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JOURNAL PUBLICATIONS

1. Lipak Kumar Sahoo, Vishnu Teja Mantripragada, Sabita Sarkar. Mathematical Modeling of Fluidized Bed Magnetizing Roasting of Iron Ore Fines, *Steel Research International*, 2400446, 2025, DOI:10.1002/srin.202400446.
2. Soumen Chakraborty, Vishnu Teja Mantripragada, Aranyak Chakravarty, Debkalpa Goswami, Antarip Poddar. Unravelling the complex interplay between abnormal hemorheology and shape asymmetry in flow through stenotic arteries, *Computer Methods and Programs in Biomedicine*, **257**, 108437, 2024, DOI:10.1016/j.cmpb.2024.108437.
3. Pankaj Kumar and Vishnu Teja Mantripragada. An Optimization of Grooves Structure for Thermal Performance Enhancement in Microchannel Heat Sink, *Heat Transfer Engineering*, **45**, 1–12, 2023, DOI:10.1080/01457632.2023.2268868.
4. Vishnu Teja Mantripragada and Antarip Poddar. Rheology dictated spreading regimes of a non-isothermal sessile drop, *Journal of Fluid Mechanics*, **951**, A42, 2022, DOI: 10.1017/jfm.2022.900.
5. Vishnu Teja Mantripragada and Sabita Sarkar. Multi-Objective Optimization of Bottom Purged Steelmaking Ladles, *Transactions of the Indian Institute of Metals*, **75**, 2289–2298, 2022, DOI:10.1007/s12666-022-02602-9.
6. Vishnu Teja Mantripragada, Krishanu Kumar, Pankaj Kumar, and Sabita Sarkar. Modeling of powder production during centrifugal atomization, *Journal of Sustainable Metallurgy*, **7**, 620–629, 2021, DOI:10.1007/s40831-021-00370-2.
7. Vishnu Teja Mantripragada, Srikrishna Sahu, and Sabita Sarkar. Morphology and flow behavior of buoyant bubble plumes, *Chemical Engineering Science*, **229**, 116098–116113, 2021, DOI:10.1016/j.ces.2020.116098.
8. Prithvi R.Y., Vishnu Teja Mantripragada, and Sabita Sarkar. On path oscillation of a particle-laden bubble in stationary liquid, *Transactions of the Indian Institute of Metals*, **73**, 2061–2067, 2020, DOI:10.1007/s12666-020-01966-0.
9. Vishnu Teja Mantripragada and Sabita Sarkar. Slag eye formation in single and dual bottom purged industrial steelmaking ladles, *Canadian Metallurgical Quarterly*, **59(2)**, 159–168, 2020, DOI:10.1080/00084433.2020.1715697.
10. Vishnu Teja Mantripragada, Prithvi R.Y., and Sabita Sarkar. On oscillations of asymmetrically coalescing bubbles. *Minerals Engineering*, **132**, 76–83, 2019, DOI:10.1016/j.mineng.2018.12.002.
11. Vishnu Teja Mantripragada and Sabita Sarkar. Wall stresses in dual bottom purged steelmaking ladles. *Chemical Engineering Research and Design*, **139**, 335–345, 2018, DOI:10.1016/j.cherd.2018.09.036.
12. Vishnu Teja Mantripragada and Sabita Sarkar. Prediction of drop size from liquid film thickness during rotary disc atomization process. *Chemical Engineering Science*, **158**, 227–233, 2017, DOI:10.1016/j.ces.2016.10.027.

CONFERENCE PROCEEDINGS

1. Somenath Mukherjee, Vishnu Teja Mantripragada. Machine Learning Approach for Accurate Slag Eye Predictions in Steelmaking Ladles. *Proceedings of the International Conference on Fundamental and Industrial Research on Materials (iConFIRM 2023), Springer Proceedings in Physics*, 308, 2020 DOI:10.1007/978-981-97-4557-9_5.
2. Ayush Mishra, Amit Varakhedkar, Vishnu Teja Mantripragada, and Pankaj Kumar. Numerical study of thermal performance with nanoparticles and grooves in microchannel. *IOP Conference Series: Materials Science and Engineering, 3rd International Conference on Advances in Mechanical Engineering, SRM Institute of Science and Technology, India*, 912, 042062, 2020, DOI:10.1088/1757-899X/912/4/042062.
3. Vishnu Teja Mantripragada and Sabita Sarkar. On Modeling of Modified Single Strand Slab Caster Tundish. *Proceedings of the 3rd International Conference on Science and Technology of Ironmaking & Steelmaking (STIS-2017), IIT Kanpur, India*, 259–262, 2017.

4. Vishnu Teja Mantripragada. A numerical study on mixing time in dual bottom plug argon stirred steel making ladles. *Proceedings of the 3rd International Conference on Science and Technology of Ironmaking & Steelmaking (STIS-2017)*, IIT Kanpur, India, 391–394, 2017.
5. Vishnu Teja Mantripragada and Sabita Sarkar. Study of transient behavior of slag layer in bottom purged ladles: A CFD approach. *Proceedings of the 4th World Congress on Integrated Computational Materials Engineering (ICME 2017), Ypsilanti, Michigan, USA*, 145–154, 2017, DOI:10.1007/978-3-319-57864-4.

PATENTS

1. Vishnu Teja Mantripragada and Sabita Sarkar, Single or multi-strand tundish for better inclusion separation, Indian Patent No: 201741034594, Publication date: 02–08–2019, **Grant Date: 28-11-2023**.

CONFERENCE PRESENTATIONS

1. Novel single-strand tundish for improved inclusion separation. *26th International Congress of Theoretical and Applied Mechanics (ICTAM 2024)*, Daegu, South Korea. Vishnu Teja Mantripragada, Somenath Mukherjee, and Sabita Sarkar, August 25 – 30, 2024.
2. Thermocapillary migration of a biofluid droplet. *10th International and 50th National Conference on Fluid Mechanics and Fluid Power (FMFP 2023)*, IIT Jodhpur, India. Antarip Poddar and Vishnu Teja Mantripragada, December 20 – 22, 2023.
3. Machine Learning Approach for Accurate Slag Eye Predictions in Steelmaking Ladles. *International Conference on Fundamental and Industrial Research in Materials (iConFIRM 2023)*, IIT Ropar, India. Somenath Mukherjee and Vishnu Teja Mantripragada, December 11 – 15, 2023. **[Invited Talk]**
4. Microstructural and Microhardness Investigation on Copper-Aluminium Alloy Bimetal. *77th Annual Technical Meeting of The Indian Institute of Metals and International Conference on Metals (IIM-ATM 2023)*, KIIT, Bhubaneswar, India. Somenath Mukherjee, Vishnu Teja Mantripragada, and Amitesh Kumar, November 22 – 24, 2023.
5. Experimental and numerical simulation of centrifugal atomization process for fine metal powder production. *23rd Australasian Fluid Mechanics Conference (AFMC 2022), Sydney, Australia.* Prashanth Ethirajulu, Vishnu Teja Mantripragada and Sabita Sarkar, December 4 – 8, 2022.
6. Physical modeling of bubble behavior in steelmaking ladle. *International Conference on Physical and Mathematical Modeling in Iron and Steelmaking (PMMIS 2022), Indian Institute of Technology Kanpur, India*. Vishnu Teja Mantripragada, Srikrishna Sahu and Sabita Sarkar, December 18 – 19, 2022.
7. An optimization of grooves structure for thermal performance enhancement in microchannel heat sink. *4th International Conference on Advances in Mechanical Engineering (ICAME 2022), SRM Institute of Science and Technology, Kattankulathur, Chennai, Tamil Nadu, India*. Pankaj Kumar and Vishnu Teja Mantripragada, March 24 – 26, 2022.
8. Modeling of powder production during centrifugal atomization. *11th International Conference on Molten Slags, Fluxes, and Salts (MOLTEN 2021), Seoul, Korea*. Vishnu Teja Mantripragada, Krishanu Kumar, Pankaj Kumar, and Sabita Sarkar, February 21 – 25, 2021.
9. Numerical study of thermal performance with nanoparticles and grooves in microchannel. *3rd International Conference on Advances in Mechanical Engineering (ICAME 2020), SRM Institute of Science and Technology, Chennai, India*. Ayush Mishra, Amit Varakhedkar, Vishnu Teja Mantripragada, and Pankaj Kumar, February 24 – 29, 2020.
10. Fluidization of red mud fines in a reduction atmosphere: Recovery of Fe. *International Conference on Innovations in Aluminum Technology (INALT 2020), NALCO, Angul, Odisha, India*. Jayant Barode, Krishanu Kumar, Vishnu Teja Mantripragada, Lipak Sahoo, Sabita Sarkar, Manas Mukherjee, and Lakshman Neelakantan, February 8 – 9, 2020.
11. Modeling of droplet formation during centrifugal atomization process. *178th Iron & Steel Institute of Japan (ISIJ) meeting, Okayama University, Okayama city, Japan*. Vishnu Teja Mantripragada, Krishanu Kumar, Pankaj Kumar, and Sabita Sarkar, September 11 – 13, 2019.
12. On path oscillation of a particle laden bubble in stationary liquid. *Conference on the Advances in Process Metallurgy (APM 2019), Indian Institute of Science Bangalore, India*. Prithvi R.Y., Vishnu Teja Mantripragada, and Sabita Sarkar, July 4 – 5, 2019.

13. Morphology and flow analysis of buoyant bubble plumes. *12th European Fluid Mechanics Conference (EFMC 12), Vienna, Austria*. Vishnu Teja Mantripragada, Srikrishna Sahu, and Sabita Sarkar, September 09 – 13, 2018.
14. A numerical study on mixing time in dual bottom plug argon stirred steel making ladles. *3rd International Conference on Science and Technology of Ironmaking & Steelmaking (STIS-2017), Indian Institute of Technology Kanpur, India*. Vishnu Teja Mantripragada, December 11 – 13, 2017.
15. On Modeling of Modified Single Strand Slab Caster Tundish. *3rd International Conference on Science and Technology of Ironmaking & Steelmaking (STIS-2017), Indian Institute of Technology Kanpur, India*. Vishnu Teja Mantripragada and Sabita Sarkar, December 11 – 13, 2017.
16. Prediction of wall stresses in a steelmaking ladle during argon gas purging. *12th International Conference on Computational Fluid Dynamics of Oil & Gas, Metallurgical and Process Industries (CFD 2017), Trondheim, Norway*. Vishnu Teja Mantripragada and Sabita Sarkar, May 30 – June 1, 2017.
17. Study of transient behavior of slag layer in bottom purged ladle: A CFD approach. *4th World Congress on Integrated Computational Materials Engineering (ICME 2017), Ypsilanti, Michigan, USA*. Vishnu Teja Mantripragada and Sabita Sarkar, May 21 – 25, 2017.
18. Effect of jet position on liquid film thickness in rotary disc atomization. *National Metallurgist's Day Annual Technical Meeting (NMD ATM 2015), Coimbatore, India*. Vishnu Teja Mantripragada and Sabita Sarkar, November 13 – 16, 2015.
19. Mathematical modeling of oscillations of a bubble during rise in water column. *International Symposium for Research Scholars (ISRS 2014), Indian Institute of Technology Madras, India*. Vishnu Teja Mantripragada, Prithvi R.Y., and Sabita Sarkar, December 11 – 14, 2014.

WORKSHOPS ATTENDED

1. *NASA Vision 2040: A Roadmap for Integrated, Multiscale Modeling and Simulation of Materials and Systems, Ypsilanti, Michigan, USA*. Vishnu Teja Mantripragada, May 21, 2017. [Workshop Technical Report].
2. *Remote Control Aircraft Design Workshop, Indian Institute of Space Science and Technology, Trivandrum, Kerala, India.* Vishnu Teja Mantripragada, Mar 4 – 6, 2011.

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