

# ACM Goa

## Professional Chapter

presents the first session in Tutorial series

# Introduction to Discrete-Event Simulation

By Dr. Neha Karanjkar, IIT Goa

26<sup>th</sup> November 2021 4:00pm-5:30pm

### (Online) Meeting Link:

<https://zoom.us/j/98455202895?pwd=cnBuRFIyUkpsMitDZ2xoQk8yanJWdz09>

Passcode: 276381

### Registration Link for ACM Goa Event Updates:

<https://forms.gle/hailvbuXSUMHMKa96>



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### Abstract:

Simulation plays a critical role in the analysis, design and optimization of complex systems in many areas. This tutorial presents an introduction to the simulation of Discrete-event systems (that is, systems in which the state is assumed to change at discrete time-instants only, as opposed to a system where the state evolves continuously over time). Computer networks, manufacturing systems, queueing systems, clocked digital circuits, inventory systems are some areas where discrete-event simulation is widely used.

This tutorial aims to provide an intuitive understanding of how discrete-event simulation works, using several examples. I will also provide a brief introduction to SimPy, a discrete-event simulation library in Python.

The tutorial will assume basic familiarity with the Python language. Some sample programs and reference material will be shared with the attendees.



### About the speaker:

Dr. Neha Karanjkar is an assistant professor in CSE at IIT Goa. Her research interests are in Modeling, Simulation and Optimization of Discrete-event Systems in the application areas of Computer Architecture, Internet-of-Things and Digital Twins. She obtained her M.Tech and Ph.D. degrees from the Electrical Engineering department at IIT Bombay and was a Post-doctoral fellow at the Robert Bosch Centre for Cyber-Physical Systems, IISc Bangalore. She was a member of the 'Ajit' indigenous processor development project at IIT Bombay.