

Rahul John

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Post graduate engineer with international exposure and gold medal from National Institute of Technology, Karnataka, Surathkal

PROFILE SNAPSHOT

- ❖ A competent individual with a sound academic record all set to shape a gratifying career as a researcher.
- ❖ International publication (manuscript in preparation) on wear studies.
- ❖ Experience in working abroad university (Deakin University, Australia)
- ❖ Have done project for TATA STEEL, Jamshedpur
- ❖ Knowledge in designing and analysis softwares.

DETAILS OF PROJECT EXECUTED IN COLLEGE

M TECH

Main Project Name: Wear of FBR-CVD chromised AISI 304 stainless steel

Project Description:

The study was concentrated on the wear behavior at room temperature of AISI 304 before and after chromising. A pin on disc apparatus was used for the conducting the wear tests and the tests were conducted against alumina ball for abrasive wear conditions and AISI 304 steel for self mating conditions. It was found that the stainless steel was prone to severe abrasive and adhesive wear. After chromising the reduction in the wear rate was studied with extensive use of optical profilometry, stylus profilometry, GDOES, XRD, SEM (EDX). After chromising the wear mode was found to be mild oxidative in nature. Transformation in wear behavior of both pin and the disc was done. Chromising was found to improve the specific wear rate by a factor of about a 100 on average.

Mini Project Name: String Ribbon Casting

Project Description:

It is a new technique to develop mono crystalline silicon ribbons directly from the melt. It is expected to reduce the cost of solar cells by about 80%. It was done during a six weeks training in TATA STEEL, Jamshedpur. The project was confined to the parameters involved in crucible manufacturing and designing the crucible.

Seminar: AOD and VOD refining process

Topic Description:

The processes are adopted for producing alloys with high Cr and low C contents. In AOD Argon gas is purged for proper mixing of the melt in the furnace while in VOD the aid of vacuum helps in obtaining the required conditions in the furnace. It is used for manufacturing alloys like stainless steel, super alloys of Cobalt and Nickel which have very wide application from aerospace industries to medical field.

B TECH

Main Project Name: Analysis of HCR Spur Gear using Finite Element Method using ANSYS

Project Description:

In this project we analyzed the effect of fillet radius and face width in gear failures. Apart from this we analyzed the variation of contact stress by using CI and steel. On analysis we came to the conclusion that contact stress is less for CI as compared with that of steel. Also the bending stress decreases as face width and fillet radius increases. Here we used PRO-E to design the gear profile in 3D and AutoCAD to design the 2D figures.

Mini Project Name: Elastic Half Space subjected to line load analyzed using ANSYS

Project Description:

Elastic half space is an ideal case of many practical applications like the effect of a locomotive running over a rail, the effect when tyre of a vehicle moves over the road etc. Here we created a 2D model in ANSYS and analyzed the deformation on the model on the application of a line load.

Seminar Topic: Magneto Rheological Fluids

Topic Description:

MR Fluids are smart fluids which when subjected to magnetic field which when subjected to magnetic field changes its rheological (flow) behavior. They are used in clutches and suspension systems in automobile industry. Apart from this they are used in construction sites and robotics.

EDUCATIONAL AND PROFESSIONAL CREDENTIALS

- ❖ Master of Technology (M-TECH in Process Metallurgy) from National Institute of Technology Karnataka, Surathkal during 2013-2015 with **9.67/10 cgpa**
- ❖ Bachelor of Technology (B-TECH in Mechanical Engineering) from Government Engineering College, West Hill, Calicut (University of Calicut) during 2008- 2012 with **64.5%**.
- ❖ Plus 2 from Leo XIII Higher Secondary School (CBSE), Kerala (2008) with **84%**.
- ❖ Xth from Matha Senior Secondary School, Thumpoly, Alappuzha, Kerala (2006) with **85%**.

TECHNICAL PROFILE

- ❖ Underwent a diploma training programme in AutoCAD (Mech) – V 2012 and PRO-E at the CADD Centre, Calicut.
- ❖ Done 7 weeks internship in TATA STEEL, JAMSHEDPUR and was able to assist in modelling ‘String Ribbon Casting for Si Wafer Production’.
- ❖ Worked for 5 months as visiting researcher in Deakin University, Victoria, Australia.

COMPUTER PROFICIENCY

Adept with the knowledge of:

- ❖ Knowledge in AUTO CAD tools.
 - ❖ Knowledge in Pro-E
 - ❖ Microsoft Office
 - ❖ Knowledge in Ansys.
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PERSONAL DETAILS

Sex : Male
Date of Birth : 05-11-1990
Marital Status : Single
Language Known : English, Hindi, Malayalam, Tamil.

I hereby declare that the above details furnished by me are true to my knowledge.

Yours faithfully,

(Rahul John)