

# Indian Statistical Institute

## Applied Statistics Unit

### SEMINAR NOTICE

**Speaker:** Swagatam Das

**Title:** Generative Adversarial Networks - one of the most happening developments in Machine Learning through the lens of Statistics

**Date:** 19 April, 2022

**Time:** 16:15 PM

**Venue:** ASU Seminar Room

**Online Platform:** Google Meet ([meet.google.com/esn-fevy-mam](https://meet.google.com/esn-fevy-mam))

#### **Abstract:**

Generative Adversarial Networks (GANs) mark one of the most important developments in deep machine learning since 2014. These models, in general, comprise two neural networks involved in a two-player zero-sum game. In a competitive setting, they attempt to estimate the underlying probability distribution of high-dimensional objects (e.g., high-resolution images), a classical problem for which conventional statistical methods may not always have a ready answer! In this endeavour, GANs can generate very realistic but artificial pieces of multimedia data including images, videos, text, speech signals, and so on, based on the training examples they are exposed to. This talk will start with a high-level introduction to GANs and continue to unravel their underlying theoretical framework. The talk will finally discuss a few open problems related to the mathematical analysis of the GAN-based machine learning models.

**All are invited to attend.**