

# **Report on PU International Symposium on Advanced Energy Storage Materials (PU-AESM-2019) Pakistan**

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PU International Symposium on Advanced Energy Storage Materials (PU-AESM) was held on 04-06, November 2019 at Department of Physics, University of the Punjab, Lahore, Pakistan. The aim of the symposium was to share the advancement and recent innovations in electrochemical energy storage devices especially rechargeable batteries and supercapacitors. This symposium was jointly sponsored by Punjab Higher Education Commission (PHEC), Department of Physics, University of the Punjab (PU) Lahore, Pakistan and the International Society for Electrochemistry (ISE).

The meeting was inaugurated with a speech by the vice-chancellor (VC) of the PU, Lahore, Prof. Dr Niaz Ahmad Akhter, with highlighting the opening remarks about PU-AESM-2019 and the need of energy in Pakistan. The VC emphasis on the urgency of research on the development of materials and discussed to establish a dedicated material research centre with the collaboration of other departments in PU.

Soon after VC, the plenary speaker of the symposium, Dr Tim-Patrick Fellingner from the Technical University of Munich, Germany, gave remarks about the PU-AESM-2019. Dr Tim told the audience about the importance of energy conversion and storage. He encouraged the initiative of the dedicated energy storage forum PU-AESM-2019. During the discussion with the participants, Dr Tim appreciated the first National Electric Vehicle Policy 2019, Pakistan, which was approved by the cabinet during the symposium. He also highlighted the advantages of electric vehicle in order to overcome the smog issue, especially in Lahore city.

Foreign invited speakers, Dr Asad Mehmood from Imperial College London, UK, and Prof. Jawwad Arshad Darr from University College London, UK discussed the development of electrode materials for next-generation rechargeable batteries such as sodium-ion batteries. National invited speakers of PU-AESM-2019 showed recent research work on rechargeable batteries such as

lithium-ion, sodium-ion and vanadium redox flow batteries. Invited speakers also discussed the development of electrode materials for supercapacitors.

In the poster session, the presenters showed a great interest in presenting the research work on batteries and supercapacitors. Foreign speakers, Dr Tim (Germany) and Dr Asad (UK), evaluated the posters presentations. A total of five (5) posters were selected as best posters for the award. The certificates and a total amount of 300 euros were distributed among the best posters. The poster award was sponsored by the international society of electrochemistry (ISE). At the closing ceremony of PU-AESM-2019, certificates, shields, and honorarium were distributed to the invited speakers by Dr Tim and chairperson of the Department of Physics, Dr Mahmood ul Hassan. In the end, Dr Mahmood ul Hassan thanked the speakers and organizing committee for arranging the symposium.

Overall, the PU-AESM-2019 symposium provided a platform to the researchers working in the field of electrochemical energy storage to discuss their results and share the ideas with each other. High-quality research work was presented in the symposium which was encouraged by the international and national advisory committees. The committee members and organizers are motivated to keep the high quality of the symposium and are committed to continuing the event with the passion in future.

The author of this report, Dr Ghulam Ali, Assistant Professor at USPCASE, NUST, Islamabad, Pakistan, was the coordinator and organizer of PU-AESM-2019.

