



## INSTITUTION'S INNOVATION COUNCIL (IIC)

### SHYAM LAL COLLEGE, DELHI



**Session on Accelerators/Incubation - opportunities for students and faculty aspiring to be Entrepreneurs**

**05-07-2024**

SLC (University Of Delhi)  
SHYAM LAL COLLEGE  
NAAC A++ & NRIF AIR 68™

**Institution's Innovation Council**  
*Presents*  
**SESSION ON  
ACCELERATORS / INCUBATION  
OPPORTUNITIES**  
(For Students & Faculties - Early Stage Entrepreneurs)

**Prof. William K. Mohanty**  
Ph.D.  
Department of Geology &  
Geophysics  
IIT Kharagpur

**3 :00 PM Onwards**  
**Google Meet**  
**5th July, 2024**  
E- Certificates to all the participants

SCAN ME  
REGISTER NOW

**Organizing Team:** Dr. Monika Goyal, Mr. Balram Kindra, Dr. Sushil Kumar, Dr. Neha Bothra, Dr. Sunny Aggrawal, Dr. Pranav Dass, Dr. Leena Singh, Dr. Kanika Solanki, Dr. Nidhi Jain, Dr. Bisla Devi, Ms. Priyanka Yadav, Dr. Rahul Boadh, Dr. Manisha

( DR. SAUBHAGYALAXMI SINGH )  
CONVENOR, IIC

( PROF. RABI NARAYAN KAR )  
PRINCIPAL

The Institution's Innovation Council of Shyam Lal College, Delhi University, organized a session on Accelerators/Incubation – an opportunity for students and faculty aspiring to be entrepreneurs. The session was held online through Google meet on 5<sup>th</sup> July 2024 from 3:00 PM onwards. We were Delighted to have Dr. William K. Mohanty, professor in department of Geology & Geophysics at Indian Institute of Technology, Kharagpur on board to share invaluable insights and strategies. The main purpose of this was to understand and discuss the scope and importance of geology and geophysics, highlighting their interdisciplinary nature and applications in areas like earthquake prediction, resource exploration, and climate change mitigation. It emphasizes the need for collaboration across disciplines to address societal challenges effectively.

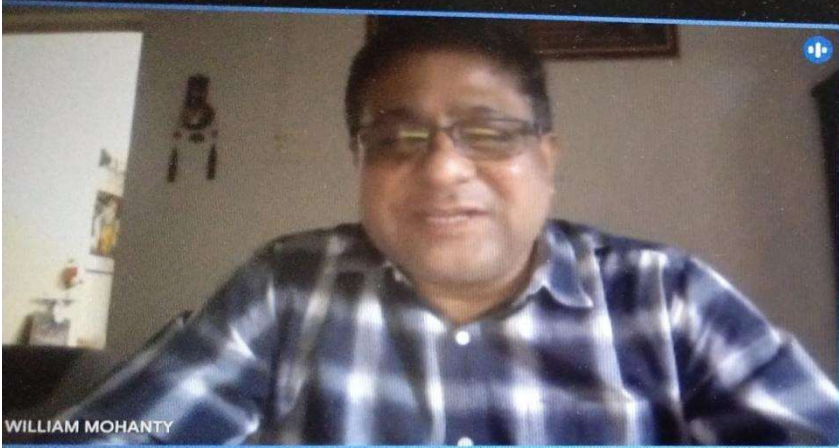
The screenshot displays a Google Meet interface. At the top, the browser address bar shows the meeting URL: `meet.google.com/vzh-cymw-gkv`. The meeting title is "vzh-cymw-gkv". The presenter is identified as "WILLIAM MOHANTY (Presenting)".

The main content is a PowerPoint slide titled "Pathway". The slide features a central diagram with several interconnected nodes and boxes:

- Integrated research** (Yellow circle):
  - Multiple geophysical techniques with surface geology for meaningful conclusion.
- Developing synergy with academia and the industry** (Red circle):
  - Resources both in land and ocean.
  - Climate challenges.
  - Clean and alternate energy to fossil fuels.
- Improve Global Visibility** (Green circle):
  - Active participation in major international programmes.
  - Collaboration with international institutions.
- Theoretical studies and technological innovations** (Purple circle):
  - AI-ML enabled research
- Accelerator and Incubation** (Orange circle):
  - Complete solution for industry and stakeholders.
  - Incubation centre.
  - Intellectual Property Rights (IPR).
  - Skill development.
  - Education and knowledge resources.
- Well being of each individual** (Pink box)
- AI-ML enabled research** (Blue box)

The slide also includes a small image of a globe and a diagram of a wind farm. The bottom of the slide shows "Slide 45 of 46" and "English (India)".

On the right side of the screen, there is a grid of participant avatars. Visible names include: WILLIAM MOHANTY, Natasha Ch..., Shyam Tripathi, Asif, Ramesh Sharma, Chaitanya Lohani, Dimpal Singh, Bisla Devi Rajor..., Nitin Kumar, sarthak paliwal, 48 others, and Jarul Gupta. The bottom status bar shows the time as 4:22 PM and the meeting ID as vzh-cymw-gkv.



WILLIAM MOHANTY



Rabi Kar

A row of participant avatars and names in a Google Meet interface. From left to right: a globe icon, a name partially visible as 'ak paliwal', an orange circle with 'M' for 'Madhav Agar...', a woman's face for 'Akshita Bat...', a man's face for 'Shyam Tripathi', a man's face for 'Asif', a blue circle with 'R' for 'Ramesh Sharma', a woman's face for 'manisha m...', a logo for 'Chaitanya Loh...', and a group icon for '41 others'.

**GPS Map Camera**



New Delhi, Delhi, India  
Shahdara New Delhi, Delhi, India  
Lat 28.661594°  
Long 77.18254°  
05/07/24 04:32 PM GMT +05:30

A row of standard Google Meet control icons including a microphone, video camera, chat, screen share, and call controls.



WILLIAM MOHANTY (Presenting)

## Accelerators and Incubators Specific to Geoscience

- GeoTech Hub, EarthHub: Focus on startup developing geotechnical solutions from advanced seismic imaging to advanced drilling technology
- Network Building: Stress on specific networking and professional societies like the Geological Society of America (GSA)

## Some of the Key moments of this Session:

1. The seminar focuses on interdisciplinary collaboration in geology and geophysics to address societal challenges, emphasizing the need for diverse expertise beyond these fields.
2. The speaker discusses the importance of involving mathematics, physics, and social science in solving geology and geophysics-related problems for a comprehensive approach.
3. Geology and geophysics are interconnected fields that complement each other. Geologists study rocks on the surface, while geophysicists analyze the Earth's interior using equipment and sensors.

-Different branches within geology include geomorphology, tectonics, sedimentary geology, and mineral resources, each focusing on specific aspects of the Earth's composition and history.

-Geophysics involves studying physical parameters of the Earth's interior using methods like seismic, magnetic, and electromagnetic surveys, aiding in interpreting geological structures and processes.

The screenshot shows a Google Meet interface. At the top, the browser address bar displays 'meet.google.com/vzh-cymw-gkv'. The main content area is split into two parts: a presentation slide on the left and a video feed on the right. The presentation slide, titled 'Geophysical Surveying Methods', is a table with three columns: 'Method', 'Measured Parameter', and 'Operative Physical property'. The video feed shows a man with glasses, identified as 'WILLIAM MOHANTY', speaking. Below the main content, there is a row of participant icons with names: KAVYA SHAR..., Harsh Kumar, Asif, Shyam Tripathi, Chaitanya Loh..., Akshita Bathia, Dimpal Singh, Biata Devi Rajo..., 58 others, and Jarul Gupta. At the bottom, a 'GPS Map Camera' overlay is visible, showing a satellite map of New Delhi, India, with a red location pin. The overlay text includes: 'New Delhi, Delhi, India', 'Shahdara New Delhi, Delhi, India', 'Lat 28.661594°', 'Long 77.18254°', and '05/07/24 03:28 PM GMT +05:30'. The bottom status bar shows the time as 3:28 PM, the date as 7/25/2024, and the language as ENG IN.

Method	Measured Parameter	Operative Physical property
Seismic	Travel times of reflected/ Reflected seismic waves	Density and elastic module, which determine the propagation velocity of seismic waves
Gravity	Spatial variations in the strength of the gravitational field of the Earth	Density
Magnetic	Spatial variations in the strength of the geomagnetic field	Magnetic susceptibility and remanence
Electrical Resistivity	Earth resistance polarization voltages or frequency dependent ground resistance	Electrical conductivity Electrical capacitance
Polarization	Electrical potential	Electrical conductivity and inductance
Self Potential	Response to electromagnetic radiation	
Electromagnetic	Travel times of reflected Radar pulses	Dielectric constant

4. Geology and geophysics are crucial for understanding the Earth's surface and interior, guiding construction projects and resource utilization. It involves studying rock formations, materials, processes, and historical changes for safe and sustainable development.

-Understanding geomorphology, sedimentary deposits, and river systems helps in predicting and managing geological hazards like floods and earthquakes.

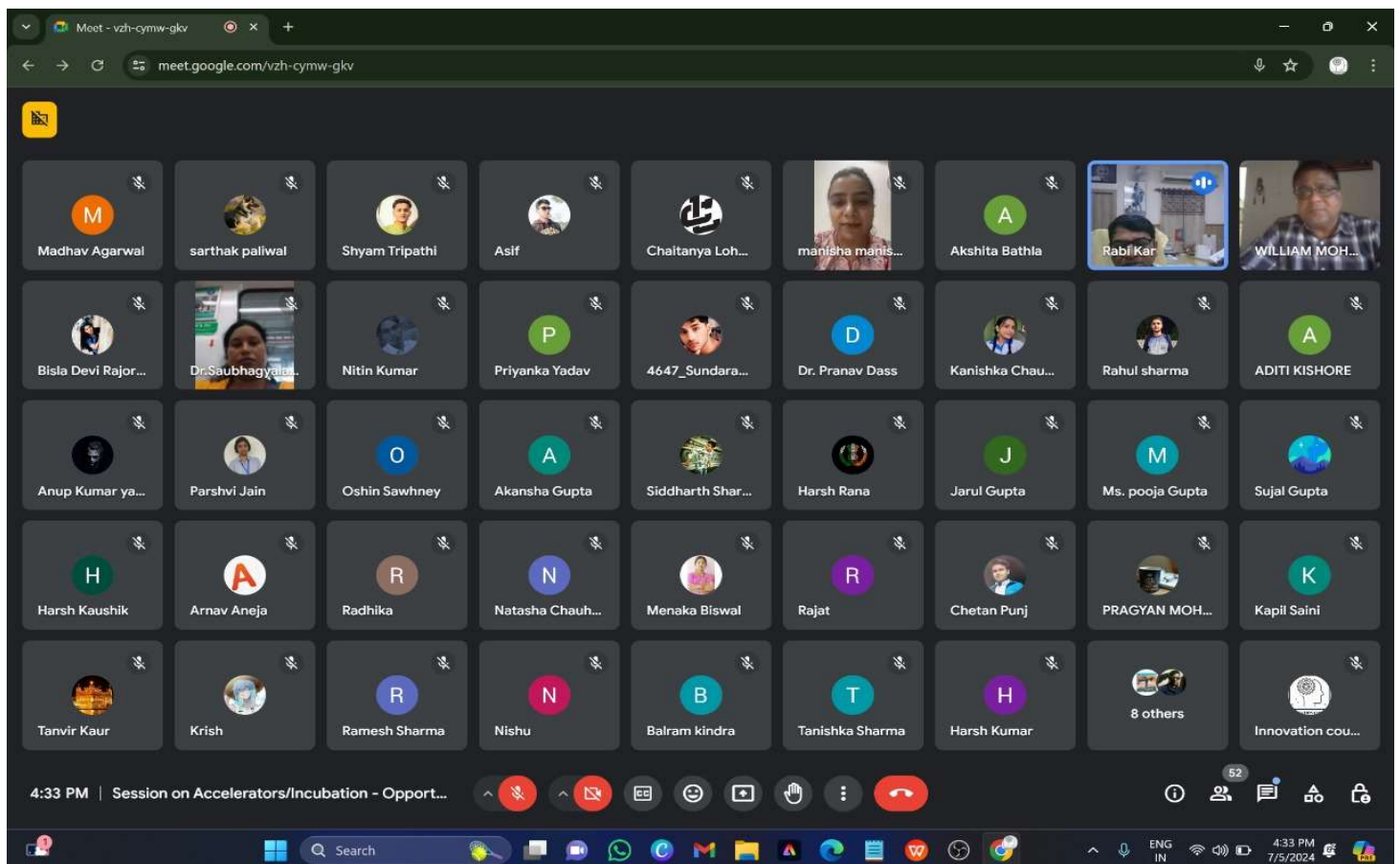
-Engineering geology is essential for designing structures like dams, bridges, and underground facilities by assessing rock types, strengths, and slope variations.

-Geology and geophysics contribute to resource exploration, infrastructure development, and ensuring the safety and sustainability of construction projects.

5. Continental Drift Theory, proposed in 1912, explains how land masses drift apart due to volcanic activities and heat from Earth's interior, impacting seismic activities and shaping Earth's surface over time.

-Plate Boundaries and Magma Movement. The movement of tectonic plates at plate boundaries, interacting with magma, leads to volcanic activities and the formation of new landmasses.

-Seismic Activities and Earth's Shape. Earthquakes, influenced by plate movements and volcanic processes, contribute significantly to casualties, highlighting the dynamic nature of Earth's structure.



6. Geoscientists play a crucial role in sustainable development by addressing environmental challenges through strategies like carbon capture and early warning systems for natural disasters. Collaboration with experts from various disciplines is essential for societal progress and survival in the future.

-Strategies like carbon capture and utilization, as well as early warning systems for earthquakes, are crucial for addressing environmental challenges and ensuring societal well-being.

-Collaboration with experts from different fields such as computer engineering and geology is necessary to develop and implement effective solutions for sustainable development.

WILLIAM MOHANTY (Presenting)

### 3D gravity modeling (Northern part) (Mandal et al., 2013; SEG Technical Program Exp. Abs., 32)

Residual gravity map of northern anomalous zone of Tangarparha (after Mohanty et al., 2011). (a) in Latitude-Longitude Black '+' are observations locations and white '+' are the regular grid nodes, (b) in x-y distance considering lower left corner of Figure a as origin and black '+' are the same grid nodes as Figure a; 3D density distribution (c) Depth wise up to a depth of 250 m. (d) Along two cross cutting vertical slices. (e) Density greater than 3570 kg/m<sup>3</sup>.

4:02 PM | vzh-cymw-gkv

62

52 others

Jarul Gupta

William Mohanty

Ramesh Sharma

Bisla Devi Rajoriya

Asif

Shyam Tripathi

Chaitanya Lohani

Akshita Bathla

Dimpal Singh

D

J

## Teacher attendees:

1. Dr. Saubhagyalaxmi
2. Dr. Pranav Dasa
3. Dr. Radhika
4. Dr. Rahul Bhora
5. Dr. Priyanka
6. Dr. Bisla Devi
7. Dr. Balram kindra
8. Dr sunny Aggarwal
9. Dr. Sushil
10. Dr. Leena Singh
11. Dr. Manisha
12. Prof. Rabi Narayan Kar
12. Mr. Tarun Shankar

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