



THE AMERICAN UNIVERSITY IN CAIRO

الجامعة الأمريكية بالقاهرة

AUC International Conference on Research in African Challenges (ICRAC)

Track S: Science contribution to alleviating poverty

SUB-TRACK S2: POVERTY, HEALTH AND THE ENVIRONMENT: SANITATION AND AIR POLLUTION AND SOLUTIONS

Chair: Dr. Ahmad ElGendy and Dr. Nageh Allam

Co-chair: Professor Prashant Kumar, PhD (Cantab)

Notwithstanding the solid connection among contamination and wellbeing, it has been generally dismissed up to this point in the global health agenda. Additionally, the universal and local committed assets to control the strengthening greatness of contamination are far beneath the required levels. As per the WHO report in 2012, it is assessed that 4.3 million individuals died because of household air pollution, 3.7 million individuals died because of ambient air pollution, while 842,000 individuals passed on because of perilous water, poor sanitation, and lacking cleanliness. Pollution health impacts fall most intensely on the world's poor with a gauge of around 90% of pollution related deaths happening in low-income and middle-income nations particularly those in Africa and Asia. In such manner, Africa and Asia (barring China) are most influenced by ecological health related diseases. In Africa, environmental health influences the poor in sub-Saharan Africa the most. In 2002, sub-Saharan Africa, with just 10 percent of the worldwide populace, represented 24% of the whole worldwide weight of sickness and for 29% of the world's environmental burden of disease. A shared and persistent exertion with respect to every one of us is vital to ensure that this imperative issue is tended to and solutions are executed. We encourage you to go along with us in this exertion in ICRAC 2019, which straightforwardly influences the wellbeing of the poor in Africa.

Biographies

Ahmed S. El-Gendy is an associate professor (tenure) at The American University in Cairo. El-Gendy is a holder of a BSc in civil engineering and an MSc in environmental engineering from Ain Shams University, Egypt. He gained his PhD in environmental engineering from the University of Windsor, Canada. Prior to joining the AUC, he was an associate professor of environmental engineering at Aim Shams University. Professor El-Gendy taught different environmental engineering courses at different universities in Egypt and Canada. He also has had a variety of experiences, becoming exposed to different research communities. He was a full-bright scholar (research grant) at the University of Iowa, United States. He was also a visiting professor at the University of Windsor. In addition to his academic work, he was a consultant for several professional firms in Egypt, where he provided professional training and support in the areas of environmental engineering. At AUC, he teaches environmental engineering courses in addition to several basic engineering courses. He is also responsible for the environmental engineering laboratory.

Nageh Allam received his PhD in materials science and engineering from Pennsylvania State University and pursued his postdoctoral studies at both Georgia Institute of Technology and Massachusetts Institute of Technology (MIT). He joined the faculty at The American University in Cairo (AUC) as an assistant professor in Fall 2011. He was promoted to the rank of associate professor with tenure in 2015. Allam's research is multidisciplinary in nature as it is at the interface between nanoscience, physics and chemistry. It deals with the



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development of a set of synthetic and fabrication techniques to obtain well-designed nanostructured materials with composition, size and shape control for use in energy conversion and storage, sensors applications, biomedical applications, among others. The research comprises both experimental and theoretical activities. Allam is a member of the American Physical Society, the American Nano Society, the Materials Research Society, the Electrochemical Society, and the American Society for Testing and Materials International, the Max Planck Society for the Advancement of Science, and has recently been elected to the Arab-German Young Academy of Sciences and Humanities (AGYA). Allam has published more than 100 papers in reputed peer-reviewed international journals and has authored more than 90 conference articles. He serves as an editorial board member of a number of renowned journals. He is the recipient of the Ford Foundation international graduate fellowship, RAK-CAM postdoctoral fellowship, the World Academy of Sciences (TWAS) Yong Scientist Award, the Showman Foundation Award in Applied Sciences, the State of Egypt Award in Advanced Technological Sciences and the AUC Excellence in Research and Creative Endeavors Award.

Prashant Kumar, PhD (Cantab)

Professor Prashant Kumar is Chair in Air Quality and Health and the founding Director of the Global Centre for Clean Air Research (GCARE) at the University of Surrey, UK. He is the Head of the GCARE's Air Quality Laboratory and the Deputy Director of Research for the Department of Civil & Environmental Engineering. Since March 2018, he is also an Adjunct Professor at the School of Engineering at the Trinity College Dublin in Ireland.

He received his PhD (Engineering) from the University of Cambridge, and an MTech (Environmental Engineering & Management) from Indian Institute of Technology (IIT) Delhi. Prior to his PhD, he worked at a research institute and in industrial sector for about 8 years. After his PhD, he joined University of Surrey as Lecturer (2009-2012), and subsequently worked as Senior Lecturer (2012-2015) and Reader (2015-2017).

His fundamental and application oriented cross disciplinary research is focused at the interfaces of clean air engineering/science, human health and smart/sustainable living in cities/megacities. His research builds an understanding of the formation and emission of particles, both from vehicle exhausts and non-vehicular sources. He investigates their contribution to pollution, especially in megacity contexts. He is developing approaches to low-cost sensing and contributing to the development of exposure control technology and guidelines for policymakers to curtail pollution exposure in cities, with associated health benefits.

His current research projects are focused in broad multidisciplinary areas of air pollution monitoring/modelling, low-cost sensing, nature-based solutions, climate change mitigation and developing innovative technological and passive (e.g. green infrastructure) solutions for air pollution exposure control for both developing and developed world.

With over 150 articles in top-ranked journals (h-index 35; citations >4025), his research has secured over £5 million of individual funding from the RCUK (e.g. EPSRC, ESRC, NERC, MRC, HEFCE, British Council, Innovate UK), industry and international funding bodies (e.g., European Commission, Qatar National Research Foundation, Commonwealth Commission, FAPESP). He has developed a network of collaborators across four continents, serving on editorial boards of several international journals and scientific evaluation panels of numerous funding agencies.

He is advising local/national/international agencies on air pollution and urban nexus and his research has featured in well-read media outlets such as the BBC and The Times.