

19th Nano Congress for Next Generation

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EHDA technologies for the next generation

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This talk will focus on the emergence, rapid growth and future development of electrohydrodynamic technologies (EHDA). These technologies arise from the impact of electrical stresses on liquid media flow and the talk will show how initial simple experiments have been transformed to yield very complex nano and micro structures as biomedical materials and biomaterials, covering aspects of drug delivery and biomedical engineering devices. The talk will demonstrate structure diversity and future potential for such technologies and details for current challenges will be shown. Furthermore, the talk will also discuss recent collaborative developments between industry and academia to take these ideas and concepts forward.

Biography

Zeeshan Ahmad is a Professor of Pharmaceutics & Drug Delivery at De Montfort University (The Leicester School of Pharmacy). He is a Royal Society Industry Fellow (working closely with BlueFrog Design) and also leads the EPSRC EHDA Network (a highly interdisciplinary initiative involving industry and academia). He obtained his first and Doctoral degrees from Queen Mary (University of London). He has broad research interests in medical materials, their engineering and ultimate applications for healthcare (interfacing at chemistry, biology, physics and biomedical engineering). Specifically, these include various modes of drug dosage form manufacturing (smart nanoparticles and microparticles, bubbles, fibrous materials, printed constructs and transdermal/skin contact systems), tissue engineering (scaffolds and cell guidance), medical device coatings (orthopaedic implants) and biomedical material synthesis (polymers and bioceramics). He also has a very keen interest in novel fabrication routes (EHDA, microfluidic and emulsion methods) to address healthcare challenges. He has published extensively in the field and his research has been supported by The Royal Society, EU, Leverhulme Trust, EPSRC and numerous industrial partners (from large Pharma to SME's).

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