

Lunch &

Learn

A new Bimonthly seminar series from the Department of Civil and Environmental Engineering (CEE), focusing on convergent research, bringing together Northeastern colleagues and collaborators to think big/bold, explore ideas that build cooperation and foster transformative innovation within CEE and across disciplines beyond CEE.



Moses

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PhD

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Monday

Oct 7, 2024

12pm–1pm

442 Dana

Environmental Determinants (Climate Change, Extreme Weather Events, and Air Pollution) of Acute Exacerbations of cardiovascular and pulmonary disease and related mortalities in Gauteng South Africa

Abstract: Extreme heat events, exacerbated by climate change have been reported to increase the burden and morbidity of cardiovascular and respiratory diseases. Other factors such as air quality may also be affected by the climate change phenomena, and consequently add to the burden of cardiovascular and respiratory outcomes in the sub-Saharan Africa (SSA). Therefore, it is critical, particularly in SSA to study these phenomena. The current seminar presents preliminary results of an ongoing project studying the association between climatic changes and consequent environmental extreme heat exposures on case-only acute exacerbations of cardiovascular disease and related mortalities in Johannesburg, South Africa. Furthermore, the seminar will reflect on the findings of a study that modelled air pollution using self-organising maps (SOM), to predict acute exacerbations of asthma in two cities in South Africa. Finally, the seminar will demonstrate how the SOM was soft-computed and translated into a medical device for patient self-management of asthma.

Bio: Dr Kebalepile is the Head of research at the University of the Witwatersrand, in the School of Clinical Medicine. He is also an Extra-ordinary Lecturer in Environmental epidemiology at the University of Pretoria. He graduated with a PhD in Public Health (Specializing in Computational & Environmental Epidemiology) from The School of Health Systems and Public Health, Faculty of Health Sciences at the University of Pretoria. His research interests are on computational and environmental epidemiology; data sciences (the use of AI and machine learning); biostatistics and immunology of asthma. Dr. Kebalepile is the recipient of the Mandela Washington Fellowship, University of Leeds Global Academic Crucible program, South African Medical Research Council Self-initiated Research grant, and the University of Pretoria Early career scholarship.