

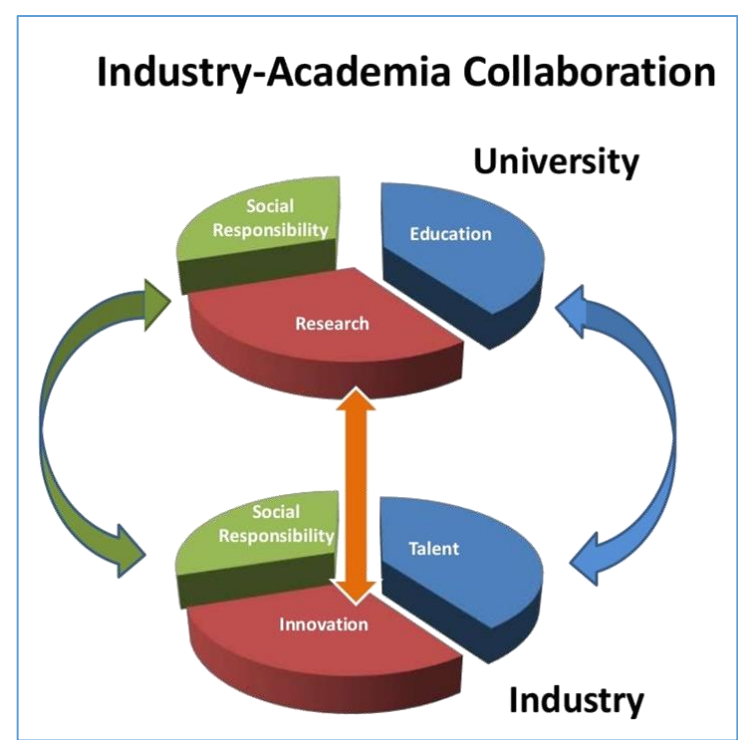


15 – Day Online Short Term Training Program (STTP)



on
16th - 30th November 2021

Modeling and Simulation of Gas Fired Furnaces in Steel Industry



About the programme: Training program on CFD (Computational Fluid Dynamics) / FEA (Finite Element Modeling) implementation to simulate and predict the different process parameter using the real-time data designed and customized with an objective of creation of Digital asset of SAIL.

This is under theme of “Go Digital” digital solutions at SAIL-Bokaro Steel Plant based on three core principles. Case study on Modeling and Simulation of Gas Fired Furnaces used in Steel Industry will be taken online class room training

Expected Outcome

Content

1. Introduction to Computational Fluid Dynamics (CFD)
2. Introduction to commercial CFD tool (ANSYS Fluent)
3. Modelling using ANSYS design modeller
4. Solution of various part problems
5. Real Walking beam RHF problem
6. Post-processing using ANSYS post processing tool

- ✓ Learn the advanced techniques such as FEM and CFD utilized in the modeling and analysis of real life problems specific to steel industry.
- ✓ Model, discretize, apply loads, solve the physical problem (2D/3D) and visualize the results through CFD using commercial tool (ANSYS Fluent).
- ✓ Learn how to couple FEA with CFD for fluid-structure interaction analysis.
- ✓ Apply the concepts learned to analyze advanced problems such as slab characteristics in gas-fired furnaces.

Resource Persons

Dr. Subrata K. Panda has 10 years of teaching and research experience. His major interest lie in the field of advanced material modelling, numerical model development, experimental mechanics. He has credited 200 articles (170 SCI and 30 SCOPUS), 6 different sponsored projects (1 Crore as PI) from various sponsoring agencies (DST(SERB), DRDO and AICTE).

Dr. Prakash Ghose has 6 years of teaching and research experience. His major interest in the field of FLUENT model and implementation on related structure or fluid to understand the inherent behaviour.

Dr. Nitin Sharma has 6 years of teaching and research experience. His major interest in the field of advanced material modelling, numerical model development, fluid structural coupling and experimental mechanics.

Dr. Chetan K. Hirwani has 2 years of teaching and research experience. His major interest in the field of numerical modelling of industrial components made of composite and realisation of model by validating with experimental and simulation model.

Mr. Alok Gupta, working as an independent consultant. He has 16 years of work experience to handle the numerical model relevant to physics demand by the industries time-to time.

