

SEMINAR

GLOBAL CLIMATE CHANGE:

DRIVERS, MECHANISMS, MITIGATION AND ADAPTATION APPROACHES

PRESENTED BY PROF HILARY I INYANG

22 MARCH 2024 || 10:00 - 12:00

134 PRETORIUS STREET,
HSRC BUILDING, PRETORIA

For more information, contact Dr Wilfred Lunga (wlunga@hsrc.ac.za)

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SEMINAR ABSTRACT

As early as 2007, the Intergovernmental Panel on Climate Change (IPCC), estimated that the average global temperature will increase by 1.8-4.0 degrees centigrade within this century. There is consensus that the emission of greenhouse gases (carbon dioxide, methane, nitrous oxide and fluoro-gases) is largely responsible for the observed global temperature increase, the primary cause of climate change. Although developing countries produce a relatively low fraction of the global total of the emitted greenhouse gases, they will continue to bear the brunt of the impacts of global climate change due to the inadequacy of mitigation and adaptation systems relative to the capacities of the technologically advanced countries. All African countries are essentially in the developing category. UNEP estimates that the costs of adapting to climate change across Africa could reach \$50 billion per year by 2050, even if temperature increase is kept within 2 degrees centigrade above pre-industrial levels. Globally, climate change has already manifested as changes in rainfall patterns, temperature extremes and increases in frequency of storms which have in turn, enhanced phenomena such as drought, coastal erosion, sandstorms, wildfires, sedimentation of water bodies, and displacement of pests. Thus, climate change poses a major threat to the attainment of SDGs-2030, Africa Agenda 2063 and many other regional and national development plans. Activation of stressors by climate change have generated indirect impacts such as domestic and economic water scarcity, impairment of transportation, habitat loss, desertification, food shortage, weather-enhanced diseases and even inter-community clashes over natural resources with significant spatio-temporal variability across developing countries. In this seminar which is a part of the Human Dimensions of Global Climate Change Project of the Government of South Africa which is currently operated by the Human Sciences Research Council (HSRC) of South Africa, Prof. Hilary I. Inyang who previously served as the Visiting International Research Fellow and Advisor to HSRC on several geo-environmental issues will present a detailed analysis of the global climate change impacts and possible mitigation and adaptation strategies within policy and technical contexts. The objective is to enable HSRC scientists and policymakers, private sector program officers, researchers, educators, NGO officers and students to engage in a seminar in which both the fundamental and salient aspects of global climate change are analysed for use in devising management measures to improve societal sustainable development. The benefits of a green economy to African countries will also be discussed.



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Founding Director and Distinguished Professor, Global Institute for Sustainable Development, Advanced Analyses and Design (GISDAAD), Concord, NC, USA; Former Chairman, Science Advisory Board (Engineering Committee) United States Environmental Protection Agency, Washington DC, USA; and Honorary President, International Society for Environmental Geotechnology (ISEG), Nanjing, China. (h.inyang26@gmail.com)

BACKGROUND OF THE SEMINAR LECTURER: Prof. Hilary I. Inyang

Within the overall context of global sustainable development, Prof. Hilary I. Inyang has had a diversified career as an educator, administrator, researcher, poet, corporate leader, and field expeditionist during the past 30 years. Recently (2023), he completed his role as US Ambassador's Distinguished Scholar to Ethiopia. He currently serves as the Founding Chairman of the Global Institute for Sustainable Development, Advanced Analyses and Design (GISDAAD) that is headquartered in Charlotte, Concord, North Carolina, USA as well as a Visiting Professor of Geo-environmental Engineering at the Indian Institute of Technology-Bombay (IIT-B), Mumbai, India, following a recent role as a Visiting International Research Fellow at South Africa's Human Sciences Research Council (HSRC). He is a member of the Education Caucus of the United Nations Commission on Sustainable Development and served for two terms (1997-2001) as Chair of the Science Advisory Board (Engineering Committee) of USEPA in Washington DC, USA. He is a former Duke Energy Distinguished Professor and Director of the Global Institute of Energy and Environmental Systems of the University of North Carolina, Charlotte, USA, former DuPont Professor of Environmental Engineering and Science, and Director of CEEST, University of Massachusetts, Lowell, USA, former President of the African University of Science and Technology, Abuja, Nigeria, and former Vice Chancellor of the Botswana International University of Science and Technology. He chaired the Steering Committee of the Africa Science Plans under the auspices of the International Council for Science, UNESCO and the United Nations Economic Commission for Africa. He has been a UNESCO Consultant on Water Security. He has performed field research expeditions in numerous countries e.g. China, Siberia (Russia), Brazilian Minas Gerais Region and Slovenia on mining, Alaska and Nigeria on climate change and oil spills, Japan, Finland and Korea on waste management, Taiwan and Canada on rock fragmentation, and Switzerland, Germany and Italy on science policy. He has won numerous research grants from several agencies, including the US National Research Foundation, Sandia National Laboratories (USA), General Electric Corporation, US Environmental Protection Agency, United Nations Development Program (UNDP) and the African Development Bank. He has won more than 20 professional prizes and is a former AAAS/USEPA Environmental Science and Engineering Fellow, US National Research Council Young Investigator and Eisenhower/Randolph Fellow. Prof. Inyang holds a Ph.D. (1989) with a double major in Geotechnical Engineering and Materials, and a minor in Mineral Resources from Iowa State University, Ames, Iowa; an M.S. (1986) and B.S (1985). in Civil Engineering from North Dakota State University, Fargo, North Dakota, USA; and a B.Sc. (Honors) (1981) in Geology from the University of Calabar, Nigeria. He has authored about 300 publications and served on 29 journal editorial boards. He won the 2013 Nigerian National Order of Merit (NNOM) in science and technology and is a Fellow of both the African Academy of Science and the Geological Society of London. Prof. Inyang is a Proost Poet who is currently completing a 10-year BrownBard Poetry Series, comprising more than 8,000 poems in 50 books to be released in 2025 as the most profound poetry series ever attempted.

Seminar hosted by the HSRC's Developmental, Capable and Ethical State (DCES) division.