

Research Focal Areas of the Department

Air pollution and health effects in rural and urban populations of rapidly developing countries

Populations in rapidly developing countries face an enormous health burden from air pollution on account of high and often extreme exposures to emissions from a variety of sources in the household, ambient and occupational environments. The EHE team has led large scale exposure measurement exercises across multiple states in India as well as assisted in scoping exposure assessment methods in many Asian countries. The research specifically address the heterogeneity and complexity of air pollution exposure profiles experienced by both rural and urban populations. Collectively, these studies have generated an expansive base of exposure information, informing both regional and global efforts to estimate the health effects of air pollution and disease burdens. They have also informed the intervention efforts related to household air pollution from cooking-fuels in rural communities.

Assessing neuro-behavioral impacts of lead in children in India

Despite the phasing out of leaded gasoline in the late 1990s, exposures to lead continue to pose health risks for children in India. The EHE team has been involved in a long-term collaboration with investigators at Harvard University to profile the exposures in children as well as assess associated neuro-behavioural impacts and the role of gene-polymorphisms in effect modification. These studies provide some of the first continuous exposure-response relationships for lead and neuro-behaviour in India.

Climate change, heat stress and worker productivity

Occupational heat stress is rapidly becoming a major concern for worker productivity in the face of climate change. The EHE team is mapping vulnerabilities for impacts of heat stress on workers across multiple industrial sectors.

Developing academic and research infra-structure for environmental and occupational health in India

The department has been involved with a network of more than 50 national and international organizations for research and training collaborations, the most notable amongst them being the collaboration with UC Berkeley under support from the ITREOH program of The Fogarty International Center and the International Integrated Experts Program of the GTZ. The department also provides routine occupational safety and health consultancy services to a wide spectrum of industries.

Why to Study Environmental Health Science

- According to WHO report, millions of people die as a result of living or working in an unhealthy environment.
- Deaths due to non-communicable diseases resulting from air pollution exposure is on the rise.
- Rapidly developing countries including India bear a large proportion of this burden but yet lacking capacities to recognize, assess and manage environmental hazards.
- Mortality and morbidity of children under 5 years and elderly could be prevented through environmental education, training and management services.
- Ever increasing research data and awareness about the hazardous nature of pollution and stringent laws to have a cleaner environment is expected to drive the demand for environmental scientists and specialists.

Skilled human resources are scarce in the area of environmental health, affording graduates in this discipline numerous opportunities to pursue a career of their choice.

Facilities and Research Activities of the Department



CONTACT INFORMATION

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DEPARTMENT OF ENVIRONMENTAL HEALTH ENGINEERING

SRI RAMACHANDRA FACULTY OF PUBLIC HEALTH

Bachelor of Science (Hons.) in Environmental Health Sciences (Full time-4 Years)

A WORLD HEALTH ORGANIZATION
COLLABORATING CENTER
FOR OCCUPATIONAL & ENVIRONMENTAL HEALTH

SRU-ICMR CENTER FOR ADVANCED RESEARCH ON
AIR QUALITY, CLIMATE AND HEALTH

NIHR GLOBAL HEALTH RESEARCH CENTRE ON NCDS
AND ENVIRONMENTAL CHANGE



About SRIHER

Sri Ramachandra Institute of Higher Education and Research (Deemed to be University) was established by Sri Ramachandra Educational and Health Trust in the year 1985 as a private not-for-profit self-financing institution and dedicated to serve the society as a centre of excellence with emphasis on medical education, research and health care. Over three decades, the institute has transformed into a full-fledged Deemed to be University with 14 Constituent Colleges offering over 150 UG and PG programs in health care sciences. The university is spread over 150 acres, with a refreshingly green campus. The university is awarded with several national and international accreditations, few of which are below.

- Graded by UGC as **Category I University** for maintaining consistently high academic standards.
- Accredited by NAAC with "**A++**" Grade.

SRI RAMACHANDRA FACULTY OF PUBLIC HEALTH



WHO Global Network of CCs in Occupational and Environmental Health

www.who.int/occupational_health

The Department of Environmental Health Engineering, Sri Ramachandra Faculty of Public Health, Sri Ramachandra Institute of Higher Education and Research (Deemed to be University) was set up, as a part of the Basic Science Research Wing of the university in 1998 with the aid of financial assistance provided by the United Nations Industrial Development Organization (UNIDO). The department originally set up to provide occupational safety and industrial hygiene monitoring services to the leather/tanning industry in Tamil Nadu, has since then diversified to Academic, Research and Training in this area of occupational and environmental health.

• The Department serves as a **World Health Organisation Collaborating Center**. Being one of only 3 such centers in the South East Asia region, the center is a leading contributor to research and training in recognition, evaluation and management of environmental and occupational health risks.

• The department is recognised as a **Center For Advanced Research on Air Quality, Climate and Health by the Indian Council of Medical Research, Govt. of India**.

• The department is also recognised as NIHR global health research centre on NCDS and environmental change.

• The main emphases of the department research programs include **air pollution and health risk assessments, occupational hygiene & health, and policies related to environmental health**.

• With more than 2 decades of experience in global environmental health research, students can expect to receive world class training within and outside the classroom that will include opportunities for research, and industrial rotations.

• The faculty collaboration spans across more than 50 national and international institutions.

INTRODUCTION ABOUT THE B.Sc. (Hons) IN PUBLIC HEALTH PROGRAM

• The duration of B.Sc. (Hons) Environmental Health Sciences program shall be Four Years

• 3 academic years comprising six semesters and final year comprising 6 months of research and 6 months Internship in various laboratories / industries.

• It provides a profound theoretical and practical knowledge in air quality, water quality, food quality, ecology, environmental health and chemistry, basic physics, microbiology, biochemistry, public health, atmospheric chemistry, interaction of human physiology and body systems with environmental exposures, toxicology and diseases, social and human behaviour, environmental management systems, legislation and standards pertaining to environmental health.

• Main strength of this UG Program in Environmental Health Sciences is the wide variety of topics covered which provides the student broader area of relevant knowledge. It also provides the student with adequate qualifications across a number of fields, to aid more scope for higher education/employment upon completing the course.

PROFESSIONAL TRAINING

• The students will be rotated to laboratories, governmental and non-governmental organizations for gaining practical training to facilitate learning by observation and practice.

• The training covers the requirement aspects of the accrediting body, which will increase the scope of employment opportunities.

• It is designed to allow the student to undertake supervised environmental health professional training, thus developing their practical, professional and employability skills

PROGRAM ELIGIBILITY

HSC/CBSE/ISC or equivalent examination with one of the following subject combinations:

- (i) Physics, Chemistry, Biology and Mathematics (OR)
- (ii) Physics, Chemistry, Botany and Zoology

ELIGIBILITY FOR HIGHER STUDIES IN INDIA AND ABROAD:

The B.Sc. (Hons) in Environmental Health Sciences Program is eligible for pursuing the following higher studies in India and abroad. The student while going for higher studies shall choose to specialize in

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|--------------------------------|-----------------------|
| • Environmental Sciences | • Biotechnology |
| • Public Health | • Bioinformatics |
| • Molecular Biology | • Human Genetics |
| • Clinical research | • Management programs |
| • Other Life Sciences Programs | |

CAREER/ PLACEMENT OPPORTUNITIES

- Colleges and Universities
(Higher Studies/Research Project Assistant)
- Industries – For example distilleries, fertilizer plants, mines, refineries, textile mills etc & Environmental Testing Laboratories [Technician/Analyst in Good Laboratory Practice (GLP), Water, Air and Food quality Testing]
- Research and Development & Non-Government Organisation (NGOs)
(Project/Research/Field Technician & Laboratory Technologist)
- Toxicity Testing Laboratories (Environmental/Toxicological risk assessment /GLP analyst)
- Private Sector–Waste Management (Technologist)
- Environmental Consulting Organizations (Environmental Risk / Impact Assessment– Technologist)
- Environment and Health Department (Health and Environment promotion staff)

COURSE FEE

The tuition fee per academic year is Rs.75,000/-

DATE OF ADMISSION

Advertisement for admission will be published in the leading Newspaper as well as in the University Website during the month of April and the classes will commence normally from 2nd week of June of the academic year.