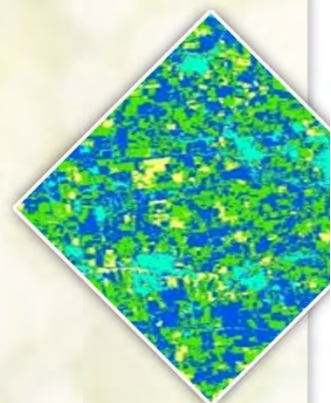
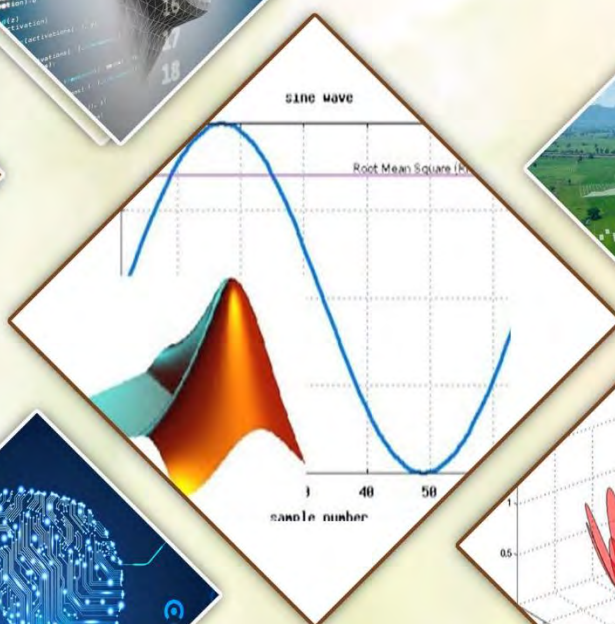


Two Day National Seminar on Modelling Techniques for Agricultural Applications

Date : 05th & 06th August, 2022



Organized by
Centre for Agricultural Market Intelligence under NAHEP – CAAST
International Agri-Business Management Institute
Anand Agricultural University, Anand

In Collaboration with
Dept. of Basic Sciences and Humanities, BACA, AAU, Anand

Patrons



Dr. K. B. Kathiria
Vice Chancellor
Anand Agricultural University
Anand



Dr. R. C. Agrawal
DDG (Education)
National Director-NAHEP
ICAR, New Delhi

Chief Guest & Keynote Speaker



Dr. Raju K George
Outstanding Professor, Dean (R&D, IPR)
Indian Institute of Space
Science and Technology (IIST)
Thiruvananthapuram

Advisors



Dr. Anuradha Agrawal
National Coordinator
NAHEP-CAAST, ICAR, New Delhi



Dr. M. K. Jhala
Director of Research &
Dean PG Studies, AAU, Anand

Guest Speakers



Dr. Deepak Mishra
Professor and Head
Department of Avionics
IIST



Dr. Mukesh Tiwari
Assistant Professor & Head
Dept. of Soil and Water Conservation
Engineering, CAET, Godhara, AAU



Mr. Dharmendra Kumar Pandey
Scientist
Space Applications Centre
ISRO, Ahmedabad



Dr. Anand S Sahadevan
Scientist
Space Applications Centre
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Dr. Avik Bhattacharya
Professor
Centre of Studies in Resources
Engineering (CSRE), IIT Bombay

Conveners



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Principal & Dean, IABMI
PI, NAHEP-CAAST
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Assistant Professor (Physics)
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Assistant Professor (Maths)
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Organizing Secretaries

Joint Organizing Secretaries



Dr. Y. A. Lad
Associate Professor &
CC-PI (HRD) NAHEP - CAAST
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Dr. R. G. Parmar
Organizing Secretary
Platinum Jubilee of BACA
AAU, Anand

Programme Coordinators

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Mr. Smit Bhavsar, PA, NAHEP - CAAST, AAU, Anand
Ms. Shraddha Shah, PA, NAHEP - CAAST, AAU, Anand
Mr. Nidhin P, Research Fellow, BS&H, BACA, AAU, Anand
Mr. Abishek M, Research Fellow, BS&H, BACA, AAU, Anand



Background

As a part of the Platinum Jubilee Celebration of B A College of Agriculture, Dept. of Basic Sciences and Humanities, BACA, AAU, Anand & Center for Agricultural Market Intelligence under National Agricultural Higher Education Project (NAHEP-CAAST), Anand Agricultural University, Anand is going to Jointly organize two days National Seminar on “Modelling Techniques for Agricultural Applications” during 5-6, August, 2022.

The Department of Basic Sciences and Humanities, B. A. College of Agriculture is established on 15th March 2019 to strengthen the disciplines of Mathematics, Physics and English. The department is actively engaged in the predictive analysis using various mathematical modeling and Artificial Neural Network (ANN). Various Indian Space Research Organization (ISRO) and Rashtriya Krishi Vikas Yojana (RKVY) funded projects are being operated related to Precision Farming and Optical, Hyperspectral and Microwave remote sensing applications for crop discrimination, crop spectral library development, soil moisture estimation, crop acreage estimation and many more.

About Seminar

Use of modeling techniques in Agriculture started in the early 20th century with the development of regression models which was on large bases due to limited knowledge of complex processes of soil-plant-atmosphere and its interactions with various factors in agro-ecosystems, and also limited availability of computing technologies. After that, considerable modeling work was done for individual processes of agro - ecosystems like soil water movement, soil hydraulic properties and plant -soil interactions etc. Combining modern technology and agriculture is an important consideration for the effective management of agricultural commodity. Mathematical & Statistical methods like Harmonic Analysis, Extreme value distributions, Gama distributions are involved with predictive analysis in solving real valued problems like forecasting of crop yield, rainfall, soil & air temperature, growth of the plant etc. Artificial Intelligence (AI) and Machine Learning (ML) techniques have been instrumental for decision support systems in agriculture for precise management, harvesting, processing and ultimately quality assurance. Artificial neural networks (ANNs) are one of the most popular tools of this kind. They are widely used in solving various classification and prediction tasks. They can form part of the precision farming and decision support systems. Application of Machine Learning techniques at various stages of the crop cycle makes agriculture more efficient and effective with the help of high-precision algorithms quantifying data intensive processes in agricultural operational environments. Currently, the visible development of precision farming and digital agriculture where remote sensing also plays a pivotal role has been proved to be the most advanced technological applications combining multidisciplinary sciences for development of sustainable agriculture for optimum output through site specific management.

About Centre for Agricultural Market Intelligence, NAHEP- CAAST:

Anand Agricultural University has been awarded an ICAR- World bank funded project to establish Centre for Agricultural Market Intelligence. The major objectives of this project include price forecasting and behavior, export competitiveness, evaluation of e-NAM, market institutions and capacity building of faculty, students, farmers and other stakeholders. Experts from country's premium institutes including IIM- Ahmedabad, Institute of Rural Management (IRMA), Indian Space Research Organization (ISRO), Junagadh Agricultural University, National Cooperative Dairy Federation of India (NCDFI) apart from foreign universities namely Australia's Western Sydney University, and The Papua New Guinea University of Technology are associated with the project. Centre for Advanced Agricultural Science and Technology (CAAST) is a student centric subcomponent of the World Bank sponsored National Agricultural Higher Education Project (NAHEP) granted to AAU, Anand to provide a platform for strengthening educational and research activities of post graduate and doctoral students.

Objectives:

- To explore uses of modelling techniques
- To study the basics of Artificial Neural Network (ANN)
- To explore the applications of ANN in Agriculture
- To have the idea about the remote sensing based modelling for agriculture

Topics to be covered:

- Basic Theory of Artificial Neural Network
- Applications of Artificial Neural Network in Agriculture
- Mathematical Models and its Applications in Agriculture
- Agricultural Applications of Modelling in Microwave and Hyperspectral Remote Sensing

Eligibility:

- Interested candidates preferably : Masters - Doctoral students and faculties of concerned disciplines are requested to apply through online registration process.

Registration:

- No fee is to be paid for registration. The selected participants will be informed through email only.
- E-certificates will be provided to the registered participants.
- No TA/DA will be paid by the host institute.
- Accommodation will be provided as per availability.

Registration link: <https://forms.gle/SzGa9mx2C3KEBHoo6>

:: Venue :: Auditorium, College of Food Processing Technology & Bio Energy, AAU, Anand



:: Schedule ::

Time	Topic	Expert	Coordinator
05-08-2022			
08:00-09:00 hrs. :: Registration and Breakfast ::			
Inaugural Session 09:00-11:00 hrs.	Keynote Address: Basic theory of Artificial Neural Network (ANN)	Dr. Raju K George	Dr. R. S. Pundir Dr. Y. M. Shukla
Technical Session I 11:00-13:00 hrs.	Applications of Artificial Intelligence (AI) and Machine Learning (ML) in Agriculture	Dr. Deepak Mishra	Dr. M S Kulshrestha
13:00-14:00 :: Lunch Break ::			
Technical Session II 14:00-16:00 hrs.	Applications of Mathematical & Statistical methods in Weather and Agriculture	Dr. M S Kulshrestha	Ms. Rucha Dave
Technical Session III 16:00-18:00 hrs.	Watershed Modeling Techniques and Applications in Soil & Water Conservation for Sustainable Agriculture	Dr. Mukesh Tiwari	Dr. N D Patel
06-08-2022			
08:00-09:00 hrs. :: Breakfast ::			
Technical Session IV 09:00-11:00 hrs.	Remote Sensing of Soil Moisture: Current Retrival Techniques and Future Perspectives	Mr. Dharmendra Kumar Pandey	Dr. M S Kulshrestha
Technical Session V 11:00-13:00 hrs.	Information Extraction from Hyperspectral Data for Agricultural Applications.	Dr. Anand S Sahadevan	Dr. N D Patel
13:00-14:00 :: Lunch Break ::			
Technical Session VI 14:00-16:00 hrs.	Advances in Radar Remote Sensing for Agricultural Applications	Dr. Avik Bhattacharya	Ms. Rucha Dave
16:00-17:00 hrs.	Plenary Session		