UK Charity Number 288127

Annual Scientific Meeting 2018

One Health and Wellness

9th to 11th July 2018

SCIENTIFIC PROGRAMME

Scientific Programme Kathryn Lilley Andy Pitt Stephen Pennington **Organizing Committee**

Chris Sutton Tim Palmer Rainer Cramer John Timms Roz Jenkins













One Health and Wellness

Plenary Speakers

Daniel Chan Chuna Ram Choudhary Julia Chamot-Rooke Angus Lamond Johns Hopkins School of Medicine, USA University of Copenhagen, Denmark Institut Pasteur, France University of Dundee, UK

Keynote Speakers

Claire Eyers Paul Skipp Kathryn Lilley Ben Collins Emøke Bendixen Stephen Gordon Henning Hermjakob University of Liverpool, UK University of Southampton, UK University of Cambridge, UK ETH, Zurich, Switzerland University of Aarhus, Denmark UCD Conway Institute, Ireland EMBL-EBI and National Center for Protein Sciences, Beijing, China UCB Pharma, UK

Paul Cutler

Programme Outline

Day 1; 9th July 2018

9.00 - 11.00	Exhibition set-up	*NB no coffee/tea in the morning as this can be obtained from nearby
10.00 - 11.00	Registration/poster set-up*	coffee shop in the Atrium
11.00 – 11.15	Welcome	Steve Pennington

11.15 - 12.00 Plenary 1

Dan Chan, Johns Hopkins University 'Cancer proteomics: from biomarker discovery to clinical diagnostics'

www.bspr.org.

12.00 – 12.45 Plenary 2
Julia Chamot-Rooke, Institut Pasteur
'Deciphering bacterial nanomachines with structural mass spectrometry'

12.45 – 14.00, Lunch/Poster/Exhibition

<u>14.00 – 15.30 Session – Theme 1, One Health I</u>

Chair: Paul Cutler

14.00 - 14.30 Keynote 1

Emøke Bendixen, Aarhus University 'Exploring farm animal proteomes, and their relevance to human health.'

14.30 - 14.50

Juan Antonio Vizcaino, EMBL-European Bioinformatics Institute 'Developing open data analysis pipelines in the cloud: Enabling the 'big data' revolution in proteomics'

14.50 - 15.10

James Waddington, University of Liverpool 'Characterisation of the HLA-B*57:01 peptide repertoire in further understanding the immunopeptidome in flucloxacillin related drug induced liver injury'

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15.10 - 15.30

Yuting Yin, University College Dublin 'Functionality and cellular localization of virulence associated proteins (vap) of Rhodococcus equi.'

15.30 - 16.30, Tea/Coffee break/Poster/Exhibition

<u>16.30-18.00 Session, Theme 2 – PTMs and chemical</u>

modification

Chair: Chuna Choudhary

16.30 - 17.00 Keynote 2

Claire Eyers, University of Liverpool 'The expanding landscape of human phosphorylation'

17.00 – 17.20 Sara Zanivan, CRUK Beatson Institute 'How to exploit highly abundance reduced cysteine to accurately measure cysteine oxidation: relevance for global redox-signalling analysis in diseases'

17.20 - 17.40

Andrew Pitt, University of Aston *'Lipoxidation: identification of proteins and peptides post-translationally modified with hydrophobic lipid oxidation products'*

17.40 - 18.00

Pedro Beltran Alvarez, University of Hull 'Arginine methylation: an essential PTM in the cardiovascular system'

18.15 – 20.30, Wine reception/appetisers, Cartwright Hall



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Day 2; 10th July 2018

9.00-10.30 Session – Theme 3, Spatial proteomics

/interactomics

Chair: Angus Lamond

9.00 - 9.30 Keynote 3

Ben Collins, ETH Zurich

'Quantitative interaction proteomics: Insights into integrated stress response and host-pathogen biology'

9.30 - 9.50

Matthias Trost, University of Newcastle 'Characterisation of the phagosome ubiquitinome of activated macrophages reveals a novel role for RNF115 in innate immunity'

9.50 - 10.10

Emily Bowler, University of Southampton 'Delineating Glycogen-Synthase Kinase 3 Beta (GSK3) protein networks in colorectal cancer through precision knockout coupled to high resolution LC-MS/MS'

10.10 - 10.30

James Schofield, University of Southampton 'Topological Data Analysis (TDA) to classify protein subcellular localisation using LOPIT (localisation of organelle proteins by isotope tagging)'

10.30 – 11.15, Tea/Coffee break/Poster/Exhibition



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Day 2; 10th July 2018

11.15 – 12.45 Session, Theme 4 – emerging technologies /

computational proteomics

Chair: Juan Vizcaino

11.15 – 11.45 Keynote 4Henning Hermjakob, EMBL-EBI'Reactome Multi-Scale Pathway Visualisation'

11.45 - 12.05

John Wilson, Cold Spring Harbor Laboratory 'Universal S-Trap sample processing for standardized bottom up proteomics'

12.05 – 12.25
Stephen Lock, SCIEX
'How does CE-MS compare with LC-MS in PTM analysis?'

12.25 – 12.45 Rainer Cramer, University of Reading 'Liquid AP-MALDI-Q-IMS-TOF MS - a new MS method for proteomics and bioprofiling'

12.45 – 14.15, Lunch/Poster/Exhibition

<u>14.15 – 15.00 Session, Theme 5 – data integration/systems</u>

level proteomics

Chair: Rob Ewing

Day 2; 10th July 2018

14.15 – 14.45 Keynote 5Paul Skipp, University of Southampton'The "Shape" of Asthma'

14.45 - 15.05

Vadim Demichev, University of Cambridge and the Francis Crick Institute 'Application of deep neural networks to the analysis of DIA-MS data'

15.05 - 15.25

Michael Nelson, the University of Manchester 'Direct detection of stop codon read-through events using proteomics in Drosophila melanogaster'

15.25 - 15.45

15.45 Hanqing Liao, University of Bristol 'A Sparse Regression Model for Mass Spectrometry Spectral Library Identification'

15.45 – 16.15 Tea/Coffee break/Poster/Exhibition

16.15 - 17.00 BSPR AGM

Chair: Kathryn Lilley

17.00 – 17.45 Plenary 3Angus Lamond, University of Dundee'Deep Proteomes, iPS cells & Data Mountains'

19.00 – 22.00 Conference dinner, "The Kathryn Lilley Quiz"

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Day 3; 11th July 2018

9.00-10.10 Session, Theme 6 – One Health II

9.00 – 9.30 Keynote 6 Steve Gordon, University College Dublin

'A One Health approach to Tuberculosis and host-pathogen interaction'

9.30 - 9.50

Konstantin Barylyuk, University of Cambridge 'Drawing a high-resolution spatial proteome map of an apicomplexan parasite Toxoplasma gondii by hyperLOPIT'

9.50 - 10.10

H. Alexander Ebhardt, University College Dublin 'Returning to health following diagnosis with metastatic prostate cancer'

10.10 – 10.40, Tea/Coffee break/Poster/Exhibition

<u>10.40 – 11.50 Session, Theme 7 – Cellular dynamics</u>

Chair: Rainer Cramer

10.40 - 11.10 Keynote 7

Kathryn Lilley, University of Cambridge 'The RNA binding proteome in time and space'

11.10 - 11.30

Elisabeth Phillips, University of Otago Christchurch, New Zealand 'Identification of adipocyte-driven regulators of breast cancer progression using iTRAQ differential secretome analysis.'



BRITISH SOCIETY FOR PROTEOME RESEARCH

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Day 3; 11th July 2018

BSPR

11.30 - 11.50

Jack Llewellyn, The University of Manchester 'Molecular chaperone regulation in the ageing cellular stress response'

11.50 – 13.00, Lunch/Poster/Exhibition

12.45 – 13.00, Poster and young investigator awards, Rainer Cramer

<u>13.00 – 14.30 Session, Theme 8 – Clinical and functional</u> proteomics Chair: Chris Sutton

13.00 - 13.30 Keynote 8

Paul Cutler, UCB Pharma 'Targeted Proteomics for Pharmaceutical Drug Development'

13.30 - 13.50

Gina Eagle, University of Liverpool 'Assessing Technical and Biological Variation in SWATH-MS -based Proteomic Experiments: A case study in Chronic Lymphocytic Leukaemia'

13.50 - 14.10

Ravindra Chaudhary, Promise Advanced Proteomics 'Accurate quantification of therapeutic monoclonal antibodies in the clinical laboratory using a combination of stable isotope labelled antibodies and LC-MS' BRITISH SOCIETY FOR PROTEOME RESEARCH

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Day 3; 11th July 2018

14.10 - 14.40 Plenary 4

Chuna Ram Choudhary, University of Copenhagen 'Time-Resolved Analysis Reveals Rapid Dynamics and Broad Scope of the CBP/p300 Acetylome'

14.40 – 15.00, Closing remarks Andy Pitt/Chris Sutton





Chair: Andy Pitt