

About the Workshop

Entropy is a fundamental measure of uncertainty and randomness found in physics, information theory, and everyday data. This workshop provides an intuitive, hands-on approach to understanding entropy through the quantile function—a powerful tool that ranks values within a sample to reveal hidden structures. Moving beyond traditional "black-box" processing, participants will learn to build practical, nonparametric estimators that do not rely on rigid statistical models. Instead, we use differences between order statistics to analyze data from the smallest to the largest values. Through clear examples and visualizations, we will demonstrate how these abstract ideas become essential tools for extracting structure from noisy and complex signals, particularly in Synthetic Aperture Radar (SAR) imagery.

Prerequisites

No advanced mathematical background is required for this workshop. A basic understanding of averages and sorting data, combined with a curiosity for data science, is all that is needed to participate

Target audience

The Workshop is designed for faculty members, research scholars, and UG and PG students of engineering/research institutions.

The objectives of the workshop

- ❖ Understand entropy as a measure of randomness by using the quantile function and rank-based data analysis.
- ❖ How these methodologies solve modern challenges in remote sensing

Organizing Committee

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Professor & Director,

Centre for Disaster Mitigation and Management.

Faculty Coordinators:

Dr. Surendar M

Associate Professor,

Centre for Disaster Mitigation and Management.

Dr. Kuvar Satya Singh

Assistant Professor,

Centre for Disaster Mitigation and Management.

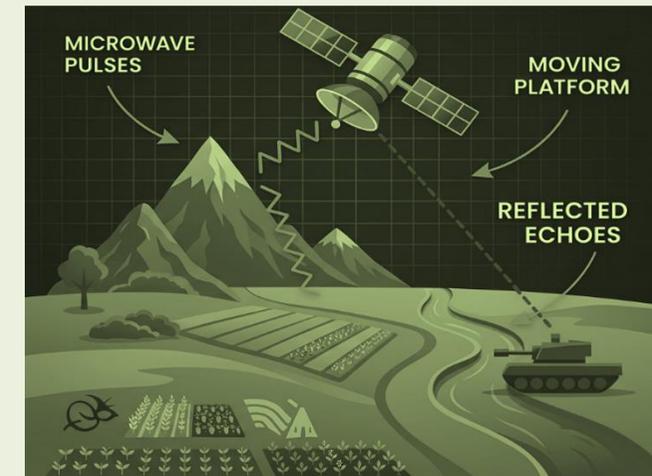


VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

**One-day Workshop
On**

Nonparametric Estimation of Entropy Variants: Methodology and Applications

30th March 2026



Organized by

**Centre for Disaster Mitigation and
Management (CDMM)**

**Vellore Institute of Technology, Vellore,
632014.**

Tamil Nadu, India.

About VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. Our Memoranda of Understanding with various international universities are our major strength.

About CDMM

The Centre of Disaster Mitigation and Management (CDMM) is one of the most modern, well-equipped, and progressive centres in India with a passion for excellence. CDMM addresses some of the most neglected areas of the highest national importance. The centre currently focuses on three key areas: innovating disaster education, rendering highly specialized mitigation services, and managing a Disaster Knowledge Network. The centre has a team of professionals from various disciplines such as Structural & Geotechnical Engineering, Geological studies, and Geospatial Technology and Climate Modelling whose research focus includes hazard mapping, vulnerability analysis, risk assessment, modelling, and forecasting for different natural disasters.

About the Resource Person:

Professor Alejandro C. Frery is a world-renowned authority in computational statistics and remote sensing, currently serving as a Professor of Statistics and Data Science at Victoria University of Wellington, New Zealand. His pioneering research merges stochastic modeling with Synthetic Aperture Radar (SAR) to develop information-theoretic tools that transform complex, noisy data into precise environmental intelligence. A prominent global leader, Professor Frery serves as the Vice President of Publications for the IEEE Geoscience and Remote Sensing Society (GRSS).

Throughout his distinguished career, he has held high-profile roles including Editor-in-Chief of IEEE Geoscience and Remote Sensing Letters and has been honored as a GRSS Distinguished Lecturer. Beyond his technical contributions, he is a leading advocate for "slow science," a philosophy that champions deep, original discovery over the modern "publish or perish" culture. While he recognizes AI as a valuable assistant for refining communication, he remains a vocal proponent of protecting the researcher's "natural neural network" as the core of the creative process. Today, he continues to mentor the next generation of scientists, focusing on applying remote sensing technology to critical global challenges like climate change and environmental sustainability.

Registration

Last date of registration: 29/03/2026

Register online at: <https://events.vit.ac.in/>

Registration fees (Inclusive of GST)

Category	Fees
Student/ Research scholar	Rs. 100/-
Faculty member	Rs. 150/-

Payment should be made online only using the link

provided: <https://events.vit.ac.in/>

Venue

CDMM 213,

Centre for Disaster Mitigation and Management,
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