Biotechnology and Biological Sciences Research Council

Engineering and Physical Sciences Research Council

EBNet Travel Bursary Support
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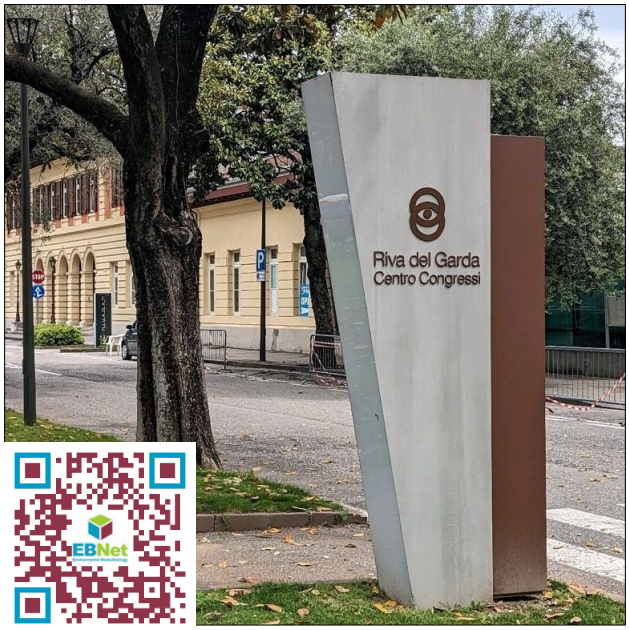
EBNet Environmental Biotechnology

4th International Conference for Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability (BIORESTEC), 14-17 May 2023

Oral Presentation:
'**Hydrodynamic cavitation mediated intensified microalgal biorefineries**'
Authors: C. K. Madhubalaji, Sanjay Nagarajan*, Vivek Ranade

The 4th BioResTec conference was hosted in the picturesque town of Lake Garda, Italy. Various approaches to maximize bioenergy yields from different feedstocks, both via thermochemical processes and biochemical methods were discussed. Novel strategies for transforming bioresources into valuable products, such as biofuels, bio-based chemicals, and biomaterials as well as integrated biorefineries for a sustainable and circular bioeconomy was presented. Furthermore, the utilization of biochar for soil amendment and carbon sequestration were explored. The conference also touched upon some policy and regulatory frameworks within bioprocessing.

The conference gave me a chance to bump into my fellow EBNet travel bursary awardee Dr Aaron Brown. Overall, BioResTec provided a fantastic platform for knowledge sharing, best practices, and advancements within environmental biotechnology.



BIORESTEC 23. Use QR code to see Sanjay's video.

Days 2 & 3 had sessions split between two main rooms. Luckily, all the sessions that I was interested in happened in the same room. This did not hinder me from interacting with fellow participants, catch up with some old friends or meeting new potential collaborators. The coffee and lunch sessions overlapped poster sessions. Having the conference agenda in hand as well as an up-to-date app to keep track of conference changes was useful to plan attendance to specific sessions. Prof Ahring's talk on enhancing the methane yields during anaerobic digestion via pre-treatment and in situ biogas upgradation on day 2 was the highlight for me. I managed to have a good conversation with her during lunch and interestingly talk about common connections.

Prof Lansing's talk on Innovations in Anaerobic Digestion included the keyword 'hydrodynamic cavitation' (HC) very briefly. Interestingly, they used HC to deal with electrocoagulation wastes for biogas production. HC is not common in environmental biotechnology. I am the only one in the UK to work on HC for intensifying biorefineries. Hence, hearing these keywords always makes me curious. It was a great conversation with her over lunch about how things work with biogas plants in the US, role of policy, cavitation trials and general environmental biotechnology. Day 4 was a short morning session with plenary and awards. It was difficult to choose whether Prof Bhaskar's talk on high TRL lignin valorisation processes or Prof Hatti-Kaul's talk on bioplastics was the highlight for the last session. Both were equally appealing, interesting and lots of takeaways on how to approach a problem and lead to a feasible solution.