MUHAMMAD MUNEEF SADIQ

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EDUCATION

April 2021	Masters in Thermal Engineering, Zakir Hussain College of Engineering and Technology, AMU	GPA: 8.36/10
June 2016	Bachelors in Mechanical Engineering, Ambala College of Engineering and Applied Research, Ambala	

PROFILE OVERVIEW

- Experience in mathematical modelling of 1-D Heat Transfer using FDM.
- Experience in solving Inverse Problem numerically using Conjugate Gradient Method with Adjoint Problem.
- Proficient in MATLAB Programming,
- Experience in ANSYS, AutoCAD, SOLIDWORKS.
- Experience in performing casting experiments and Heat Transfer analysis in Die Casting.
- Qualified GATE-2017 with GATE Score-640 and Percentile-97.24.

MASTER'S THESIS

Experimental and Numerical Study of Interfacial Heat Transfer at the Interface of Mould and Casting.

Numerical Modelling	A cylindrical mold having insulated top and bottom is considered. One-Dimensional unknown Heat Flux at the inner wall of the hollow cylinder is estimated by solving Inverse Conduction Problem. Conjugate Gradient Method with Adjoint problem was used and calculation were performed through MATLAB programming.
Experimental Findings	Die-Steel and Mild-Steel molds were used to produce castings of Aluminum and Zinc. Transient temperature data of the castings and molds were recorded. Using this temperature data, Transient Heat Flux and Transient Heat Transfer Coefficient at the interface of mold-casting was calculated.

PROJECTS

Estimation of Interfacial Heat Transfer Coefficient (IHTC) with inverse method solved by MATLAB programming

- Interfacial Heat Transfer Coefficient (IHTC) between two metallic bodies in contact was estimated numerically using simulated transient temperature data, assuming one dimensional heat transfer.

Design and Fabrication of Brinnel Hardness Tester

- Designed the tester according to ASTM standard (ASTM -E10-15) along with a unique force application method.
- Explored the various aspects of manufacturing and machining processes to prototype the Brinell harness testing machine such as milling, drilling, tapping, and welding.

PUBLICATIONS

- Numerical Estimation of Interfacial Heat Flux Using Inverse Heat Conduction Method, Proceedings of International Conference in Mechanical and Energy Technology, Springer, 2020.
  DOI: https://doi.org/ 10.1007/978-981-15-2647-3_53
- Inverse analysis of mould-casting interfacial heat transfer towards improved castings, Materials Today: Proceedings, 2022.
  DOI: https://doi.org/10.1016/j.matpr.2022.02.248

INTERNSHIPS

- Summer Internship at KVTEK Power Systems Pvt. Ltd. Gurgaon (Haryana) from 1st July 2014 to 14th August 2014.
- Summer Internship in Engineering Department of ITC Limited, Saharanpur (U.P.) from 16th June 2015 to 8th August 2015.
- Vocational training on Zw-CAD at Mechanical Engineering Department of Ambala College of Engineering and Applied Research from 24th Feb 2016 to 25th Mar 2016.