Dr Marlene Kanga

AM, Hon. FIEAust, Hon. FIChemE, FTSE

President of the World Federation of Engineering Organisations

Dr Marlene Kanga is President of the World Federation of Engineering Organisations (WFEO), the peak body for engineering institutions internationally representing some 100 engineering institutions and approximately 30 million engineers. WFEO is committed to advancing the UN Sustainable Development Goals through engineering.

Marlene is a chemical engineer, specialising in process safety risk engineering and an Honorary Fellow of the Institution of Engineers Australia, Honorary Fellow of the Institution of Chemical Engineers (UK). She is also a Fellow of the Academy of Technology and Engineering (Australia), a Foreign Fellow of the ASEAN Academy of Engineering and Technology and Fellow of the Australian Institute of Company Directors.

Marlene is the 2018 Engineers Australia Professional Engineer of the Year and has been listed among the Top 100 Women of Influence in Australia and the Top 100 Engineers in Australia. She is a Member of the Order of Australia, a national honour, as recognition of her leadership of the engineering profession.

Engineering Sustainable Development: The Diversity Imperative

The World Federation is the peak body for engineering, representing nearly 100 nations and 30 million engineers. It is the only international organisation at the international level that represents all engineering disciplines around the world. The UN Sustainable Development Goals take an integrated approach for future development, combining progress in economic prosperity, social inclusion and environmental sustainability. The achievement of every one of these goals requires engineers and engineering. Consequently, the implementation of these goals is a key objective of the World Federation of Engineering Organisations.

Dr Kanga will speak about the key role that engineers have in solving some of the most pressing problems that the world is now facing including water shortages, climate change impacts, natural disasters and increasing costs of energy. The world needs more engineers and engineers need more diverse teams, including women and people from different backgrounds. These differences are an opportunity that cannot be ignored and are essential for sustainable, innovative solutions for a better world.

Julie Mikhail,

BEng, MEngSc, FIEAust, CPEng, EngExec, NER

Managing Director Engineering Business Pty Ltd,
Immediate Past President of Engineers Australia Sydney Division

Julie, founder of Engineering Business Pty Ltd, is an engineer with more than 17 years' experience in the public sector working on Defence projects including major acquisitions and long-term sustainment contracts. While working for Defence, Julie managed the sustainment (asset management) of Navy's communication systems. As a result of outstanding management and leadership Julie was awarded a CEO Commendation and the Australia Day Medallion in 2009.

Over her time at Defence, Julie has issued numerous tenders to industry, evaluated them and debriefed unsuccessful tenderers on the failures of their bids. This has sparked the desire to assist companies that are technically capable but don't have the resources or knowledge to bid successfully on government tenders. To build on this desire, Julie started her own company Engineering Business Pty Ltd in 2016, to work with Small to Medium Enterprises developing capability and assisting them in their bidding process to bid and win on government tenders.

Julie also is actively involved with Engineers Australia (EA), and currently holds the position of Immediate Past President of Engineers Australia Sydney Division. Julie holds a Bachelor's Degree in Chemical Engineering, Master's Degree in Engineering Science (Electrical Engineering), a Certificate IV in Government Procurement and is a Fellow and Chartered Engineer of Engineers Australia.

Rajanthi Ravindra

BScEng(Hons), CPEng

Senior Bridge Engineer for New Design at Bridge and Structural Engineering, RMS

She is a chartered professional civil/structural Engineer with over 30 years' experience in Australia and overseas in the design, construction and maintenance of infrastructure assets from cradle to grave.

She graduated from the prestigious University of Sri Lanka, Peradeniya - one of the 10 female graduate engineers from a class of 150. She started her career with State Engineering Corporation of Sri Lanka where she embarked on her career with the design and construction of hyperbolic paraboloid roof of Ananda College pavilion, Vishaka Vidiyalaya, Maligawatte Secretariat.etc.

She moved to Singapore, where she was engaged in the design of medium rise commercial and residential buildings and aerial viaducts for Singapore Mass Rapid Transit (MRT).

When she migrated to Sydney, she initially joined Meinhart and Partners and was involved in the design of World Square Gardens, Centennial Plaza buildings in Sydney CBD and industrial buildings.

She then joined RMS Bridge Section as a design engineer and carried out numerous bridge designs on Goulbourn Bypass, Yass Bypass, Holbrook Bypass etc. Anzac bridge approach viaducts, Woronora bridge and numerous pedestrian bridges including the Marsfield shared path.

The increased spending on infrastructure projects and change in the procurement strategies requires the management of technical risk to RMS. She is currently leading the New Design unit to prepare the technical briefs, standards and peer review required for the external bridge and structures designs in the delivery of major motorway projects such as WestConnex, Pacific highway and Princes highway projects.

Maya Amaraweera

BScEng(Hons), MEng, MIEAust, CPEng NER, AMIESL

Roadside Asset Manager, Asset Maintenance Planning, Roads and Maritime Services Past Chair and Committee Member IESL NSW Chapter

Maya has more than 25 years of experience in delivering road infrastructure projects and managing large road networks in Sydney. She has more than 15 years in Leadership roles at RTA/RMS with extensive experience in systems development, design, data modelling and system integration. Maya has an Honours degree in Civil Engineering from the University of Peradeniya, Sri Lanka and a Master's Degree in Civil Engineering specialising in groundwater modelling from the Asian Institute of Technology, Thailand.

During her career at RMS, Maya has delivered road construction, maintenance and rehabilitation projects within Sydney East and West road networks using direct work force and external resources.

During her time at RMS as the Performance Strategy Manager she was responsible for the establishment, development and management of a centralised performance monitoring and reporting framework to measure the performance and efficiency of RMS maintenance delivery models in NSW. The delivery models included 21 RMS Internal Road Maintenance Alliances and 79 Road Maintenance Council Contracts.

In her current role as the Roadside Asset Manager, Asset Maintenance Planning, Maya manages and coordinates the development and improvement of roadside asset management needs, specifications and systems which enable strategic asset management and risk management of roadside assets in NSW. This is a leadership position to provide expert technical guidance, direction, and leadership across RMS to ensure the consistent and competent management of roadside assets.

In 2009 Maya was one of the founding members of establishing the first ever overseas chapter of the Institution of Engineers Sri Lanka in NSW (IESL NSW) and served as the Treasurer of the Executive Committee for two years. In 2011, Maya served as the Chair of the IESL NSW and led it towards excellence in delivering many activities for the first time including organising inaugural Engineers Convention with sponsorships from major public and commercial industry organisations. During her tenure, she led the team towards significant enhancement to Chapter Website, established strong professional relationship with the parent body in Colombo to offer a membership amnesty towards a successful membership renewal for the year.

Dr Samanthika Liyanapathirana,

BScEng(Hons), PhD

Associate Professor – Civil Engineering, Engineering and Construction Management, Western Sydney University

Samanthika completed her Bachelor of Engineering degree with First Class Honours at the University of Moratuwa in 1991 & completed her PhD at the University of Western Australia in 1999. From 1999-2003, she worked as a Postdoctoral Fellow at the Centre for Geotechnical Research at the University of Sydney. In 2003, she joined the University of Wollongong as a Lecturer and was promoted to Senior Lecturer in 2005. Currently she is an Associate Professor at the Western Sydney University. In 2007, she received the Thomas A. Middlebrooks Award from the American Society of Civil Engineers for research carried out in the design of pile foundations in seismically active regions. In 2008, she received the University of Wollongong Vice Chancellor's Award for outstanding contribution for Teaching and Learning. In 2013, She received the Australian Geomechanics Award for research carried out on geosynthetic reinforced deep cement mixed column supported embankments. In 2015, she received the Outstanding Reviewer Award from Elsevier for the journal Computers and Geotechnics (ISSN: 0266-352X) for 2013-2014 in recognition of the high quality of her professional contribution based on the quality of the submitted review reports. She has served as an editorial member of international journals.

Julia Ratnayake

BEng, MScEng, CPEng, FIEAust

Asset/Strategic Infrastructure Manager, Sydney Planning, Sydney Division, Roads and Maritime Services

Co-Deputy Chairman, Sydney Division Committee, Engineers Australia

Julia has a Bachelor of Mechanical Engineering and a Masters in Industrial Automation Engineering. She is a Project Manager with over 25 years engineering experience in managing a diverse range of Service Delivery, Critical Infrastructure, and Business-improvement projects on Manufacturing Industries, Industrial Automation field and NSW Government sector.

Since 2006, she has been working with Roads and Maritime Services of NSW. She is a senior leader at the Sydney Harbour Bridge, where she manages projects, programs and asset maintenance operations. Julia is responsible for the development and delivery of specific project works across all aspects of the bridge maintenance, infrastructure improvements, capital and urgent work requests.

Julia takes great pride in her professional and personal achievements, and throughout her engineering career she has been an active promoter of the engineering profession, supporting young and future engineers, providing ongoing mentoring support to the development of young engineers and women professionals.

She is a strong supporter of engineering innovations and implementation of new technologies, and she feels very fortunate to have worked closely with highly skilled research and development teams around the world, specifically in the Industrial Automation field, and to have contributed with new ideas, and even seen some of them realised.

Julia is actively involved with Engineers Australia, Sydney Division Committee, as an elected member since 2014. She is currently a Co-Deputy Chairman for the Sydney Division Committee.

Amali Wickramasinghe

BScEng(Hons), PGDip, CPEng, FIEAust, MIESL, PMP

Underground Mains Engineer, Asset Management, Endeavour Energy
Past Secretary and Committee Member, IESL NSW Chapter

Amali Wickramasinghe obtained her BScEng(Hons) in Electrical Engineering in 2001 and PG diploma in Energy Technology in 2005 from the University of Moratuwa. Amali is a fellow (FIEAust) and charted professional Engineer (CPEng) of Engineers Australia and a corporate member of Institution of Engineers Sri Lanka (MIESL). She is a Project Management Professional (PMP) of Project Management Institute, USA.

Amali has over 15 years of experience in the Electricity Supply Industry has been attached to Electricity Utilities in both Australia and Sri Lanka. She has widespread experience in design, construction project management and asset management of Electricity Assets. She is currently working at Endeavour Energy, as an underground mains engineer attached to the Asset Management division.

Amali has a true passion in promoting and mentoring females for STEM learning and engineering roles. Over the past, she has contributed to the engineering profession through professional organisations such as Institution of Engineers Sri Lanka (IESL), Sri Lankan Energy Managers Association (SLEMA), IESL NSW Chapter and Engineers Australia by serving in committees or involving in their programs on a voluntary basis. In 2016, she served as the Secretary of IESL NSW Chapter.

Dr Sujeewa De Silva

BScEng(Hons), GradCert, PhD

Lecturer, School of Physics and Advanced Materials,
University of Technology Sydney

Sujeewa received her BSc in Materials Engineering with 1st class honours from the University of Moratuwa, Sri Lanka in 2003. After having an exposure on the research and development work at Dankotuwa porcelain manufacturing company, she joined the department of Materials Science, University of Moratuwa as a lecturer in 2005.

Few years later, she moved to Australia to pursue her PhD studies at the University of Wollongong, under the supervision of Prof. Shi X. Dou. Her PhD research was on “Investigating and improving the properties of graphene doped magnesium diboride superconductors”. On completion of her studies, she worked as a Research Associate at Institute for Superconducting and Electronic Materials (ISEM) University of and continued her work on magnesium diboride superconductors. She joined the School of Physics and Advanced Materials at University of Technology Sydney(UTS) in January 2014 as a postdoctoral fellow to work on the synthesis of precious metals and intermetallic compounds, nanostructures and their optical properties.

She has published a book based on her PhD study area. She has published 19 research papers in reputed journals with a reasonably good h-index. She completed Graduate Certificate in Higher Education Teaching and Learning from University of Technology Sydney in 2017. She is currently working as a lecturer at School of Physics and Advanced Materials, UTS.

Dr Ana Heitor

BEng, MEng, PhD

Senior Lecturer, School of Civil, Mining & Environmental Engineering, Faculty of Engineering and Information Sciences

Associate Investigator - Centre of Excellence for Geotechnical Science and Engineering

Investigator - Centre for Geomechanics and Railway Engineering

Ana Heitor received a Licentiate degree from New University of Lisbon, Portugal in 2004, Master's degree from Kyoto University, Japan in 2009, and doctoral degree in Geotechnical Engineering from University of Wollongong in 2013. From 2004 to 2006 she worked in consultancy and construction companies in Portugal.

During her PhD study, undertaken under the auspices of an Australian Research Council (ARC) linkage project, she was honored at the Young Geotechnical Professional Competition in 2010. She received the AGS NSW Research Student Award in 2012 for her innovative research work on the investigation of cost effective and non-destructive testing methods for evaluating the compaction efficiency of reclamation fills at Penrith Lakes.

She joined the University of Wollongong as a lecturer in 2013 and was promoted as a senior lecturer in 2017. Since her PhD, her research interests have extended to the use of compacted waste materials in transport infrastructure. She has been involved in a number of research projects funded by the NSW Environmental Protection Agency, ARC Linkage scheme and Cooperative research Centre (CRC).

Anna's achievements both in research and teaching have been recognized in the 2016 UOW Women of Impact and by the John Carter Award for Young Professionals in 2017. In addition, Dr Heitor secured two editorial board member positions on Soils and Foundations and Environmental Geotechnics Journals. Her research work is showcased in a number of scholarly academic publications, including international journals and conference proceedings.

Varuni Fernando

BEng(Hons)

Senior Systems Engineer at ResMed Ltd,
Immediate Past Chair, Women in Engineering, Engineers Australia Sydney Division,
Committee Member, Engineers Australia Sydney Division

Varuni Fernando is a Senior Systems Engineer at ResMed Ltd, working on the next generation of devices for the treatment of Sleep Disordered Breathing (SDB). She completed her bachelor degree in Electrical Engineering at the University of New South Wales. She is currently pursuing a Masters in Systems Engineering from Johns Hopkins University.

Varuni is the Immediate Past Chair of Women in Engineering, Engineers Australia, Sydney Division and was elected to the Engineers Australia, Sydney Division Committee for 2019-2020.

Varuni has had a passion for increasing the number of women in the engineering industry for many years. As a student, she co-founded Experience It! in 2014, an annual event where universities, industry and Engineers Australia collaborate to showcase the engineering profession for girls in years 8-10. She has been an advocate for encouraging young women into the engineering profession as a mentor for university mentoring programs and hackathons, regular speaking commitments at STEM school outreach programs and coordinating the women in engineering program for ResMed.

Gowri Pincombe

BEng (Hons), PGDip

Senior Bridge Engineer, SMEC (Member of the Surbana Jurong Group)

Gowri completed her BEng (Hons) degree in Materials Engineering with Management at Imperial College, London in 2000. She also completed a post graduate diploma in Environmental Policymaking in an International Context at the Open University, London. She has since worked as a structural engineer delivering a range of building and bridge projects in the UK and Australia, including feasibility studies, detailed designs, tender design/documentation and Design & Build projects. The projects included inspections and strengthening designs on existing bridges, and new bridge designs including steel composite and precast/reinforced concrete. Gowri has also pursued her passion for development work through her involvement in development projects in engineering and health sectors, in Sri Lanka, Uganda and South Africa. She was also the co-founder of two charities in the UK; 'Jersey Asia Relief Appeal' for providing emergency relief to communities affected by the 2004 Boxing Day Tsunami, and 'Jersey Side by Side' for providing assistance for post-disaster reconstruction projects. She is keen to further explore how the role of an engineer can impact the communities in need around the world, and is currently pursuing a Masters in International Development at University in Canberra.

Chamindi Jayasuriya

BScEng(Hons)

Doctoral Student and Research Associate, University of Wollongong

Chamindi Jayasuriya is currently working as a Research Associate at the University of Wollongong (UOW), Australia. In 2013, she obtained her BSc in Civil Engineering from the University of Moratuwa with a first class. After graduation, she worked as a research assistant at the same university for one year and her work was focused on pavement engineering. In 2014, Chamindi joined the Centre for Geomechanics and Railway Engineering (CGRE) at University of Wollongong to pursue her PhD in transport geotechnics.

During her undergraduate studies at UOM, she was awarded the “Comprehensive Design Project Award in Civil Engineering for the best Civil Engineering student” and “Transportation Engineering Award“. In 2018, Chamindi won the “Young Geotechnical Engineer Best Paper Award” at the International Symposium on Geotechnics of Transportation Infrastructure held in Delhi, India, “Buddhima Indraratna Award for Industry Engagement”, Institute of Engineers Sri Lanka NSW Chapter “Engineering Excellence Award” in Best Paper Published Category and “Young Geotechnical Professionals Awards-Runner Up” (Australian Geomechanics Society). Her current research interests include railway engineering, energy absorbing materials and waste materials in geotechnical applications.

Naduni Obadage

Chemical Engineering Student, University of New South Wales
Undergraduate Engineer at City Water Technology
Founding Secretary, Impact Engineers, UNSW Engineering

Naduni is a fourth year Chemical Engineering student at UNSW working towards her Bachelor of Engineering, Hons degree, with an interest in the water and wastewater engineering industry. While being employed as an Undergraduate Engineer by City Water Technology, she was able to contribute to the company's performance while enhancing her knowledge of the industry. She was previously part of a research team at UNSW Chemical Engineering focused on algal treatment of wastewater and membrane bioreactors. Naduni is focusing her honours thesis research on developing a guidance tool for better management and selection of water treatment technology for better access to clean drinking water in developing and rural settings.

Naduni is the founding secretary of Impact Engineers, a student-led humanitarian engineering team of UNSW Engineering. Since its inception, she has been involved in multiple projects. The team's first project was aimed at delivering clean drinking water to Galwaduwagama - a village in Anuradhapura, Sri Lanka. She is now working on a project in Walgett, in conjunction with an indigenous community and their organisation –Dharriwaa Elders Group. The project involves providing public water kiosks throughout the town of Walgett and restoring and drought-proofing the Community Garden which is owned and operated by the Aboriginal Medical Service in Walgett.

Naduni's passion in humanitarian engineering projects enable her to serve the community using the technical knowledge gained throughout her bachelor's program.

Navya Jayawardena

Civil Engineering and Architecture Student, University of New South Wales

Navya Jayawardena is currently in her third year of a Bachelor of Civil Engineering (Honours) with Architecture degree at the University of New South Wales. She is involved in the UNSW Women in Engineering and UNSW Engineers Without Borders Societies. She graduated from Baulkham Hills High School in 2016, achieving a place on the HSC All Rounders List.