

Indian Institute of technology (ISM) Dhanbad

17-21 June 2024

Indian Institute of technology (ISM) Dhanbad

About:
Simulation of a mechanical process is always a curiosity among the researchers, students and faculties. In this workshop it will be learned how to replicate a mechanical process on to a computer screen. The process modelling of each and every step will be learned. Solving the problem and analysing the results will be learned with practice of several type of problem. Mainly three type of problems will be covered: 1. Elastic and plastic deformation; 2. Thermal problem of heat transfer; 3. Fracture and element deletion

Who can join

Students: Mechanical and civil engineering (UG/PG/PhD)
Faculty members : Mechanical and civil engineering
Industries: Manufacturing, automobile, heavy industries

Limited seats: 50 for offline registration Only

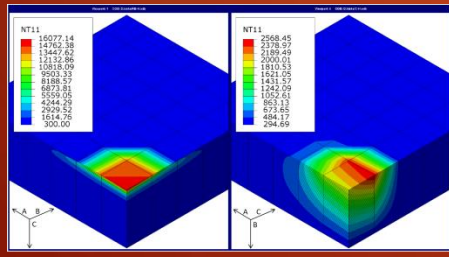
Last date of registration: 7 June, 2024

The preference will be given to the candidates from outside of IITISM Dhanbad
10% additional fee may be applied for late registration per week

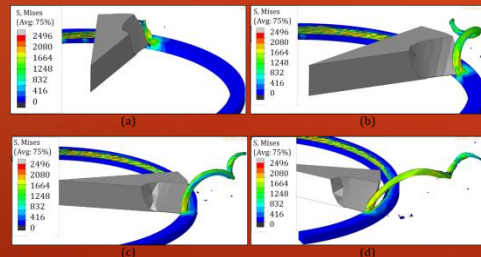


Out come from the workshop:
For UG students: Learning of a simulation package may help in placement with better package.
For research scholars: Simulation may help in publishing good research papers. Papers have been published in MTM; precision engineering, measurement and IJAMT in the past by the organizer based on the simulation work
For PG Students: Good placement and research papers in good Journals
For faculty: good research papers, they can run practical courses based on the workshop
For industry: Shop-floor problems and solutions may be provided.

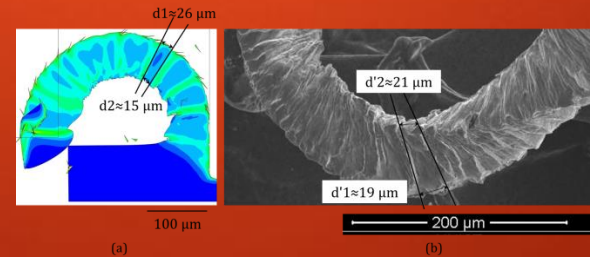
QR code for google form



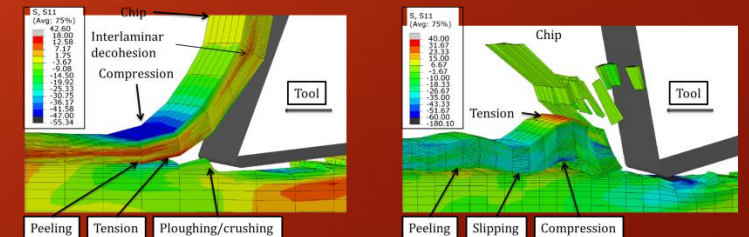
Simulation of EDM process



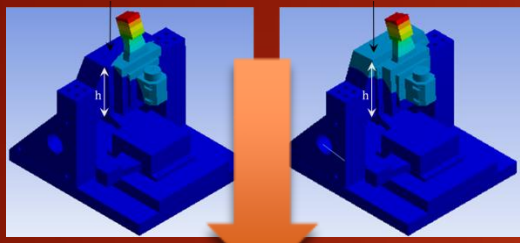
Simulation of 3D milling process



Simulation of orthogonal machining



Bajpai and Singh, (2013) "Brittle damage...carbon"
Machine tools and Manufacture 64 (20-30)

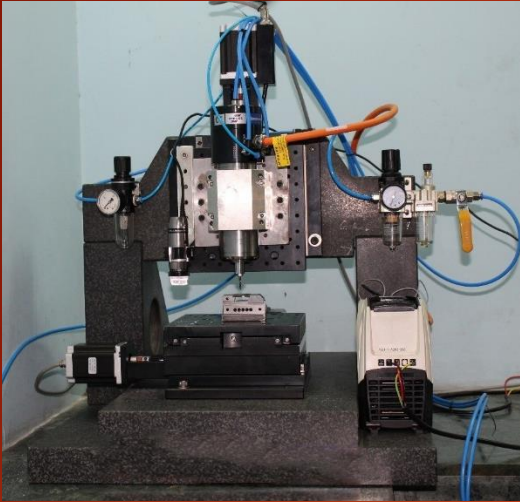


Objectives:

To train the candidate so that he can model a mechanical process and solve it through a commercial FE software.

Course content

Training and hands-on-practice of application of a commercial FEM software to model mechanical process including: Elastic and plastic deformation eg. bending of beam, tensile/compressive load to a metal piece. Thermal problem of heat transfer eg. heat loss from a free body, solidification analysis of metal casting. Fracture and element deletion eg: material failure during tensile testing, chip formation in metal cutting, orthogonal machining



Machine development with the help of simulation
Das et.al., JAMT (2021) and patent grant number: 491196 (2023)

Expert mentors

Venue of the program: CAD lab, Department of Mechanical Engineering, IIT ISM Dhanbad, Jharkhand



Miss Abhipsa Kar; Dr. Arnab Das; Dr. Ankit Jain, Dr. Shashank Shukla; Dr. Ganesh Soni Dr. Sarthank S Singh; Dr. Vivek Bajpai

Duration
5 Day (17-21 Jun 2024)
Hybride mode

Course coordinator and contact detail

Prof. Vivek Bajpai

Associate Professor

Department of Mechanical Engineering

IIT (ISM) Dhanbad Jharkhand

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For Program related query

Student coordinators

Miss Abhipsa Kar (+91 70087 76364)

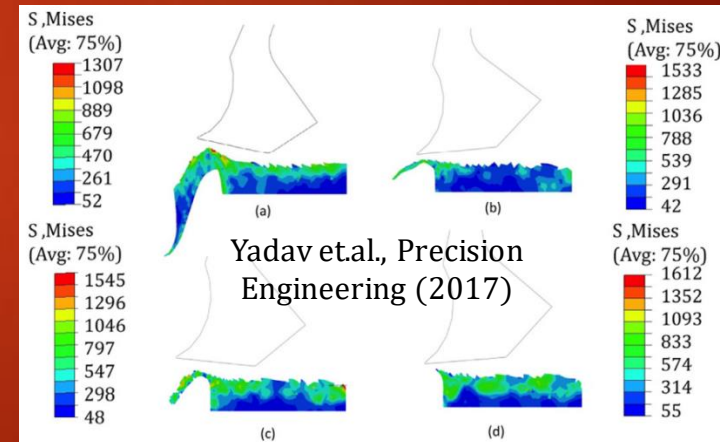
Mr. Prince Anand (+91 82992 68176)

Sr. No.	Category	Rate
1	Under graduate students	₹ 6,000.00
2	Post graduate students	₹ 10,000.00
3	Faculty/academic staff	₹ 15,000.00
4	Industry and others	₹ 20,000.00

Note; Limited seats for (50) offline registration only

Please transfer the registration fee amount to the following bank account (details given below) and attach the payment receipt along with the Google form for registration.

Account Number : 0986101024892
Bank Name : CANARA BANK
Branch : SARAIIDHELA, DHANBAD
IFSC Code : CNRB0000986
MICR Code : 826015003
GSTIN : 20AAAAI0686D1ZA
PAN : AAAAI0686D
LEGAL NAME : IIT (ISM) SPECIAL FUND



A Workshop on
Simulation of mechanical processes
17-21 June 2024
REGISTRATION FORM

Name:
Designation:
Organization:
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Gender:
Educational Qualification:
Address for Correspondence:
.....
Mobile No:
E-mail ID:
Mode of participation (Online/Physical):
Payment Amount:
Payment Ref. Number:
Date:

Signature of Applicant:

(Please send the scanned copy to vivek@iitism.ac.in)