



Dr. Harisingh Gour Vishwavidyalaya
(A Central University)
Sagar (MP)



GLOBAL INITIATIVE OF ACADEMIC NETWORKS



MHRD
Ministry of Human Resource Development
Government of India

Epidemiological Research Methods and Analysis 19-24 February 2018

Host Institute

Population Research Centre
Department of General and Applied Geography
Dr. Harisingh Gour Vishwavidyalaya
(A Central University)
Sagar- 470003, MP, India

Expert Faculty

Agnihotram V. Ramanakumar^{M.Sc., M.A., MPS, Ph.D}
Department of Oncology, McGill University, Canada
Research Institute, McGill University Health Center, Canada
Global Solutions for Research and Analytics, Inc., Canada

Course Coordinator

Reena Basu^{M.A., MPS, Ph.D}
Population Research Centre
Department of General and Applied Geography
Dr. Harisingh Gour Vishwavidyalaya
Sagar- 470003, Madhya Pradesh, India
Phone: (+91)-7582-265075 (O)
+91 9425425634 (M)
E-mail: reenabasuprc@gmail.com

SCOPE OF THE PROGRAMME

Global Initiative of Academic Networks (GIAN) is a program launched by Ministry of Human Resource Development (MHRD), Government of India with the objective of tapping the talent pool of international scientists, researchers, entrepreneurs to encourage their engagement with higher education institutions in India.

In that context, a one week course on “Epidemiological Research Methods and Analysis” has been approved by Ministry of Human Resources Development (MHRD). This course will be organized by the Population Research Centre (Ministry of Health and Family Welfare Government of India), Department of General and Applied Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

ABOUT THE COURSE

Epidemiology is a science of understanding the distribution and causes of human disease and health effects, and the presentation of methods to improve human health. Recently, there is extraordinary progress in understanding human biology and significant environmental causes of diseases. At the same time, epidemiological research has expanded its tools to accommodate advances in human/molecular biology and genetics to understand the progressive of disease and their interaction with environmental causes and genetic factors. Modern epidemiology methods should provide a remarkable opportunity for monitoring the occurrence of disease and temporal trends in risk factors, social policies, and medical practices that affect disease. On the other hand, regulatory bodies, ethics review boards, funding agencies, and medical journals audit the strict requirements of these methods on various aspects of research such as unbiased design, appropriate patient recruitment process, and analytical strategies etc. This course provides basic approaches and tools according to the changing landscape of clinical studies as discussed above. It will also enhance the skills of the future researchers towards their career development.

EXTERNAL FACULTY



Dr. Agnihotram V. Ramanakumar is an accomplished healthcare researcher with doctoral training in Population Sciences and Post-doctoral training in Environmental Epidemiology from the University of Montreal, Canada. He worked with premier institutions such as The World Health Organization, McGill University, RI-MUHC, and Analysis Group, a consulting company. He has extensive expertise in designing and conducting epidemiological and clinical studies with advanced research methods. Most of the publications of Dr. Agnihotram are specific to cancer research, but his research expertise applies to other disciplines such as demography, health economics, bio-statistical methods and clinical trials (all phases). He continuously teaches and supervises the research projects, clinical fellows and trainees in the graduate training programs of Oncology, Nursing, Gynecological departments of McGill University and its affiliated institutes. He also provides bio-statistical and research consultancies to top 10 global pharma and biotech companies and health researchers. He continuously supervises graduate students and research staff; managed several projects in structuring, standardizing and streamlining scientific and budgetary matters. Dr. Agnihotram has published more than 100 research papers in reputed international journals and he is a reviewer for more than 20 research journals. He has traveled and worked closely with various cancer registries in several countries across the globe.

Course Coordinator



Dr. Reena Basu is presently working as Assistant Director in Population Research Centre, Dr. Harisingh Gour Vishwavidyalaya, Sagar. Dr. Basu has a Ph.D. degree in Social Experimental Psychology as well as Master's in Population Science from International Institute for Population Sciences, Mumbai. Dr. Basu's areas of interest are Research Methodology, Programme Management and Evaluation, Public Health, Population and Development, Maternal and Child Health and Women's Issues. Dr. Basu has been actively involved in a number of research evaluations for Ministry of Health and Family Welfare and has contributed to 100 research studies so far. She is currently undertaking the *Quality Monitoring of Programme Implementation Plan* under National Health Mission and is monitoring the quality of Health Management Information System data and Mother and

Child Tracking System. Dr. Basu is also involved in teaching activities in the university courses on population, adolescent health and family life counseling. She has presented many research papers in international as well as national seminars, conferences and workshops and has to her credit several research papers published in international and national journals of repute, monographs and edited volumes.

WHO CAN PARTICIPATE

Students, researchers, doctoral, post-doctoral trainees, faculty from institutes, universities, pharma, biotech industry professionals. The course is exclusively designed for the benefit of healthcare researchers, clinical and allied sciences such as nutrition, biostatistics, microbiology, bio-technology, demography and social science researchers. Besides students, researchers, faculty members. Public health and government professionals can also attend this course.

COURSE SCHEDULE

February 19, 2018

Lecture 1	:	Fundamentals of epidemiological research, overview, and concepts.
Lecture 2	:	Epidemiological study designs, observational, case-control studies.
Tutorial 1	:	Examples studies, review the best research in the literature

February 20, 2018

Lecture 3	:	Overview of cohort, retrospective, prospective designs.
Lecture 4	:	Randomized clinical trials (RCT), Phase I-IV; their relevance; problems.
Tutorial 2	:	Examples of the cohort, RCT studies, review of some of best studies.

February 21, 2018

Lecture 5	:	Understanding the strengths and limitation of various designs.
Lecture 6	:	Ethics, conduct, and management issues in epidemiological research
Tutorial 3	:	Practical issues, new research ideas

February 22, 2018

Lecture 7	:	Identifying sources of bias, confounding and effect modification.
Lecture 8	:	Analyses strategies using latest multivariate techniques (GEE, GLIM, etc.).
Tutorial 4	:	Context of study and failure in epidemiological research

February 23, 2018

Lecture 9	:	Important aspects of epidemiological research/study proposal
Lecture 10	:	Important aspects of epidemiological reports (or) research paper
Tutorial 5	:	Discussion on future plans and possibilities for collaborations: Developing research study/proposals in new epidemiological areas
Evaluation	:	Evaluation of participants

February 24, 2018

Valedictory	:	Valedictory and certificate distribution
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REGISTRATION

The interested participants have to follow two-stage processes for registration. In the first stage, they are required to register online at GIAN portal- <http://www.gianiitgkp.ac.in>. They have to follow the instructions on the “course registration portal” and submit login details with brief academic achievements along with registration fee, which has to be paid online for one-time registration at GIAN portal. Participants then need to select this course “Epidemiological Research Methods and Analysis” from the list. In the second stage, the participants have to submit their registration form available at <http://www.dhgsu.ac.in> by clicking latest updates link to the university. The completed registration form along with course registration fee can be sent to the course coordinator before February 15, 2018.

The demand draft should be drawn in favor of “The Registrar, Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P.” payable at Sagar.

Registration Fee:

Students/Research Scholars	INR 800/-
Students/Research Scholars (SC/ST)	INR 400/-
Faculty/Scientist	INR 1500/-
Government officials/ Industry Member	INR 2500/-
Foreign participants	US\$ 200/-

(Note: Registration fee includes instructional material only. SC=Scheduled Castes, ST= Scheduled Tribe)

ACCOMMODATION

Outstation participants would be provided modest accommodation on payment basis. Please contact course coordinator for further details.

HOW TO REACH

Sagar is a divisional headquarter, well connected by rail and roads. Sagar railway station is mentioned as Saugor (SGO) in railway timetable. Sagar station is located in Bina-Katni section of west-central Railway. There is direct train connectivity for Delhi, Mumbai, and Kolkata. Sagar is also connected with excellent road from Bhopal (190 Km), Jabalpur (185 Km), Jhansi (200 Km) and Bina (75 Km). The nearest Airport is Bhopal (200 Km).

VENUE OF THE PROGRAMME

Human Resource Development Centre (HRDC), Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, Madhya Pradesh, India.

LOCAL FACULTY

Prof. Diwakar Shukla, Department of Mathematics and Statistics

Dr. Nikhilesh Parchure, Population Research Centre

PATRON

Prof. R. P. Tiwari

Vice Chancellor, Dr. Harisingh Gour Vishwavidyalaya, Sagar, India

Prof. R. P. Mishra

Director, Population Research Centre

Dean, School of Applied Sciences,

Dr. Harisingh Gour Vishwavidyalaya, Sagar

Dr. Reena Basu

Course Coordinator

Assistant Director, Population Research Centre

Dr. Harisingh Gour Vishwavidyalaya, Sagar

ADVISORS:

Prof. R. A. Singh, **Director**, Academic Affairs, Dr. Harisingh Gour Vishwavidyalaya, Sagar

Prof. Archana Pandey, **Director** Faculty Affairs, Dr. Harisingh Gour Vishwavidyalaya, Sagar

Prof. H. Thomas, **Director**, Research & Development, Dr. Harisingh Gour Vishwavidyalaya, Sagar

Prof. Nivedita Maitra, **Registrar**, Dr. Harisingh Gour Vishwavidyalaya, Sagar

Prof. C. K. Jain, **Head**, Department of General and Applied Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar

LOCAL COORDINATOR (GIAN):

Prof. Devashish Bose, **Head**, Department of Criminology and Forensic Science, Dr. Harisingh Gour Vishwavidyalaya, Sagar

PROGRAMME ASSOCIATE:

Dr. Jyoti Tiwari, Dr. Niklesh Kumar, Dr. Kumar Raghubansh Mani Singh