

Arunabh Meshram



Personal Information

Date of Birth: 21/10/1993

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Address: V/24, Near Bharatmata School, Railway Officers Colony, Bilaspur

Marital Status: Married

Present Position

Assistant Professor
Department of Materials Science and Engineering
Indian Institute of Technology Kanpur
Kanpur – 208016, India

Thesis Supervisor

Professor Kamalesh Kumar Singh, Extractive Metallurgy Division, Indian Institute of Technology, (BHU), Varanasi – 221005, India

Academic Qualification

Doctorate of Philosophy (awarded – 27.8.2019)

Department of Metallurgical Engineering, Indian Institute of Technology, (BHU), Varanasi
Course-work CPI: 9.10

Bachelor of Technology (2011 - 2015)

Department of Metallurgical Engineering, National Institute of Technology, Raipur
CPI: 8.49

All India Senior Secondary Certificate Examination (2011)

Kendriya Vidyalaya, Bilaspur
First Class

All India Senior Secondary Examination (2009)

Kendriya Vidyalaya, Bilaspur
First Class

Research Experience

Research Scholar at Department of Metallurgical Engineering, IIT (BHU) (2019)

- Accumulated laboratory skills to perform experiments in extractive metallurgy, with hydrometallurgy as a specialization
- Hands on experience to operate Atomic Absorption Spectroscopy, X-Ray Diffractometer, pH meter, Optical microscopes and laboratory furnaces

- Learnt to operate various software programmes like Origin and Design Expert 10 to enrich the research
- Led the research team comprising of undergraduate and postgraduate students to perform experiments and analyse the results obtained
- Served as a Teaching Assistant for laboratory classes: Principles of Extractive Metallurgy Practical and Electrometallurgy and Corrosion Practical

Undergraduate student at NIT Raipur (2011-2015)

- Learnt principles of physical, mechanical and extractive metallurgy in theory and practical classes
- Hands on experience in operating optical microscope and muffle furnaces

List of publications

- Meshram, A., Jain, A., Gautam, D., Singh, K.K., 2019. Synthesis and characterization of tamarugite from aluminium dross: Part I. *Journal of Environmental Management* 232, 978–984. <https://doi.org/10.1016/j.jenvman.2018.12.019>
- Meshram, A., Singh, K.K., 2018. Recovery of valuable products from hazardous aluminum dross: A review. *Resource Conservation and Recycling* 130, 95–108. <https://doi.org/10.1016/j.resconrec.2017.11.026>
- Meshram, A., Singh, K.K., 2017. Generation of hydrogen-gas from aluminum dross, in: *European Metallurgical Conference 2017*. Leipzig, Germany, pp. 1451–1460.
- Meshram, A., Jain, A., Rao, M.D., Singh, K.K., 2019. From industrial waste to valuable products: preparation of hydrogen gas and alumina from aluminium dross. *J. Mater. Cycles Waste Manag.* 0, 0. <https://doi.org/10.1007/s10163-019-00856-y>
- Singh, K.K., Meshram, A., Gautam, D., Jain, A., 2019. Hydrogen production using waste aluminium dross : from industrial waste to next-generation fuel. *Agron. Res.* 17. <https://doi.org/10.15159/AR.19.022> Hydrogen
- Meshram, A., Gautam, D., Jain, A., Rao, M.D., Mohan, D., Singh, K.K., 2019. Employing organic solvent precipitation to produce tamarugite from white aluminium dross. *J. Clean. Prod.* 231, 835–845. <https://doi.org/10.1016/j.jclepro.2019.05.269>
- Meshram, A., Gautam, D., Singh, K.K., 2020. Recycling of White Aluminium Dross: Production of Potash Alum. *Trans. Indian. Inst. Met.* <https://doi.org/10.1007/s12666-020-01973-1>
- Jha, R., Rao, M. D., Meshram, A., Verma, H. R., Singh, K.K., 2020. Potential of polymer inclusion membrane process for selective recovery of waste printed circuit boards: A review. *J. Clean. Prod.* 265. <https://doi.org/10.1016/j.jclepro.2020.121621>
- Rao, M.D., Meshram, A., Verma, H.R., Singh, K.K., Mankhand, T.R., 2020. Study to enhance cementation of impurities from zinc leach liquor by modifying the shape and size of

- zinc dust. Hydrometallurgy. 195. <https://doi.org/10.1016/j.hydromet.2020.105352>
- Meshram, A., Jha, R., Varghese, S., Towards recycling: understanding the modern approach to recover waste aluminium dross. *Materials Today Proceedings*
 - Agrawal, A., Kumar, C., Meshram, A., Recovery of carbon rich material: recycling of spent pot lining: a review. *Materials Today Proceedings*

Teaching Experience

As Assistant Professor, Department of Materials Science and Engineering, Indian Institute of Technology Kanpur (December 2021-present)

- Laboratory class: MSE314A, Process Metallurgy Lab
- Transport Phenomena: MSE626A
- Electronic and Metallurgical waste recycling: MSE662A

NPTEL course on *Metallurgical and Electronic Waste Recycling* (2024) in Swayam NPTEL portal

As Temporary faculty/ Teaching assistant at Metallurgical and Materials Engineering, National Institute of Technology, Raipur (July 2019 – December 2021)

- Subjects taught included Ferrous and Non-Ferrous Extractive Metallurgy, Secondary Steel Making and Hydrometallurgy and Electrometallurgy.
- Gained experience of conducting classes on online platform.
- Attended One Week Faculty Development Program ‘Transformation to the Digital Mode of Education’ at NIT, Raipur.

Conferences and trainings

- Technical Session in Gyan Ganga group of institutions (2024)
- 8th International Conference on Refractories, Jamshedpur (2024)
- Metcent 2023 IIT (BHU), Varanasi, Uttar Pradesh (2020)
- Metwaste 2020 and 2023, IIT (BHU), Varanasi, Uttar Pradesh (2020)
- Avenues for Aeronautical R&D for Indian Defence, IIT BHU, Varanasi, Uttar Pradesh (2018)
- European Metallurgical Conference, Leipzig, Germany (June, 2017)
- Vocational Training at Bhilai Steel Plant, Bhilai, Chhattisgarh (2014)
- Diffraction and its application in Materials Engineering, NIT Raipur, Chhattisgarh (2014)
- Training at Supervisors’ Training Centre, Kharagpur, West Bengal (2013)

Positions Held

- Member, Institute Research and Development Committee (IRDC)
- Member, Student Placement Committee
- Co-Convener, National Symposium of Research Scholars on Metallurgy and Materials NSRS-2024
- Member of the Departmental Staff Affairs Committee
- Member of the Departmental Committee on Institute Post Doctoral Fellowship
- Member of the Organizing committee of the International Conference on Physical and

- Mathematical Modeling in Iron and Steel making, PMMIS-22
- Departmental Postgraduate Committee, Ph.D. Student Representative (*1 year*)
 - METSOC (BHU-MET) Ph.D. Student Representative (*3 years*)
 - Swachh Bharat Abhiyan Departmental Initiative, Student representative (*2 years*)

Co-curricular Activities

- Guitarist with 14 years of experience
- Published a poetic novel 'Forsaken Fortress', Notion Press, Chennai
- Secured First position in 'Nukkad Natak' competition, NIT Raipur

Declaration

I hereby declare that the information given above is true to my belief.

Arunabh Meshram

