

WEDNESDAY MARCH 15				
Theme	Presenter	Department	Presentation Title	Abstract
Session 1 "Climate Change in the Public Eye" - Continued from March 13				
10:00-10:15 am	Kim Fox	JRMC	Eky Ya Masr: Egypt water crisis affected food production	Eky Ya Masr's How Egypt's Water Crisis Impacts Food Production https://soundcloud.com/ehkyamassr/how-egypts-water-crisis-impacts-food-production?in=ehkyamassr/sets/award-winning-ehky-ya-masr
Session 2 "Climate Change and Economy"				
10:20-10:35 am	Dina Abdel Fattah	ECON	Is Egypt's rural youth employment vulnerable to climate change?	The slow rate of job creation in the public and private formal sector has pushed the youth of Egypt to either exit the labor market or to accept jobs in the informal/irregular sector. These jobs are highly insecure and unstable. This paper goes beyond studying the labor market performance by analyzing the unemployed and out of labor force into studying employment vulnerability by being in informal/irregular jobs. The study combines the impact of socioeconomic variables in addition to climate change to understand the determinants of vulnerable employment and move so among rural youth. We combine data from the ELMS and geographically gridded daily measures of climate change. Our results show the persistence of employment vulnerability among youth with a stronger impact on rural youth. Changes in temperature and humidity show a significant impact on employment vulnerability among rural youth.
10:40-10:55 am	Roberto Cardinale	ECON	From natural gas to green hydrogen: upgrading existing transnational energy infrastructure connecting North Africa to Europe	This paper studies the economic and regulatory conditions for the implementation of large-scale projects of production and transport of green hydrogen from North Africa to Europe. The EU has shown a remarkable interest in importing hydrogen from North Africa, to reach climate commitments while compensating for the reduction of gas imports from the Russian Federation. The idea to import green hydrogen from North Africa stems from the potentially low costs of production thanks to abundance of solar energy and land in desertic areas, and to existing export infrastructure. The paper analyzes the cases of Egypt and Algeria and finds that Algeria has a potential cost advantage in transporting green hydrogen to Europe thanks to overcapacity in its existing gas infrastructure, which could be upgraded. By contrast, Egypt is more competitive in the generation of renewable power, a key input of green hydrogen, thanks to regulation that attracts investments. The paper explores the economic and regulatory drivers of their different performance across the renewable energy generation and green hydrogen transport phases, and concludes that both countries are cost competitive in a similar way. However, considering their regulatory and political economy differences, it suggests the EU to adopt a differentiated approach to energy and climate diplomacy in view of launching joint initiatives on green hydrogen.
Session 2 "Climate Change and Economy" - Continued				
11:15-11:30 am	Moataz El-Helaly	ACCT	ESG Scores, CO2 Emissions and Firm Value	This study investigates the relationship between managerial (CEO) ability and ESG scores. First, we validate the chosen ESG rating by examining the association between ESG scores and actual CO2 emissions. Our main inquiry is to what extent can managerial ability explain existing variations in ESG scores. In further analysis we show that managerial ability is associated with higher ESG scores. We also show that ESG scores are associated with higher stock prices and higher market valuations. On the other hand, we find that more efficient firms relatively lacking managerial ability invest less in ESG activities.
11:35-11:50 pm	Dr. Rana Hendy	PPA	Transitioning to a Green Economy Shapes the Future of Work in Egypt	The green transition is a global endeavor and concerns all countries as all regions of the world are impacted by climate change. As the transition to the green economy and greener jobs are likely to increase the demand for existing skills as well as create new occupations that entail different types of tasks which require new skills, the so-called green skills. This study researches the growing and shrinking occupations using nationally representative data from Egypt. The findings provide evidence on the future of work to help design the needed labor market policies.
11:55-12:10 pm	Ghada Barsoum	PPA	Green Jobs and the Future of Work in Egypt "A Focus on Agriculture	Green jobs help reduce the negative environmental impact, improve energy and raw materials efficiency, limit greenhouse gas emissions, minimize waste and pollution, protect and restore ecosystems, and support the adaptation to the effects of climate change. This report addresses the prospects of green jobs in the field of agriculture. The paper argues that agriculture is a knowledge-intensive field and a green transformation in this field starts with a systemic and well-governed process of knowledge transfer. The analysis discusses potentials for improving the parameters for enabling the business of agriculture (EBA), use of digital technology in marketing and supply chain management and advancing technologies for climate-smart agriculture.
Session 3 "Climate Change and Health Impact"				
12:30-12:45 pm	Anwar Abdelnasser	IGHHE	Climate Change and the Fallout on Health	Climate change is an anthropogenic phenomenon that is alarming scientists and non-scientists alike. The emission of greenhouse gases is causing the temperature of the earth to rise and this increase is accompanied by a multitude of climate change-induced environmental exposures with potential health impacts. Tracking human exposure has been a major research interest of scientists worldwide. This has led to the development of exposure studies that examine internal and external individual exposures over their lifetime and correlate them to health. The monitoring of health has also benefited from significant technological advances in the field of "omics" technologies that analyze physiological changes on the nucleic acid, protein, and metabolism levels, among others. In this review, we discuss various climate change-induced environmental exposures and their potential health implications. We also highlight the potential integration of the technological advancements in the fields of exposure tracking, climate monitoring, and omics technologies shedding light on important questions that need to be answered.
12:50-1:05 pm	Mohamed Salama	IGHHE	Exposome wide study for Parkinson's Disease	Parkinson's disease (PD) is a brain disorder that mostly affects older adults. Its causes are not fully known, but scientists think it results from a complex interaction of genetic and environmental factors. Possible environmental contributors include air pollution and chemicals found in pesticides. One challenge in understanding the causes of PD is that it generally occurs late in life, meaning that the people who get it have been exposed to many types of environmental factors. It is therefore difficult to know which factors contributed to the disease. Fortunately, new scientific methods allow us to determine some of the key environmental risks that people have been exposed to throughout their lives. These new methods can help us figure out what causes PD. We believe that PD develops in response to a cluster of genetic and environmental factors that interact and lead to disease. We will use several existing, high-quality datasets to conduct new investigations into the effects on PD development of multiple environmental exposures individually and jointly. Data sources include: (1) questionnaire data that provides information on occupational and lifestyle factors, (2) an air quality model that can reconstruct the outdoor environment, (3) data from silicone wristbands that collect data on exposure to chemicals, and (4) biological data i.e. genetic and other molecular analyses. We will investigate which of these factors "à" alone or together "à" may lead to PD.
Session 4 "Climate Change and Innovative Solutions"				
1:15-1:30 pm	Sherif Fakher	PENG	Carbon Dioxide Capture Using Low Cost Pozzolanic Material	Carbon dioxide emissions have been increasing rapidly in the past decades due to increase in industrialization. Many carbon capture technologies have been introduced to capture the carbon dioxide from the atmosphere thus reducing emissions. Although many of these technologies are effective, they are all very high in cost, therefore they are not widely applied globally. This research introduces a method for carbon capture that is highly effective and very low in cost. The technology relies on fly ash which is a byproduct of combustion that usually ends up in landfills. Fly ash has been found to have a strong affinity to carbon dioxide which causes the carbon dioxide molecules to stick to the fly ash. By utilizing the fly ash, carbon capture can be achieved using a low cost material, and the fly ash will not end up in landfills thus enhancing waste material usage and sustainability while increasing carbon capture globally.
1:35-1:50 pm	Omar Abdelaziz	MENG	Cooling without Warming Our Planet	Current air conditioning and refrigeration technologies contribute negatively to the environment either through the emissions of harmful refrigerants or the inefficient use of energy. In this presentation, we will cover how environmentally friendly refrigerants could be used to design high efficiency air conditioners and refrigerators to combat potential climate impacts.
1:55-2:10 pm	Ehab El Sawy	CHEM	Stationary Aqueous Redox Flow Batteries: Toward Sustainable and Safe Renewable Energy Storage	Stationary Aqueous Redox Flow Batteries: Toward Sustainable and Safe Renewable Energy Storage
2:15-2:30 pm	Salah M. El-Haggar	MENG	Net Zero Concept and Climate Change	Net zero concept in a global scale is the solution to climate change. Net zero concept including net zero waste, net zero water, net zero energy and net zero emissions. Net zero concept in a global scale will contribute heavily to the carbon foot print. This approach will add a new dimension to adaptation and mitigation called "utilization". The concept of utilization will add a new dimension to the national economy not only to Egypt but also to Africa and the world.
2:35-2:50 pm	Salah Arafat	PHYS	AUC-Basissa Integrated Field Projects for Environmental Sustainability and Sustainable Development	
Session 5 "Climate Change and Innovative Solutions" - Continued				
3:00-3:15 pm	Yasmine Kamal Abdel-Maksoud	CARES	Nature-based Solutions for Climate Change Adaptation : Potential and Limitations	There is a growing awareness that Nature-based solutions (NBS) can be an effective approach to tackling the combined challenges of climate change, nature loss, and human well-being. NBS opts to promote adaptation and increase communities' resilience to climate change and ecosystem loss. However, the uptake of NBS projects is still limited. The challenges to NBS interventions are numerous including weak political support and absence of governance structures, difficulties in monitoring and evaluation, and lack of investments and financial support. This research aims to identify key enablers and success factors to effectively implement, scale up and mainstream NBS and highlight the areas that should be tackled by researchers to promote NBS and start mobilizing finances towards NBS.
3:20-3:35 pm	Fahad Kimera	CARES	An eco-innovative sustainable solution integrating three global challenges of Water scarcity, conventional Energies and Food insecurity amidst the era of climate change. (WEF 4 Climate Resilience)	An eco-innovative sustainable solution integrating three global challenges of Water scarcity, conventional Energies and Food insecurity amidst the era of climate change. (WEF 4 Climate Resilience)
3:35-3:50 pm	Ahmed Rafea	CSE	Using AI in Agriculture to Adapt Farming Practices to Climate Change	This short presentation describe how Artificial Intelligence could be used to adapt farming practices to the negative impacts of climate changes on agriculture production. The essay first describes how the climate changes intensified Agriculture challenges resulting from diluting the cultivated area and food production while the earth population is increasing. Then the concept of Climate Smart Agriculture that was developed to help in responding to those challenges is to adapt farming practices are recommended.
3:50-4:05 pm	Ossama Hosny	CENG	An Optimization Model for Integrated & Sustainable Farming	An Optimization Model for Integrated & Sustainable Farming
4:05-4:20 pm	Sherif Nader Gouburan	ARCH	Sustainable Thinking as a Tool for Design: Defining Means of Advancing Sustainable Development in the Built Environment through Transdisciplinary Architectural Design	With global population growth and urbanization trends rising (Department of Economic and Social Affairs (Population Division), 2017; United Nations - Department of Economic and Social Affairs Population Division, 2018), it is now imperative that we move towards a state of creative sustainability in the built environment. The publication of the 2030 Agenda and the sustainable development goals, the (SDGs), have reframed the sustainable built environment challenge as a complex design problem, open for interpretation, judgment, and theorization and leading to multiple solutions and innovations that require synthesis of knowledge between a multitude of disciplines. In this paper, we argue that architecture, as a field of research and practice, is both inductive and inclusive of the creative transdisciplinary approaches needed to tackle sustainable development challenges in the built environment. The paper theoretically postulates that architectural design, as a field of design research and practice, is fit for accelerating sustainable development in the built environment through its application of transdisciplinary approaches throughout its process. Accordingly, the paper's method analyses a series of published cases available through the International Union of Architects (UIA) publications that highlight how creative transdisciplinarity through architecture can contribute to the SDGs, and present creative transdisciplinary sustainable solutions developed for the 17 goals within nine architectural domains. A relationship matrix that connects architectural domains with the SDGs based on evidence found in various cases is presented as a summary of the findings. Accordingly, the paper concludes that the value of architecture as a transdisciplinary field of study and practice is manifested to be one that gives attention to the network of interrelations in a given context, is in harmony with the context of ecological, social, historical, biological, and economic forces, preserves and restores the damages within a society, capitalizes on the resources and capacities of the context, and establishes possibilities of co-existence.
Session 6 "Climate Change and Art" - Continued from March 13				
4:20-4:35 pm	Elizabeth Rauh	ARTS	Iridescent Modernity: The Troubling Artistic Legacy of Pearl Diving in the Persian Gulf	Iridescent Modernity: The Troubling Artistic Legacy of Pearl Diving in the Persian Gulf