

JOINT EVENT

11th International Conference on**Tissue Engineering & Regenerative Medicine**

&

4th International Conference on **Synthetic Biology and Tissue Engineering**

October 18-20, 2018 Rome, Italy

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Electrospinning & 3D printing in tissue engineering: Challenges and recent advances

The session on “Thermal and electrohydrodynamic processes for Tissue Engineering Applications” includes the seminar on “Electrospun nanostructured scaffolds for tissue engineering applications” and this workshop which will be used as discussion on the recent growth interest for thermal and electrohydrodynamic processes (including fused deposition modeling (FDM) 3D printing and electrospinning) for Tissue Engineering Applications. 3D printing and electrospinning are examples of technologies that have been widely used in other industries, especially in the recent years, however are new to Tissue Engineering & Regenerative Medicine. The development of biocompatible systems for 3D printing and electrospun materials have been promising in the recent years for tissue engineering applications, which makes these techniques an attractive technology in the field. The purpose of this workshop is to familiarize participants with current thermal and electrohydrodynamic processes (e.g. 3D Printing, Bioprinting, Electrospinning), on the current additive manufacturing (AM) practices for biopolymers, on the modeling / finite element analysis (FEA) of AM systems, and about advanced surface characterization techniques.

Recent Publications

1. Economidou S N, Lamprou D A and Douroumis D (2018) 3D printing applications for transdermal drug delivery. *Int. J. Pharm.* 544:415-424.
2. Aljohani W, Ullah M W, Zhang X and Yang G (2018) Bioprinting and its applications in tissue engineering and regenerative medicine. *Int. J. Biol. Macromol.* 107(Pt A):261-275.
3. Hall Barrientos I, Paladino E, Brozio S, Passarelli M K, Moug S, Black R A, Wilson C G and Lamprou D A (2017) Fabrication and characterization of drug-loaded electrospun polymeric nanofibers for controlled release in hernia repair. *Int. J. Pharm.* 517:329-337.
4. Hall Barrientos I, Paladino Szabó P, Brozio S, Hall P J, Oseghale C I, Passarelli M K, Moug S J, Black R A, Wilson C G and Lamprou D A (2017) Electrospun collagen-based nanofibres: a sustainable material for improved antibiotic utilization for tissue engineering applications. *Int. J. Pharm.* 531:67-79.
5. Xue J, Xie J, Liu W and Xia Y (2017) Electrospun nanofibers: new concepts, materials, and applications. *Acc. Chem. Res.* 50:1976-1987.

Biography

Dimitrios Lamprou (Ph.D., MBA) is Reader in Pharmaceutical Engineering and MSc Programme Director at the School of Pharmacy in Queen's University Belfast (UK; a member of the Prestigious Russell Group) and Visiting Researcher at University of Strathclyde (Glasgow, UK) with experience of teaching in Higher Education, conducting research (60+ publications, 200+ conference abstracts, 60+ Invited Presentations) and securing national and international funding (£2M+). He is Secretary at the United Kingdom and Ireland Controlled Release Society (UKICRS), external viva examiner for UK and International Institutions (15+), and referees for journals (50+ Pharmaceutical and related), publishers and research funding bodies (10+). His Group Research Interests focused on five distinct areas: Biosurface Engineering, Electrospinning, Microfluidics, Nanoanalysis, and Printing of Medicines.

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