



PRESENTS



38th Fortnightly Workshop on

HARNESSING SATELLITES AND GEO-AI FOR WATER RESOURCES

Speaker – Mohd Sayeed ul Hasan
(Assistant Professor, Aliah University)

For Students from Classes 5th to 12th
(Teachers can also Participate)

 November 9th, 04:00PM IST

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KNOWLEDGE AND AWARENESS MAPPING PLATFORM

KNOWLEDGE SESSION 2023: EPISODE 38

ORGANIZED BY: KNOWLEDGE AND AWARENESS MAPPING PLATFORM

A KNOWLEDGE ALLIANCE OF



Topic: Harnessing Satellites and GEO-AI for Water Resources

Date: November 9, 2023

Organized for: Students from classes 5-12

Category: Science, Technology and Innovations

Speakers/Presenters: Mohd Sayeed UL Hasan

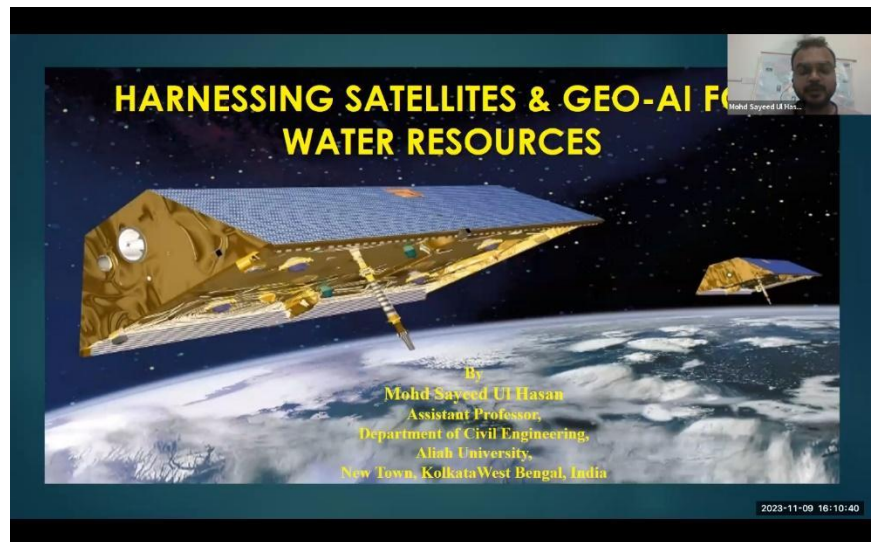
No. of Participants: 500+ students from different schools across India

Overview:

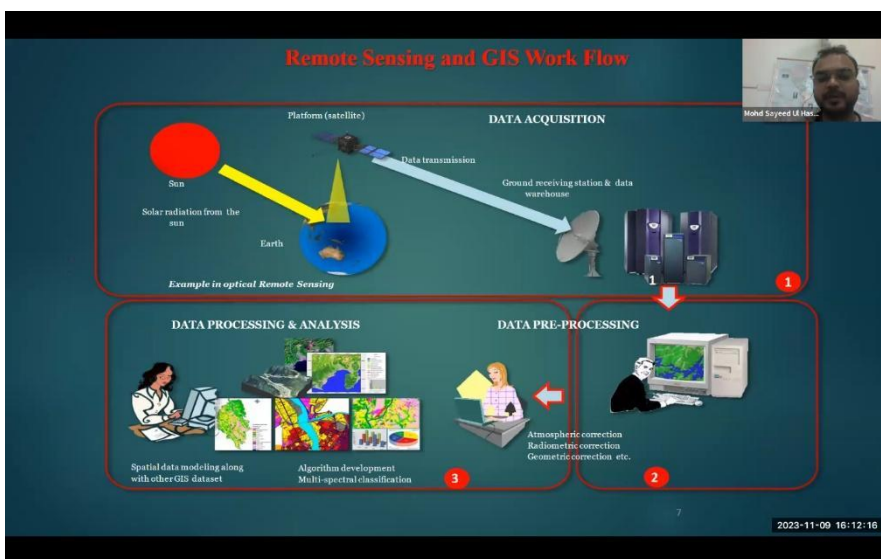
On November 9th, 2023, the Knowledge and Awareness Mapping Platform (KAMP) hosted its 38th knowledge-sharing session, which focused on the intriguing topic of "Harnessing Satellites and Geo-AI for Water Resources." This session was exclusively designed for students ranging from class 5th to 12th, with the aim of nurturing their curiosity and promoting an early interest in the fascinating realm of water resource management.

The event was gracefully presided over by Mr. Aniket Arora, KAMP's Outreach Coordinator, who set the tone for an engaging and enlightening experience.

Mr. Arora warmly welcomed the distinguished guest speaker, Mr. Sayeed, a distinguished researcher known for his unwavering commitment to the pursuit of knowledge and an extensive academic background.



Mr. Sayeed's profound passion for interdisciplinary research made him the perfect guide for this unique session.



During the knowledge-sharing workshop, Mr. Sayeed skillfully unraveled the intricacies of employing cutting-edge technology and optimizing the utilization of water resources. His insightful presentation not only educated the attendees but also kindled their imagination. He shed light on innovative methods

and tools that have ushered in a transformative era in the field of water resource management. These revolutionary techniques offer sustainable solutions and a comprehensive understanding of water management in our modern world, emphasizing the importance of responsible resource utilization.

In addition to this intellectually stimulating discourse, Mr. Aniket Arora took the opportunity to inform the attending students and teachers about the upcoming scientific excursions and teacher training programs organized by KAMP. These

exciting educational initiatives are set to take place at various prestigious institutions such as the CSIR Labs and ISRO Centers, providing an unparalleled opportunity for hands-on learning and exposure to cutting-edge research in the fields of science and technology.

In conclusion, this session was a truly enlightening experience, with Mr. Sayeed's expert insights providing a valuable perspective on the evolving world of water resource management. KAMP's commitment to fostering curiosity and educational growth was further underlined by its dedication to organizing programs that empower both students and teachers through immersive

Multistage Remote Sensing Data Collection

Satellite based remote sensing
 Advantages: Less geometric errors (platform is stable)
 Disadvantages: Need to wait a time for certain event
 Fixed spatial resolution

Aerial surveying
 Advantages: Acquire any times any events
 Variable spatial resolution by changing flight altitude and camera focal length
 Disadvantages: High geometric errors; require sophisticated geometric correction model
 Costly for specific area, specific purpose

Ground based remote sensing GBRS or Low Altitude Remote Sensing
 Scientific experiment purposes
 (e.g. study about canopy, soil contamination, etc.)

Earth surface

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Major Geospatial Technology Trends

- ❖ **Deep into Miniaturization of Sensors**
 Growth of technologies made chips smaller, the sensors have become more efficient and cost-effective. Eg. Lidar point cloud from iPhone 12 and iPhone 13
- ❖ **Geospatial Artificial Intelligence (AI)**
 when think and learn ability of AI combined with Geospatial, it produces sharp analytics and solution-based approaches on geographic components.
- ❖ **High-Definition Maps for Self-Driving Vehicles**
 Geospatial technologies play an important role Automotive self-driving cars with the collaboration of maps like Google, TomTom, and Here.

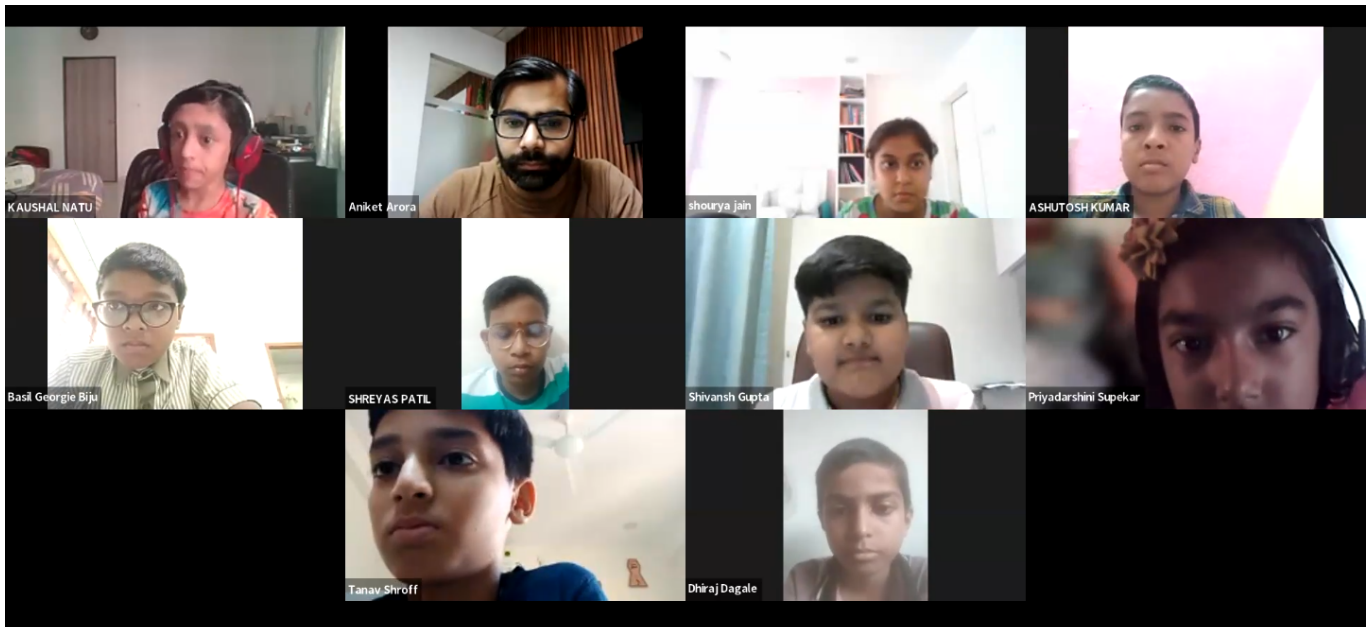
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learning opportunities at esteemed research institutions. This event was a testament to KAMP's vision of nurturing the next generation of leaders and innovators in the field of science and technology.

The purpose of KAMP's fortnightly workshops is to help students develop creativity, meaningful learning, and critical reading and thinking skills

that bring out their inherent abilities. The vision of KAMP is to identify and capture Scientific and Technological temperament in students to make India a Global Leader in the fields of Science, technology, and the humanities.

Such workshops, conducted by KAMP, deal with various topics that fall under the categories of Science, technology, and innovation, Scientific and Life Skills, Career and Professional Development, Academic development, and training trainers and teachers.



KAMP believes that with exposure to such topics from experts within such specific fields, students will become aware of real-life situations and challenges, develop a helping, problem-solving nature wherever possible, understand their core values and personal interests, evaluate their skills within the given area, and achieve their best in their most desirable way.

Organized By:
Knowledge and Awareness Mapping Platform
(KAMP Operations and Coordination Office)

Moderated By:
Mr. Aniket Arora
(Outreach Coordinator)

Team Credits:
Ms. Arika Mathur
(Member, KPMC)

Ms Vishakha Gola
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