**Cover Letter**

**Dear Sir/Madam**,

My name is Chitragupt Swaroop Chitransh,

1. I have done my B.E. in the year 2008 with 71.47% from University Institute of Technology Rajiv Gandhi Prodyogiki Vishwavidyalaya Bhopal
2. M.Tech from Maulana Azad National Institute of Technology, Bhopal in the year 2010 with 8.36/10 GGPA and secured 1st position in Maintenance Engg.
3. 1.5 yrs research experience as a Junior Research Fellow of NITTTR Bhopal
4. 3.3 yrs regular teaching experience as an Assistant Professor of TIT Bhopal.
5. 2yrs contractual teaching experience as an Assistant Professor of NIT Kurukshetra.

**I am looking forward to join best organization (research/ academic/industry) for my professional growth. Interested in R&D work / educator profile**

***Paper published in SCI Journal***

Numerical Determination of Initiation Fracture Toughness of High-Pressure Die Cast Aluminium Metal Matrix Composite Material Using FEM Analysis. Chitragupt Swaroop Chitransh, Sanjeev Saxena, Trans Indian Inst Met (2020) 73(12):3071–3078. https://doi.org/10.1007/s12666-020-02109-1

One SCI paper published and 4 more papers are communicated in SCI journals.

List of papers communicated in SCI Journals

1. Fracture Mechanics based determination of initiation fracture toughness (KIC) of Al-MMC using experimental, analytical and numerical techniques for the development of light weight component
2. Estimating fatigue life of Al-MMC Brake Drum component
3. Evaluating the experimental effects of ball milling technique and 3D mixing process for the development of light weight alloy MMC and its impact on initiation fracture toughness using FEM analyses
4. Evaluating the performance of gravity cast and high pressure die cast Brake drum components made-up of aluminium metal matrix material using FEM analyses

List of papers drafted for SCI Journals

1. Comparison of initiation fracture toughness of stir and high pressure die cast ADC-12 MMC, stir and gravity cast ADC-12 MMC, stir and gravity cast ball milled 3D mix ADC-12 MMC.
2. Prediction and validation of crack growth behavior of DRA composite CT Specimen using a coupled phenomenological and fracture mechanics approach.

Under preparation SCI paper

1. Effects of ultrasonic vibration route on ADC-12 MMC and its suitability for engineering applications

***Paper published in International Journal***

Temperature Based Condition Monitoring of Rail and Structural Mill, Lakhan Patidar, Chitragupt Swaroop Chitransh, K.U. Rao, International Journal of Advancements in Research & Technology, Volume 1, Issue1, June-2012 1 ISSN 2278-7763

***Paper presented IEEE conference (ICATME-2021)***

Chitragupt Swaroop Chitransh, Sanjeev Saxena “Mesh convergence study for the assessment of fatigue life of the Al-MMC HPDC Brake Drum component” International Conference on Advances in Technology, Management & Education (ICATME-2021), Presented.

***Seminar paper (RIAM-2018)***

Experimental evaluation of fatigue property of metal matrix composite” (RIAM-2018)

**PhD** **Research** **work** **details** **(from** **august** **2017** **–** **till** **date):**

PhD thesis (submitted) at Academy of Scientific and innovative Research - AMPRI Bhopal (NIRF research ranking:22). During my PhD, Research and Development works performed by me are listed below:

# Development of three wheeler brake drum component of high pressure die cast metal matrix composite material.

* + *Experimentally obtained SN curve of ADC-12 Metal Matrix Composite (MMC) using Stair case method.*
  + *Using FEM analyses, fatigue evaluation of ADC-12 MMC brake drum on the basis of experimentally determined SN curve.*
  + *Experimental evaluation of fracture toughness of ADC-12 MMC*
  + *Analytical evaluation of fracture toughness of ADC-12 MMC*
  + *FEM based evaluation of fracture toughness of ADC-12 MMC*
  + *Ball milling and 3D mixing techniques were used to improve the strength of ADC-12 MMC.*
  + *Ultrasonic Vibration Route is used to improve the strength of the ADC-12 MMC.*
  + *Crack growth prediction of DRA composite using FEM analyses*
  + *Mesh convergence study of Brake drum component*
  + *Mesh convergence study of CT specimen*

**Subjects taught in the past**:

1. CAD/CAM

2. Mechatronics

3. Maintenance Engineering

4. Production Technology

5. Operations management

6. Management information system

7. Entrepreneurship and management concept

8. Concept in engineering design

9. Basic mechanical Engineering

10. Strength of Materials

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**Chitragupt Swaroop Chitransh**

## Profile Summary

**Professional Experience**

* PhD (thesis submitted) at AcSIR-AMPRI, Bhopal
* 5 yrs of experience as Assistant Professor in Engineering Institutions.
* 1.5 yrs of research experience as Junior Research Fellow
* Got a SCI research paper published in Trans IIM, 73(12):3071–3078, 2020.
* Presented a paper in IEEE conference (ICATME-2021) at NITTTR Bhopal.
* Got a research paper published in International Journal of Advancements in Re- search & Technology, 1(1):1-5, 2012.
* **Organization:** Dept. of Education Research & Mgmt, NITTTR Bhopal
* **Designation:** Junior Research Fellow
* **Duration:** Oct 2019 – April 2021
* **Organization:** Dept. of Mechanical Engg, TIT Bhopal
* **Designation:** Assistant Professor/Examination Dy. Superintendent
* **Duration:** Jan 2015 – April 2018
* **Organization:** Dept. of Mechanical Engg, NIT Kurukshetra
* **Designation:** Assistant Professor
* **Duration:** Aug 2012 - Jun 2014

## Education Doctor of Philosophy (Mechanical Engineering) Aug 2017-Present

AcSIR, AMPRI Bhopal (M.P.)

**Master of Technology (Maintenance Engg)** Jul 2008 - Aug 2010 Maulana Azad National Institue of Technology, Bhopal (M.P.)

* + CGPA **8.36/10**

**Bachelor of Engineering (Industrial & Production Engg)** Oct 2004 - Jun 2008 University Institute of Technology, RGPV, Bhopal (M.P.)

* + Aggregate Marks **71.47%**

**Higher Secondary Examination** Jul 2003 - Mar 2004 Board of Secondary Education, Madhya Pradesh

* + Percentage Marks **78.67%**

**High School Examination** Jul 2001 - Mar 2002 Board of Secondary Education, Madhya Pradesh

* + Percentage Marks **74.8%**

## Publications

* Chitragupt Swaroop Chitransh, Sanjeev Saxena “Numerical Determination of Initiation Fracture Toughness of High-Pressure Die Cast Aluminium Metal Matrix Composite Material Using FEM Analysis” Trans Indian Inst Met. https://doi.org/10.1007/s12666-020-02109-1.
* Chitragupt Swaroop Chitransh, Sanjeev Saxena “Mesh convergence study for the assessment of fatigue life of the Al-MMC HPDC Brake Drum component” International Conference on Advances in Technology, Management & Education (ICATME-2021), Presented.
* Lakhan Patidar, Chitragupt Swaroop Chitransh, K.U. Rao “Temperature Based Condition Monitoring of Rail and Structural Mill” International Journal of Advancements in Research & Technology, Volume 1, Issue1, June-2012 1 ISSN 2278-7763.

## Technical Skills

Computer Aided Engineering Tool: Abaqus

Design Tool: ProE

Analysis Tool: HyperWorks v10

## M.Tech Thesis

**BE**

**Project**

**Industrial Trainings**

**Condition Monitoring Through Thermography to Identify Potential Hot- Spots**

In this work our aim was to identify potential hot-spots in rail & structural mill shop power supply in a less time.

* + Used condition monitoring through thermography technique to identify the hot spots.
  + Found 18 hot-spots that could be hazardous.
  + Minimized the Number of hot spots after some maintenance work.

## Combination Metal Cutting Machine for Multifunctional Operations

In a metal cutting operation, we need to have different types of machines like drilling machine, grinding machine, lathe etc. In this work, we made a combo machine that performs drilling, grinding, milling and lathe operations which makes the metal cutting operation easier.

**Company Name:** Bhilai Steel Plant(Sail),Bhilai

**Duration:** 2 months

**Training Objective:** Condition monitoring through Thermography

**Company Name:** Indo-German tool-room Indore(M.P.)

**Duration:** 28 days

## Training Objective: Pro-E

**Extra Curricular& Achievements**

**Personal Details**

* Volunteer in a four day workshop on *CAD Software for Engineering Graphics- Solid Edge* at CAD Center, Department of Industrial & Production Engineering, UIT RGPV Bhopal.
* Appointed as a Sports Coordinator of NIT Kurukshetra for inter college sports meet at IT-BHU.
* Secured 1st position in M.Tech.(Maintenance Engineering).

**Date of Birth** : 4 Jan 1986

**Gender** : Male

**Father’s Name** : Mr. Vijay Kumar Khare

**Alternate Contact:** 9986882483

**Declaration** I here by declare that the information furnished above is true to the best of my knowledge.

Date: Signature: