

Mukesh Sharma

MS in Materials Science and Engineering, McMaster University

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SUMMARY

- Master's degree with research experience of over 9 years in high temperature ironmaking and steelmaking process in laboratory environment
- 2+ year experience in the iron and steel industry as metallurgical engineer and consultant
- Technical skills: Metallurgy, Process modelling and simulation, material characterization
- Experienced in writing reports, publishing results in peer reviewed journals and international conferences

SOFTWARE SKILLS

- Expert-level knowledge of Matlab, Origin-Pro, C, ImageJ
- Highly experienced in FactSage, MS Office Suite, Xpert High Score plus

TECHNICAL WORK EXPERIENCE

Research assistant | Steel Research Centre | McMaster University | Hamilton, Canada *Sept '14 – Current*

- Showed self-discipline and independence by operating and maintaining state of the art high temperature confocal scanning laser microscope (CSLM) for 4 year
- Established standard operating procedure (SOP) for operation and maintenance of a CSLM
- Established SOP for recycling platinum crucibles used for slag melting, saving approximately \$2000, SOP currently used by 3 places outside McMaster
- Established empirical kinetic models in Matlab
- Showed effective communication skills by writing and publishing concise technical articles in high-impact scientific journals and delivering oral presentations at refereed international conferences
- Teaching assistant in four terms and achieved top-tier ratings on official student evaluations. Disseminated complex coursework information in simple terms relevant to the understanding of 50+ undergraduate/graduate students, courses include: Modern iron and steelmaking', 'Solution thermodynamics' and 'Mass transfer'

Senior research fellow | Steel Technology Centre | IIT Kharagpur | India

Aug '10 – July 13

- Established SOP for operation and maintenance of a rotary hearth furnace (RHF) with productivity of 5 Kg/h produced iron nuggets successfully by ITmk3 process in the the RHF for 3 years
- Established empirical kinetic model and optimization module in C using single objective genetic algorithm
- Published research results in high-impact scientific journal and delivered oral presentations at refereed international scientific conferences

Private consultant | India

July '13 – Dec '14

- Analyzing plant data for a private sponge iron producer to ensure product quality. Interacted with the owner of the company to understand the requirements of the deliverables. Used quantitative X Ray Diffraction to estimate the quantity of iron and slag in the sponge iron produced

Researcher | University of Seoul | Seoul | South Korea

Jan '14 – July 14

- Patented a new lead-free solder alloy composition, South Korea, Patent # 1016710162

Graduate Engineer Trainee | Bharat Aluminum Corporation | Korba | India

Jan '10 – Aug '10

- Supervised the simultaneous production of cast iron from 3 induction furnaces of 1-ton capacity each
- Operated and maintained the cast iron circuit of the rodding plant, reporting of production and inventory on daily basis
- Managed a team of 5 operators on different machines and stations to ensure high quality uninterrupted production
- Communicated with adjacent strategic business units for inventory management for incoming raw materials and outgoing products

Graduate Engineer Trainee | Jindal Steel and Power Limited | Barbil | India*July '09 – Jan '10*

- Studying the circuit of newly constructed iron ore pelletization plant

EDUCATION

MSc, Materials Science and Engineering*Sept '14 - Sept '19*McMaster University, <https://www.mcmaster.ca/>, Hamilton, ON, Canada**Master of Applied Sciences, Metallurgical and Materials Engineering***Dec '10 - July '13*IIT Kharagpur, <http://www.iitkgp.ac.in/>, Kharagpur, India**Bachelor of Engineering (B.Eng.), Metallurgy and Materials Engineering***July '05 – July '09*IIST Shibpur, <http://www.iists.ac.in/> | West Bengal, India

ACHIEVEMENTS

- Graduate Research Scholarship, CAD 140,000, (2014-2018) at McMaster University – entire graduate study expenses were covered
- Awarded 'International Excellence Award', CAD 5000, (2016) from School of Graduate studies at McMaster University
- Awarded 'Dante Cosma Graduate Memorial Fellowship', CAD 3000, (2015, 2017) from Materials Science and Engineering at McMaster University

LEADERSHIP & VOLUNTEER EXPERIENCE

Volunteer| Industrial coke making course | McMaster University*May '15*

Actively assisted in organizing and networking with industry personnel with diverse technological expertise

Volunteer| Industrial Blast furnace ironmaking course | McMaster University*May '17*

Actively assisted in managing audio visual requirements for presentations from industrial professionals from all over the globe

Volunteer| Materials Science and Engineering, Safety Officer | McMaster University*Sept '16 -Sept 17*

Inspected laboratories and workspaces regarding health and safety concerns. Reported and provided feedback and took control measures wherever needed