



This is a repository copy of *Application of Proteomics to Biomedical Research*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/87998/>

Conference or Workshop Item:

Evans, Caroline (2014) Application of Proteomics to Biomedical Research. In: USES 2014 - The University of Sheffield Engineering Symposium, 24 June 2014, The Octagon Centre, University of Sheffield.

10.15445/01022014.23

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Application of Proteomics to Biomedical Research

Caroline Evans

The ChELSI Institute, Department of Chemical and Biological Engineering, The University of Sheffield, Sheffield, UK.

Abstract

Proteomics encompasses a suite of techniques for generating datasets on proteins and their functions in biological systems. The talk will provide an overview of how proteomics can be used for analysis of proteins for lead generation in pharmaceutical research and how the type of information derived can feed forward into biochemical models – from individual pathways to whole cells – demonstrated using specific examples including analysis of disease pathways and of bacterial production recombinant proteins. The focus will be on proteomics as an enabling set of quantitative technologies for chemical engineering of biological systems and mathematical / computational approaches to biology.

References

1. Corfe BM, Evans CA. Are proteins a redundant ontology? Epistemological limitations in the analysis of multistate species. *Molecular bioSystems*. 2014;10(6):1228-35. Epub 2014/02/18.
2. Kilner J, Waby JS, Chowdry J, Khan AQ, Noirel J, Wright PC, et al. A proteomic analysis of differential cellular responses to the short-chain fatty acids butyrate, valerate and propionate in colon epithelial cancer cells. *Molecular bioSystems*. 2012;8(4):1146-56. Epub 2011/11/15.
3. Rehman I, Evans CA, Glen A, Cross SS, Eaton CL, Down J, et al. iTRAQ identification of candidate serum biomarkers associated with metastatic progression of human prostate cancer. *PloS one*. 2012;7(2):e30885. Epub 2012/02/23.