



Presents



43rd Fortnightly Workshop  
on

# Soil and Water Adventures for Young Hydrologists

By **Dr. Pankaj K. Gupta**

Co-Founder of the Society of Young Agriculture and Hydrology Scholars of India

## Topics covered in this workshop

- ✓ Soil and Groundwater System
- ✓ Sources of Pollutants
- ✓ Soil & Water Quality
- ✓ Ecosystem Health
- ✓ Sustainable Development
- ✓ Environmental Conservation

For Students from Classes 5th to 12th

(Teachers can also Participate)

JOIN US



January 19th,  
04:00PM IST

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**KNOWLEDGE AND AWARENESS MAPPING PLATFORM**

**KNOWLEDGE SESSION 2024: EPISODE 43**

ORGANIZED BY: KNOWLEDGE AND AWARENESS MAPPING PLATFORM

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**Topic:** Soil and Water Adventures for Young Hydrologists

**Category:** Scientific and Life Skills

**Speakers/Presenters:** Dr. Pankaj K. Gupta

**Organized for:** Students from classes 5 - 12 **Date:** January 19, 2024

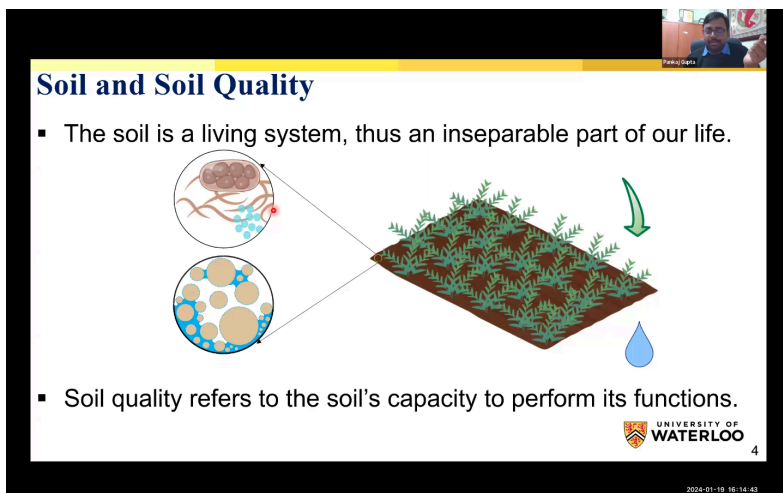
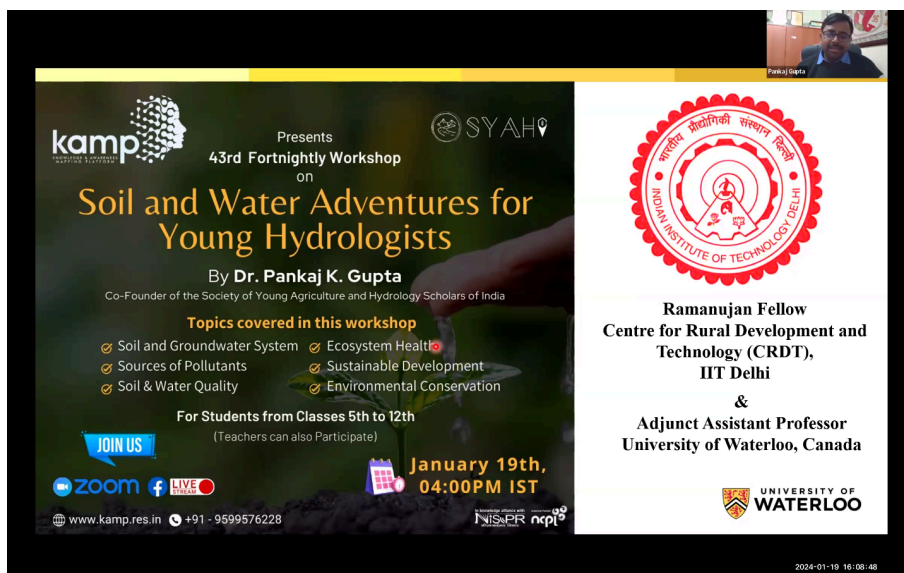
**No. of Participants:** 500+ students from different schools across India

### Overview:

On 19th January 2024, Knowledge and Awareness Mapping Platform (KAMP) successfully hosted its 43rd exclusive knowledge-sharing session titled "Soil and Water Adventures for Young Hydrologists." The workshop attracted an active participation of more than 500 students from classes 5th to 12th, representing various CBSE, KV, JNV, EMRS schools across India.

Ms. Gurjit Kaur, the convener of the session, played a pivotal role in highlighting the importance of the workshop, setting the stage for an engaging and enlightening experience. The workshop

provided a transformative experience for the participants, with a primary focus on understanding soil and water systems, sources of pollutants, and their impact on ecosystem health. The session aimed to equip young minds with essential knowledge for sustainable development and environmental conservation.



Under the expert guidance of Dr. Pankaj K. Gupta (Co-Founder of the Society of Young Agriculture and Hydrology Scholars of India), participants gained invaluable insights into the intricacies of soil and water dynamics, pollution management, and the importance of sustainable practices.

It also focused on environmental conservation and the importance of a holistic approach to addressing water-related challenges.

The students actively participated in discussions and activities, gaining knowledge that is expected to significantly influence their understanding and decision-making processes regarding soil and water management. The session emphasized the importance of the

soil-water system, addressing aspects like pollution sources (point and non-point sources, geogenic sources), unsaturated zone, tension saturated zone, saturated zone, and the management of polluted sites.

The insights gained from the workshop are anticipated to have a lasting impact on the participants, encouraging them to become informed advocates for

environmental conservation and responsible water management. In conclusion, the "Soil and Water Adventures for Young Hydrologists" workshop proved to be a valuable platform for knowledge-sharing and skill development, contributing to the broader goal of fostering environmental awareness among the youth.

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

**Soil-Water System**

- UNSATURATED ZONE:**
  - Pores are only partially filled / have a water content less than saturation.
  - (generally) The zone where pressure is less than atmospheric = zone of negative pressure
- TENSION SATURATED ZONE:**
  - Pores are saturated, but pressure is less than atmospheric
- SATURATED ZONE:**
  - Pores are saturated
  - Zone where pressure is equal to or greater than atmospheric = zone of positive pressure

Top of saturated zone is the known as the water table.

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**Industrial Sources**

- Industrial sources, spills, discharge, seep/infiltrations
- Non-aqueous phase liquid (NAPL),  $\text{scO}_2$ , Pharmaceuticals and personal care products, etc.

(Gupta and Yadav, 2017)

Vadose Zone

Saturated Zone

Water Table

Groundwater Flow

Pure NAPL

Air-phase NAPL plume

Dissolved-phase NAPL plume

Pure NAPL

Air

Water

Dissolved NAPL

Microbes

Water

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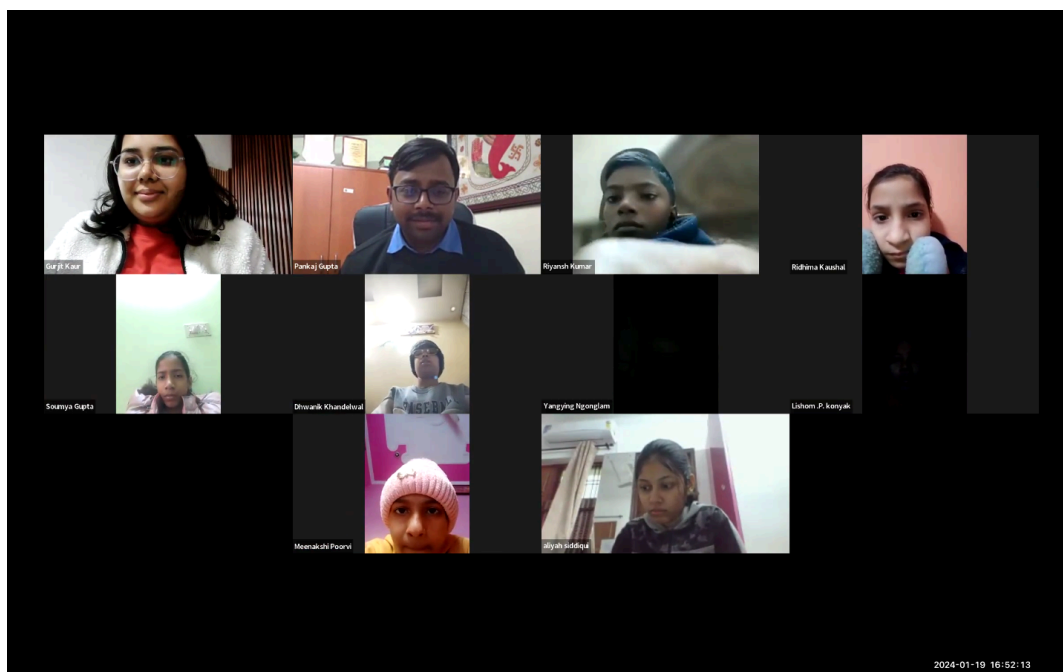
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identify and capture Scientific and Technological temperament in students to make India a Global Leader in the fields of Science, technology, and the humanities.

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, KAMP)

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(Data Analyst)