

# One Day Seminar on 3D Genomics using AI Techniques



Organized by  
Department of Computer Science, Asutosh College  
in association with  
Committee for Post Graduate Studies and Internal Quality  
Assurance Cell, Asutosh College



&  
in collaboration with  
**IEEE Young Professionals, Kolkata Section**

## Venue

Seminar Hall, Asutosh College Centenary Building, 22, Kalighat Rd, Near Purna Cinema More, Kolkata-700025

## Date and Time

May 12, 2022 (12:00 PM – 3:00 PM)

## Advisory Committee

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- **Dr. Dibakar Saha**, Asst. Professor, Dept. of MCA, National Institute of Technology, Raipur

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- Sri Dilip Chandra
- Sri Dinesh Rabidas
- Sri Suman Chongder (IT Support)
- Sri Somnath Das (IT Support)

## Resource Person



**Dr. Anup Kumar Halder**  
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## Abstract

*Three-dimensional (3D) genomics is an emerging discipline that studies the 3D spatial structure and function of genomes, focusing on the 3D spatial conformation of genome sequences in the nucleus and its biological effects on biological processes. The invention of chromosome conformation capture (3C) technology speeds up the research on 3D genomics and its related fields. The development of 3C-based technologies, such as genome-wide chromosome conformation capture (Hi-C) and chromatin interaction analysis using paired-end tag sequencing (ChIA-PET), help scientists get insight into the 3D genomes of various species. The aims of 3D genomics are to reveal the spatial genome organization, chromosomal interaction patterns, and mechanisms underlying transcriptional regulation. Artificial intelligent techniques advance the study of 3D genomic organization and architecture. However, network science has also played a key role in 3D genomic organization. DNA sequence-based language modelling of genome architecture is considered the future of genomics studies in discovering novel regulatory mechanisms. The BERT architecture is one of the key aspects of such a language model.*

## Instruction to Participants

- No registration fees.
- Prior registration is mandatory to attend the Seminar-  
<https://forms.gle/ZUZKDGvtAPNTsqEy8>
- 100 participants can be accommodated.
- Participation Certificate will be provided.
- Registered participants are requested to reach the venue before 11:30 AM.

**Last date of registration:** 10.05.2022

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