School of Environmental Sciences

[Established: 1974]

Introduction

School of Environmental Sciences was established in 1974. School has interdisciplinary focus bringing together Physics, Chemistry, geology, Ecology, & biological Sciences - to gain an insight into the environmental issues and processes at local regional and global levels in an integrated manner.

Faculty of the school

Name of Faculty	*Designation*	*Major areas of Research*	*Number of Ph.Ds. produced(in last 5 yr)*
V,K. Jain	Dean & Professor	Aerosol Physics/ Air Pollution	5
V. Rajamani	Professor	Geochemistry/Nutrient Cycling	4
K. Dutta	Professor	Environmental Biochemistry	3
K.G. Saxena	Professor	Biodiversity/Sustainable Development	4
S. Bhattacharya	Professor	Environmental Biochemistry/Molecular Biology	4
V. Subramanian	Professor	Geochemistry/Water Pollution	5
Arun K. Attri	Professor	Climate Change/Radiation & Environment / Atmospheric Chemistry	5
Brij Gopal	Professor	Limnology /Wetland Ecology	3
J. Behari	Professor	Environmental Physics/Microwave	2
A.L. Ramanathan	Asso. Professor	Biogeochemistry/Costal Geochemistry	6
I. Thakur	Asso. Professor	Bioremediation/ Environmental Biotechnology	1
S. Mukherjee	Asso. Professor	Remote sensing/Ground Water /GIS	5
P.S. Khillare	Asso. Professor	Air Pollution/EIA	4
K. Mukhopadhya	Asso. Professor	Environmental Toxicology	New Faculty
I. Ghosh	Asst. Professor	Environmental Biochemistry	New Faculty
Krishan Kumar	Asst. Professor	GIS/Modeling/Noise Pollution	New Faculty
S.Yadav	Asst. Professor	Environmental Chemistry	New Faculty
J. K. Tripathi	Asst. Professor	Environmental Geochemistry	New Faculty
Paul Raj R	Asst. Professor	Environmental Biology	New Faculty
Meenakshi Dua	Asst. Professor	Environmental Biology	New Faculty

School of Environmental Sciences

- Activities: Teaching and Research
- Programs: M.Sc and M.Phil/Ph.D
- Total Faculty: 20
- Technical Staff: . TO (1); STA (2); TA(3)
- Number of Ph.D (till date): 176
- Number of M.Phil (till date): 271
- Intake M.Sc : ~ 20 students per year
  (10 each from physical & Biological science background)
- Intake M.Phil/Ph.D~ 20 students per year
- Admission:

  M.Sc.- Through nationwide written entrance test.

  M.Phil/Ph.D. - Through nationwide written & viva entrance test

  Direct Ph. D. – Through viva only.

SES: Academic Structure consist of following four areas

- Physics → Atmospheric Physics, Aerosol studies ,,Energy studies,Electromagnetic Rad. Noise pollution, Theoretical Ecology and Modeling
- Chemistry → Chemistry :Soil/Water/Air, Limnology, Pollution Chemistry, Solid waste management and EIA
- Geology → Earth Processes, Geochemistry Hydrology, Remote Sensing
- Biology → Ecology, biochemistry, Molecular Biology, biophysics, Toxicology and Occupational Health

Specific Research Activities

Atmosphere

- Physical and chemical characterization of aerosols and their source apportionment, gaseous air pollutants and global warming.

- Quantitative estimation of VOC's from natural (Terpenes etc.) and anthropogenic sources and their potential in determining oxidation potential of atmosphere.

- Impact assessment of plant damage due to the reactive atmospheric constituents.

- Probing the scientific bases of fog formation in winter months in northern India.

Specific Research Activities

Water

- Water quality: surface, subsurface, soil and atmospheric dimensions with respect to nutrient flow and contamination.
- Water resource development: the application remote sensing technique.
- Aquatic ecology: life processes in aquatic environment
- Water Conservation: rain water harvesting, check dam etc. and recycling of wastewater
- Biological aspects: bio-remediation and microbial based water quality.
- Water borne diseases: applications of molecular probes to detect water borne diseases
- Application of modeling to probe aquatic systems including transport processes.
- Water pollution: monitoring and remedial measures.

Specific Research Activities

Soil:

- **Chemical processes and Nutrient cycling in soil**
- **Soil remediation**
- **Landuse and problems for soil conservation**
- **Soil contamination and bioremediation, in situ and ex situ .**
- **Geochemistry of Hard rocks**

Biology:

i) Cell-Cell and Cell matrix interaction in cellular signaling in response to environmental stimuli

(ii) Development of novel, economical molecular biology based methods to detect the drug sensitivity of parasite strains to for effective control and treatment of diseases.

SES: Publications/Patents

- Research Publications, Books
- & Reviews: > 600
- International Patents: 2
- National Patents: 4
- Patents Applied for: 4
- Research Publications (Last 5 years) ~ 150