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## Preface

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**Biographical notes:** Amin Al-Habaibeh is a Professor of Intelligent Engineering Systems within the Product Design Team at Nottingham Trent University. He is the National Director of the DTA-Energy (Doctoral Training Alliance) and also Director of Product Innovation Centre (PIC) at NTU. His research and teaching activities focus on several multi-disciplinary topics in the broad area of product design, automation, energy and artificial intelligence. He is currently leading the Innovative and Sustainable Built Environment Technologies Research Group (iSBET) and is Co-Founder of Advanced Design and Manufacturing Engineering Centre (ADMEC). He has strong links and collaboration with industry including eight years as the industrial placement adviser and over 20 years of industrial research and collaboration. He is a Chartered Engineer and member of the Institution of Engineering and Technologies (The IET) and past Chairman of the IET for the East Midlands Region and Derbyshire/Nottinghamshire local network panel.

Abhishek Asthana is the Director of Hallam Energy at the Sheffield Hallam University (SHU) and Deputy Director of Doctoral Training Alliance (DTA) in Energy. He is a reviewer for the International Energy Agency (IEA)'s Renewable Energy Division. He is a member of the All-Party Parliamentary Group for Energy Studies and member of UK Energy Research Centre (UKERC)'s Research Committee. He has led 57 industrial energy research and consultancy projects, co-authored more than 50 journal and conference papers, developed six commercial energy software packages and invented four patents. He was the Course Director for BEng/MEng Energy Engineering and Chemical Engineering at the SHU.

Vladimir Vukovic is the Deputy Director of the Doctoral Training Alliance in Energy established between 14 UK universities and Senior Research Lecturer in BIM and Energy Reduction in Built Environment at Teesside University. His research interests include digital construction twins, cyber physical system optimisation, predictive controls, indoor environmental quality, energy blockchain and AR applications in construction. He has a leading role in over £100 million international research projects, consulting experience for UNDP, UK, Portuguese, Danish and Estonian research funding agencies, Siemens Building Technologies and EUREKA Secretariat, and co-authored over 30 peer-reviewed publications and received numerous awards (e.g., ASHRAE and A&WMA).

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We are pleased to present to the readers of this special issue of the *International Journal of Design Engineering*, a selected collection of extended papers presented initially at The International Conference on Energy and Sustainable Futures (ICESF) 2019 in Nottingham, UK, organised by Nottingham Trent University (NTU) in collaboration with Doctoral Training Alliance for Energy (DTA-Energy) and University Alliance. The conference has presented state-of-the-art research in the field of energy and sustainable futures by experts from industry and academia, research students and early career researchers. This special issue includes multi-disciplinary papers focusing on engineering design, energy and sustainability. The consequences of global warming and increase in the levels of carbon emissions can no longer be ignored. Enhancing the way we develop and use technology is becoming very important if we want to have a sustainable and environmentally friendly lifestyle. Significant research is needed to achieve the ambitious target of reaching net-zero emissions of greenhouse gases by the second half of this century. This means research in academia and industry is continuously evolving to deliver sustainability and energy requirements for the future. We hope this special issue will inspire and motivate our readers to play an important role in the future integration of engineering and sustainability sectors and wish you all enjoyable reading.