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

- **Physics**
  - Atmospheric Physics, Aerosol studies, Energy studies, Electromagnetic Radiation, Noise pollution, Theoretical Ecology and Modeling

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