

India needs a system that directly connects university students to research, Trivellore Raghunathan says

[Malini Sen](#), TNN | May 21, 2014, 04.10PM IST

Trivellore Raghunathan**, professor of biostatistics at the University of Michigan's School of Public Health, who was recently appointed director of the Survey Research Centre at the university's Institute for Social Research, talks to **Malini Sen



What is the focus of the Survey Research Centre (SRC) at the University of Michigan's Institute for Social Research (ISR)?

The centre is an interdisciplinary team including sociologists, psychologists, economists, epidemiologists, and statisticians who are conducting survey research through primary data collection using latest technologies. The centre also has methodologists who are developing new ways of collecting data and performing analysis. The centre also has a strong educational component and offers Masters and PhD degrees at the University of Michigan. It is one of five centres at the Institute for Social Research. Other centres conduct research in political science, organizational dynamics and data dissemination, to name a few.

As the newly-appointed director of the centre, what is your vision for it?

As an administrator, my job is to make sure that the administrative structure is efficient and least burdensome to faculty, staff and students while also enabling them to pursue their intellectual goals. The research that they perform is key to our success. As a researcher, I want to continue to develop new methodologies and think of ways to bring the latest methodologies and statistical analysis techniques into practice.

Can you share the details of the collaboration that the centre has with National Council of Applied Economic Research (NCAER) in India?

Mary Sue Coleman, president of U-M and William Axinn, current director of the ISR SRC, visited the NCAER in November last year and signed a five-year memorandum of understanding (MoU) to foster collaboration in survey research. The SRC and NCAER are planning a large household survey and currently discussing the use of latest technologies for sampling and data collection activities. I am looking forward to continuing and extending this collaboration in mutually beneficial ways.

What are the emerging trends in survey research?

The age-old problems of nonresponse and measurement error have become more daunting in survey research. At the same time, the availability of data from administrative and other non-survey data sources has increased tremendously. The key is how to use data from survey and non-survey sources to make better inferences for the population of interest. This, combined with an unprecedented increase in computing power, makes survey research an exciting field for researchers.

Do you feel India lacks a research and development environment?

When I was in India, research was mostly performed in selected institutes such as TIFR, IIT, ISI and some government-run research institutions. The universities and colleges were primarily responsible for generating a large number of qualified candidates through large classroom teaching and massive examinations. Few individuals at the universities conducted research of their own accord. Over the years, the research enterprise has grown in India mostly outside the university system. However, there is a complex web of government bureaucracies with confusing jurisdictions, overlapping mandates leading to turf wars and internal competitions. India needs a system that directly connects the university students to research along with their learning in the classrooms.

What are your research interests?

My research focuses on two primary areas: methods for analyzing incomplete data and Bayesian approach. I have used both these areas to address a wide variety of problems such as small area estimation, maintaining privacy and confidentiality of survey responses and combining information from multiple data sources. My research goal is to develop statistically rigorous approaches for solving practical problems.

Since you have studied in both India and US, what, in your view, is the main difference in the education systems?

I received my Bachelors and Masters degrees from the Institute of Science at Nagpur (Nagpur University). People like professor Godambe and professor Shrikhande who have made fundamental contributions to the field of statistics founded the statistics department. Naturally, I was fortunate to be taught by people who were their students or had interacted with them. I got excellent training on statistical principles. However, the system in the US is quite different. They do get excellent training in statistical principles but the system also allows PhD students, who are generally employed as research assistants, to work on practical problems, or do research. They are acculturated by faculty members who themselves are conducting cutting-edge research. The faculty members and students are funded by peer-reviewed grants and

contracts from the National Institutes of Health, National Science Foundation and other private or governmental institutions. Through this entrepreneurial system, the US higher education system encourages fundamental thinking about issues in uncharted territories in any field.

Is it important for research to be multi-disciplinary, collaborative and application oriented for impactful results?

To understand the social, economic and health issues of the population, we need both disciplinary research and the ability to bring multi-disciplinary perspectives into a collaborative environment to solve practical problems. We definitely need an environment that does not create silos and that vigorously promotes open communications across disciplines.