



MAIN HOST AND
FOUNDER INWED

**Dawn Bonfield,
UK**

INWED Founder, Commonwealth Engineers Council President, Royal Society Entrepreneur in Residence, King's College London, WFEO roles.

WFEO WIE WEBINAR TO CELEBRATE INTERNATIONAL WOMEN IN ENGINEERING DAY (INWED)

Title:

The Lives of Women: Enhanced by Engineering

 Friday, 21st June 2024

 11:00AM - 12:15PM GMT

 7:00AM - 8:15AM EST

 Online (zoom)



CO-HOST

**Ing. Dr Enyonam
Kpekpena, Ghana**

Chair, Women in Engineering Committee (WFEO) & President, Women in Engineering (WinE, Ghana), Manager/ ICT Project Delivery, Electricity Company of Ghana,



SPEAKER

**Janet Zehnder,
Peru**

Chemical Engineer, MBA, Operations Manager, Tin Refinery: Pioneering Women's Empowerment in Engineering.



SPEAKER

**Ir. Heng Lee Sun,
Malaysia**

Director, HLS Pro Construction Sdn. Bhd, Malaysia: Empowering Women through Engineering Leadership and Advocacy.



SPEAKER

Ken Dunn, UK

Founder & Chairperson of Africa's Gift (charity), and Founder & Managing Director of Eternal Flame Worldwide Limited.



SPEAKER

**Samukhele
Mwase, Zambia**

Clean Energy and Sustainability Specialist & Consultant Frankline Engineer LTD., Lusaka Zambia

Join our webinar to explore how diverse and inclusive engineering can enhance the lives of women and all people, featuring speakers dedicated to making a positive impact through technology and engineering.

**Don't miss out on this important
discussion! Click below to join**

<https://shorturl.at/HK96C>



The Committee on
Women in Engineering

WFEO WIE Webinar to celebrate International Women in Engineering Day (INWED) Friday 21 June 2024

Online (Zoom webinar)

Title: The Lives of Women: Enhanced by Engineering

Engineering and technology have an enormous role to play in enhancing our lives. Engineers literally build the world around us, and as engineers, we have a huge influence on the lives of people, and the planet. From the products and services we produce, to the resources and materials we mine and manufacture in order to create these engineered solutions.

The importance of engineering and technology on the lives of women is recognised in Sustainable Development Goal 5, with a target to 'enhance the use of enabling technology to promote the empowerment of women.'

One way to ensure that the lives of women are enhanced by engineering is to have a diverse and inclusive engineering sector where women are equally represented. But ensuring that engineering is accessible and inclusive of all is incumbent upon all engineers, not just women or those representing minoritised groups.

In this webinar we will explore these issues and hear from speakers who are ensuring that the work that they do in engineering is enhancing the lives of all women – and all people equally.

INWED Webinar Speakers 21 June 2024

Janet Zehnder, Peru

Review: Janet Zehnder is Peruvian, mom of two, Chemical Engineer, Master in Business Administration and currently is studying a Doctorate in Business Administration

Biography: Janet has grown up in the jungle of Peru, she went to the school in the capital and studied Chemical Engineering in San Marcos National University, the oldest university of America. Her career started as a practitioner in one of the refineries of the Peruvian company of petroleum, she had been there for 17 years, her last position was as manager of the technical department. She was the first woman in Peru being manager of a petroleum refinery.

Now she works in the mining sector as operations manager in a Tin refinery.



During the last six years she has been volunteer in the mentoring program of women in energy and also collaborates with the academy sharing knowledge with students through technical presentations.

E-mail: janetzehnder@gmail.com

Topic: How engineering is helping women

During the years women typically have been in charge of the households and also to prepare the food. Women in the world spend many hours carrying water to their houses. In this specific point engineering have helped to have clean and safe water in closer places, for example through the installation of water systems, with the use of desalinization plants to have clean water in desert areas and with the installation of water wells with pumps.

In other point of view having access to clean and safe water give women better life conditions, especially regarding to health and reduces the shame during period in the more depressed areas.

The other way engineering improves women lives regarding the water, is with the treatment of the effluents.

There are many examples that we can use to show how engineering had improved women lives. Don't going so far, for example, the materials that we use now in the towels for the period or the cups, that technology have changed lives and also permitted women to study and work with less limitations.

Ir. Heng Lee Sun Position: Director, HLS Pro Construction Sdn. Bhd, Malaysia

Abstract: Lives of Women: Enhanced by Engineering Engineering is not just a profession; it's a transformative force that enhances lives, especially for women. As a woman engineer with over twenty years of experience involves in civil engineering and project management, I have witnessed and contributed to this transformation firsthand. My journey began as a design engineer and progressed through various roles, including regional structural engineer and planning manager, overseeing townships and diverse engineering projects across Asia. The enhancement of women's lives through engineering is twofold: professional growth and societal impact. Professionally, engineering equips women with critical thinking skills and a problem-solving mindset that are invaluable in any career. My role as a project manager has not only been about delivering projects on time but also about bridging communication gaps among diverse cultural stakeholders, showcasing how women can lead and excel in highly technical and leadership roles. On a societal level, the projects I have managed from infrastructure to township planning, have improved living conditions, accessibility, and economic opportunities for communities, including women. My involvement in non-profit organizations like the International Network of Women Engineers and Scientists (INWES) as Board of Director, and several leadership roles in the Institution of Engineers Malaysia (IEM, Penang Branch) has allowed me to advocate for and mentor the next generation of women engineers. Engineering offers a unique opportunity to empower women, allowing them to overcome barriers and build a sustainable future. While the journey in a predominantly male industry presents distinct challenges, it also offers rich opportunities for women to demonstrate leadership, foster change, and inspire the next generation of engineers. As we continue to redefine boundaries, we pave the way for more women to realize and harness their potential in engineering and beyond.

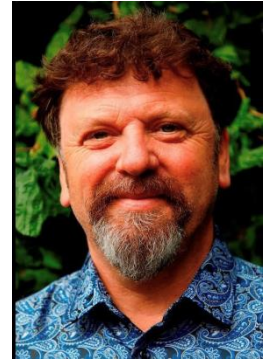


Ken Dunn, UK

Ken Dunn MBE,FRGS,MFA

Abstract

Ken's talk will outline the issue of cooking in rural areas of Sub Saharan Africa. The hours spent cutting and carrying fuel wood and harvesting and carrying water. Then the hours spent cooking over a harmful smoky fire. He will then share the introduction of a heat retention cook bag - made by local women, for local women from local organic waste. The talk closes discussing the measured impact these bags are having and the way forward to scale and replicate.



Biography

Ken Dunn is an educator and community development activist. Following 23 years of secondary school teaching in South Yorkshire the last 6 years in leadership, Ken resigned his post to turn his full attention to engagement with and within African communities. Working WITH extraordinary community matriarchs his partnerships have addressed food security, soil erosion, conservation agriculture and clean cooking. Ken is the Founder and Chairperson of Africa's Gift (charity) and Founder and Managing Director of the social enterprise start up Eternal Flame Worldwide Limited.

Samukhele Mwase, Zambia

The Biological Clock: Understanding Bipolar Disorder and PMDD through Engineering Principles

In 2020, I experienced my first manic episode, remaining sleepless for six days straight. This led to a diagnosis of bipolar disorder type 1 with good insight. My mood fluctuated dramatically, correlating with both my menstrual cycle and the seasons. Despite consultations with both my gynaecologist and psychiatrist, a clear explanation for this pattern eluded me until 2022, when my third psychiatrist introduced me to the concept of premenstrual dysphoric disorder (PMDD). PMDD, a severe form of premenstrual syndrome (PMS), is characterised by significant emotional and physical symptoms that interfere with daily life, distinct from the typical mood swings associated with PMS.



The turning point in understanding my condition came from an unexpected source: my background in engineering. My psychologist suggested that my mood variations could be plotted, an idea that resonated deeply with my engineering training. By applying mathematical and technical principles, I began charting my energy levels and emotional valency throughout my menstrual cycle. This methodical approach revealed a consistent pattern, allowing me to predict my moods, limitations, and strengths based on the phase of my cycle.

This process of mapping my emotional and physical states involved quantifying variables that influenced my mood, such as sleep, stress, and hormonal changes. By treating these variables as components in an engineering model, I could create a predictive framework. For instance, using concepts from signal processing, I identified periodic trends and anomalies in my mood data, which correlated with my menstrual cycle and seasonal changes.

The insights gained from this engineering-based approach were profound. Not only did it provide a clearer understanding of how my biological clock influenced my mental health, but it also empowered me with tools to manage my condition proactively. This newfound clarity alleviated

much of the uncertainty and anxiety that previously accompanied my mood swings, offering a sense of control over my life.

I often describe myself as a "natural engineer, engineered by nature," reflecting the inherent rhythm of my biological clock. My experience underscores the potential for interdisciplinary approaches, particularly the application of engineering principles, in understanding and managing complex medical conditions like bipolar disorder and PMDD. By sharing my journey, I hope to inspire other women to explore similar strategies, fostering better self-understanding and reducing the emotional burden of their conditions.

Bio: Samukhele, a Zambian woman with heritage from across the African continent, is an accomplished electrical engineer with an honors degree in Material Science from the University of Cape Town. Since 2017, she has specialized in solar energy, managing 2037.5MW of solar electric power worldwide. Passionate about women's health and education, she founded the Meyana Foundation, a nonprofit aimed at providing modern tools for success through STEAM education. The foundation's first project began in George Compound, Lusaka, one of Zambia's poorest areas. Samukhele aspires to be a Clean Energy and Sustainability Expert, comprehending every facet of the green economy and its interplay with societal issues.