



Riya Mondal

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Education

Ph.D. Indian Institute of Technology Bombay

Department of Metallurgical engineering and Material Science

Topic- Thermo-Mechanical Processing of Duplex Stainless Steel and Its effect on mechanical and electrochemical properties

CGPA- 7.79/10, Year-2021

M.Tech National Institute of Foundry and Forge Technology Ranchi

Department of Foundry and Forge Technology

Topic- Design of third generation advance high strength steel.

CGPA- 8.70/10, Year-2014

B.Tech Bengal engineering and Science University Shibpur (Now IEST)

Department of Metallurgical and Materials Engineering

Topic- Effect of rolling deformation and solution treatment on microstructure and mechanical properties of a cast duplex stainless steel

CGPA- 75.42/100, Year-2011

Diploma Government Polytechnic Asansol

Department of Metallurgical Engineering

CGPA- 83.7/100, Year-2008

Synopsis

Experienced Research Scholar with a demonstrated history of working in the materials science and engineering. Skilled in Material Characterization and corrosion science including Electron Back scattered diffraction (EBSD), X-Ray Diffraction, Microstructure engineering, Aqueous Corrosion, Thermomechanical processing, and Electro chemical techniques.

Skills

| | |
|------------------------------------|------------|
| EBSD/SEM: | ██████████ |
| XRD/Texture | ██████████ |
| TEM/TKD | ██████████ |
| EDS/WDS | ██████████ |
| Electrochemical Techniques | ██████████ |
| Mechanical Characterization | ██████████ |

Employment

- Working as **lecturer in West Bengal State Council of Technical Education from December 2020 to 9th February 2024.**
- Worked in a **leading stainless steel producer company (VIRAJ PROFILES LTD) from June-2011 to August-2012 as Graduate Engineer Trainee in Technical Cell Group.**
- Worked as **Teaching Assistant in SEM imaging and EDS (Energy-dispersive X-ray spectroscopy) lab in IIT**

Scientific Publications

Peer-Reviewed Journals

- S. K. Ghosh, D. Mahata, R. Roychaudhuri, and R. Mondal. "Effect of rolling deformation and solution treatment on microstructure and mechanical properties of a cast duplex stainless steel." *Bulletin of Materials Science* 35, no. 5 (2012): 839-846. DOI-<https://doi.org/10.1007/s12034-012-0353-z>
- K. Selvam, J. Saini, G. Perumala, A. Ayyagari, R. Salloom, R. Mondal, S. Mukherjee, H. S. Grewal, and H. S. Arora "Exceptional cavitation erosion-corrosion behavior of dual-phase bimodal structure in austenitic stainless steel." *Tribology International* 134 (2019): 77-86. DOI- <https://doi.org/10.1016/j.triboint.2019.01.018>
- T. Sharma, N. N. Kumar, R. Mondal, K. V. Mani Krishna, I. Samajdar, and V. Kain. "Ductile-to-Brittle Transition in Low-Alloy Steel: A Combined Experimental and Numerical Investigation." *Journal of Materials Engineering and Performance* 28, no. 7 (2019): 4275-4288. DOI- <https://doi.org/10.1007/s11665-019-04173-1>
- R. Mondal, S. K. Bonagani, A. Lodh, T. Sharma, P. Sivaprasad, G. Chai, V. Kain, and I. Samajdar. "Relating General and Phase Specific Corrosion in a Super Duplex Stainless Steel with Phase Specific Microstructure Evolution." *Corrosion* 75, no. 11 (2019): 1315-1326. DOI- <https://doi.org/10.5006/3091>
- R. Mondal, A. Rajagopal, S. K. Bonagani, A. Prakash, D. Fuloria, P. Sivaprasad, G. Chai, V. Kain, and I. Samajdar. "Solution Annealing of Super Duplex Stainless Steel: Correlating Corrosion Performance with Grain Size and Phase-Specific Chemistry." *Metallurgical and Materials Transactions A* 51 (2020): 2480-2494. DOI- <https://doi.org/10.1007/s11661-020-05672-w>
- R. Mondal, S. K. Bonagani, P. Raut, P. Sivaprasad, G. Chai, V. Kain, and I. Samajdar. "Role of Recovery and Recrystallization on the Post Cold Work Corrosion Performance in a Super Duplex Stainless Steel." *Journal of the Electrochemical Society* (2020). DOI- <https://doi.org/10.1149/1945-7111/ab95ca>
- R. Mondal, P. Raut, S. Kumar, S. K. Bonagani, P. Sivaprasad, G. Chai, V. Kain, and I. Samajdar. "Discontinuous Dynamic Recrystallization and Improvement in Phase-Specific Corrosion Performance in a Super Duplex Stainless Steel." *Journal of Materials Engineering and Performance* (2022), 31(2), 1478-1492. <https://doi.org/10.1007/s11665-021-06221-1>.
- A. Sarkar, S. Kumar, B. Sudhalkar, R. Mondal, M. I. Khan, A. Mahanti, K. Chandra, V. Kain, and I. Samajdar "Relating Microstructures of Hierarchical Tertiary Phases with Corrosion Performance in a Super Duplex Stainless Steel." *Material Characterization*, 194, (2022), 112426. <https://doi.org/10.1016/j.matchar.2022.112426>.

Conference Proceedings

- Oral presentation in international conference *CORCON 2016* held in New Delhi from Sept 18-21, 2016, on the topic of “Electrochemical Behavior of Individual Phases of 2906 Duplex Stainless Steel in Acidic Solution”. R. Mondal, A. Ajay, V. Kain, P.V. Sivaprasad, and I. Samajdar.
- Poster Presentation in conference *Microstructure -2016* held in Mumbai on 27th August 2016, on the topic of “Corrosion studies of Duplex stainless steel”. R. Mondal, A. Ajay, V. Kain, P.V. Sivaprasad, and I. Samajdar.
- Poster Presentation in international conference *Thermec '18* held in Paris, France on 8 -13 July 2018, “Effect of Plastic Deformation on Microstructure and Electrochemical Properties of Duplex Stainless Steel”. R. Mondal, V. Kain, P.V. Sivaprasad, G. Chai, P. Kangas and I. Samajdar.

Competitive Research Grants

- Ministry of human resource department, Govt. of India, Teaching assistant fellowship (2014) (\$28,600)
- Sandvik Materials Technology sponsored my PhD work on duplex stainless steel.- (2014) (\$42,857)
- Student Grant Recipient in international conference *Thermec '18* held in Paris, France (2018) (\$278)

Other Qualifications

- Expert in operating Scanning electron microscopes (FEITM, HITACHITM) for Imaging, Ebsd, Eds and Wds. X-ray Diffraction Machines of PanalyticalTM (MRD and Empyrean), BrukerTM (Discover D8). Potentiostat (VSP-300TM), Hardness Testing Machine including micro, Nano and Pico indentation (HysitronTM). Mechanical testing Machines including UTM and GleebleTM 3800.
- Experienced in Material Analysis Using Diffraction including dislocation density measurement, Various EBSD analysis packages, Various EDS and WDS analysis packages, X'pert stress packages for residual stress analysis, Various packages for Texture analysis including MTM-FHM, Mtex, Labosoft.

Internship

- Completed a 3 month vocational training in **Tata Steel Limited, Jamshedpur** (May-July 2010) in Research and Development Dept. and completed a project “**Improvement of carbonization in Indian Coking Coal**”.
- Completed a 20 day vocational training in **Steel Authority of India Limited (ISP Burnpur)**.
- Completed a 1 month vocational training in **Steel Authority of India Limited (DSP Durgapur)** in primary steel making section (Basic Oxygen Furnaces).
- Completed a 1 month training at **Heavy Engineering corporation limited (HECL) Ranchi**.

Extra co-curricular activity

- Member of organizing committee of conference Microstructure 2017 and SERB school 2017 held in IIT bombay.
- Member of Institute Student Companion Programm,, IIT bombay
- Member of organizing committee of NMD-ATM conference 2009.

I hereby certify that all the above information is true and valid in any condition and circumstances with my best knowledge.


Signature