

Innovative Technologies for Effective Therapeutic Delivery

Tuesday 4th December 2007, The Geological Society, London

The efficacy and safety of therapeutic agents go hand in hand with the way we can deliver them to the site of action in the human body. Pharmaceutical and biotechnology companies have for decades been pushed to explore novel drug delivery techniques to maximise the therapeutic potential of their product candidates, and at the same time prolong the life cycle of existing compounds. Major advances in nanotechnology, smart materials, formulations and devices have seen the rapid evolution of novel and robust drug delivery systems in recent years. At the same time, emerging therapeutics such as cell therapy and gene therapy continue to demand safe delivery methods that conform to strict regulatory guidelines. This seminar aims to create a stimulating atmosphere for the exchange of the latest scientific advances in the area of therapeutic delivery, and foster collaborative opportunities between industry and academia.

The Emerging Medical Technologies Group formed and funded through LTN and the London Innovation Relay Centre (London IRC) will focus on fostering collaboration between these two parties and encouraging links between companies and European SMEs in this sector

- 10:00 Registration with tea and coffee**
- 10:30 Introduction to aims and objectives of LTN and the Emerging Medical Technologies Group**
Maki Aoyama, Technology Analyst, Technology Team, **London Technology Network**
- 10:40 Introduction by the chair to the main challenges surrounding the development of novel routes for therapeutic delivery**
- ◆ Highlighting innovative approaches to developing synthetic gene delivery systems
 - ◆ Evaluating the challenges in effective therapeutic gene delivery
- Chair: Dr Stephen Hart**, Reader in Molecular Genetics, Institute of Child Health, **University College London**
- 10:50 Investigating novel delivery systems for gene therapy**
- ◆ Addressing the use of gene therapy in degenerative disorders of the brain and muscle
 - ◆ Analysing the biology of RNAi silencing pathways for understanding non-specific or off-target effects
 - ◆ Highlighting innovative delivery systems for nucleic acids including plasmid DNA and siRNA
- Dr Matthew Wood**, Lecturer, Department of Physiology, Anatomy & Genetics, **University of Oxford**
- 11:05 Investigating innovative drug inhalation technologies - formulation and devices**
- ◆ Understanding the challenges surrounding formulations for inhaled drug delivery
 - ◆ Identifying current trends in innovative inhalation technologies
 - ◆ Focusing on relevant case studies
- Dr Elizabeth Collins**, Formulation Scientist, Inhalation & Devices Centre of Emphasis, **Pfizer Global R&D**
- 11:20 Drug-device combination therapies – their challenges and benefits**
- ◆ Delivering drugs from medical devices: novel delivery device or new drug?
 - ◆ The challenges surrounding the development of a combination product
 - ◆ Case studies: Drug Eluting Beads for the treatment of various tumours
Cell Beads for the treatment of acute trauma in the brain
- Dr Andy Lewis**, Research & Technology Director, **Biocompatibles UK Ltd**
- 11:35 Glide SDI™ – needle-free, safe and reliable injection of drugs in a solid dosage form**
- ◆ Patient-preferred, simple and easy to use for self-administration of biological medicines
 - ◆ Low velocity “push” delivery to ensure accurate, reproducible dosing regardless of skin type
 - ◆ Improved stability and potential for immediate and/or controlled release formulations
 - ◆ Product differentiation and life cycle management for generic and proprietary molecules
- Dr Charles Potter**, Chief Executive Officer, **Glide Pharma**
- 11:50 Question and answer session from the audience with the speaker panel**
- 12:20 Drinks and networking lunch: opportunity to view posters showcasing the latest research and developments in the therapeutic delivery field**

Speaker Profiles

Maki Aoyama – LONDON TECHNOLOGY NETWORK

Maki Aoyama works as a Technology Analyst for London Technology Network (LTN). Maki specialises in the Life Science sector with a focus on technologies within the Pharmaceutical, Biotech and Healthcare industries. Prior to joining LTN, Maki took the position of Project Manager in the Japanese biopharmaceutical company Sosei, where she was involved in drug repositioning, virtual drug discovery and research alliance management. Since joining LTN in November 2006, Maki has helped companies and academics engage across international borders. She is also heading up a new Special Interest Group in Emerging Medical Technologies. Maki has an MSc in Pharmacology and a BA (Hons) in Biological Sciences from the University of Oxford.

Elizabeth Collins – PFIZER

Elizabeth Collins is a Formulation Scientist in the Inhalation and Devices Centre of Emphasis at Pfizer Global R&D.

Stephen Hart – UNIVERSITY COLLEGE LONDON

Stephen Hart is a Reader in Molecular Genetics at the UCL Institute of Child Health (ICH). He is a graduate of Liverpool University and received his PhD from the University of Cape Town in microbial genetics 1992. He is also the founder and Chief Scientific Officer of Genex Biosystems Ltd, an ICH spin-out company. His research interests include the development of clinical gene therapy strategies using synthetic vector systems for a range of disease applications including cardiovascular diseases, cancers and respiratory diseases. He has published over fifty research papers in these fields and is also an inventor on ten patent applications covering synthetic gene delivery technologies. Based on this IP he helped to launch Genex in 2005 with funding from the Wellcome Trust and the Bloomsbury Bioseed Fund.

Andrew Lewis – BIOCOMPATIBLES

Andy Lewis is Research & Technology Director for Biocompatibles UK Ltd, a UK-based SME involved in biomaterials development and medical device manufacture, particularly drug-device combinations for use in the treatment of cancer. Andy directs projects within the Drug Delivery Division concerned with interventional therapies, specifically drug delivery from coronary stents and embolisation materials. He also coordinates the external research programmes with a number of academic collaborators and is named on over 140 scientific publications and patents in the fields of polymers and biomaterials. Previously Andy spent four years with ICI working in the area of membrane technology and two years with Johnson & Johnson leading projects in absorbent technologies. He has a BSc in Biochemistry & Chemistry and a PhD in Chemistry from Aston University and is a Fellow of the Royal Society of Chemistry and Chartered Scientist.

Charles Potter – GLIDE PHARMA

Dr Charles Potter is the inventor of the Glide technology and founder and Chief Executive Officer of Glide Pharma. He holds an engineering degree and PhD from Cambridge University. Dr Potter spent six years undertaking research within the Transplant Unit at Papworth Hospital, Cambridge, UK, a specialist cardiothoracic centre, where he gained extensive medical experience. He has worked in four other successful start-up companies including nearly six years at PowderJect Pharmaceuticals where he saw the company grow from just five employees to over 1000.

Matthew Wood – UNIVERSITY OF OXFORD

Matthew Wood graduated in Medicine from the University of Cape Town in 1987, working in clinical Neuroscience before gaining a doctorate in Physiological Sciences from the University of Oxford in 1993. He is currently University Lecturer, Fellow and Tutor in Medicine and Physiology at Somerville College. Matthew's research is in the field of gene therapy for degenerative disorders of the nervous system and muscle. The main focus is the investigation of novel therapeutic approaches utilising short nucleic acids to target messenger RNA. Targeting RNA has the potential to allow modification of the target transcript, reprogramming of the endogenous regulation of the target gene. Current work is investigating the potential of the single stranded antisense oligonucleotides for the modification of mRNA splicing, for example in Duchenne muscular dystrophy. In addition, the potential of double-stranded RNA interference (RNAi), is being investigated for the silencing of target genes and mutant alleles both in muscle and the nervous system. In particular, RNAi has great potential as a future therapeutic agent for currently untreatable neurodegenerative disorders such as Parkinson's disease.

Emerging Medical Technologies Group

The primary purpose of the EMT SIG is to facilitate the transfer of innovative technologies in the medical sector using the resources of London's companies and higher education institutes.

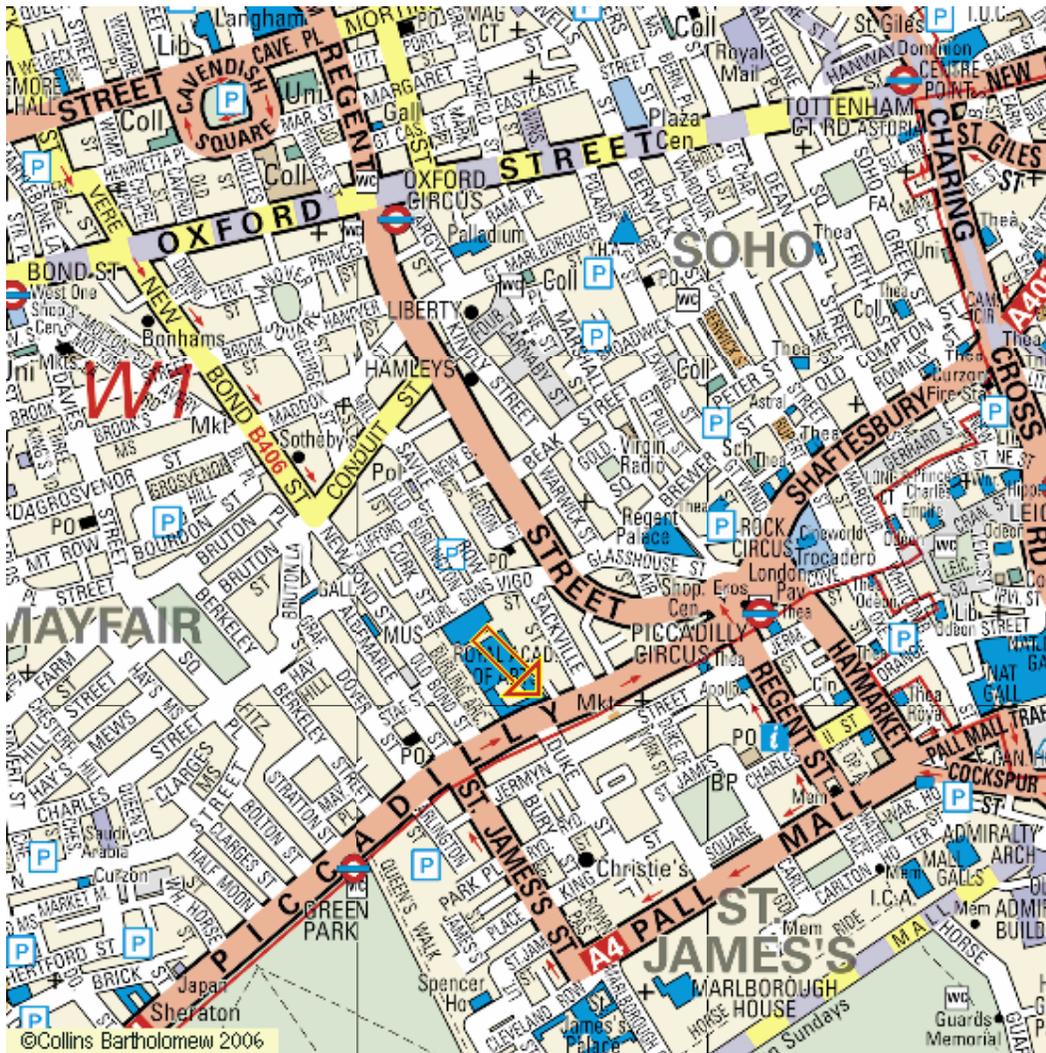
The main aims of the EMT SIG will be to:

- Support activities in terms of local and international networking events to facilitate exchange of information and partnering.
- Collate and share information on new technologies, innovation policy, funding and other issues affecting this sector through newsletters and the SIG website.
- Inform the focus of London Technology Network and London Innovation Relay Centre activities in this sector.
- Support technology transfer between companies and between companies and universities in this sector.

HOW TO GET THERE

The event will take place at **The Geological Society**, Burlington House, Piccadilly, London, W1J 0BG.

Telephone: 020 7434 9944. For further venue details please go to: www.geolsoc.org.uk



Train

Charing Cross and Victoria are the nearest main line railway stations.

Underground

The nearest underground stations are Piccadilly Circus (Bakerloo and Piccadilly Lines) and Green Park (Jubilee, Piccadilly and Victoria Lines).

Car

If you are travelling by car please note that there is no on-site parking at the venue however there are two car parks within walking distance.

Congestion Charge

Please note that the Geological Society is within the Congestion Charging Zone.