



Ministry  
of Education  
Government of India

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[GLOBAL INITIATIVE OF ACADEMIC NETWORKS]



ALIGARH MUSLIM  
UNIVERSITY

# One Week Course on Remote Sensing (RS) Based Resources and their Application in Crop Monitoring and Crop Modelling

16-22 NOVEMBER, 2022

Organized by

**DEPARTMENT OF ECONOMICS**

ALIGARH MUSLIM UNIVERSITY, ALIGARH



**Prof. Segundo E.V. Medrano**

Dept. of IFA  
National University of Jaen  
Peru



**Prof. Md. Abdus Salam**

Chairman  
Dept. of Economics  
AMU, Aligarh



Local Coordinator

**Prof. M.J. Warsi**

Dept. of Linguistics  
AMU, Aligarh



# Remote Sensing (RS) Based Resources and their Application in Crop Monitoring and Crop Modelling



**ALIGARH MUSLIM  
UNIVERSITY**

## ABOUT THE UNIVERSITY

Aligarh Muslim University (abbreviated as AMU) is a central university in Aligarh, Uttar Pradesh, India, which was originally established by Sir Syed Ahmad Khan as the Muhammadan Anglo-Oriental College in 1875. Muhammadan Anglo-Oriental College became Aligarh Muslim University in 1920, following the Aligarh Muslim University Act. It has three off-campus centres AMU Malappuram Campus (Kerala), AMU Murshidabad centre (West Bengal), and Kishanganj Centre (Bihar). The university offers more than 300 courses in traditional and modern branches of education, and is an institute of national importance as declared under seventh schedule of the Constitution of India at its commencement.

The university has been ranked 801–1000 in the QS World University Rankings of 2021, and 10 among universities in India by the National Institutional Ranking Framework in 2021. Various clubs and societies function under the aegis of the university and it has various notable academicians, literary figures, politicians, jurists, lawyers, and sportspeople, among others, as its alumni.



## ABOUT DEPARTMENT



Department of Economics is one of the oldest departments established simultaneously with Aligarh Muslim University in 1920. Since its inception, the Department has been offering undergraduate and postgraduate courses in Economics. It attracts the largest number of students at the undergraduate and postgraduate levels from within and outside the country. The Department has a long tradition of imparting quality education and conducting in-depth research. Every year Students qualify the UGC-NET and JRF and Maulana Azad National Fellowship to continue their studies in Economics. Many of its alumni hold prominent positions both in academics and administrative spheres across the country and the world - a small testimony, perhaps, to the excellence of training that we provide to our students.

The teaching programmes in the Department are focused on proper blending of 'quality' and 'relevance' in teaching & research. This is sought to be achieved by periodic updating of syllabi in conformity with the advancement of the knowledge in the subject with equal emphasis on theoretical and applied economics. Department introduces new courses from time to time and makes tutorials more effective by establishing close student-teacher contact. The research programmes give special attention to economic problems of the country. The thrust areas include the various fields of Development Economics, Economic Growth, International Economics, Financial Economics, Agricultural Economics, Environmental Economics, Industrial Economics, Health Economics, Monetary Economics, Labour Economics, History of Economic Thought, Public Finance, and Population Studies.

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## Know your Faculty



**Dr. Segundo Edilberto Vergara Medrano** is presently serving as a Professor at the IFA, National University of Jaen, Peru from 2015 and engaged in teaching and research in Remote Sensing and GIS. Prof. Segundo earned his Ph.D degree in environmental sciences from National University of Trujillo, Peru. He completed his master from Mayor University of San Simon, Bolivia and Twente University at the Faculty of Geo-information Science and Earth Observation. Prof. Segundo also received a Master of Science degree in Environmental Management from National University of Trujillo. He received training under United Nations International Training Programme on Remote Sensing from Remote Sensing Laboratory, Department of Physical Geography and Quaternary Geology, Stockholm University, Sweden.

Prof. Segundo is also trained in Remote Sensing and GIS Application for Natural Resource Management and Remote Sensing and GIS Application for Integrated Catchment and Water Management from Faculty of Geo-information Science and Earth Observation, Twente University, Netherlands.

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## Host Faculty and Course Coordinator

**Dastgir Alam** (b. 1978) received his Ph.D degree in Economics from the Department of Economics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. He has participated in several national and international conferences, seminar and workshops. He has several publications in national and international journals like International Journal of Current Research, International Journal of Agriculture, Environment and Biotechnology, Journal of Asian Business Management etc. He has been teaching Economics to the students of undergraduates, postgraduates and research students for the last 19 years in the Department of Economics, Aligarh Muslim University, Aligarh and A & R Economics, MJP Rohilkhand University, Bareilly. His research and teaching areas of interest are agricultural economics, Micro Economics, Rural Economics and Regional Economics. Dr. Dastgir Alam has also been engaged in minor and major research projects financed by the UGC, New Delhi. He is also supervising research students leading to the award of degree of M.Phil and Ph.D.



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## Host Faculty and Course Co-Coordinator



**Dr. Jamil Ahmad** received his M.phill and Ph.D. degree in Economics from the Department of Economics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. Dr. Jamil Ahmad is working as an Assistant Professor in the Department of Economics, Aligarh Muslim University Aligarh, since 2006. Dr. Jamil Ahmad has several publications to his credit in national and international journals of repute. At present Dr. Jamil Ahmad is teaching Under-Graduate and Post-Graduate Students as well as guiding research in the Department of Economics, A.M.U., Aligarh. His current areas of interest are International Economics, Financial Economics, Macro Economics, Indian Economy and Human Resource Development. He has participated in several national and international conferences, seminars, and workshops.



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## Course Details:

1. Concepts and principles of RS, GIS and GPS, Applications of RS, GIS and GPS in Agriculture, Problem solving sessions with examples; 2. RS, Image Registration & Error Correction, RS data acquisition, and problem solving sessions with examples; 3. Field Visit; 4. Selection of an area on satellite map: Application of GIS and GPS, Analysis of soil characteristics: Application of RS and GIS, Problem solving sessions with examples; 5. Climatic conditions/weather analysis: Application of RS and GIS, 6. Creating an NDVI map for a selected areas and its interpretation in agriculture, Problem solving sessions with examples; 7. Agricultural production function: An econometric analysis; 8. Crop modeling and crop monitoring: Application of RS and GIS; 9. Problem solving sessions on crop modeling and crop monitoring: Application of RS and GIS.

## Objectives of the Course

1. Exposing Participants to the fundamentals of Remote Sensing and Geographical Information System.
2. Preparing Indian agriculture labour force for precision agriculture
3. Providing exposure to practical problems and their solutions in obtaining numerical values for a given indicator with the help of satellite images.
4. Enhancing the capability of participants to identify, control and remove problems related to use of RS and GIS in crop monitoring and crop modeling

## Who Can Participate

Academicians, Executives, Administrators and Researchers from the Government/Non-Government Organizations. This course is beneficial to Under Graduate, Post Graduate and Research Scholars from Department of Economics, Geography, Geology, Management, Botany, Wildlife, Agricultural Sciences, Remote Sensing & GIS, Commerce and Social Work

## Contacts:

### Course Coordinator

**Dastgir Alam**

Dept. of Economics, AMU  
dastgir\_alam@rediffmail.com  
Mob.: 9997147204

### Course Co-Coordinator

**Jamil Ahmad**

Dept. of Economics, AMU  
jamilahmad786@gmail.com  
Mob.: 9410692999

## Registration Fee

Category	Without Food & Lodging	With Food & Lodging
Academicians Executives etc.	Rs. 1500/-	Rs. 8500/-
Students	Rs. 1000/-	Rs. 8000/-
Foreign Nationals		200 Us Dollars

## Online Registration

<https://gian.iitkgp.ac.in/GREGN/index>

(On or before 15<sup>th</sup> October, 2022)

### Account Name

GIAN ECO

### Account Number

110060861050

### Bank Name

Canara Bank, AMU Branch, Aligarh

### IFSC Code

CNRB0005247



# Remote Sensing (RS) Based Resources and their Application in Crop Monitoring and Crop Modelling



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Course Details		
Lecture	Topic	Faculty
Day-1: 16-11-2022 (Wednesday)		
Lecture #1 9:00 am - 10:00 am	Concepts and Principles of RS, GIS and GPS	Prof. Segundo E.V. Medrano
Lecture #2 10:00 am - 11:00 am	Applications of RS, GIS and GPS in Agriculture	
Tutorial/Practical #1 11:15 am - 1:15 pm	Problem Solving Session with Examples	
Day-2: 17-11-2022 (Thursday)		
Lecture #3 9:00 am - 10:00 am	RS-Image Registration & Error Correction	Prof. Segundo E.V. Medrano
Lecture #4 10:00 - 11:00 am	RS- Data Acquisition	
Tutorial/Practical #2 11:15 am - 1:15 pm	Problem Solving Session with Examples	
Day-3: 18-11-2022 (Friday)		
9:00 am onward	Field Visit	Prof. Segundo E.V. Medrano Dr. Dastgir Alam Dr. Jamil Ahmad
Day-4: 19-11-2022 (Saturday)		
Lecture #5 9:00 am - 10:00 am	Selection of an Area on Satellite Map: Application of GIS and GPS	Prof. Segundo E.V. Medrano
Lecture #6 10:00 am - 11:00 am	Analysis of Soil Characteristics: Application of RS and GIS	
Tutorial/Practical #3 11:15 am - 1:15 pm	Problem Solving Session with Examples	
Day-6: 21-11-2022 (Monday)		
Lecture #7 9:00 am - 10:00 am	Climatic Conditions/Weather Analysis: Application of RS and GIS	Prof. Segundo E.V. Medrano
Lecture #8 10:00 am - 11:00 am	Creating an NDVI Map for a Selected Area and Its Interpretation in Agriculture	
Tutorial/Practical #4 11:15 am - 12:30 pm	Problem Solving Session with Examples	
Day-7: 22-11-2022 (Tuesday)		
Lecture #9 9:00 am - 10:00 am	Agricultural Production Function	Dr. Dastgir Alam Dr. Jamil Ahmad
Lecture #10 10:00 am - 11:00 am	Crop Modelling and Crop Monitoring: Application of RS and GIS	
Tutorial/Practical #5 11:15 am - 1:15 pm	Problem Solving on Crop Modelling and Crop Monitoring: Application of RS and GIS	
1:15 pm - 1:30 pm	Tea Break	
1:30 pm - 2:00 pm	Closing Ceremony	

