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Special Issue Reprint

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# Advances in Renewable Energy Research and Applications

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Edited by  
Sharul Sham Dol and Anang Hudaya Muhamad Amin

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# **Advances in Renewable Energy Research and Applications**



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Editors

Sharul Sham Dol

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# About the Editors

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Dr Sharul Sham Dol is a Professor of Mechanical Engineering and Assistant Dean for Research and Innovation, Abu Dhabi University (ADU), United Arab Emirates (UAE). Dr Sharul Dol received his PhD from the University of Calgary, Canada, where he worked on Particle Image Velocimetry (PIV) investigation of pulsatile flow over a backward-facing step, funded by a Talisman Energy Inc. Canada scholarship awarded to outstanding PhD candidates whose research focuses on the advancement of environmentally, socially and economically responsible energy provision, as well as on the challenges and opportunities faced by the oil and gas industry.

Dr Dol's primary research interests are fundamentals of turbulent flows, unsteady flows, vortex dynamics, and instability problems, with applications relating to renewable energies, vehicle aerodynamics, aerospace propulsions, and flow assurances. He has conducted several government- and industry-funded projects related to unsteady turbulent flows, propeller aerodynamics, and turbomachinery. To date, Dr Dol has supervised 17 PhD/Master's students. He is the author of nine books/book chapters on turbulence and renewable energy technologies and has authored or co-authored over 110 scientific papers. Dr Dol's professional qualifications include the title of Chartered Engineer/Chartered Energy Engineer from Energy Institute UK.

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# Preface

This Reprint offers a comprehensive exploration of innovative approaches to engineering sustainability and renewable energy, providing a valuable resource for researchers, academics, and professionals in the field. With a focus on addressing the pressing challenges of sustainability and the need for environmentally friendly technological advancements, this Reprint delves into the core topics shaping the future of renewable energy and power generation.

This Reprint's main goal is to bridge the gap between engineering and innovative ideas by highlighting the interplay between sustainability and technological innovation. It seeks to inspire readers to develop and implement sustainable practices in their respective fields, ultimately contributing to a more environmentally conscious society. Covering a diverse range of topics, this book appeals to researchers, academics, and professionals in engineering, sustainability, environmental studies, and related disciplines. It serves as a valuable reference for those seeking to deepen their understanding of sustainable practices and harness the power of green hydrogen innovations.

**Sharul Sham Dol and Anang Hudaya Muhamad Amin**

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