

Summer internship 2022

Project details

Title: Computational modelling of pedestrian flow through an exit.

Project description: A comprehensive understanding of the flow of pedestrians through a door is essential for designing pedestrian facilities, ensuring an uninterrupted and safe egress of pedestrians in highly competitive scenarios. An understanding of such flows becomes important while analysing a variety of social scenarios involving highly crowded environments. This work intends to examine pedestrian motion through a door in various situations by employing computations based on a discrete element technique. Initially, the plan is to develop a serial code, which will be made parallel using MPI (message passing interface) for modelling large systems comprising thousands of people.

Prerequisites: Good programming skills. Working knowledge of FORTRAN.

Expected outcome: Development of an in-house parallel code in FORTRAN based on MPI (message passing interface) capable of handling large systems.

Keywords: Pedestrian dynamics; Discrete Element Method (DEM); Message Passing Interface (MPI)