



Indian Institute of Technology Kanpur



INSTITUTE LECTURE SERIES

August 08, 2023 (Tuesday) | 5.00 pm | L- 17

Speaker: Dr. Dipankar Choudhury

Talk Title: Improving Health Outcomes with Physics-based Simulation Methods

About the Speaker



Dr. Dipankar Choudhury, Ansys Fellow, leads advanced technology and exploratory R&D in several areas at Ansys Inc. In addition, he leads Ansys's Academic Program which includes coordinating collaborative research and education partnership programs with Academia centered around engineering simulation. Prior to taking this role, He was responsible for Ansys Inc.'s technical directions in the Fluids Business Unit. Dr. Dipankar obtained his BE in Mechanical Engineering at BITS Pilani and his Ph.D. in Computational Fluid Dynamics and Heat Transfer from the University of Minnesota. After his graduation, he held engineering and product management positions at Create Inc. and Fluent Inc. He is a member of the ASME, AIAA and the ASEE and has technical publications in journals, conference proceedings, and trade magazines. Dr. Choudhury is an adjunct faculty at the University of Notre Dame and an invited lecturer at leading institutions worldwide.

Abstract of the Talk

Digital transformation continues to pervade every industry - automotive, aerospace, electronics, logistics, and manufacturing, to name a few. The impact of these advances in modeling and simulation technologies and their applications is also being felt in biomedical engineering, medicine, and healthcare.

The first part of this presentation will provide an overview of the underpinnings of physics-based simulation software, in areas such as Numerical Methods, High-Performance Computing, and Machine Learning. The second part of the talk will focus on new initiatives and applications in healthcare with a focus on a few areas such as cardiology. Cardiovascular disease is the leading cause of morbidity and mortality worldwide with coronary artery disease being a major burden on healthcare systems. Over the past decade researchers and practitioners have developed modeling and simulation decision-making tools and examples of these in the clinical workflow will be shared. The speaker will also discuss the future direction of modeling and simulation in the fields of biomedical engineering, medicine, and healthcare.

All are cordially invited to attend

Office of Dean Research & Development