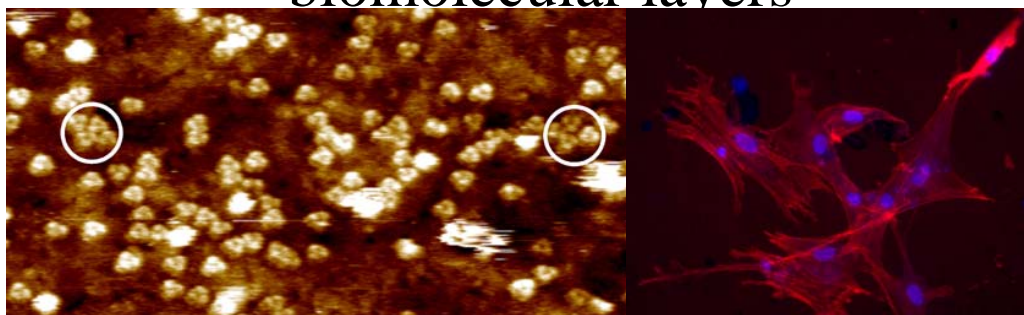


## BBSRC CASE PhD Studentship

Institute of Cell and Molecular Biosciences, Newcastle University  
& Orla Protein Technologies Ltd  
Prof. Jeremy Lakey , Dr Alexandra Solovyova, Dr Stephen Holt



### Physical methods for the analysis of complex biomolecular layers



The project is a unique cross disciplinary study to develop methods for determining the structure of biological layers at high resolution. The production and characterisation of protein arrays is now central to areas such as cell biology and diagnostics. Recently we have developed magnetic contrast neutron reflection (MCNR) as a new high resolution technique on this area. The project will involve using molecular biology and protein biochemistry to create the working molecules to be analysed by a range of methods such as surface plasmon resonance, AFM, dual polarisation interferometry, SANS and MCNR . This data will be primarily collected at ISIS (RAL) although visits to other sources such as ILL (Grenoble) and NIST (USA) are likely. Layers will be analysed using normal and deuterium labelled biomolecules including the application of site directed labelling. The result will be a detailed picture of the profile of these layers. The successful applicant will thus be trained in molecular and cell biology and biophysics. Candidates should therefore be numerate and comfortable with accurate data analysis. The project will provide opportunities for hands on laboratory work and experience of a small fast moving company in an exciting biotech area. Enthusiastic graduates from any area of the natural sciences are encouraged to apply. Industrial stipend enhancement applies.

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Cisneros, D. A., et al (2006) *Angewandte Chemie-International Edition* **45**, 3252-3256.

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Holt, S. A., et al (2005) *Australian Journal of Chemistry* **58**, 674-677.

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See [www.ncl.ac.uk/camb/](http://www.ncl.ac.uk/camb/) and [www.orlaproteins.com](http://www.orlaproteins.com) and [www.isis.rl.ac.uk/](http://www.isis.rl.ac.uk/)