

2024-25

## Journals

1. Development and Characterization of Low-cost Ceramic Membrane **Prachiprava Pradhan**, Ajit P Rathod, Suchita B Rai & Anupam Agnihotri; *Journal of Environmental Nanotechnology*, Volume 13, No 2 (2024) pp. 98-102; June 2024 <https://doi.org/10.13074/jent.2024.06-242613>.
2. Petrological characteristics of lateritic bauxite deposits of India and their significance in mineral processing; **Pravin Bhukte**, Gopal Daware, Tejas Bhosale, Bhargavi Kulkarni, Anupam Agnihotri (2024); *Journal of Geosciences Research (JGSR)* <https://gondwanags.org.in/wp-content/uploads/2024/06/1-Bhukte-et-al-1.pdf> (July 2024 issue, V 9, No.2); 73-81
3. Red mud and bismuth oxide-based X-ray shielding tiles for upcoming hospitals: A comprehensive study on phase quantification and physical properties" Rini Paulose, Varsha Agrawal, Rahul Arya, Abhijit Bijanu, Gaurav Rajak, Prasanth K. Nair, Deepti Mishra, Mohammed Akram Khan, Abhay Bhisikar, **Upendra Singh**, Paparao Mondri, Jyoti Pendam, Avanish Kumar Srivastava, Shabi Thankaraj Salammal; *Construction and Building Materials*, 439 (2024) 137414 (**SCIE**); Published on 16 August 2024
4. Conversion of Alumino-Siliceous Rejects From Power and Steel Industries into Binary Geopolymer Brick: Exploiting-GBFS Material Synergy Under Ambient Conditions for Supporting Circular Economy, Vishakha Sakhare and **Mohamed Najar P. A.** ; *Journal of Chemical Technology and Metallurgy*, DOI: <https://doi.org/10.59957/jctm.v59.i5.2024.29> 59(5):1251-1262, Sep 2024 Sofia, Bulgaria.
5. "One-Step Combustion method of HPA preparation for LED applications" **Priyanka Nayar**, P Yadav, U Singh, and A Agnihotri, *International Journal of Self Propagating High Temperature Synthesis*, vol. 33, pp. 223-227, 2024.
6. "A Review on the Correlation between Microstructure, Heat Treatment and Mechanical Properties of Additively Manufactured AlSi10Mg by LPBF," **R Anil Kumar**, TR Dandekar, R K Khatirkar, C Joshi, R N Chouhan, and A Agnihotri, *Critical Reviews in Solid State and Materials Sciences*, pp. 1-36, Nov. 2024.
7. Effect of T5 ageing on tensile characteristics and longitudinal weld quality of Al–Mg–Si alloy extrudates, **V.N.S.U. Viswanath Ammu**, Pramod M. Padole, Anupam Agnihotri and Ravikumar Dumpala, *Canadian Metallurgy Quarterly, Taylor & Francis*, <https://doi.org/10.1080/00084433.2025.2457305>, Feb 2025.

8. Printing performance of 3D-printed geopolymer through pumpability–extrudability–buildability properties – a review, **Architectural Science Review**; Vishakha Sakhare, **Mohamed Najar** & Sachin Deshpande, DOI:10.1080/00038628.2024.2445050, pp 1-25, Dec 2024. <https://doi.org/10.1080/00038628.2024.2445050>.
9. Inherent role of density on the gamma ray attenuation characteristics of red mud-based shield, Rahul Arya, Rini Paulose, Abhijit Bijanu, Varsha Agrawal, Rahitashya Shil, Deepti Mishra, Kaushik Banerjee, Sujoy Chatterjee, Sarmishtha Bhattacharyya, Abhay Bhisikar, **Paparao Mondri**, Upendra Singh, Jyoti Pendam, Shabi Thankaraj Salammal; Radiation Physics and Chemistry, 234 (2025) 112757; 27<sup>th</sup> Mar 2025 ; <https://doi.org/10.1016/j.radphyschem.2025.112757>
10. Recovery of Metal Values from Bauxite Residue/Red Mud: A Review, **Suchita Rai** , Prachiprava Pradhan, Amar Padole and Anupam Agnihotri, Research Journal of Engineering and Technology, 16(1), 2025. DOI: 10.52711/2321-581X.2025.00004

## Conference Proceedings

1. Alumina (Al<sub>2</sub>O<sub>3</sub>) as Advanced Material: Its Application in BIOCERAMICS', **Suchita Rai**, Prachiprava Pradhan, Amar Padole, Anupam Agnihotri, at **Chemix'24**, 6-7 April 2024, 7th National Conference on Intra- and Inter-Disciplinary Blend of Chemical Engineering, VNIT Nagpur
2. Investigation of the Composition & Sintering Temperature of Industrial Waste Materials Synthesized Ceramic Membranes" **Prachi P Pradhan** at **Chemix'24**, 6-7 April 2024, 7th National Conference on Intra- and Inter-Disciplinary Blend of Chemical Engineering, VNIT Nagpur
3. Perspective of Sustainable Process Development for the Recovery of Rare Earth Elements from Aluminium, **Shweta Dhamande**, **International Conference on Advanced Sustainable Futuristic Material**, Kamla Nehru Mahavidyalaya, Nagpur, 26-27 April, 2024.
4. Futuristic Trends in Chemical Material Sciences & Nano Technology" Editors: Luqman Jameel Rather, Arun B Patil, Bikash Ranjan Jenal, **Papa Rao Mondri** Published in **Iterative International Publishers (IIP)** Proceedings, IIPV3EBS06\_G83, SBN: 978-93-5747-663-8, May 2024
5. Unveiling the Geological Diversity and Mineral Potential of Indian Lateritic Bauxite Deposits: Insights from Comprehensive Technical Evaluation and Separation Studies; **PG Bhukte**; **ICNFM-2024** : 12-13 July 2024, Bhubaneswar
6. Unlocking Excellence in Aluminium Alloy Extrusion: Advanced Capabilities and Research Initiatives; **Suman Mukherjee**; **ICNFM-2024** : 12-13 July 2024, Bhubaneswar

7. Investigating the Impact of Modifier and Solid Slurry Concentration on the Rheological Properties of Bauxite Residue; **Prachi P Pradhan**; **ICNFM-2024** : 12-13 July 2024, Bhubaneswar
8. Transforming Coal Mine Overburden into Sustainable Construction Materials: Low-Carbon Structural Element Preparation; **Mohamed Najar**; **P A ICNFM-2024** : 12-13 July 2024, Bhubaneswar
9. Unlocking Value - Recovering Smelter-Grade Aluminum Fluoride and High-Purity Fumed Silica from Coal Fly Ash (CFA); **S U Bagde**; **ICNFM-2024** : 12-13 July 2024, Bhubaneswar
10. Critical Minerals: Recovery of Ta, Nb, and Ni metal from secondary industry waste , **Upendra Singh**, Jyoti Pendam, Mayur Tirbude, Pooja Yadav, Rutwik Karlekar and Anupam Agnihotri, **XII<sup>th</sup> International Congress and Exhibition "Non Ferrous Metals and Minerals- Krasnoyarsk, Russia** 09-13 Sep 2024,
11. "Recycling Al-Si Alloys with High Iron Contamination," **R N Chouhan XII<sup>th</sup> International Congress and Exhibition "Non Ferrous Metals and Minerals- Krasnoyarsk, Russia** 09-13 Sep 2024
12. A step towards the production of alumina trihydrate (ATH) using non-metallurgical grade bauxites following Soda Sintering process, **Prachi P Pradhan** Suchita Rai, M. Panchal, K.J. Kulkarni, Amol Mankar and A. Agnihotri. 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition **IBAAS-IIM 2024 Goa**, 25-27 Sep 2024, BITS Pilani, Goa
13. Synthesis of Dawsonite to Produce White ATH Using Inferior-grade Bauxite from the Kutch Region of Gujarat **Suchita Rai**, Prachi Pradhan, M. Panchal, K.J. Kulkarni, Amol Mankar and A. Agnihotri; 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition **IBAAS-IIM 2024 Goa**, 25-27 Sep 2024, BITS Pilani, Goa
14. Characterization of Float Zone-Grown Single Crystal Sapphire from High Purity Alumina Prepared at JNARDDC, **Priyanka Nayar**, Ramasamy Jayavel, Pooja Yadav, Upendra Singh and Anupam Agnihotri; 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition **IBAAS-IIM 2024 Goa**, 25-27 Sep 2024, BITS Pilani, Goa
15. Unlocking the Potential of Semi-Solid Casting in Recycling AA2024 Swarf: Implications and Significance, **N.S. Anas** , K.N. Ramteke , R.A. Kumar , V.N.S.U.V. Ammu , R.N. Chouhan, A. Agnihotri and R. Radhakrishnan; 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition **IBAAS-IIM 2024 Goa**, 25-27 Sep 2024, BITS Pilani, Goa
16. Investigating the Influence of Chromium and Vanadium Concentrations on the Fluidity and Microstructural Properties of High Fe Recycled Aluminium Alloys, **R. Anil Kumar** ,

S.A.G. Nahid, K. Immanuel Raju , Modalavalasa Kishor, A.K. Prasada Rao, R.N. Chouhan and Anupam Agnihotri; 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition **IBAAS-IIM 2024 Goa**, 25-27 Sep 2024, BITS Pilani, Goa

17. Development of a medium strength Al-Mg-Si alloy with optimized Zr content for enhanced properties. **Immanuel Raju K**, Ritu Singh, V.N.S.U. Viswanath Ammu, Anil R, R N Chouhan and Dr Anupam Agnihotri **MMMM 2024 Delhi**, 14th International Conference on Process & Product Innovations in Minerals, Metals, Metallurgy & Materials during 27-29 Sep 2024, IIM Delhi Chapter, Yashobhoomi, Dwarka, New Delhi,
18. Process Optimization through numerical simulations and advanced Extrusion press capabilities for High Strength Aluminium Alloy Extrusions, **V N S U Viswanath Ammu**, Hemendra Waswani, Immanuel Raju, Suman Mukherjee, R N Chouhan and Anupam Agnihotri, **MMMM 2024 Delhi** 14th International Conference on Process & Product Innovations in Minerals, Metals, Metallurgy & Materials during 27-29 Sep 2024, IIM Delhi Chapter. Yashobhoomi ,Dwarka , New Delhi.
19. Geopolymerization of Mine Overburden Rejects: Low-Carbon Structural Elements for Circularity and Sustainable Industry Practice; **Mohamed Najar P A** , Sudhanshu Chavan, Manjeeri Manwatkar, Paparao Mondhi, Upendra Singh & Anupam Agnihotri; Industrial By-Product Utilization and Value Creation; **CIRCON 2024 Jamshedpur**, Circular Economy Conference , Industrial By Product utilization and value creation, 3-4 Oct 2024, Jamshedpur
20. Waste Management of Red mud/Bauxite residue for Circular Economy', **Suchita Rai**, Prachi Pradhan, A. Agnihotri, **CIRCON 2024 Jamshedpur**, Circular Economy Conference , Industrial By Product utilization and value creation, 3-4 Oct 2024, Jamshedpur
21. "Investigation of longitudinal weld seam integrity in extruded profile of AA6063: Effect of number of portholes." **VNSU Viswanath Ammu**, Gaurav Diwakar Rewaskar, R N Chouhan, Pramod Padole, Anupam Agnihotri, and Ravikumar Dumpala, 5th International Structural Integrity Conference & Exhibition (**SICE 2024**), **VNIT Nagpur**, India, Oct. 22-24, 2024.
22. "Investigating the Effects of Heat Treatment on Microstructure and Mechanical Properties of AISI 10Mg," **R Anil Kumar**, SA G Nahid, C A Joshi, Rajesh Khatirkar, RN Chouhan, and Anupam Agnihotri, 5th International Structural Integrity Conference & Exhibition (**SICE 2024**), **VNIT Nagpur**, India, Oct. 22-24, 2024.
23. "Enhancing alumina concentration in Lateritic Bauxite through silica reduction technique" **P G Bhukte**, TP Bhosale, BS Kulkarni, VKshirsaut, GT Daware, and A Agnihotri, 78th Annual Technical Meeting of IIM; International Symposium on

Transformational Technologies in Materials & Manufacturing (**IIM-ATM 2024 & NMA**),  
**Bengaluru**, India, Nov. 20-22, 2024.

24. "Recovery of salt and conversion of dross waste into refractory material, **Jyoti Pendam**, Pooja Yadav, Mayur Tirpude, Upendra Singh, and Anupam Agnihotri, " Recent Trends in Applied Physics and Material Sciences (**RAM 2024**), **Bikaner**, Rajasthan, 2024.
25. "Perspectives of Solid-State and Semi-Solid-State Recycling to Produce Pilot Scale Extrusion Billets from AA2024 Milling Chips," **NS Anas**, KN Ramteke, R A Kumar, VNSUV Ammu, RN Chouhan, A Agnihotri, and R Radhakrishnan, **IIM-ATM Conference, Bengaluru**, India, Nov. 19-22, 2024.
26. "Optimizing Electrical and Mechanical Properties of A356 Alloy with High Fe and Cr, Mo & V Addition," **R Anil Kumar**, SA G Nahid, K Immanuel Raju, A K Prasada Rao, RN Chouhan, and Anupam Agnihotri, presented at the **IIM-ATM Conference. Bengaluru**, India, Nov. 19-22, 2024.
27. "Filtration and Dewatering of Red Mud Using Filter Press"; **Amol Mankar**, **IIM-ATM Conference. Bengaluru**, India, Nov. 19-22, 2024.
28. "Sustainable Ceramic Material from Leached Residue after Recovery of Potash from Manganese Mining Overburden Waste", **Paparao Mondi**, Devinder Yadav, Kiran Janbandhu, A.S. Gijare, Mohamed Najjar, Upendra Singh and Anupam Agnihotri, presented at the **IIM-ATM Conference. Bengaluru**, India, Nov. 19-22, 2024.
29. "An overview of sol gel deposited alumina nano coatings for automotive uses, **Priyanka Nayar**, Gowtham Sanjai, Upendra Singh, and Anupam Agnihotri, International Conference on Materials and Applied Sciences for Society (**MASS 2024**), **Warora** Anand Niketan College of Science, Arts and Commerce, Dec. 30-31, 2024.
30. Optimising Lateritic Bauxite and Partially Lateritised Khondalite: A pathway through beneficiation; **P G Bhukte**, T P Bhosale, B S Kulkarni, G T Daware and A Agnihotri; International Conference on Mining, Minerals, Metals and Materials (**IC4M-Bhubaneswar**) CSIR IMMT, 4MSI, & IIME with JNARDDC as a knowledge partner, Bhubaneswar January 21-24, 2025
31. Characterization and technical assessment of coal fly ash for critical minerals and REEs; **Dr Upendra Singh & Dr Anupam Agnihotri**; Innovations in Coal & Mineral characterization for sustainable resource utilization (**ICMCS-2025 Kolkata**); 30-31 Jan 2025.