferred in the inaugural function of the national symposium on electrochemical science and technology (NSEST-2022) held in Indian Institute of Science Campus Bangalore, India organized by The Electrochemical society of India. Event Date: 24 June 2022; Awarded Article: For the development of electro-leaching/ selective electro-leaching, electroplating, electro-winning of various non-ferrous, rare and precious metals from e-waste.



8. Any other items considered to be significant

- Dr. Sarmishtha Sagar, Chief scientist & GL -NDE & MM Group was deputed to AIMTEK International, Abu Dhabi Yas Island to deliver invited talk on “NDT in AIMTEK-2022: One day Int. Conf. on Asset Integrity management” during 07-06-2022 to 07-06-2022.
- Mahesh Gulab Walunj, Sr. Scientist was deputed to New Delhi to participate as a Speaker in International conference and Exhibition on “Metal, Corrosion & Inspection Technology” (MCI-2022) organized by MatCorr, New Delhi during 23-06-2022 to 24-06-2022.
- Asit Baran Panda, Sr. Pr. Scientist was deputed to Bhavnagar to participate as a Speaker in International workshop on “Water Purification Technologies, Arsenic Removal from Groundwater and Integrated Water Management (IWWPT-2022)” organized by CSIR-CSMRI, Bhavnagar during 28-06-2022 to 30-06-2022.
- Dr. Manis Kumar Jha, Sr. Pr. Scientist was deputed to Bengaluru to participate as a Speaker in National symposium on “Electrochemical Science and Technology(NSEST-2021)” organized by The Electrochemical society of India, Bengaluru during 24-06-2022 to 25-06-2022.
- Dr. Pankaj Kumar Choubey, Sr. Project Associate was deputed to Bengaluru to participate as a Delegate in National symposium on “Electrochemical Science and Technology(NSEST-2021)” organized by The Electrochemical society of India, Bengaluru during 24-06-2022 to 25-06-2022.
- Aniket Kumar Dutt, Project Scientist-II was deputed to Tiruchirappali to participate as a Speaker in International Conference on “Additive Manufacturing and Allied Technologies” organized by NIT, Tiruchirappali, India during 10-06-2022 to 11-06-2022.
- Dr. John S Thella, Application and Business Development Specialist , ZEISS Research Microscopy Solutions, delivered a talk on "Zeiss advanced Automated Mineralogy Work Flows" at CSIR-NML on 07-06-2022.**



- Prof Cemal Basaran, University at Buffalo, New York, delivered a talk on "Low and High cycle fatigue" at CSIR-NML on 02-06-2022.



- Mr. Tapan Kumar Chakraborty , Multi-Tasking Staff superannuated from CSIR-NML on 30-06-2022.



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- **Transfer of Technology for Flawguard: A device for real time defect detection of high end wires to M/s. Sani Electronics, Mumbai on 20th June 2022.**





- **International Day of Yoga-2022**

The occasion was celebrated by organizing and practicing yoga in both residential campuses of NML. A lecture was organized in the main laboratory: Speaker: Mr. Rajeev Nair, Coach, Cricket, Tata Sports Complex, Tata Steel, Jamshedpur and Director Indian Institute of Yoga and Management, Haryana. Topic: Importance of Yoga for a healthy life.









9. Scientific & Technical Services rendered

During this period the following industrial houses viz. Armament Research Board, DRDO, New Delhi , GTRE, Bangaluru , Jamipol Limited, Jamshedpur , M/S Farakka Barrage Project,W. Bengal , M/s. Aura Instruments, Surat , M/s. Godawari Power & Ispat Ltd., Raipur , M/S. JSW STEEL LIMITED, Tamilnadu , M/s. Mar-Tech Insurance Surveyors & Loss As. , M/s. SANI Electronics, Mumbai , M/s. Uttam Value Steels Ltd., Maharashtra , M/s.ACE Test Lab, Delhi , M/s.Adarsh Enterprises, Rourkela , M/s.Ambeey Castings Pvt. Ltd., Ramgarh , M/s.Aravali Power Company Pvt. Ltd., , M/s.Bali Test House Pvt. Ltd., Punjab , M/s.Bureau of Indian Standards, Mohali , M/s.CDE Asia Ltd.,Howrah , M/s.CIPET-Aurangabad , M/s.CIPET-Himachal Pradesh , M/s.Dr. Uppal Testing and Analytical Labor. , M/s.Fine Chemical Products Kolkata , M/s.G. Surgiwear Limited, Uttar Pradesh , M/s.GAHELI ENVIRONMENTAL LABORATORY, GUJARAT , M/s.GIMPEX Pvt. Ltd., Chennai , M/s.Global Lab, Maharashtra , M/s.Global Testing and Research Laboratory , M/s.H.M.Steels Limited, Himachal Pradesh , M/s.Hi-Tech Chemicals Pvt. Ltd., Jamshedpur , M/s.Inspectorate Griffith India Pvt. Ltd., , M/s.JAI MANGLA ENTERPRISES, HAZARIBAG , M/s.Janki Enterprises, Rajkot , M/s.Maharashtra State Power Generation Comp. , M/s.Metlab Equipments & Engineering Systems , M/s.Micro Products, Haryana , M/s.MKJ International, Jaipur , M/s.NTPC Ltd., Nagpur , M/s.PTH Consultancy Services, Surat , M/s.Quality Council of India,New Delhi , M/s.Quality Metallurgy Lab, Chennai , M/s.Shree Ganesh Engineering Works, Delhi , M/s.Shree Gobind Damodar Laboratory , M/s.Shree Gobind Damodar Laboratory , M/s.Spectro Analytical Labs Pvt. Ltd. , M/s.Surgical Mart, Assam , M/s.Thakur Industries, Karnataka , M/s.VAS Spectrometers, Andheri east , M/s.Vishal Traders, Gujarat MEITY, New Delhi Ministry of Mines, New Delhi Singareni Collieries Company Ltd.,Telangana Tata Steel Limited, Jamshedpur The Sandur Manganese & Iron Ores Ltd. , **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: 2022-6-1 TO 2022-6-30

Category	TOTAL (Figures in Rs. Lakh)
Sponsored R&D	156.08873
Grant-in-Aid R&D	77.621
R&D Consultancy	0
Technical Services	17.30883
Collaborative/ Cooperative R&D	23.03951
Premia/Royalty	0
TOTAL	274.05807