



4-year PhD Interdisciplinary Programme in Structural, Computational and Chemical Biology at UCL/Birkbeck/NIMR

2010 PhD projects booklet



Title	First Name	Name	Department	Institution	PhD project	Co-PI / Collaborator
Dr	Tracey	Barrett	Department of Biological Sciences	Birkbeck	Activation of the canonical NF- κ B pathway: Investigating the conformational dynamics of IKK γ	Dr C. Kay (UCL SMB/LCN)
Dr	Sanjib	Bhakta	Department of Biological Sciences	Birkbeck	Structural and molecular characterisation of ATP-dependent MurE ligase inhibitors from natural products: towards a novel drug treatment for drug resistant Tuberculosis	Prof Nicholas Keep (Department of Biological Sciences, Birkbeck) and Prof Simon Gibbons (Department of Pharmaceutical and Biological Chemistry, The School of Pharmacy)
Dr	Kevin	Bryson	Computer Sciences	UCL	Computational modelling and experimental validation of biofilm formation in mixed populations of <i>Streptococcus pneumoniae</i>	Dr Bambos Charalambous (Division of Infection and Immunity, UCL School of Life and Medical Sciences)
Prof	Steve	Caddick	Department of Chemistry	UCL	New reagents for the selective modification of cysteine and the introduction of spin-labels	Dr C. Kay (UCL SMB/LCN) and Dr J. Baker (Department of Chemistry, UCL)
Prof	Paul	Driscoll	Division of Molecular Structure	NIMR	Structural and functional investigation of the interaction of Prod1 with the EGF-receptor, an emergent paradigm in signalling relevant to adult limb regeneration in salamanders	Prof J. Brockes (Research Department of Structural & Molecular Biology, UCL)
Dr	Helen	Hailes	Department of Chemistry	UCL	Novel Routes to New Sphingosines using Synthetic Biology	Prof. J. Ward (Research Department of Structural & Molecular Biology, UCL) and Dr. P. A. Dalby (Biochemical Engineering, UCL)
Dr	Richard	Hayward	SMB / Department of Biological Sciences	UCL / Birkbeck	Structure-function analysis of <i>Chlamydia</i> inclusion proteins	Dr Katherine Bowers (Department of Structural and Molecular Biology, UCL)
Dr	Stefan	Howorka	Department of Chemistry	UCL	Analyzing ribosomal interactions in the polysome chain	Dr Maya Topf (Department of Biological Sciences, Birkbeck) and Dr Kay Gr \ddot{u} newald (Division of Structural Biology, STRUBI)
Prof	David	Jones	Computer Sciences / SMB	UCL	Applying Protein Structure Prediction to Crystallographic Molecular Replacement	Prof. David Moss (Department of Biological Sciences, Birkbeck)
Prof	David	Jones	Computer Sciences / SMB	UCL	Discovering Novel Natively Unfolded Binding Proteins in the Human Genome	Dr Renos Savva (Department of Biological Sciences, Birkbeck)
Dr	Nick	Keep	Department of Biological Sciences	Birkbeck	Inhibition of Bacterial Resuscitation Promoting Factors	Dr I. Nobell (Department of Biological Sciences, Birkbeck) and Dr H. Hailes (UCL Chemistry)
Prof	Zhaoping	Li	Computer Sciences	UCL	Understanding neural coding in the visual cortices	
Prof	Zhaoping	Li	Computer Sciences	UCL	Various projects of visual psychophysics	
Dr	Philip	Lowden	Department of Biological Sciences	Birkbeck	Chemical Tools and Methodology for the Analysis of Protein Pyrophosphorylation by Inositol Pyrophosphates	Dr. Adam McKay (UCL Chemistry), Dr. Adolfo Saiardi (MRC Laboratory for Molecular Cell Biology/UCL Cell & Developmental Biology)
Dr	Dereck	Macmillan	Department of Chemistry	UCL	Manipulating Iron metabolism through synthesis of Hepcidin analogues	Prof. Kaila Srail (Department of Structural & Molecular Biology, UCL)
Dr	Dereck	Macmillan	Department of Chemistry	UCL	New Chemistry to Explore Selectivity in Chemically Induced Protein Thioesterification	Dr K. Bryson (Dept. of Computer Science, UCL)
Prof	Charles	Marson	Department of Chemistry	UCL	Targeting the Action of <i>E. Coli</i> on the Human Kidney through the Design, Synthesis and Biology of Small-Molecule Inhibitors of PapG	Prof G. Waksman (Department of Biological Sciences, Birkbeck and Research Department of Structural & Molecular Biology, UCL)

Dr	Andrew	Martin	SMB	UCL	Antibodies and their interactions	Prof S.Perkins (Research Department of Structural & Molecular Biology,UCL) and DSTL & UCB-Celltech collaborators
Dr	Andrew	Martin	SMB	UCL	Analyzing and predicting metal binding sites in proteins	Prof S.Perkins (Research Department of Structural & Molecular Biology,UCL)
Dr	Adam	McKay	Department of Chemistry	UCL	Understanding the Gas-Phase Topology of Large DNA Molecules	Bart Hoogenboom (UCL, LCN)
Dr	Carolyn	Moore	Department of Biological Sciences	Birkbeck	Kinesin motor proteins in malaria	Dr M. Topf (Department of Biological Sciences, Birkbeck) and Dr T. Holder (Parasitology, NIMR)
Dr	Irilenia	Nobeli	Department of Biological Sciences	Birkbeck	Predicting ligand-binding promiscuity from protein structure	Prof. David Moss (Department of Biological Sciences, Birkbeck)
Dr	John	Offer	Division of Physical Biochemistry	NIMR	Chemical Synthesis of an Antibody array	Dr Andres Ramos (Division of Molecular structure, NIMR) and Dr Peter Rosenthal (Division of Physical biochemistry, NIMR)
Prof	Christine	Orengo	SMB	UCL	An Automatic Functional Annotation Pipeline to Decipher the Role of Bacteria in the Human Supra-Organism	Prof J. Ward (Research Department of Structural & Molecular Biology, UCL) and Prof B. Henderson (Eastman Dental Institute, UCL)
Prof	Christine	Orengo	SMB	UCL	Bridging Computational and Experimental Biology to Reveal Functional Networks in B-Cell Signalling	Dr Paul Kellam (Wohl Institute, UCL)
Dr	Elena	Orlova	Department of Biological Sciences	Birkbeck	Structural analysis of tumour suppressor p63 by electron microscopy	Dr. AL Okorokov (Wolfson Institute for Biomedical Research, UCL)
Dr	Elena	Orlova	Department of Biological Sciences	Birkbeck	Analysis of the SPP1 bacteriophage by cryo electron microscopy	Dr M.Topf (Department of Biological Sciences, Birkbeck)
Dr	Susan	Perkin	Department of Chemistry	UCL	Bio-Physics of the Bacterium–Host Adhesion Process	Dr. Mark Williams (Department of Biological Sciences, Birkbeck) and Dr. Brian Henderson (UCL Eastman Institute)
Prof	Steve	Perkins	SMB	UCL	Unravelling the interactions of immunoglobulin A in IgA nephropathy	Prof J. Ward (Department of Structural & Molecular Biology,UCL), Prof J. Feehally and Dr J. Barratt (Leicester General Hospital, University of Leicester)
Prof	Steve	Perkins	SMB	UCL	The multiple and multivalent molecular interactions of complement factor H leading to age-related macular degeneration and atypical haemolytic uraemic syndrome	Dr A. MacKay (UCL Department of Chemistry), Prof S. Wood (Division of Medicine, UCL Medical School)
Prof	Peter	Rich	SMB	UCL	Mid-infrared vibrational spectroscopy as a reagent-free clinical diagnostic tool for kidney function defects through urine analyses	Prof Kaila Srari (Research Department of Structural & Molecular Biology, UCL)
Prof	Peter	Rich	SMB	UCL	The roles of radical amino acids in enzymatic catalysis studied by vibrational infrared spectroscopy and electrochemistry	Dr Katherine Holt (Department of Chemistry, UCL)
Prof	Helen	Saibil	Department of Biological Sciences	Birkbeck	Allosteric mechanism and dynamics of chaperonin-ATP complexes	Dr Maya Topf (Department of Biological Sciences, Birkbeck)
Prof	Helen	Saibil	Department of Biological Sciences	Birkbeck	Parasite-host interactions in malaria-infected red blood cells	Dr Mike Blackman (Parasitology, NIMR)
Dr	Adrian	Shepherd	Department of Biological Sciences	Birkbeck	Investigating the links between B-cell differentiation and disease using text -and data-mining techniques	Dr Paul Kellam (Research Department of Infection, UCL)
Dr	Tom	Sheppard	Department of Chemistry	UCL	Development of Selective Phosphate-Binding Small Molecules and their Application to the Study of Hsp90/Cdc37 Interactions	Dr Cara Vaughan (Department of Biological Sciences, Birkbeck)

Dr	Alona	Sosinsky	Department of Biological Sciences	Birkbeck	Elucidating mechanisms of neural induction	Prof Claudio Stern (Department of Cellular and Developmental Biology, UCL)
Dr	Alona	Sosinsky	Department of Biological Sciences	Birkbeck	Gene regulatory network controlling skeletogenesis in sea urchins	Dr Paola Oliveri (Department of Cellular and Developmental Biology, UCL)
Dr	Alethea	Tabor	Department of Chemistry	UCL	How does nisin recognise lipid II? A combined chemical biology and structural study	Prof Paul Driscoll (Molecular Structure Division, NIMR) and Prof John Ward (SMB, UCL)
Prof	Willie	Taylor	Mathematical Biology	NIMR		
Dr	Katherine	Thompson	Department of Biological Sciences	Birkbeck	Fluorescent probes to follow changes in RNA structure	Dr S.Tomas (Department of Biological Sciences, Birkbeck)
Dr	Salvador	Tomas	Department of Biological Sciences	Birkbeck	Metalloporphyrins in Aqueous Solution: Tools for the Sensing and Manipulation of Biomolecules	Dr Katherine Thompson (Department of Biological Sciences, Birkbeck)
Dr	Irina	Tsaneva	SMB	UCL	Expression of RUVBL1 and RUVBL2 in human glioma cells and effect of aberrant expression on radiosensitivity	Dr Susan Short (Department of Oncology, UCL)
Dr	Cara	Vaughan	Department of Biological Sciences	Birkbeck	Structure of an Hsp90 Regulatory Complex	Dr Adam Mackay and Dr Dereck Macmillan (Department of Chemistry, UCL)
Prof	Gabriel	Waksman	Department of Biological Sciences/SMB	Birkbeck/UCL	Structural Studies of the Type IV Secretion Systems	Prof Elena Orlova (Department of Biological Sciences, Birkbeck)
Prof	Gabriel	Waksman	Department of Biological Sciences/SMB	Birkbeck/UCL	Structural studies of cotranslational translocation and folding of the chaperone-usher subunits involved in pilus biogenesis	Dr J. Christodoulou (Department of Biological Sciences, Birkbeck and Research Department of Structural & Molecular Biology, UCL)
Prof	Bonnie	Wallace	Department of Biological Sciences	Birkbeck	Sodium Channels: Structural Molecular Biology and Computational Biology	Dr. Adam McKay (UCL Chemistry)
Dr	Mark	Williams	Department of Biological Sciences	Birkbeck	Exploring hydrogen bonding in protein-ligand complexes through spectroscopy and computation	Prof Peter Rich (Research Department of Structural and Molecular Biology, UCL) and Dr David Bowler (London Centre for Nanotechnology, UCL)