We are bridging the gap between university education and industrial demand

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FlowThermoLab

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Shaping the next generation Engineers!

Introduction to FSI

About the Course

With a mix of theory and hands-on computer simulations, this course is carefully designed for all those interested in entering the excited field of fluid-structure interaction (FSI). By the end of this course, you will gain an understanding of (i) vortex-shedding, (ii) resonance and self-excited vibrations which are the root causes of common vortex-induced vibration phenomena such as lock-in, galloping and flutter, (iii) dynamic meshes in OpenFOAM, and (iv) setting up and running rigid solid FSI problems using OpenFOAM, and (v) post-processing of results using Python and ParaView. Your understanding of concepts and progress in the course in assessed through regular quizzes and assignments, and a mini project at the end.
Although this course is an introduction to FSI, it is an advanced-level course that requires a decent knowledge of fluid mechanics and CFD and some basic knowledge of calculus, particularly ODEs

High quality affordable education for any one with internet access !!!

More Details

INSTRUCTOR

Dr. Chennakesava Kadapa is the main instructor. He has a master's degree in Machine Design from IIT Kanpur (India) and a doctorate from Zienkiewicz Centre for Computational Engineering, Swansea University (UK). He has 2 years of industrial experience at GE Aviation (India) and twelve years of research experience in the field of Computational Mechanics, with a particular focus on computational FSI, among others

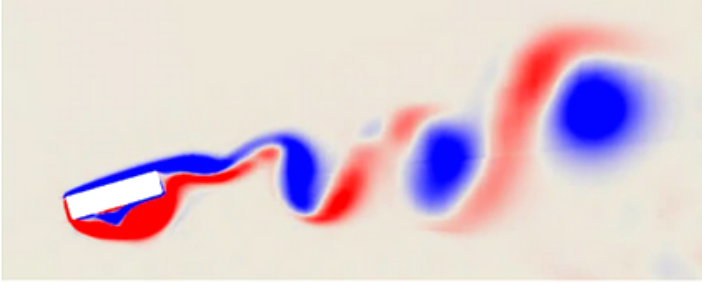
CONTENT

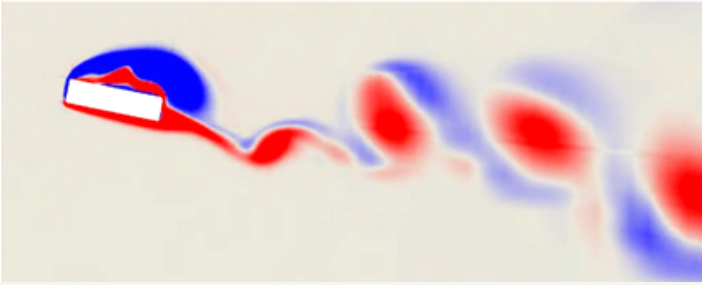
Contains a total of 20 lessons split into six modules. With about 20 hours of pre-recorded videos, quizzes, and assignments on

- Vortex-shedding
- Undamped, damped, free and forced vibrations
- Resonance and self-excited vibrations
- Vortex-induced vibrations: Lock-in, Galloping and Flutter
- 1-DOF theoretical models and their solutions using Python
- Dynamic meshes in OpenFOAM
- High-fidelity FSI simulations using OpenFOAM
- Post-processing using Python and ParaView

SUPPORT

- Live discussion forum
- Zoom support to clarify questions





FEE

$79 Excluding Tax
[~ ₹6500 Excluding 18% GST]

Enrolment Details

PROCEDURE

CLICK HERE

- Make the online payment on the course page. Once the payment is made, the login details and invoice will be emailed automatically to the registered email address
- You can start accessing the course immediately and will have access for another **6 months**
- After the course completion, course completion certificate will be issued

WWW.FLOWTHERMOLAB.COM