British Society for Proteome Research Spring Newsletter

BSPR Annual Scientific Meeting

Southampton

1-3rd July 2019

Integrative Proteomics

Protein Function, Cellular Systems and Big Data

We are pleased to announce this year's BSPR conference on Integrative Proteomics. It will be hosted by Paul Skipp and Rob Ewing of the University of Southampton.

Research on integrative proteomics focusses on the elucidation of the function and regulation of proteins in cells and organism. Proteomics can provide a vast amount of information on how proteins are regulated and interact in signaling pathways and give us insight on health and novel avenues for treatments of diseases. Integral to the interpretation of the big data sets generated by proteomics experiments are data analysis software. The thematic streams for this year's BSPR conference are:

- Cellular Dynamics
- Interactomics and Functional Proteomics
- Post-translational Modifications and Chemical Modification
- Emerging Technologies
- Computational Proteomics and Big Data /Modelling
- Health and Clinical Cancer Proteomics

We have an excellent line-up of confirmed speakers:

- Angus Lamond, University of Dundee, UK
- Benedikt Kessler, Oxford University, UK
- Jyoti Choudary, Institute of Cancer Research, London, UK
- Luis Mendoza, Institute for Systems Biology, Seattle, USA
- Mike Snyder, Stanford University, USA
- Luis Beltrao, European Bioinformatics Institute - EMBL-EBI
- Rob Benyon, University of Liverpool
- Sara Zanivan, CRUK Beatson Institute
- Tim Elliott, University of Southamton
- Tiziana Bonaldi, Istituto Europeo di Oncologia

The remaining speakers (established scientists, post-doctoral scientists, and students) will be selected from the submitted abstracts. This year our bioinformatics workshop on the Trans-Proteomic Pipeline will be run by Luis Mendoza. Please see flyer on the next page for more information.

Key Information and Dates

Extended Abstract deadline – 24th May 2019

Registration deadline – 28th June 2019

- Student BSPR member (free BSPR membership for students) £100
- Student non-member £140
- Non-Student (Other) BSPR member £190
- Non-Student, Non-Member £245
- Conference Dinner at Harbour Hotel, Ocean Village (optional) £50

Trans-Proteomic Pipeline (TPP) Workshop (28th June – 30th June, 2019)

- Students, BSPR members £90.00
- BSPR member £140.00
- Non-member £250.00

Student and technical staff travel bursaries and post-doctoral MJ Dunn Fellowships

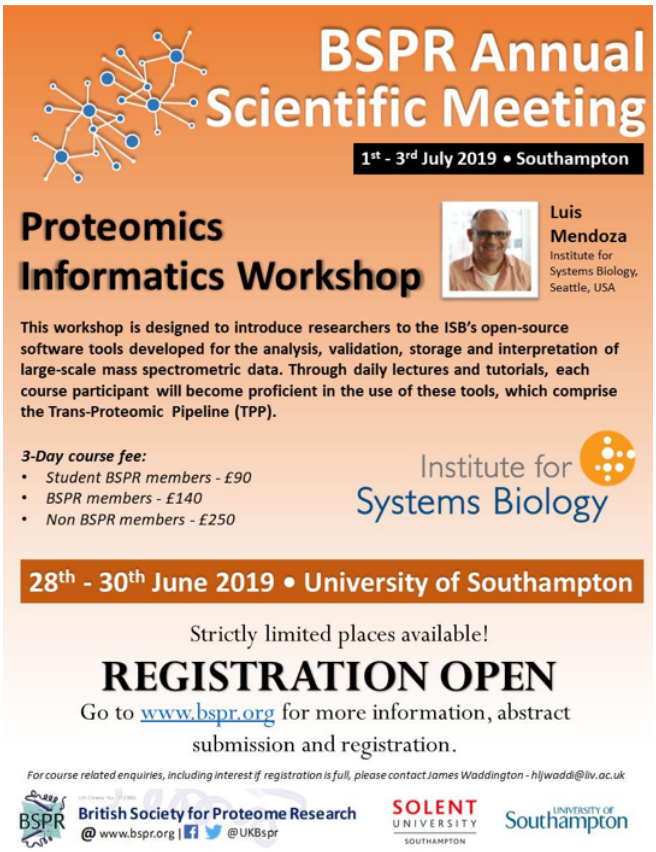
Students (MSc and Ph.D.) and technical staff awarded a bursary will receive £250 to help cover meeting registration, accommodation and travel expenses for the BSPR 2019.

MJ Dunn Fellowship awards will be given to post-docs to cover registration, accommodation and travel expenses for the BSPR 2019 conference. Applicants must be within 6 years of completing their Ph.D. and be paid up members of the BSPR.

To apply, please send a brief CV, a statement saying why you wish to attend the meeting and an abstract of the work that you plan to present to Karin Barnouin (kbarnouin@bioapicem.com) no later than Monday 27th May 2019. Applicants must be members of the BSPR. By accepting the award, the Society will expect to receive a report on the meeting for inclusion in the Society's newsletter and webpages.

For more information and to register please visit: https://www.bspr.org/event/bspr-meeting-2019

BSPR 2019 Proteomics Workshop



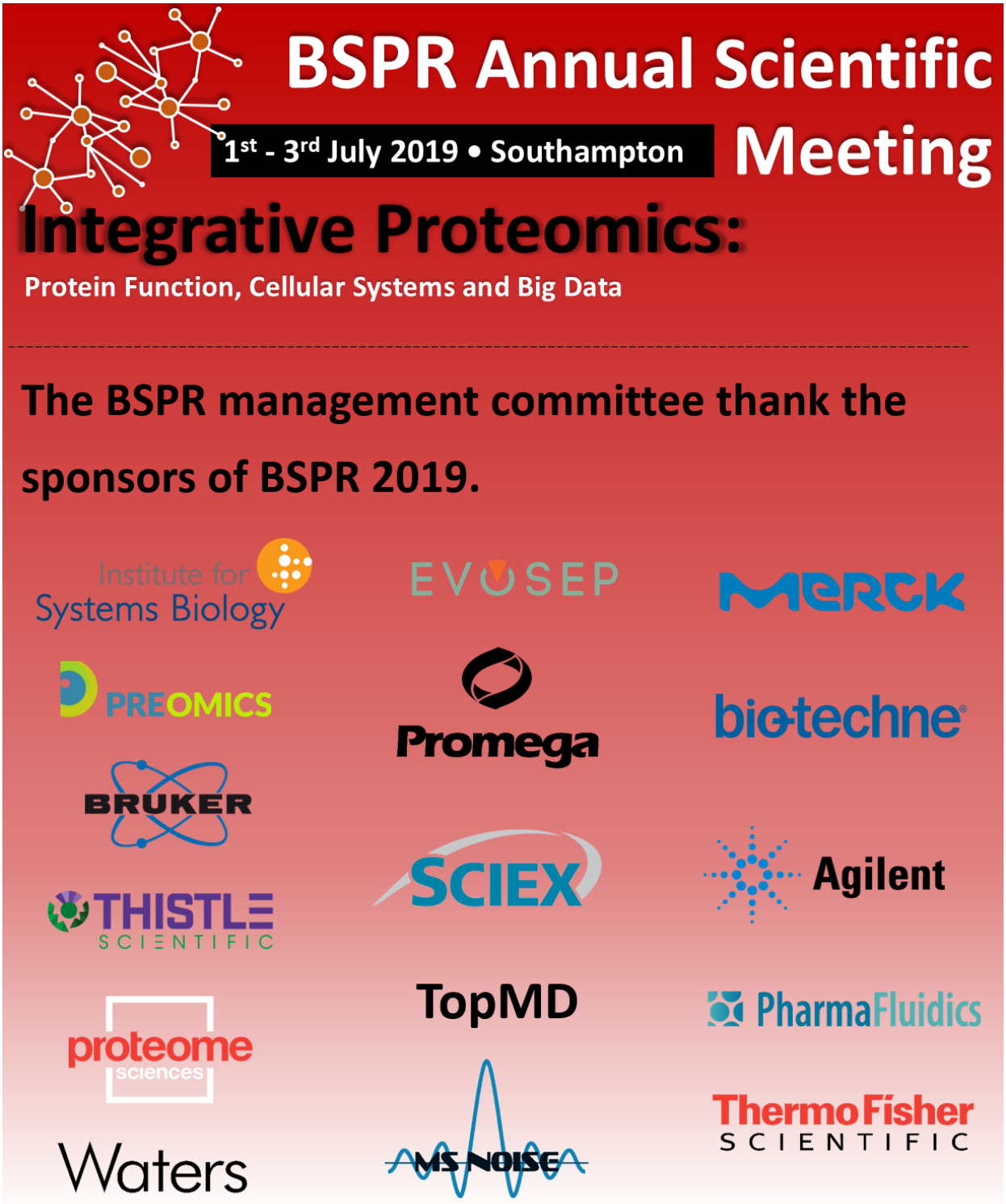
BSPR Student Membership

Free Student Membership

By Roz Jenskins, BSPR membership secretary

The main objective of the Society is to advance the science of proteomics for the benefit of all, with a particular emphasis on support and training of the next generation of researchers. To this end, in January 2019 the management committee proposed that BSPR student membership should be free up until the end of the final year of study. This change to our constitution will be ratified at the next AGM in Southampton. The BSPR holds an annual, high profile scientific meeting focused on both the technology and applications of proteomics. Student members are entitled to reduced rate registration fees for the conference and associated workshops, plus there is a range of bursaries that they can compete for to attend either the BSPR annual meeting or other proteomics conferences, courses, and workshops. We aim to provide our young members with invaluable networking opportunities, new job advertisements, training and even the chance to gain experience in other research institutions via the Proteomics Network. Please spread the word and encourage your students and colleagues to become members of this friendly and enthusiastic Society (membership@bspr.org).

BSPR Sponsors 2019



If you would like to sponsor this conference, please contact Paul Skipp (pjss@soton.ac.uk)

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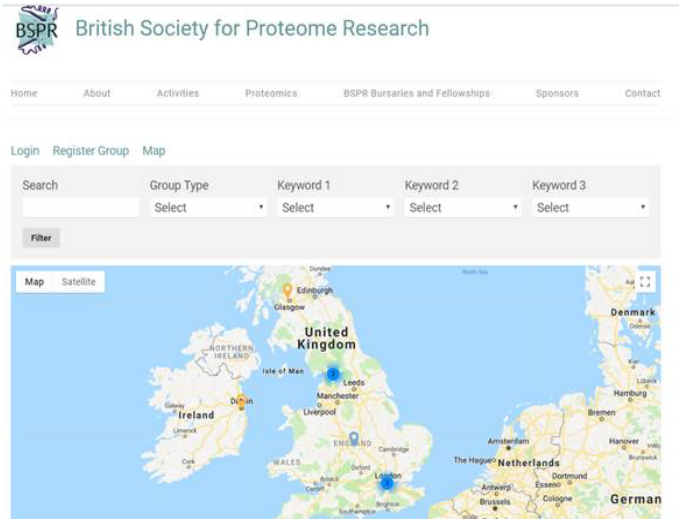
SOLENT UNIVERSITY SOUTHAMPTON

UNIVERSITY OF Southampton

Proteomics Network

by Harry Whitwell, BSPR Proteomics Network coordinator.

The BSPR Proteomic Network, to be launched at the BSPR Annual Meeting on 1-3 July in Southampton, will give the proteomics community an opportunity to advertise their groups and expertise, enabling collaboration and accessibility of services. Group data will displayed on an interactive map, allowing users to identify academic, industry or service groups, and, in the future, jobs and meetings can be displayed there also, making it a central hub for proteomics. Sign up will be easy – details will be given at the BSPR Meeting in Southampton, and there will be an opportunity to register on the network if you have not already done so. If you would like to sign up in advance, please send you group name, contact email, 3 keywords, a brief description, website links and relevant publications to h.whitwell@imperial.ac.uk.



Interactive UK/Eire Proteomics Network map

BSPR Lecturer 2019

The 2019 BSPR Lecturer is Professor Angus Lamond from the University of Dundee. Angus is Professor of Biochemistry in The Centre for Gene Regulation and Expression and Director of the Laboratory for Quantitative Proteomics (CITR). His research group study differential proteomics in healthy and cancer cells and the factors that affect their production and activity. His lab uses human cells as well as nematodes to investigate how they move, divide and change in response to drugs and other signals. They use microscopy to track protein localisation in cells and mass spectrometry to identify and quantify changes in protein abundance. The experiments generate a vast amount of data which must be analysed, visualized and stored. Key to their research is the development of new software to analyse large data sets.

On 24 April, 2019, Angus gave his first BSPR lecture at St Andrews University on the "Genetic Analysis of Human iPS Cells; generating Deep Proteomes and Navigating the Data Mountain." His second talk, "Deep Proteomes, iPS cells & Data Mountains" was held on 1 May, was at the University of Cambridge.

Forthcoming Lectures

6 June: Barts Cancer Institute, London
Talk title: Deep Proteomes, iPS cells & Data Mountains

1-3 July: BSPR Annual Conference, Southampton
Talk title: TBA

25/26: September: SULSA Disruptive Technologies Conference, Edinburgh
Talk title: TBA

To invite Angus Lamond to give a lecture please email Carol Urquhart c.a.urquhart@dundee.ac.uk.

Why do I use Proteomics in my research?

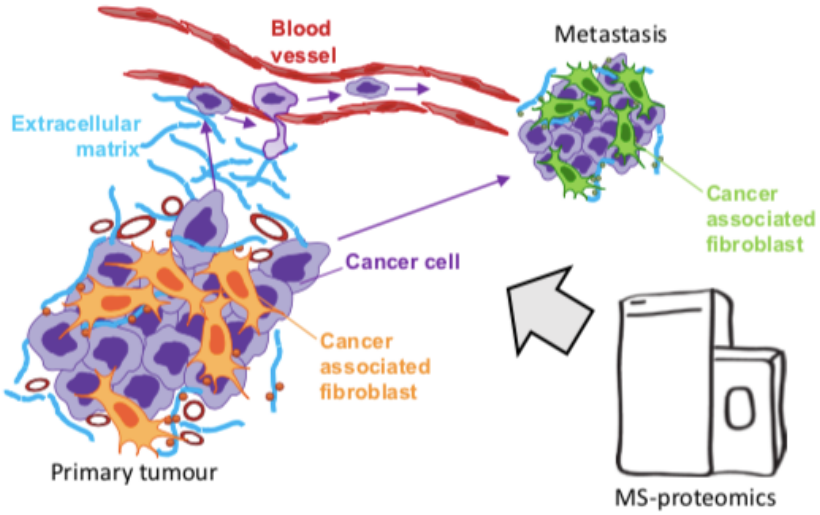
By Sara Zanivan, Group Leader at Cancer Research UK Beatson Institute and BSPR committee member.

I became fascinated during my Ph.D. on "Complex Systems for Life Sciences" by the complexity of intracellular signalling that regulates cell functions and behaviour, particularly in cancer. During that time, several groups published pioneering work employing shotgun Mass Spectrometry (MS)-proteomics in a comprehensive and completely unbiased way. They studied complete proteomes and cell signalling pathways regulated by phosphorylation. After envisioning that this technique had the power to unravel the molecular mechanisms that underpin cellular functions, I decided to do a post-doc in Mathias Mann's laboratory at the Max Planck Institute in Martinsried, Germany. There, I learned how to use cutting-edge MS-proteomics technology.

After my post-doc in 2010, I started my career as an independent researcher. I had the fantastic opportunity to merge my two passions: cancer research and MS-proteomics.

Currently, I am group leader of the "Tumour Microenvironment & Proteomics" laboratory and head of the "Advanced Technology Proteomics" Facility at Cancer Research UK Beatson Institute in Glasgow. With both teams, we combine in vitro and in vivo models of breast and ovarian cancer with state-of-the-art MS-proteomics technologies to understand how stromal cells in tumours, especially cancer-associated fibroblasts (CAFs), contribute to cancer progression and metastasis. Our overarching goal is to determine ways to target CAFs to improve the efficacy of current therapies.

Photo of Sara Zanivan with her group.
Back, from left: Sam Atkinson, Emily Kay, Greg Koulouras, David Mcgarry, Fabian Hink, Sergio Lilla. Front, from left: Alice Santi, Ilaria Puoti, Sara Zanivan, Kelly Hodge



An overview of research performed in Sara Zanivan's lab. Mass Spectrometry-Proteomics is used to investigate how cancer associated fibroblasts (CAFs) in the primary tumour drive cancer cells to breach the surrounding extracellular matrix and exploit blood vessels to form metastases in distant organs, and how CAFs, in those organs, support the growth of metastatic tumours."

Sponsor showcase

Introducing the Agilent AssayMAP Bravo, bringing you maximum quality with minimum effort.

By Lesley Schultz, Agilent Technologies
Email: lesley.schultz@agilent.com

The AssayMAP Bravo Platform is a state-of-the-art Bravo liquid handler offering nine deck positions, enhanced with a Bravo AM Head containing 96 precision flow syringes. Liquid flow is precisely controlled to accommodate quantitative binding and elution in a single pass. The syringes are designed for use specifically with AssayMAP Sample Preparation cartridges which incorporate a 5µL packed resin of various chemistries supported by membranes moulded into the polypropylene cartridge, enabling bidirectional flow and true high throughput chromatography. Recoveries approach 100% with enhanced reproducibility.

These features all enable you to maximize your walk away time and obtain the highest level of reproducibility and accuracy in your data. A versatile, compact liquid handling system designed to overcome sample preparation challenges, such as poor reproducibility and low sample recovery, or loss due to required re-work of precious samples. This automated platform has been designed to minimize hands-on time to enable users to maximize their walk away time. An intuitive user interface enables even beginners in time-challenged, multiuser environments to rapidly customize their own sample handling protocols, maximizing workflow reproducibility and efficiency. This user-friendly interface also seamlessly accommodates assay development through the matrix style opportunities available.

Key protocols to complete your proteomics discovery include:

- Phosphopeptide enrichment using Fe-NTA or Ti02
- Digestion, fractionation and clean-up
- MALDI spotting
- Immunoaffinity capture and many more

Agilent AssayMap Bravo liquid handler platform

The AssayMAP Bravo automated protein and peptide sample prep solution from Agilent Technologies, is designed to accelerate all your protein and peptide quantitation and characterization by enhancing mass spec results through superior sample preparation.
Following sample preparation, Agilent's suite of LC/MS instruments and software offer an extensive range of powerful analysis options to get the most out of your results.

Save the Date

The 2019 HUPO Congress is hosted by the Australasian Proteomics Society (APS) in Adelaide, Australia. This conference will focus on "Advancing Global Health Through Proteome Innovation." The six main themes include the Human Proteome Project (HPP); Health and Disease; The Environment; Biological Applications of the Proteome; Enabling Technologies; and 'Beyond the Proteome'. For more information and to register please see https://www.hupo2019.org/hupo-2019/.

AUSTRALIA
HUPO ADELAIDE
18TH HUMAN PROTEOME ORGANIZATION WORLD CONGRESS
SEPTEMBER 15 – 19 2019

Open Positions

Structural dynamics of membrane proteins in their native environment: focus on bacterial antibiotic resistance

A postdoctoral position is available for 4 years to probe the structure and dynamic rearrangements of membrane proteins central to antibiotic resistance, using advanced mass spectrometry methods.

In this project the post holder will develop chemical biology and structural mass spectrometry methods (primarily hydrogen/deuterium exchange mass spectrometry) to achieve structural and dynamic insight into membrane proteins within native lipid membrane environments. This would be a huge step forward in understanding how membrane proteins shape the function of cells for the determination of native membrane protein structural biology information.

Please contact Eamonn Reading (eamonn.reading@kcl.ac.uk) for more information or informal discussion.

Link to advert: https://my.corehr.com/pls/kingrecruit/erq_jobspec_version_4.display_form?p_company=1&p_internal_external=E&p_display_in_irish=N&p_process_type=&p_applicant_no=&p_form_profile_detail=&p_display_apply_ind=Y&p_refresh_search=Y&p_recruitment_id=014146

We are seeking to appoint a science driven but service orientated **Postdoctoral Research Associate for the Proteomics Facility**.

Proteomics is considered a key part of modern biology and presents some exciting challenges and opportunities at the boundaries between the physical and life sciences. The Advance Proteomics Facility addresses the proteomics needs of the University of Oxford's basic research community. It provides expertise, builds coherence, delivers wide access, promotes collaboration in proteomics research and fosters multi-disciplinary research. The facility performs classical protein, protein complex, proteome identification and quantitation analyses but it also provides/develops state of the art methods for more complex questions that involve protein structural information or post-translational modifications. The facility is also associated with several research groups and is constantly evolving introducing new technologies and services.
Key work for the successful candidate will be method development, sample preparation, mass spectrometric analysis, supervising of mass spectrometers (MS) and data analysis.

Please contact Shabaz Mohammed (**shabaz.mohammed**@chem.ox.ac.uk) for more information or informal discussion.
https://www.bioch.ox.ac.uk/jobs#vacancy_140502

A 4 year post-doctoral research fellow post is available immediately to work In the UCD Conway Institute on **LC-MS/MS based protein biomarker discovery** of endocrine disruptors in thyroid cells and tissues as part of the H2020 Project SCREENED. With approximately €5M funding, the SCREENED consortium is aiming to develop three-dimensional human thyroid cell constructs to mimic the structure and function of the native thyroid gland and use them develop assays to predict with more sensitivity and specificity the effects of endocrine disruptors on thyroid function.

We are looking for a highly motivated and independently minded individual with relevant qualifications and experience. For more information please send your CV to Stephen.Pennington@ucd.ie

Atturos (www.atturos.com) is a rapidly growing University College Dublin (UCD) spin out company focussed on developing and delivering advanced diagnostics tests to support the emerging era of precision and personalised medicine. The company is participating in the H2020 programme SCREENED and also has recently initiated research programmes with **2 major pharmaceutical companies** to evaluate protein biomarkers. As a result, we have up to **4 vacancies** for several roles: **Senior Scientists (mass spectrometry), Research Technicians (sample preparation and mass spectrometry)** and Company/Programme Administrator. We are looking for outstanding and ambitious individuals with relevant experience to join the Atturos team. For further details please contact: Stephen.Pennington@Atturos.com

If you would like us to send any job, meeting or course adverts to the BSPR mailing list, please email Roz Jenkins (r.jenkins@liverpool.ac.uk).

BSPR members, if you wish to contribute an article, advertise jobs, meetings or courses in the next newsletter (Autumn), please email Karin Barnouin (kbarnouin@bioapicem.com) by 10st September 2019.