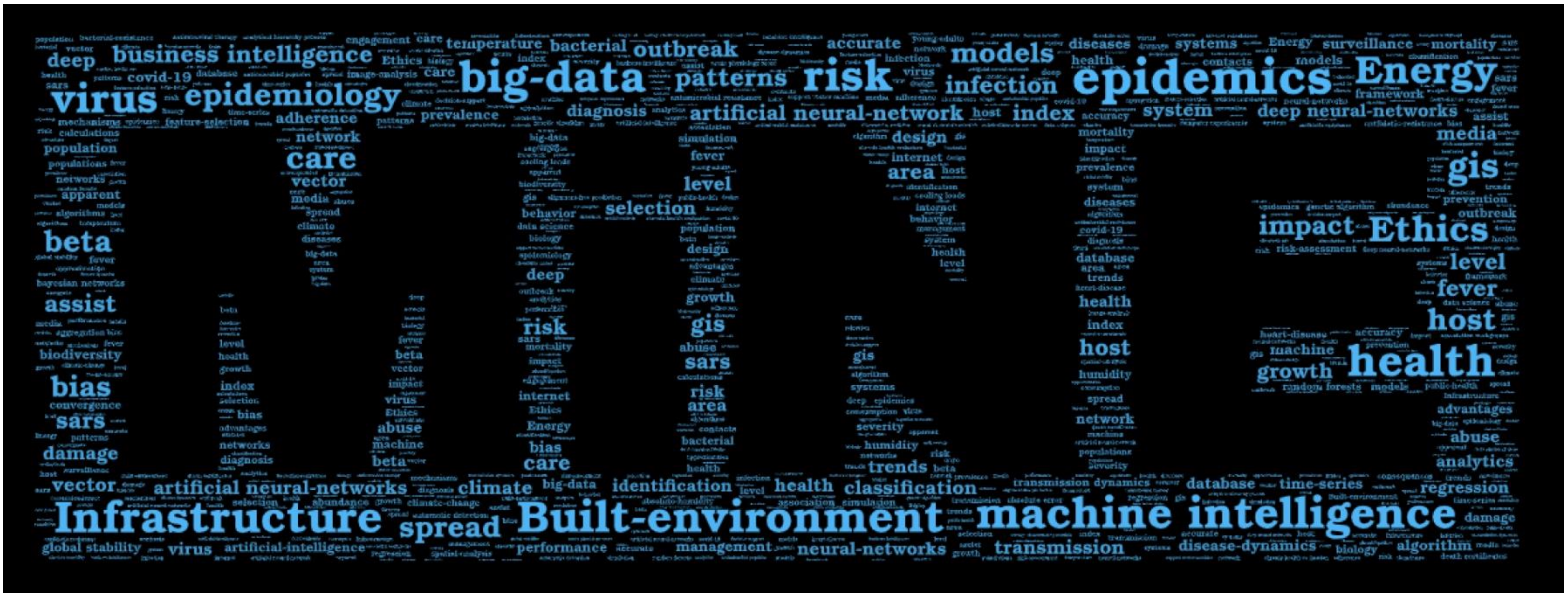

Call for application for a 5-day online workshop

On

Use of Artificial Intelligence/Machine Learning for Epidemic prediction and Risk Reduction

Start date: 10th January 2022

End date: 14th January 2022

Tata Institute of Social Sciences, Mumbai (TISS), India and University of Cambridge (UoC), UK, are organizing an **online workshop** on the theme "**Use of Artificial Intelligence/Machine Learning for Epidemic prediction and Risk Reduction**" from 10th to 14th January 2022. This workshop is supported by a Researcher Links grant under the Newton Bhabha Fund. The grant is funded by the UK Department of Business, Energy and Industrial Strategy (BEIS) and the Department of Biotechnology (DBT), India, delivered by the British Council, and will have contributions from leading researchers from TISS, UoC and other esteemed institutions from UK and India. The programme, Newton-Bhabha Fund Researcher Links provides opportunities for early career researchers from the UK and India to interact, learn from each other and explore opportunities for building future research collaborations.

As part of this programme, we are now inviting Early Career Researchers from the UK and India to apply to participate in this workshop. All workshop expenses will be covered by the Newton-Bhabha Fund Researcher Links programme. The application form, with more details on the initiative, is given below and should be submitted using the given link before the deadline of **29th December, 2021**.

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The workshop will provide a unique opportunity for broadening one's perspective, sharing research expertise and networking. During the workshop early career researchers will have the opportunity to discuss their research with established researchers from the UK and India. The programme focusses on building research networks for future collaborations with participants selected on the basis of their research potential and domain expertise.

Details of the theme of this workshop:

The theme for this workshop is **"Use of Artificial Intelligence/Machine Learning for Epidemic prediction and Risk Reduction".** Drawing from the Well-Being and Social Determinants framework the workshop conceptualizes the health and mental health epidemics to be primarily structured by socio-structural - individual and environmental factors. Thus, the workshop brings together unconventional domain expertise from the social and natural sciences to broaden the horizons of health and mental health epidemics research.

Artificial Intelligence/Machine Learning (AI/ML) allow analysis of multi-modality data including demographics, geo-spatial, weather pattern, built environment and molecular level data to predict the transmission and reduce the spread of an epidemic as well as for devising strategies for long term disease risk reduction. With COVID-19 exposing inefficiencies in the health system, causing enormous costs to the public fund and compromising welfare, it is pertinent to study the gaps in public health system, the existing vulnerabilities and possible ways to address them through innovative ethical use of technology and/or policy change. It is also important to critically review the use of technology in the context of socio-economic and political vulnerabilities in the global south. This workshop aims to engage with these dynamics around use of technology to address health emergencies

Benefits:

This workshop will build capacities of early career researchers to acquire interdisciplinary perspectives, knowledge and skills needed for epidemics research using latest technology. It will enable researchers to establish networks, to conduct impactful collaborative studies in addressing current and future challenges of epidemics.

Short term outcomes of the workshop:

Six-seven collaborative research proposals including a detailed literature review on different aspects of epidemic prediction/reduction using AI and ML

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Long term outcomes and impacts of the workshop:

1. Capacity building of all the participants to conduct independent as well as collaborative research in the field of epidemic prediction and risk reduction in their respective local contexts with a critical lens of humanitarian and ethical use of technology.

2. It will build a network of institutions which would contribute towards epistemological advancements in the field of epidemics research by use of latest pedagogical tools and methodologies of research.

3. It will build the corpus of resource network which will serve as the baseline for larger research grants in the area of Epidemic prediction and risk reduction in the Lower-middle income country (LMIC) context.

4. It will contribute towards advocacy for an equitable health infrastructure and services especially in LMICs.

Modality of the workshop: All participants from the UK and India will join the workshop virtually through an online meeting platform.

The selected participants from UK and India will be placed in 6-7 teams along with mentors, at least 1 week before the actual workshop. They will be required to select a topic related to the workshop theme and develop joint research proposals.

All selected participants are required to commit at least 4-5 hours a week prior to the workshop date i.e. from 3rd to 7th January 2022 for pre-workshop meetings. The participants will engage in at least 6 hours of work every day during the workshop dates.

All teams will be required to make an oral presentation on the selected theme and the research proposed at the start of the workshop. During the workshop, the participants will be mentored to develop the research proposal further on the selected themes. Within a week after the workshop, the teams will be required to submit a detailed scientific literature review on the topic selected leading to specific research questions and methodology that future research proposals will build on. To facilitate this, all the UK and India early career researchers will be supported with seed grants.

Workshop Highlights:

Seed grants: Each group will receive GBP 1500 (INR 1,50,000) as a seed grant for conducting desktop research activities and submitting a scientific literature review including probable research questions and methodology, as mentioned above.

Eligibility criteria:

Essential:

PhD in fields related to built environment and health, environmental studies, epidemiology, health system studies, health economics, health policy, public health, medical research, biosciences, biomedical engineering, health management, hospital management, health and mental health anthropology, health and mental health sociology, psychiatric social work, clinical psychology, disaster management, biostatistics or technologies for health research and allied disciplines from across India and UK.

All applicants need to have a demonstrated engagement or interest in the use of AI/ML either through publications, participation in training programs, teaching , research or praxis..

We expect early career researchers to have been awarded their PhD not more than 10 years prior to the workshop, but allowances can be made for career breaks. If a researcher does not hold a PhD but has research experience equivalent to a PhD holder and works in a field where a PhD is not a pre-requisite for established research activity, they can still be considered eligible

A total of 34 early career researchers will be selected, 17 each from UK and India.

Applications must be submitted using the "Apply Now" button or directly use this link

APPLY NOW

https://forms.gle/U1xMJy4jpCkMr5Vk7

Application must be submitted before the deadline of 29th December 2021.

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Desirable:

Candidates with relevant work/research experience of minimum 2 years before/during/after PhD and minimum 2 publications will be preferred.

The applicants may include young academicians, post-doctoral research scholars, and professionals interested in advancing their research in the interdisciplinary area of health and mental health epidemic management

Selection criteria:

- Experience and relevance of the applicant's research area to the workshop
- Motivation and contribution to the aims of the workshop
- Statement of Research Purpose (1000 words)
- Ability to disseminate workshop's outcomes

Equal Opportunities:
Equal opportunities and diversity are at the heart of the British Council's cultural relations ambitions. While recognising that some research fields are dominated by one particular gender, we work towards an equal gender balance, promote diversity. Extra support to enable participation of Early Career Researchers with special needs will be given.

Application and Deadline:
The full application below must be completed and submitted by the **29th December 2021**

How to apply:

APPLY NOW

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Documents needed in this form:

1. Your latest CV (with names and contact details of at least 2 referees, one of whom is your current employer)

2. Nomination from the employer (Clearly mentioning that the candidate is currently engaged in research as part of the job responsibilities)

3. Statement of Research Purpose (not more than 1000 words) for interdisciplinary research under the broad overarching theme of "**Use of Artificial Intelligence/Machine Learning for Epidemic prediction and Risk Reduction"**. Within this theme, the applicants are expected to locate their research topics under any of the five sub-themes given below:

a. Health Epidemics Prediction and Management Using AI/ML

b. Mental Health Epidemics Prediction and Management Using AI/ML

c. Structural Inequality, Injustice and Ethics in Using AI/ML

d. AI/ML for Built Environment, Critical infrastructure and Epidemic Nexus

e. Innovation in Governance, Technology and Markets as a response to Epidemics

Timelines:

S. No.	Timeline	Activity
1.	**15th December 2021**	Call for Application opens
2.	**29th December 2021**	Call for application closes
3.	**1st January 2022**	Release of final list of selected candidates
4.	**3rd to 7th January 2022**	Pre-workshop meetings and proposal development
5.	**10th to 14th January 2022**	Roll-out of the workshop
6.	**21st January 2022**	Submission of final literature reviews by all participant groups.

About the organizers: Workshop Leaders from both UK and India with the latest knowledge of scientific methods, technology and tools, have been involved in research and advocacy for equitable, just and empowered health systems in everyday and non-routine 'disaster' context in the global south They bring together broad range of domain expertise, grounded in innovative use of technology and pragmatic response in the global south. The organizing team brings together unconventional domain expertise of built environment, energy, water, data science, bio ethics, mental health, public health, environment health, virology, public policy, market and governance innovation, bridging natural, technical and social science disciplines to address the core theme. The team actively promotes a deeper engagement with the issue of Mental health as one of the sub-theme from a firm standing that there is "No health without mental health". The workshop leads, and mentors have come together to form a consortium called **Machine Learning Intelligence Network for Epidemics (MINE),** in order to further the interdisciplinary research, advocacy and educational activities around health and mental health Epidemics.

Workshop leads:

Prof. Ronita Bardhan
Assistant Professor of Sustainability in the Built Environment,
Director, MPhil in Architecture and Urban Studies,
Fellow of Architecture at Selwyn College,
Director of Studies, Selwyn College
University of Cambridge

Research and advocacy areas:
Data-driven sustainable built environment to inform health and energy decisions in changing climate.

Prof. Jacquleen Joseph,
Professor and Chairperson, Center for Disaster Management,
Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences, Mumbai, India

Research and advocacy areas:
Disaster Mental Health, Disaster Resilience Leadership, Civic Engagement for Transboundary Water Governance, Disaster Risk, Vulnerability and Recovery.

Mentors and Experts:

Dr. Samuel Y. Cai
Lecturer in Environmental Epidemiology, University of Leicester, UK

Research and advocacy areas:
Environment epidemiology, harnessing data science to better inform environmental health policy-making.

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Dr. Anant Bhan
Adjunct Faculty, Department of Forensic medicine, Kasturba Medical College, Manipal, India

Research and advocacy areas:
Bioethics, Public health ethics, Global Health, Health Policy

Dr. Anirvan Chatterjee
Founder and Chief Executive officer, Haystacks Analytics Pvt. Ltd, Mumbai, India

Research and advocacy areas:
Genomics and Metagenomics, with special focus on Infectious diseases, Virology and disease epidemiology

Prof. Jaideep Prabhu
Faculty, Cambridge Judge Business School, University of Cambridge

Research and advocacy areas:
International business, marketing, strategy and innovation.

Prof. Rangan Banerjee
Professor, Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India

Research and advocacy areas:
Energy management, modelling of energy systems, energy planning and policy, hydrogen energy and fuel cells

Dr. Peehu Pardeshi
Assistant Professor, Center for Disaster Management, Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences, Mumbai, India

Research and advocacy areas:
Biosocial and environmental determinants of health, linkages between climate change, disasters and health, inequities in access to healthcare

Prof. D. Parthasarathy
Professor, Humanities and Social Sciences (HSS), IIT Bombay, Mumbai, India

Research and advocacy areas:
Urban Studies, Development Studies, Law and Governance, Legal Pluralism, Vulnerability and Adaptation to Climate Change, Gender and Development, Disaster Studies

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