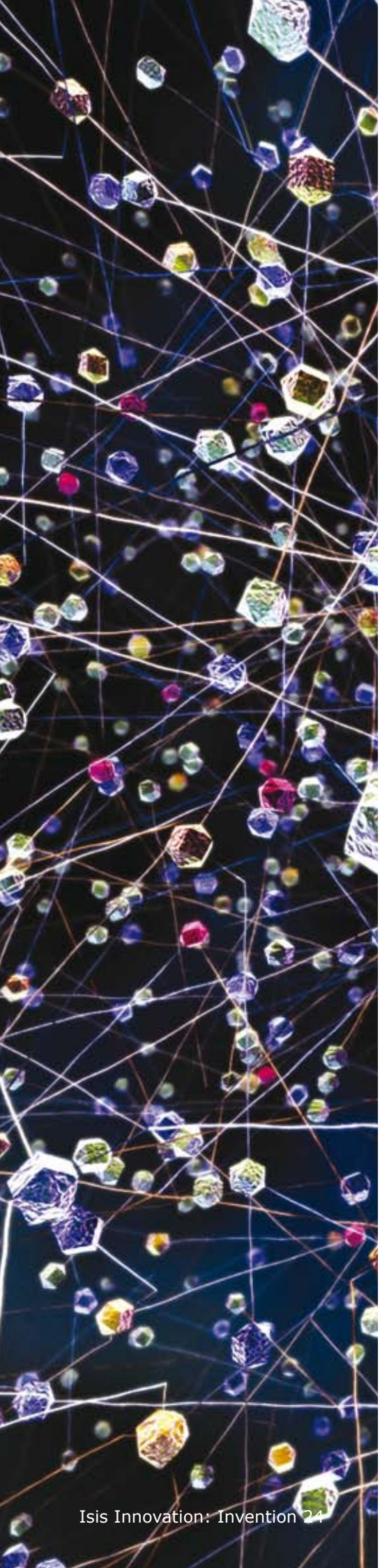
The research commercialisation office of the University of Oxford, previously called **Isis Innovation**, has been renamed **Oxford University Innovation**

All documents and other materials will be updated accordingly. In the meantime the remaining content of this Isis Innovation document is still valid.

URLs beginning www.isis-innovation.com/... are automatically redirected to our new domain, www.innovation.ox.ac.uk/...

Phone numbers and email addresses for individual members of staff are unchanged

Email : enquiries@innovation.ox.ac.uk



Exploring the proteome

Oxford's protein-identification experts are working closely with Oxford University Consulting to help international cancer research groups and other sectors benefit from the academics' expertise.

With the adevent of the genomic era and the subsequent explosion of data generated through transcriptomics, the desire to further complete the biological jigsaw fuelled the drive to develop the field of proteomics. The large-scale analysis of proteins in hundreds, if not thousands, of different biological systems has provided invaluable insights into diverse areas of science, including microbiology, plant sciences and medicine.

Proteomics has now progressed to the stage of being routinely deployed as one of the many tools at the disposal of the modern day biologist but the technical challenges needed to conduct such analysis require specialist skills, capital investment and a dedicated team to provide the services.

The Central Proteomics Facility (CPF) based in the Sir William Dunn School of Pathology at the University of Oxford is one such facility. They provide proteomic services to research groups across the University, working collaboratively with investigators to determine the best approaches and methodologies at the start of each individual project and supporting the group downstream with bioinformatics training and data interpretation.

Interactive approach

With many groups keen to capitalise on the advances in this field to extract maximum information from their experimental system, choosing the right method is critical. The CPF's approach is very interactive according to Dr Ben Thomas, the CPF's Permanent Technical Director. "We work closely with our colleagues and collaborators to make sure that they understand which particular method might best address the question that

Proteomics has now progressed to the stage of being routinely deployed as one of the many tools at the disposal of the modern day biologist.

The techniques available to do this are relatively complex and the Central Proteomics Facility is able to offer guidance on the most suitable approach.

they are seeking to answer, whether it's some simple single spot protein identification or complex quantitative multi-component analysis," he says. "We're always happy to discuss new projects and ideas and to provide advice on experimental design and optimising techniques. "

In order to enable external organisations to benefit from its expertise and resources, the CPF works closely with Oxford University Consulting. Typical projects have included protein identification for a research group in South America who are studying protein production in members of the brassica family (including broccoli), and the analysis of complex protein mixtures in human cell lines infected with different strains of human cancer viruses for an independent research organisation in southern Europe.

A number of groups have shown interest in working with the CPF for quantitative proteomic studies which involves not only the identification of the proteins in a given sample but also the reliable measurement of the amounts of each protein. This approach parallels the methods developed for transcriptomic analysis, allowing researchers to build more complete maps of the pathways from gene to transcript to protein to biological effect. The techniques available to do this are relatively complex and the CPF is able to offer guidance on the most suitable approach. "The key factors for choosing the right method depends upon the system which you are studying and whether you are looking for absolute or relative quantitation," says Dr Thomas. "Each method has its advantages and disadvantages and varies in the technical challenges required to implement them. We are careful to discuss these options for each project."

The organisations that have worked with the CPF have found the flexible and consultative approach very user-friendly, allowing access to the right expertise and the ability to generate proteomics data without the need for capital expenditure. Building links with a world-class university represents another great benefit.

Weblink

http://www.proteomics.ox.ac.uk/index.htm

Image: Protein crystals

For more information, please contact:

Dr Josef Walker
Project Manager
Oxford University Consulting
T: +44(0)1865 280901
E: josef.walker@isis.ox.ac.uk