

# 12<sup>th</sup> World Congress on **Pharmaceutical Sciences and Innovations in Pharma Industry**

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## 9<sup>th</sup> Edition of International Conference on **Alternative Medicine**

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### Pharmaceutical dosage development through advanced polymer formulation engineering

Numerous conventional methods require engineering aspects to be incorporated into dosage form development. Unlike many dosage forms (e.g. syrups and suspensions), preparation of nano, micro and macro-scaled structures of pharmaceutical relevance using advanced engineering routes have been developed which provide timely opportunities to address healthcare challenges. This talk will provide an overview of recent advances based on electrically driven dosage form development. In addition, the application of such methods for various administration routes will be demonstrated. Future directions will be explained, and current industrial involvement will be demonstrated.

#### Recent Publications

1. Mehta et al. (2017) Pharmaceutical and biomaterial engineering via electrohydrodynamic atomization technologies. *Drug Discovery Today*. 22(1):157.
2. Rasekh et al. (2017) Facile preparation of drug-loaded tristearin encapsulated superparamagnetic iron oxide nanoparticles using coaxial electrospray processing. *Molecular Pharmaceutics*. 14(6):2010-2023.
3. Nazari et al. (2017) Fibrous polymeric buccal film formulation, engineering and bio-interface assessment. *European Polymer Journal*. 97:147-157.
4. Wang et al. (2017) Preparation of active 3D film patches via aligned fiber electrohydrodynamic (EHD) printing. *Scientific Reports*. 7:43924

#### 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 leads the EPSRC EHDA Network (a highly interdisciplinary initiative involving several pharma industries (10) and academia (12)). He obtained his first and Doctoral degrees from Queen Mary-University of London (Chemistry Department and EPSRC IRC/Materials, respectively). His work is highly interdisciplinary working at the interface of Materials (Bio), Engineering, Pharmaceutics and Biomedical Devices. This is firmly rooted in his training with a good first degree in Pharmaceutical Chemistry, PhD in Biomedical Material (Polymer Design, Synthesis, Processing and Analysis) followed by PDRA and Fellowships (EPSRC and Leverhulme Trust) in various engineering related aspects and these have included atomization, flow focusing, microfluidics and fiber based methods.

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