

JOURNAL ARTICLES

1. Rani, C., Kandpal M., **Gupta, M.**, Krylov, A., Jha, H.C., Saxena, S.K. & Kumar, R (2026). Early Detection of Fibrotritic Cells Using “Raman Spectromicroscopy”. *Physics Report*. (under review)
2. **Gupta, M.** & Yoon, R.H. (2024). Maximizing the recovery and throughput of a rougher bank by improving the recovery of composite particles. *Minerals Engineering*, 207,108545.
3. **Gupta, M.**, Huang, K., Noble, C.A. & Yoon, R. H. (2023). Improving the performance of a low-grade porphyry copper ore flotation plant using a flotation simulator that can predict grade vs. recovery curves. *Minerals Engineering*, 202, 108243.
4. **Gupta, M.**, Huang, K., & Yoon, R. H. (2022). Predicting the recovery and grade of a rougher flotation circuit from liberation data. *Minerals Engineering*, 188, 107853.
5. Cordon, M. J., Harris, J. W., Vega-Vila, J. C., Bates, J. S., Kaur, S., **Gupta, M.**, ... & Gounder, R. (2018). Dominant role of entropy in stabilizing sugar isomerization transition states within hydrophobic zeolite pores. *Journal of the American Chemical Society (JACS)*, 140(43), 14244-14266.

CONFERENCE PEER-REVIEWED ARTICLES

1. Huang, K., **Gupta, M.**, Leland, J., Srinivasan A. & Yoon, R.H. (2026). A First-Principles Flotation Model for Scale-up, Design and Process Optimization, *IMPC 2026*. (Abstract accepted; article under review)
2. Leland, J., **Gupta, M.**, Srinivasan A. & Yoon, R.H. (2026). Jig Flotation of Coarse Particles. *IMPC 2026*. (Abstract accepted; article under review)
3. **Gupta, M.**, Lim, H., Noble, C.A. & Yoon, R.H. (2025). Optimizing flotation circuit using a model that can predict both grade and recoveries. *Extraction 2025*. November 16-20. Phoenix, AZ.
4. **Gupta, M.**, Leland, J., Srinivasan A. & Yoon, R.H. (2025). Coarse particle recovery by jig flotation. *Extraction 2025*. November 16-20. Phoenix, AZ.
5. **Gupta, M.**, & Yoon, R.H. (2024). Improving coarse particle flotation by control of surface and hydrodynamic forces. *IMPC 2024*. September 29- October 3. Washington DC.
6. **Gupta, M.**, Huang, K. & Yoon, R.H. (2024). Improving flotation using super collectors. *IMPC 2024*. September 29- October 3. Washington DC.
7. **Gupta, M.**, Huang, K., Youmans, N., Li, B. & Yoon, R.H. (2024). Two-liquid flotation for the recovery of ultrafine particles. *IMPC 2024*. September 29- October 3. Washington DC.
8. **Gupta, M.**, Lim, H., Noble, C.A. & Yoon, R.H. (2024). Simulation of flotation circuits using a model derived from first principles. *IMPC 2024*. September 29- October 3. Washington DC.
9. **Gupta, M.**, Huang, K. & Yoon, R.H. (2024). Role of surface forces in the kinetics of film thinning and contact angle formation. *IMPC 2024*. September 29- October 3. Washington DC.
10. Liu, W., Huang, K., Onel, O., **Gupta, M.**, Noble, A. & Yoon, R.H. (2024). Extraction of rare earth elements from nonconventional resources. *IMPC 2024*. September 29- October 3. Washington DC.
11. **Gupta, M.**, Huang, K., Noble, C.A. & Yoon, R.H. (2022). Maximizing throughput and recovery of flotation plants using a first principles model as a useful tool. *IMPS 2022*, December 15-17. Istanbul, Turkey.
12. **Gupta, M.**, Huang, K., Noble, C.A. & Yoon, R.H. (2022). Simulation of a copper rougher flotation bank with and without circulating load. *Procemin-Geomet 2022*, October 5-7, Santiago, Chile.

13. **Gupta, M.**, Huang, K., Noble, C.A. & Yoon, R.H. (2022). Assessing flotation circuit efficiencies using the liberation characteristics of particles in the circulating load. *AusIMM IMPC Asia Pacific 2022*. August 22-24. Melbourne, Australia.

CONFERENCE ORAL PRESENTATIONS

1. **Gupta, M.** (2026). Dry Beneficiation with Tailored Magnetic Circuits: A key strategy for sustainable Pre-concentration of low-grade hematite ore and reduce downstream processing challenges. *International Conference on Iron Ore Beneficiation (ICIOB)-2026*. April 09-10. JSW Steel, Bellary, India.
2. Das, S. & **Gupta, M.** (2026). Dry Beneficiation with Tailored Magnetic Circuits: A key strategy for sustainable Pre-concentration of low-grade hematite ore and reduce downstream processing challenges. *DRYBEN-2026*. March 23-24. Tata Steel, Jamshedpur, India.
3. **Gupta, M.** & Yoon, R.H. (2026). Surface Forces in foam and emulsions films. *SME 2026*. February 22-25, Salt Lake City, Utah, USA.
4. **Gupta, M.**, Huang, K., Noble, C.A., & Yoon, R.H. (2026). Using a first-principles flotation model for scale-up, design and process optimization. *SME 2026*. February 22-25, Salt Lake City, Utah, USA.
5. Leland, J., **Gupta, M.**, Srinivasan A., Huang, K., & Yoon, R.H. (2026). Two-liquid flotation (TLF) of thickener underflows to obtain low-ash and low-moisture coals. *SME 2026*. February 22-25, Salt Lake City, Utah, USA.
6. Leland, J., Srinivasan A., **Gupta, M.**, Huang, K., Noble, C.A. & Yoon, R.H. (2026). Extending the particle size limits of flotation using acceleration forces. *SME 2026*. February 22-25, Salt Lake City, Utah, USA.
7. **Gupta, M.** (2026). Advanced Flotation Technologies. *JSW Bellary TechConnect 2025*. December 4. Bellary, India.
8. **Gupta, M.** (2025). Driving Sustainable Beneficiation: Unlocking coal & iron ore to power the future of steel. *International Conference & Exhibition on Enhancing Efficiency and Sustainability in Iron & Steel Sector*. November 11-12. Ranchi, India.
9. **Gupta, M.** (2025). Eriez's novel separation technologies for sustainable critical minerals processing. *CRISP 2025*. October 13-15. IIT-ISM Dhanbad, India.
10. **Gupta, M.** (2025). Driving Sustainable Beneficiation: Unlocking coal & iron ore to power the future of steel. *3rd Indian Steel Conference 2025*. September 9-10. Raipur, India.
11. **Gupta, M.**, Leland, J., Srinivasan A. & Yoon, R.H. (2025). Jig flotation of coarse particles. *SME 2025*. February 24-26, Denver, Colorado, USA.
12. **Gupta, M.** & Yoon, R.H. (2026). Role of electrical double layer (EDL) forces on flotation kinetics. *SME 2025*. February 24-26, Denver, Colorado, USA.
13. **Gupta, M.**, Mensah, E., Rousan, R., Liu, W., Huang, K., Onel, O., Noble, A., Esker, A. & Yoon, R.H. (2025). Extraction of heavy rare earth elements from coal byproducts. *SME 2025*. February 24-26, Denver, Colorado, USA.
14. **Gupta, M.**, Huang, K., Onel, O. & Yoon, R.H. (2024). Improving flotation using novel hydrophobizing agents. *SME 2024*. February 27-March 1. Phoenix, Arizona, USA.
15. **Gupta, M.**, Huang, K. & Yoon, R.H. (2024). Improving coarse particle recovery by jig flotation. *SME 2024*. February 27-March 1. Phoenix, Arizona, USA.
16. **Gupta, M.**, Huang, K., & Yoon, R.H. (2023). Thermodynamics of hydrophobic interactions in foam films. *ACS Spring 2023*. March 26-30. Indianapolis, Indiana, USA
17. **Gupta, M.**, Huang, K., & Yoon, R.H. (2023). Development of a high-rate flotation process for fine particles separation. *SME 2023*. February 26-March 1. Denver, Colorado, USA.

18. Huang, K., Keles, S., **Gupta, M.**, Noble, C.A. & Yoon, R.H. (2022). A flotation simulator that can predict grade vs. recovery curves from mineral liberation data. *SME 2022*. February 27-March 2. Salt Lake City, Utah, USA.
19. Li, B., Huang, K., **Gupta, M.**, Noble, C.A. & Yoon, R.H. (2021). Open vs. closed circuit configurations for flotation of low-grade porphyry copper ores. *SME 2021*. March 1-5. Virtual Event.

INVITED LECTURES

1. **Gupta, M.** (2026). Fundamentals of Flotation Part I: Role of Surface Chemistry in Flotation Performance. *MinPros Lecture Series 2026*. April 25. Online.

CONFERENCE POSTER PRESENTATIONS

1. **Gupta, M.**, & Yoon, R.H. (2024). Hydrophobic forces in foam and emulsion films. *VIII International Soft Matter Conference (ISMC2024)*. July 29-August 2. Raleigh, N.C., USA.
2. Huang, K., **Gupta, M.**, Noble, C.A. & Yoon, R.H. (2024). Hydrophobic interactions in unstable wetting films. *VIII International Soft Matter Conference (ISMC2024)*. July 29-August 2. Raleigh, N.C., USA.

SPONSORED RESEARCH PROJECTS

1. Yoon, R.H. (PI), **Gupta, M.** (Co-PI) and Noble, C.A. (2026). BHP Proposal. BHP Chile Inc. 02/01/2026-05/31/2026. \$80,872.

PCT AND PROVISIONAL PATENTS

1. Yoon, R.H., **Gupta, M.** & Huang, K. "Methods and systems for facilitating flotation using super collectors." U.S. PCT Application PCT/US25/29155, filed May 13, 2025.
2. Yoon, R.H., **Gupta, M.** & Huang, K. & Noble, C.A. "Increasing flotation recovery and throughput." U.S. Patent Application 18/692,153 filed November 7, 2024.

REVIEWER RESPONSIBILITIES

Technical Papers Reviewed

Year	Journal	Articles Reviewed
2024-Present	Mining, Metallurgy and Exploration	9
2024-Present	Transactions of the Indian Institute of Metals	1

Conference Sessions Co-Chair

Month-Year	Conference	Session Title
Sept-2024	XXXI International Mineral Processing Congress, Washington DC.	Advanced Modeling and Control of Comminution