WCC Session
"Achieving Gender Equality of Women – Challenges and Opportunities"

Plenary Speech

Achieving Gender Equality of Women in Science – Challenges and Opportunities

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Gender equality is one of the UN sustainable development goals however, less attention has been paid to the role of women in science. Despite a wide range of efforts to promote gender equality in science and technology even in the well-developed west, women remain under-represented in the fields of science, technology, engineering and mathematics (STEM). Women have to face countless obstacles to ensure gender equality in science however, it is not a reality yet. Nevertheless, with several barriers women continue to be inadequately represented in the research field due to unprofessional behavior of peers including harresments and threats. Further, many women researchers are struggling to keep up the balance of family commitments and carrier life and hence, they quit in their early career. It is well represented by the higher number of bachelors degree achievements by women and lesser number of postgraduates compared to men. There are only a few opportunities encountered by women who is willing to pursue a successful career in science specially in the developing world. However, opportunities now slowly available in the west, which encourages women scientists in the east e.g. Organization for Women in Science for the Developing World (OWSD) and various awards from UNESCO and TWAS. Unfortunately, there is less recognition and appreciation for women scientists who performs well, particularly in conservative societies. It is believed that better opportunities can evolve from such situations despite the preventable events. These opportunities helps to encourage divergent thinking and create new examples for other professionals in science to follow. A supportive and flexible work environment with positive perception can help to bring out the best in women scientists which will deliver optimal performance while providing community role models.

Keywords: Equity and Equality; Gender; STEM; Opportunities; Role models

Prof. Meththika Vithanage *is a Professor in Natural Resources and the founding director at the Ecosphere Resilience Research Centre, University of Sri Jayewardenepura, Sri Lanka. She was appointed as an Adjunct Professor in the University of Western Australia, Australia and the University of Petroleum Engineering Studies, India. She obtained her Bachelors specializing Natural Resources from Sabaragamuwa University, Master's in Environmental Sciences, University of Peradeniya and Doctorate from University of Copenhagen, Denmark in hydrogeology and groundwater modeling in 2009. Before joining University of Sri Jayewardenepura in 2017, she as a senior research fellow at the National Institute of Fundamental Studies, Kandy, and Adjunct Research Professor at the University of Southern Queensland, Australia. Her academic background covers environmental remediation of toxic metals, antibiotics, agrochemicals, microplastics and waste biomass conversion. She is a Young Affiliate of the Third World Academy of Sciences and she became the Chairperson of the Young Scientists Forum in 2017. She received prestigious General Research Committee Award by the Sri Lanka Association for the Advancement of Science in 2019. She was awarded as the Best Young Scientist, 2018 by the Young Scientist Forum of the National Science and Technology Commission, Sri Lanka and in 2016 she became the Young Scientist in Chemistry by the National Science Foundation*

of Sri Lanka. She was selected as one of the Early Career Women Scientists by the Organization for Women Scientists in the Developing Countries, Italy. She served as the Chairperson of the Section for Engineering, Architecture and Surveying of the Sri Lanka Association for the Advancement of Science, Sri Lanka in 2018. She has received Presidential Awards for Scientific Publications for 10 years. Further, Prof. Meththika Vithanage is considered listed as the top most scientist in Sri Lanka for the Environmental Science based on the scientific output in the International scientific publishing website SCIVal. She is a highly cited researcher in 2022 in Clarivate. Further, she was listed as Top 2% of the most cited scientists across various disciplines globally in 2017 and 2019. She has contributed over 125 Science Citation Indexed journal articles, over 30 book chapters and 4 co-edited books published by Elsevier Inc. Her contribution to the newspaper articles exceed 100 plus 4 translated novels for the teenagers, one of those were received the best award for translations by the Department of Official Languages, Sri Lanka. She additionally contributed to 2 Korean patents and 1 Sri Lankan patent for environmental remediation of antibiotics using biochar and synthesis of nanozero valent iron. She has served in many national and international scientific committees to promote science. She has contributed over 175 Science Citation Indexed journal articles, over 30 book chapters and 4 co-edited books published by Elsevier Inc. Her citation record is over to 13000 with an H index of 55.

Plenary Speech

Gender Equality for Sustainable Growth

Jessica Pereira

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The United Nations Children's Fund (UNICEF), originally known as the United Nations International Children's Emergency Fund, defines gender equality as women and men and girls and boys having the capability to enjoy the same rights, resources, opportunities and protections. Although gender equality is a topic that has existed for decades and is a frequent theme in discussions, the manner in which it is perceived has evolved significantly together with the advances in science and technology, knowledge sharing, access to infrastructure and facilities, lifestyle changes and improvement in quality of life. This talk which falls under the broader theme for the session; Achieving Gender Equality of Women – Challenges and Opportunities, will focus on my perception on the topic as an early career female researcher, why it is important and how gender equality can influence progress in various fields including education, employment, health and economy.

Dr. Jessica Pereira *received her B.Sc/graduateship in chemistry from Institute of Chemistry Ceylon (IChemC) in 2013. She performed exceptionally well and was the first graduate chemist to top the batch consecutively in all 4 years and won the Shireen Jayasuriya Memorial Gold Medal in 2013 for overall best performance in all 4 years, along with over 20 subject prizes. Since the completion of the graduateship programme in 2013 – November, she was employed as a Teaching Assistant (TA) at IChemC on a fulltime basis, however upon recruitment as a Research Scientist at the Sri Lanka Institute of Nanotechnology in May 2014, she continued her TA position on weekends. In 2015, she secured a Chancellor's International Scholarship from University of Warwick (UoW), UK and began her PhD in October 2015. Her PhD was centralized on developing nanostructured copper electrodes for application in Organic Photovoltaics or OPVs and won the Royal Society of Chemistry (RSC) Energy Sector PhD Thesis Award in 2019 for her PhD thesis titled, "Nanostructured Copper Window & Reflective Electrodes for Organic Photovoltaics." Following the submission of her thesis in March 2019, she was employed as Research Assistant and was working on exploring commercialization opportunities for a metal patterning processes developed in the group. As part of this project she participated as an Entrepreneurial lead on the Midlands Innovation to Commercialization of University Research (ICURe) programme representing UoW. She attended several trade shows and customer meetings world-wide (USA, Germany, Greece, Singapore, India, Indonesia and in several parts in the UK) during the course of 3 months to conduct a market research, explore future prospects of the process, obtain feedback on further developments and scale up. Dr. Pereira formally received my PhD in August 2019 and continued to work on the aforementioned project as a Research Fellow until the end of June 2020. Dr. Pereira is currently a Research Fellow in the Propulsion Futures Beacon of Excellence, University of Nottingham, UK (since July 2020). Her current research projects are focused on developing clean and sustainable solutions for application in emerging technologies. Her research interests include nanomaterials, sustainable energy generation, flexible electronics and photovoltaics.*