



Online Green Technologies Grand Challenge

Virtual Event

3rd March (9:30-13:30)

Ana Soares, Professor of Biotechnology Engineering, Cranfield University, UK

Ana Soares is a Professor of Biotechnology Engineering, and she leads the Grand Challenge in Green Technologies at Cranfield University. Her work focuses in municipal as well as industrial wastewater management, proposing innovative and economically feasible solutions to produce high quality effluents and product recovery. She is particularly successful in bridging the gap between science and application, working in close collaboration with industrial and institutional stakeholders. Prof Soares is an IWA Fellow, active member of various national and international committees, the editor in chief of the Water and Environment Journal and associate editor for Water Research.



Peter Clough, Lecturer in Energy Engineering, Cranfield University, UK

Dr Peter Clough is a lecturer in Energy Engineering with expertise in thermochemical processes that produce hydrogen or capture CO₂. Dr Clough's research is centred around the theme of clean energy, specifically hydrogen production, carbon capture and storage, and catalytic/non-catalytic material development and testing. His work also applies machine learning and molecular modelling techniques to design and optimise materials for decarbonisation processes. Dr Clough leads the research activities on the HyPER project (HYdrogen Production by sorption Enhanced Reforming, hyperh2.co.uk).



Phil Longhurst, Professor of Environment and Energy Technology, Cranfield University, UK

Phil Longhurst is Professor of Environment & Energy Technology and head of the Centre for Climate & Environmental Protection. He leads a team focussing on the reduction of green-house gas emissions (GHGs) from energy processes whose work includes carbon capture and storage, enhanced landfill-mining for energy and material recovery, energy from waste and emissions measurement. His own work focuses on the development of heat networks for municipalities as well as innovative and economically feasible solutions to diverting materials from landfill for reuse and energy production. Phil has a track-record of providing training and expert advice for regulation on waste & energy process emissions and is on the Journal Board for MDPI Fuels.





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Kumar Patchigolla, Reader in Low carbon Energy Systems, Cranfield University, UK

Kumar's research is scientifically biased, focused towards fundamental research (bringing TRL 1 to 4), which he applies to a transformative industrial practice (moving TRL from 4 to 7/8). His focus is the development of a world leading research capability in "heat recovery and energy storage" and runs community of practice on this topic at Cranfield. His heat related work also encompasses the generation, capture and utilisation of heat (including waste), where he has been able to prove that, were the technology fully developed, these techniques could offer an economical way to maximise efficiency and minimise waste generation. He is strongly committed to, and has a significant track record of, developing the next generation of researchers.

He is responsible for a wide range of energy process facilities, including pilot scale plants for heat capture and storage, advanced energy systems, absorption chillers, desalination, as well as high pressure flow loop CO₂ transport systems.



Daniel J. Auger, Reader in Electrification, Automation and Control, Cranfield University, UK

Daniel Auger is a Reader in Cranfield's Advanced Vehicle Engineering Centre, where he leads a team researching vehicle electrification and driving automation. Part of his work focuses on system integration challenges in battery technologies such as estimating 'unmeasurables' (like the remaining energy within a battery), modelling hybrid energy storage systems, and creation of 'hardware in the loop' systems to test prototype technologies as if they were in a real end-application. He works with a number of industrial partners. Dr Auger is an IET Fellow, an IEEE Senior Member, and a regular reviewer for various international journals.





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Rosina Watson, Senior Lecturer in Sustainability, Cranfield University, UK

Dr Watson is a Senior Lecturer in Sustainability at Cranfield School of Management and Head of the School's Sustainability Group. She leads the planning and delivery of sustainability-related teaching delivered across the School of Management, and incorporates a Scenario Exploration board game into her teaching, in which students experience the complexity of strategic decision making in the context of four different pathways towards a sustainable future by 2050. The Financial Times recognised the use of this game as an example of best practice worldwide in sustainability teaching in business schools. Her PhD research investigated how companies partner successfully with external stakeholders to deliver sustainability-oriented innovation. Building on her systematic literature review, published in the Journal of Product Innovation Management, she conducted eight in depth case studies of these partnerships, with a particular focus on how differences in values and culture are managed. As Research Fellow in a €4.5million EU funded project (EU-Innovate) she led a work package which crowdsourced ideas for sustainable entrepreneurship policy by means of an online conference virtually attended by 150 participants. She has seventeen years of experience across finance, strategy and commercial roles in blue chip corporations, and a start-up, and was latterly Head of Corporate Sustainability at Argos and Homebase. She has a first class degree in Politics, Philosophy and Economics from Oxford University.



Katie Day, Director of Policy and Communications, Office for Nuclear Regulation, UK

Katie has worked in various government and arm's length bodies over the last 19 years in economic development and energy policy. She is an experienced policy professional, with an extensive background in operational delivery.

She spent 10 years with the South East England Development Agency in stakeholder engagement, corporate governance and programme manager roles, before moving to the Department for Energy and Climate Change as Head of Internal Communications in 2012. Prior to joining ONR she headed up the Operations team for the £3.2billion Regional Growth Fund at the Department for Business, Energy and Industrial Strategy.





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Martin Garratt, Founder and Chief Executive, Cambridge Cleantech, UK

Martin is responsible for the ambitious plans to further develop Cambridge as a leading cleantech centre in Europe and in doing so helping to promote the next wave of the Cambridge hi-tech cluster. Martin supports members by encouraging supply chain opportunities in the sector, enabling shared experience of innovative growth businesses and providing collective services such as access to finance, government regulatory updates and links to international partners.



Previously, Martin was the Environmental Manager for IBM, has undertaken governmental liaison roles whilst working for Boots the Chemists and was one of the UK's first City Centre Managers in Nottingham. He graduated from the University of Manchester with an Honours degree in Town and Country Planning and a Bachelor of Planning focused on environmental issues. He is a member of the Royal Town Planning Institute.

Mark McNally, Director, RAVMAC Ltd, UK

Mark has over 30 years' experience in the Automotive industry holding senior leadership positions in Product Engineering, Research and Manufacturing. Over the past decade Mark has led a portfolio of future mobility R&D projects, underpinning the next generation of advanced electrification propulsion systems for zero emission mobility.



In 2017, Mark was appointed Head of Global Manufacturing Innovation within Jaguar Land Rover's Manufacturing Group, driving a portfolio of new manufacturing capabilities including Industry 4.0 digital transformation.

In 2019, as Interim Challenge Director at UKRI lead the development of the overall business case for the UK's £147m Manufacturing Made Smarter Challenge, subsequently approved by Government in 2020.

Mark is now co-founder and Director of RAVMAC Ltd helping businesses drive improved operational performance, resilience, and sustainability credentials towards Net Zero through digital strategies and technology adoption in manufacturing supply chains. www.ravmac.com



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Stephen Mooring, Head of Sustainability, Central Bedfordshire Council, UK

Stephen is Head of Sustainability for Central Bedfordshire Council with responsibility for driving forward and overseeing the delivery of the council's recently adopted Sustainability Plan, which in turn aims to support the Central Bedfordshire area to move towards net zero emissions. Stephen has over 17 years' experience in local government in a range of roles focusing on sustainability, environmental management, climate change and more recently regeneration.



Imma Bortone, Lecturer in Fluid Flow and Environmental Engineering, Cranfield University, UK

Imma Bortone is a lecturer in the Centre for Climate and Environmental Protection, and project manager of Green Technologies Grand Challenge at Cranfield University. Her main area of expertise surrounds fluid flow modelling and environmental engineering with extensive experience in data integration of heterogeneous, complex datasets, and environmental computational analysis. To date her research has focused on modelling reactive transport processes in environmental systems, more specifically covering environmental restoration by designing sustainable technologies, multiphase flow modelling, wastewater treatment and risk assessment. Dr Bortone has published in a range of prestigious journals and also supervises doctoral students working in this field.



Angel Medina, Reader in Food Mycology, Cranfield University, UK

Angel is a Reader in Food Mycology. He has been developing research on ecophysiology, molecular ecology and modelling of fungal growth and toxin production for more than 18 years. Angel has been involved in several projects to develop new monitoring technologies aimed to improve the storage and increase quality of small grain cereals, groundnuts and fruits and vegetables.

Angel has published 95 peer reviewed Journal papers, 12 book chapters and is one of the editors for Fungal Biology.

He combines his research with the role of Director of the MSc taught programme in AgriFood. In September 2020, he received the British Mycological Society Berkeley Award for his contribution to mycology as early academic.





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Bruce Jefferson, Professor of Water Engineering, Cranfield University, UK

Bruce Jefferson is the Professor of Water Engineering. His work considers the underlying process pathways required to deliver a paradigm shift in how wastewater is viewed. This includes adaptation of existing technology and development of new technologies and flowsheets to meet the emerging challenges and opportunities associated with wastewater. Prof Jefferson is an honorary Professor at the Royal Institute of Technology, Melbourne Australia and is one of the editors in chief of the IWA open Access journal H2Open.



Jialuo Ding, Principal Research Fellow of Additive Manufacturing, Cranfield University, UK

Dr. Jialuo Ding is a Principal Research Fellow in Additive Manufacturing, in Cranfield University. Her main research activities include automation and software development for Wire + Arc Additive Manufacture (WAAM) process, large scale metallic AM process, as well as process modelling and simulation. Currently, she is the Lead Researcher of WAAMMat Programme, which is a rolling research programme with more than 20 industrial partners and aiming at providing industrial solutions based on the WAAM process. She is also the CTO of WAAM3D Ltd which is a spin-off company of Cranfield University that provides WAAM solutions to industry.



Adriana Encinas-Oropesa, Lecturer in Design and Materials, Cranfield University, UK

Dr Adriana Encinas-Oropesa is a Lecturer in Design and Materials in the Centre for Creative Competitive Design (C4D). Adriana's research theme, Circular Driven Materials, investigates and applies techniques and processes to recover/ reuse materials for extending their useful life's whilst contributing to a social-economic and environmental impact. Associate Fellowship from the UK Higher Education Academy (HEA) and Fellow of The Royal Society for the Encouragement of Arts Manufactures and Commerce (RSA), Adriana is also member of the Mexican National System for Researchers CONACyT (SNI).





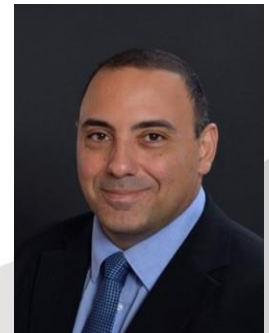
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Michael Bourlakis, Professor of Logistics & Supply Chain Management, Cranfield School of Management, UK

Professor Michael Bourlakis is the Director of Research for Cranfield School of Management and the Head of the Logistics, Procurement and Supply Chain Management Group. Michael is a leading scholar in relation to food and retail supply chains, sustainable supply chains, information technologies within supply chains. He was involved with a major European project examining circular economy in industrial supply chains. He works with numerous multinational organisations, national governments and other stakeholders. His impactful thought leadership has received considerable attention by media (BBC News, ITV News, BBC Radio 4 Today, The Guardian, The Times, Wall Street Journal etc.).



Arnold Tukker, Professor of Industrial Ecology and Scientific director of the Institute of Environmental Sciences, Leiden University, The Netherlands

Arnold Tukker is the Professor of Industrial Ecology and Scientific director of the Institute of Environmental Sciences (CML, 130 staff) at Leiden University. He retains a small position at the Dutch not for profit research organization TNO. Arnold set up 15 million Euro in EU projects in which the world's most ambitious and detailed global energy/resource/economic input-output database (EXIOBASE) was built. He leads a EU Marie Curie Innovative Training Network of 15 PhDs researching the circular economy (Circ€uit). He was appointed as a member of the European Academy of Sciences in 2018, and recognised by the Web of Science group as a highly cited researcher in 2019 and 2020. His work in the field of sustainable business models is among the highest cited globally.





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Christophe Lasseur, Head of MELiSSA and Life Support R&D Co-ordinator, European Space Agency, The Netherlands

Christophe Lasseur is Life Support coordinator and Head of MELiSSA project within the European Space Agency, Noordwijk, The Netherlands. His work focuses on the astronauts support for space missions, which is taking into account the constraints of future missions, mainly to create a circular system from crew Wastes to production of Food, Water and Oxygen. MELiSSA is active in all TRL levels of developments from purely academic research to flight experiments, including collaboration for commercial application. MELiSSA community represents roughly 50 European organisations including 25 universities over 12 countries. Dr Lasseur received a Doctor Honoris Causa from University of Antwerp.



Peter Hammond, Chief Technology Officer and Co-founder, CCm Technologies, UK

Peter is Chief Technology Officer and a founder of CCm Technologies. His background is in commercial process engineering development and has had a particular focus on the application of carbon dioxide within the food, agricultural and petrochemical industries. He has worked at large scale in the development food processing plants in North and South America and on specialised phytochemical plants in Europe. As a Professor of Chemical and Biological Engineering at the University of Sheffield Research and a Fellow of Chemical Engineering at the University of Birmingham Peter has gained significant experience in the development of processes from fundamental research. His wider body of work includes patents for materials, processes and analytical techniques along with the founding of two successful businesses.



Pete Vale, Innovation Technical Lead, Severn Trent Water, UK

Pete is a Technical Lead in Severn Trent Water's Innovation Team. He has a degree in Environmental Science from the University of Sheffield and a Masters degree in Water and Wastewater Engineering from Cranfield University.

Pete has played a significant role in developing and implementing Severn Trent's wastewater treatment strategy. A current area of focus is on developing and evaluating technologies that will deliver energy neutral, material recovery wastewater treatment flowsheets that will enable Severn Trent to successfully transition to a net zero, circular operation.

