

Modelling and Experiments in Drug Delivery Systems (MEDDS)
University of Glasgow, Scotland, 3rd-5th September 2018

DAY 1 – Industrial Focus

9:00-9:40	(40 mins)	Registration and Coffee
9:40-9:45	(5 mins)	Welcome Address
Session 1 (Day 1)		
09:45-10:35	(45+5 mins)	Keynote: David Saylor (FDA, USA) Exposure models in biomedical applications
10:35-11:00	(20+5 min)	Martin Meere (NUI Galway, Ireland) Mathematically modelling the stability of solid dispersions in storage
11:00-11:25	(20+5 min)	Daniel Brunner (Zurich University of Applied Sciences, Switzerland) Computational Fluid Dynamics Modelling of Stented Coronary Arteries
11:25-11:35	(10 mins)	Poster elevator pitches
Session 2 (Day 1)		
11:35-12:00	(25 mins)	Coffee Break and look at posters
Session 2 (Day 1)		
12:00-12:25	(20+5 min)	Abdul Barakat (Ecole Polytechnique, Paris, France) Nanoparticle-Mediated Targeted Drug Delivery: Models and Experiments
12:25-12:45	(15+5 min)	Federica Laurino (Politecnico di Milano, Italy) A multiscale computational model of nanoparticle-based drug delivery to the microvasculature
12:45-13:05	(15+5 min)	Gary Moss (Keele University, England) Predicting skin permeability from small data sets
13:05-13:35	(30 mins)	Introduction to Industry Problems Problem 1: The role of the bronchial circulation in determining drug distribution in the lung (David Prime, Glaxosmithkline, England) Problem 2: Drug delivery to brain tumours (Anthony Chalmers, Professor of Clinical Oncology, Glasgow)
13:35-14:50	(75 mins)	Lunch and look at posters

Session 3 (Day 1)		
14:50-15:15	(20+5 min)	Paul Prentice (University of Glasgow, Scotland) Non-linear acoustic emissions from microbubbles flowing in a capillary exposed to focused ultrasound
15:15-15:35	(15+5 min)	Jamie Cowley (University of Glasgow, Scotland) Modelling a Liquid Crystal Shelled Microbubble
15:35-15:55	(15+5 min)	X. King (University of Glasgow, Scotland) Surface Acoustic Waves Nebulisation of Liposomes for Pulmonary Drug Delivery
15:55-16:15	(15+5 min)	Ahmed Ismaeel (University of Glasgow, Scotland) A mathematical model for photothermal ablation of spherical tumors
16:15		Drinks reception
17:00-19:30		Industry problem solving session

DAY 2

9:00-09:30	(30 mins)	Registration and coffee
Session 1 (Day 2)		
09:30-10:20	(45+5 mins)	Keynote: Paolo Netti (University of Naples Federico II, Italy) Design and Optimization of Polymeric Nanoshuttles for Active Delivery and Diagnosis
10:20-10:40	(15+5 min)	Nicole Roselli (Sapienza University of Rome, Italy) Modelling the effect of flow on ATP/ADP concentration at the endothelial cell surface
10:40-11:00	(15+5 min)	Charlotte Debbaut (Ghent University, Belgium) Modelling the Drug Particle Transport during Transarterial Drug Delivery for Liver Cancer: a Feasibility Study
Session 2 (Day 2)		
11:00-11:30	(30 mins)	Coffee Break and look at posters
Session 2 (Day 2)		
11:30-11:55	(20+5 min)	Jose Ferreira (University of Coimbra, Portugal) Drug delivery from biomaterial orthopedic implants: a mathematical approach
11:55-12:15	(15+5 min)	David King (University of Glasgow, Scotland) Modelling and experiments of drug release from orthopaedic pins: a student's perspective
12:15-12:35	(15+5 min)	Sara Ferri and Anastasia Polydorou (University of Southampton, England) Acoustically stimulated microbubbles for bone fracture repair
12:35-12:55	(15+5 min)	Justine Fraser (University of Strathclyde, Scotland) Release and activity of rifampicin from biodegradable polymer formulations
Session 3 (Day 2)		
12:55-14:25	(90 mins)	Lunch and look at posters
Session 3 (Day 2)		
14:25-14:50	(20+5 mins)	Giuseppe Pontrelli (CNR Rome, Italy) Mathematical modelling of variable porosity coatings and dual drug release
14:50-15:10	(15+5 min)	Lauren Hyndman (University of Glasgow, Scotland) Mathematical modelling to guide experimental protocols for in vitro drug testing
15:10-15:30	(15+5 min)	Kristinn Gudnason (University of Iceland, Reykjavik) Estimating drug release properties of intraocular lens material with rotational symmetric model

15:30-15:50	(15+5 min)	Oleksii Yakovenko (National University of Pharmacy, Ukraine) TBC
19:30		Workshop Dinner

Day 3: Stents focus

9:00-09:30	(30 mins)	Registration and coffee
Session 1 (Day 3)		
09:30-10:20	(45+5 mins)	Keynote: Keith Oldroyd (Golden Jubilee National Hospital, Glasgow, Scotland) Why do stents still fail?
10:20-10:40	(15+5 min)	Farhad Rikhtegar Nezami (Harvard-MIT Biomedical Engineering Center, USA) Modeling drug delivery in a sirolimus-eluting stent: investigation of physico-chemical properties of coating, drug, and arterial tissue
10:40-11:00	(15+5 min)	Javier Escuer (University of Zaragoza, Spain) TBC
Session 2 (Day 3)		
11:00-11:30	(30 mins)	Coffee Break and look at posters
Session 2 (Day 3)		
11:30-11:55	(20+5 min)	Christopher McCormick (University of Strathclyde, Scotland) Development of an in vitro artery model to characterize drug delivery from endovascular stents and grafts
11:55-12:20	(20+5 min)	Sean McGinty (University of Glasgow, Scotland) TBC
12:20-12:40	(15+5 min)	Norberto Mangiavacchi (State University of Rio de Janeiro, Brazil) Anisotropic Diffusion Models with Diffusion Tensor Linked to Tissue Fibre Orientation for Drug Eluting Stents Simulations
Session 3: Broadening the ECMI Special Interest Group (SIG) (All welcome)		
12:40-14:00	(80 mins)	Lunch and look at posters
14:00-15:30	(90 mins)	Facilitated Discussion Session with coffee Identification of Key areas for the special interest group to focus; identification of challenges to focus on and how these may be supported by funding at a local and/or European level (e.g. PhD training network)
15:30		Workshop Close
15:30-16:30		ECMI SIG Committee Meeting (Committee members only)

Posters

Posters will be displayed throughout the 3 day workshop.

Poster presenters will have the opportunity to give a 1 slide 'elevator pitch' on Day 1.

Presenter	Institution	Poster Title
O.V. Yakovenko	National University of Pharmacy, Ukraine	Some aspects of the design of an anti-stress medicated chewing gum
Liliia I. Vyshnevskia	National University of Pharmacy, Ukraine	Features of treatment of enterobiasis in accordance with the guidelines by Médecins Sans Frontières
N. P. Polovko	National University of Pharmacy, Ukraine	Determination of the effect of onium hexafluorosilicates on the properties of gels
Aoife Hill	NUI Galway, Ireland	Modelling the evolving ductility of biodegradable polymers
Justine Fraser	University of Strathclyde, Scotland	Release and activity of rifampicin from biodegradable polymer formulations
Bryan Scullion	University of Glasgow, Scotland	Towards personalised drug delivery from stents