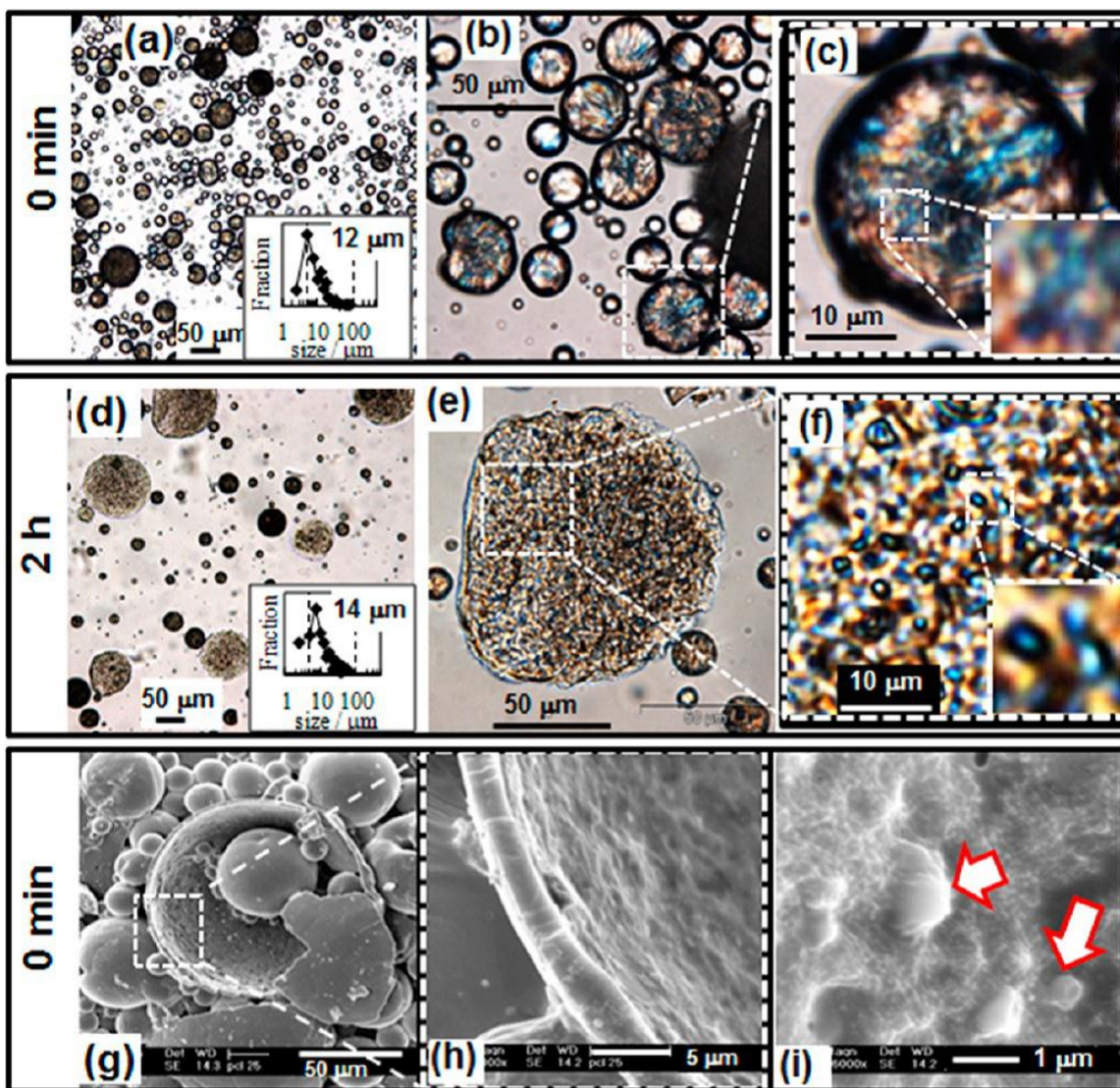


The School of Pharmacy Journal and Newsletter

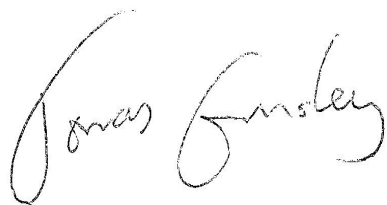
Sept-Oct 2013



Foreword

Welcome to our latest edition of the School of Pharmacy Journal, a collection of publications, news items and press releases from September and October, 2013. This has been another period of significant outputs across a broad spectrum of research areas.

Highlights include a paper in Science Translational Medicine "Oral treatment targeting the unfolded protein response prevents neurodegeneration and clinical disease in prion-infected mice" which reports an orally-administered compound to blocks a build-up of misfolded proteins in the brains of mice with prion disease and prevents neurodegeneration in the mice. This might eventually aid the development of drugs to treat people suffering from dementias and neurodegenerative diseases. This project is a collaboration with the MRC Toxicology Unit, Hodgkin Building, University of Leicester which discovered the pathway. An NAR Breakthrough Article "The double PHD finger domain of MOZ/MYST3 induces α -helical structure of the histone H3 tail to facilitate acetylation and methylation sampling and modification" reports four crystal structures of histone H3 tails in complex with chromatin regulatory adapter protein MOZ (monocytic leukaemia zinc finger protein). This is the first reported observation of an extensive helical structure in a histone tail, revealing the inherent ability of the H3 tail to adopt alternate conformations in complex with chromatin regulators.



Prof Jonas Emsley

jonas.emsley@nottingham.ac.uk

Chair of School Research Committee

(Nottingham)



Dr Nashiru Billa

nashiru.billa@nottingham.edu.my

Chair of School Research Committee

(Malaysia)

Contents

- [Staff Research News](#)
- [Grants/Studentships Awarded](#)
- [Student News](#)
- [School General News](#)

- ***Collated Research Papers:***

Evidence Supporting a Role for Mammalian Chitinases in Efficacy of Caspofungin against Experimental Aspergillosis in Immunocompromised Rats

Patricia E. B. Verwer, Marian T. ten Kate, Franco H. Falcone, Shaun Morroll, Henri A. Verbrugh, Irma A. J. M. Bakker-Woudenberg and Wendy W. J. van de Sande

PLOS One 8 (2013) e75848 [DOI:10.1371/journal.pone.0075848](https://doi.org/10.1371/journal.pone.0075848)

Nanoparticle Transport in Epithelial Cells: Pathway

Switching Through Bioconjugation

Robyn Fowler, Driton Vllasaliu, Francisco Fernández Trillo, Martin Garnett, Cameron Alexander, Helen Horsley, Bryan Smith, Ian Whitcombe, Mike Eaton and Snow Stolnik

Small 9 (2013) 3282-3294 [DOI: 10.1002/sml.201202623](https://doi.org/10.1002/sml.201202623)

Oral treatment targeting the unfolded protein response prevents neurodegeneration and clinical disease in prion-infected mice

Julie A. Moreno, Mark Halliday, Colin Molloy, Helois Radford, Nicholas Verity, Jeffrey M. Axten, Catharine A. Ortori, Anne E. Willis, Peter

M. Fischer, David A. Barrett, and Giovanna R. Mallucci

Science Translational Medicine 5 (2013) 206ra138 [DOI:10.1126/scitranslmed.3006767](#)

Structure of plasma and tissue kallikreins

Monika Pathak, Szu Shen Wong, Ingrid Dreveny and Jonas Emsley

Thrombosis and Haemostasis 110 (2013) 423-433 [DOI: 10.1160/TH12-11-0840](#)

Porous Copolymers of Caprolactone as Scaffolds for Tissue

Engineering

Min Tang, Matthew Purcell, Joseph A. M. Steele, Koon-Yang Lee, Seth McCullen,

Kevin M. Shakesheff, Alexander Bismarck, Molly M. Stevens, Steven M. Howdle and Charlotte K. Williams

Macromolecules 46 (2013) 8136-8143 [DOI: 10.1021/ma401439z](#)

Ultrasonic monitoring of drug loaded Pluronic F127 micellular hydrogel

phase behaviour

Mario Farrugia, Stephen P. Morgan, Cameron Alexander, Melissa L. Mather

Material Science Engineering C (2013) available online [DOI: 10.1016/j.msec.2013.09.018](#)

NAR Breakthrough Article

The double PHD finger domain of MOZ/MYST3 induces α -helical structure of the histone H3 tail to facilitate acetylation and methylation sampling and modification

Ingrid Dreveny, Sian E. Deeves, Joel Fulton, Baigong Yue, Marie Messmer,

Amit Bhattacharya, Hilary M. Collins and David M. Heery

Nucleic Acids Research (2013) available online [DOI: 10.1093/nar/gkt931](#)

A Fluorescence-based assay suitable for quantitative analysis of deadenylase enzyme activity

Maryati Maryati, Ishwinder Kaur, Gopal P. Jadhav, Loyin Olotu-Umoren, Blessing Oveh, Lubna Hashmi, Peter M. Fischer and G. Sebastiaan Winkler

Nucleic Acids Research (2013) available online [DOI: 10.1093/nar/dkt972](#)

The P body protein LSm1 contributes to stimulation of hepatitis C virus translation, but not replication, by microRNA-122

Ashley P. E. Roberts, Rachel Doidge, Alexander W. Tarr and Catherine L. Jopling

Nucleic Acids Research (2013) available online [DOI: 10.1093/nar/gkt941](#)

Adjuvant Chemotherapy for Brain Tumors Delivered via a Novel Intra-Cavity Moldable Polymer Matrix

Cheryl V. Rahman, Stuart J. Smith, Paul S. Morgan, Keith A. Langmack, Phil A. Clarke, Alison A. Ritchie, Donald C. Macarthur, Felicity R. Rose, Kevin M. Shakesheff, Richard G. Grundy and Ruman Rahman

PLOS One 8 (2013) e77435 [DOI: 10.1371/journal.pone.0077435](#)

Apo ferritin-encapsulated PbS quantum dots significantly inhibit growth of colorectal carcinoma cells

Tracey D Bradshaw, Marc Junor, Amalia Patanè, Phil Clarke, Neil R. Thomas, Mei Li, Stephen Mann and Lyudmila Turyanska

Journal of Materials Chemistry B 1 (2013) 6254-60 DOI: [10.1039/c3tb21197e](https://doi.org/10.1039/c3tb21197e)

Novel pH-responsive nanovectors for controlled release of ionisable drugs

Francesca Mastrotto, Stefano Salmaso, Cameron Alexander, Giuseppe Mantovani and Paolo Caliceti

Journal of Materials Chemistry B 1 (2013) 5335-5346 DOI: [10.1039/c3tb20360c](https://doi.org/10.1039/c3tb20360c)

Epithelial Toxicity of Alkylglycoside Surfactants

Driton Vllasaliu, Saif Shubber, Robyn Fowler, Martin Garnett, Cameron Alexander and Snow Stolnik

Journal of Pharmaceutical Sciences 102 (2013) DOI: [10.1002/jps.23340](https://doi.org/10.1002/jps.23340)

Hollow Colloidosomes Prepared Using Accelerated Solvent Evaporation

Nur Nabilah Shahidan, Ruixue Liu, Sineenat Thaiboonrod, Cameron Alexander,

Kevin M. Shakesheff and Brian R. Saunders

Langmuir (2013) available online DOI: [10.1021/la402788a](https://doi.org/10.1021/la402788a)

The osteogenic response of mesenchymal stem cells to an injectable

PLGA bone regeneration system

Judith M. Curran, Sandra Fawcett, Lloyd Hamilton, Nicholas P. Rhodes,

Cheryl V. Rahman, Morgan Alexander, Kevin Shakesheff and John A. Hunt

Biomaterials 34 (2013) 9352-9364 DOI: [10.1016/j.biomaterials.2013.08.044](https://doi.org/10.1016/j.biomaterials.2013.08.044)

Digital pattern recognition-based image analysis quantifies immune infiltrates in distinct tissue regions of colorectal cancer and identifies a metastatic phenotype

H K Angell, N Gray, C Womack, D I Pritchard, R W Wilkinson and M Cumberbatch

British Journal of Cancer (2013) 1-7 DOI: [10.1038/bjc.2013.487](https://doi.org/10.1038/bjc.2013.487)

Specialist geriatric medical assessment for patients discharged from hospital acute assessment units: randomised controlled trial

Judi Edmans, Lucy Bradshaw, Matthew Franklin, John Gladman and Simon Conroy

BMJ 347 (2013) f5874 DOI: [10.1136/bmj.f5874](https://doi.org/10.1136/bmj.f5874)

Protein interactions between surface annexin A2 and S100A10 mediate

adhesion of breast cancer cells to microvascular endothelial cells

Helene K. Myrvang, Xiaoxia Guo, Chan Li, Lodewijk V. Dekker

FEBS Letters 587 (2013) 3210-3215 DOI: [10.1016/j.febslet.2013.08.012](https://doi.org/10.1016/j.febslet.2013.08.012)

Reviewing the molecular mechanisms which increase endometrial cancer (EC) risk in women with polycystic ovarian syndrome (PCOS): Time for paradigm shift?

Mohamad N. Shafiee, Caroline Chapman, David Barrett, Jafaru Abu and William Atiomo

Gynecologic Oncology 131 (2013) 489-492 DOI: [10.1016/j.ygyno.2013.06.032](https://doi.org/10.1016/j.ygyno.2013.06.032)

Polyethylene glycol-drug ester conjugates for prolonged retention of small inhaled drugs in the lung

F.J.C. Bayard, W. Thielemans, D.I. Pritchard, S.W. Paine, S.S. Young, P. Bäckman,

P. Ewing and C. Bosquillon

Journal of Controlled Release 171 (2013) 234-240 DOI: [10.1016/j.conrel.2013.07.023](https://doi.org/10.1016/j.conrel.2013.07.023)

On and off-target effects of telomere uncapping G-quadruplex selective ligands based on pentacyclic acridinium salts

Sara Iachettini, Malcolm FG Stevens, Mark Frigerio, Marc G Hummersone, Ian Hutchinson, Thomas P Garner, Mark S Searle, David W Wilson, Manoj Munde, Rupesh Nanjunda, Carmen D'Angelo, Pasquale Zizza, Angela Rizzo, Chiara Cingolani, Federica De Cicco, Manuela Porru, Maurizio D'Incalci, Carlo Leonetti, Annamaria Biroccio and Erica Salvati

Journal of Experimental & Clinical Cancer Research 32 (2013) 68 DOI: [10.1186/1756-9966-32-68](https://doi.org/10.1186/1756-9966-32-68)