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## Application of Proteomics to Biomedical Research

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### 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.