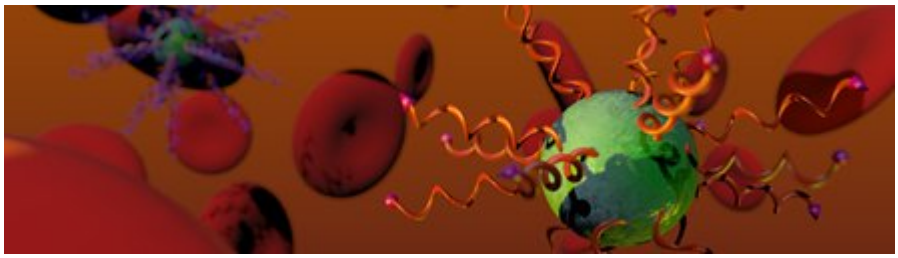
The School of Pharmacy Journal and Newsletter Jan-feb 2014



Foreword

Welcome to our latest edition of the School of Pharmacy Journal, a collection of publications and press releases from January and February 2014, together with the School of Pharmacy Newsletter from November 2013 to February 2014.

From the press releases a highlight for 2014 is the School of Pharmacy has climbed six places to 9th in this year's QS world university rankings for pharmacy and pharmacology. We are the number one ranked school which does not also offer pharmacology (http://www.topuniversities.com/). The improvement reflects our international research profile, the success of our graduates and our sector-leading status as the only UK school of pharmacy to offer a five-year, integrated MPharm degree. Also a press release featured on the EPSRC website was from research in Professor Cameron Alexanders group "Molecular nano-spies to make light work of disease detection". His group has designed and tested large molecular complexes that will reveal their true identity only when they've reached their intended target. The compounds have been developed as part of a five-year programme funded by the Engineering and Physical Sciences Research Council (EPSRC) called "Bar-Coded Materials".

There were several papers from the school on the theme of cell - interactions with the extracellular matrix. An article from the group of Martin Garnett published in the journal "Experimental Cell Research" examines the potential drug delivery barrier of the basement membrane (BM) by assessing the permeability of select macromolecules and nanoparticles. The BM was found to notably hinder the diffusion of macromolecules and nanoparticles in a size dependent manner. This suggests that the specialised network of extracellular matrix proteins may have a significant impact on transmucosal delivery of certain therapeutics or drug delivery systems. A paper from the tissue engineering group of Kevin Shakesheff and collaborators in Israel (Erella Livne) and Switzerland (Ralph Müller) revealed the sustained and controlled delivery of growth factors, such as bone morphogenetic protein 2 (BMP-2), from polymer scaffolds has excellent potential for enhancing bone regeneration. (Journal of Tissue Eng Regen Medicine). A collaboration between the structural biology group of Professor Jonas Emsley from the school of pharmacy at Nottingham and the NMR group of Martin Scanlon at Monash University, Melbourne resulted in a paper in "Journal of Biological Chemistry" which reveals the molecular basis of the interaction between cells and collagen from the extracellular matrix. This structure suggests a basis for the different binding selectivity observed for different integrin receptors when cells recognise collagen.

Amongst the publications involving staff at the School's Malaysia campus there is a paper published in Science Reports "The antimalarial drug quinine interferes with serotonin biosynthesis and action".

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- **Patents**

Scaffold

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