



Invitation to Participate in the 1st AP SDEWES Conference Special Session of Invited Papers

Dear Colleague,

I am coordinating a **Special Session** at the *Sustainable Development of Energy, Water and Environment Systems* (SDEWES) conference held April 6-9, 2020 on the Gold Coast, Australia. Please go to this link for a full description of each of the Special Sessions including mine.
(<https://www.goldcoast2020.sdewes.org/special-sessions>).

Special Session Theme: Biofuels for Sustainable Futures

Special Session code to enter at abstract submission: **gc2020bfsf**

I am contacting you because you have specific expertise in this area and would value the presentations in this Special Session and the overall conference. I feel there is an opportunity to present findings from your digital utility (i.e. smart meters, sensor networks, resource conservation analytics, etc.) related work as it is highly relevant for this session and the conference.

Archival Papers presented at the conference are recommended for publication in a number of high impact international journals associated with this conference (<http://www.sdewes.org/journals.php>). Alternatively, you may select to submit a small Conference Paper, or just an abstract and conference presentation.

I hope you will be able to join my special session or other sessions at the conference. We will ensure that the event is a fun and informative place to expand your research and industry networks. More details about the Gold Coast City can be found at www.destinationgoldcoast.com.

If you are interested in joining my Special Session, please contact me. If you have any questions related to the conference, please do not hesitate to reach out to me.

Regards
Prasad



Special Session Coordinator:



Dr Prasad Kaparaju

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Research interests: Environmental Biotechnology; Anaerobic digestion; Circular bioeconomy; Organic Waste Management; Wastewater Treatment; Renewable Energy; Biogas; Biohydrogen; Biomass pretreatment; bioCNG; Climate Change.



Biofuels for sustainable futures

Increased use of biofuels in transport, energy and industry sectors will replace the dwindling fossil fuels and contribute to mitigate the climate change. According to the International Energy Agency (IEA), biofuels could provide around 30% of all transportation fuels by 2050 and thereby avoid 2.1 Giga tonnes of CO₂ eq emissions per year associated with fossil fuels consumption. In addition, biofuels can also contribute to energy security by diversifying the energy mix and by providing decentralised renewable energy generation and use.

To achieve the climate targets, especially in the short and medium terms, biofuels can play an important role. Advanced, or second generation, biofuels can be produced from non-food organic waste materials from industry, agriculture and municipality as well from the specially grown energy crops or algae and refined into biofuels for use in transportation or industry. Use of both advanced and secondary biofuels in industry, which require high operating temperatures and in long distance transportation such as shipping and aviation, where the added weight of batteries makes electrification impractical, biofuels are the best near term low-carbon renewable fuels. However, the main challenges for some countries for wider adoption of biofuels is the limited availability of low-cost biomass resource, and the high costs of advanced biomass to biofuel conversion technologies that are at various stages of development. Therefore, research and development aimed at accelerating advanced biofuels availability must address key challenges ranging from the sustainable generation and supply of biological feedstocks which takes into account life-cycle impacts and increasing competition for food, feed and material production, to demonstrating the economic feasibility of technologies to produce biofuels that meet current fuel specifications and that can be blended with existing fuels. The aim of this special session is to present topics in research, development, and demonstration of advanced and second-generation biofuels production to achieve performance breakthroughs and cost reductions with the potential to substantially lower GHG emissions.

This session is a key opportunity for governments, researchers and industry to work together on rapidly accelerating research and development, with the goal of achieving performance breakthroughs and cost reductions for large scale production of advanced biofuels.