

Lorne Proteins Organising Committee

31st Lorne Proteins Conference 2006

February 5 – 9, 2006
Lorne, Victoria, Australia

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Cover Image

TIM9•10 is a mitochondrial complex that chaperones precursors of polytopic integral membrane proteins.
Contributed by Jacqui Gulbis.

PROGRAM – Sunday 5th February

Registration

2:00 PM - 3:55 PM

New Conference Centre Foyer

Welcome Address

3:55 PM - 4:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Session 1: Imaging Cells

4:00 PM - 6:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Leann Tilley

30 min

Wolfgang Baumeister

Mapping molecular landscapes inside cells *abs#001*

30 min

Alice Ting

Fluorescent reporters of protein trafficking and function in living cells. *abs#002*

30 min

Jennifer Lippincott-Schwartz

Insights into cell compartmentalization and membrane trafficking using GFP technology *abs#003*

15 min

Ben Hankamer

Development of methods to assist systematic structure determination of membrane proteins and soluble macromolecular assemblies *abs#004*

Welcoming BBQ

6:15 PM - 8:00 PM

The Lawn

Session 2: Leach Lecture

8:00 PM - 9:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Ray Norton

Elizabeth Blackburn

Telomeres and telomerase in human health and disease *abs#005*

Trade Display / Mixer

9:00 PM - 10:30 PM

Trade area in the new Conference Centre

Sponsored by  **Thermo**
ELECTRON CORPORATION

PROGRAM – Monday 6th February

Session 3: Cancer

8:30 AM - 10:30 AM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Bruce Kemp

- 30 min **David Barford**
Studies of Argonaute proteins: Central mediators of RNA silencing *abs#006*
- 20 min **Christina Mitchell**
Regulation of Phosphoinositide 3-Kinase signalling by Inositol Polyphosphate 5-Phosphatases.
abs#007
- 30 min **Gerhard Wagner**
Structures, interactions and inhibition of translation initiation factors - implications for cancer therapy *abs#008*
- 20 min **David Huang**
Bcl-2 family proteins - from biology to therapy *abs#009*

Morning Tea Break

10:30 AM - 11:00 AM

Trade area in new Conference Centre

Session 4: Proteomics and metabolomics

11:00 AM - 1:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Ian Smith

- 30 min **Mathias Uhlen**
A human protein atlas for normal and cancer tissues *abs#010*
- 30 min **Don Hunt**
Comparative analysis of post-translational modified proteins and peptides by mass spectrometry: New technology and applications in the study of cell migration, the histone code and cancer vaccine development. *abs#011*
- 30 min **Timothy Haystead**
Delineating signal transduction pathways in smooth muscle through directed proteomics. *abs#012*
- 20 min **Malcolm McConville**
Using metabolomics to identify new drug targets in microbial pathogens *abs#013*

Lunch

1:00 PM - 3:30 PM

Trade area in the new Conference Centre

Poster Preview

3:30 PM - 4:00 PM

Trade area in the new Conference Centre

Session 5: Poster Session A

4:00 PM - 6:30 PM

Trade area in the new Conference Centre

See listing at end of Monday Program

Cellular Imaging; Cellular Signalling; Glycoproteins and posttranslational modifications; Peptides; Protein engineering, expression and purification; Protein nucleic acid interactions; Proteomics;

Dinner

6:30 PM - 8:00 PM

own arrangements

Session 6: Autophagy

8:00 PM - 9:30 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Rod Devenish

- 30 min **Daniel Klionsky**
Autophagosome formation involves cycling of Atg9 *abs#014*
- 30 min **Ana Maria Cuervo**
Autophagy in aging and age-related disorders: when being selective matters *abs#015*
- 15 min **Mark Prescott**
Where do organelles go when they die? *abs#016*

Happy Hour and Trade Display

9:30 PM - 11:00 PM

Trade area in the new Conference Centre

Monday Posters

Dalibor Mijaljica

"Organellophagy"-specific turnover of mitochondria and endoplasmic reticulum? *abs#101*

Laura Hagerty

The role of ZIPK in calcium sensitization signaling *abs#102*

Onisha Patel

The structure of Janus Kinase 2 in complex with a specific pan-Janus kinase inhibitor *abs#103*

Monica Naughtin

Myotubularin Related Protein 4 (MTMR4) dephosphorylates PtdIns(3)P and PtdIns(3,5)P₂, and regulates trafficking through the recycling endosome. *abs#104*

David Williams

Calcium signalling in glial cells: A potential role for TRP channels *abs#105*

Michele Davies

The role of the inositol polyphosphate 5-phosphatase, SKIP, in tumour cell migration and invasion. *abs#106*

Kristy Horan

Investigating the role of the 72 kDa 5-phosphatase in phagocytosis *abs#107*

Clare Fedele

The proline-rich inositol polyphosphate 5-phosphatase PIPP regulates PtdIns(3,4,5)P₃ in PC12 growth cones to affect neurite elongation *abs#108*

Anne Wooldridge

CHASM is a unique marker of the Type IIa skeletal muscle fiber and is regulated by PKA *in vitro* *abs#109*

Matthew Brush

A GADD34-Protein Phosphatase-1 complex promotes translational recovery from cellular stress *abs#110*

Anna Powell

Phosphorylation of SEPT3 by MAP kinase (ERK2) is regulated by cyclic GMP-dependent protein kinase phosphorylation on SER-91 *abs#111*

Tom Garrett

Structures of Therapeutic Antibodies targeting the EGF Receptor *abs#112*

Judith Stepper

Characterisation of the genes involved in the production of a novel bacteriocin from *Lactobacillus plantarum* *abs#113*

Mark Graham

Towards a complete description of the *in vivo* phosphorylation sites in dynamin I *abs#114*

George Craft

Phosphorylation sites in amphiphysin I from nerve terminals: Identification and function. *abs#115*

Valentina Valova

Determining the relative abundance of mutant and normal proteins in NemaLine Myopathy patients *abs#116*

Tracy Putoczki

Characterization of the structure, expression and function of *Pinus radiata* Arabinogalactan-proteins *abs#117*

Brian Hood

Quantitative phosphoprotein analysis of neurosynaptosomes from opiate treated rat *abs#118*

Ross Weston

Peptides with an Affinity to Lethal Factor Characterised using Phage Display - Strategies to Inhibit the anthrax toxin *abs#119*

Sania Jalal

New β -Peptides for Mimicking Biomineralisation *abs#120*

Kim Munro

Phage display technology facilitated the isolation of peptides with affinity to components of *Bacillus anthracis* toxin *abs#121*

Ken Miller

Sequencing of novel bioactive peptides - The Orbitrap accurate mass advantage *abs#122*

Yan Wang

Biophysical studies of an apolipoprotein β peptide that inhibits lipoprotein(a) assembly *abs#123*

Bong-Jin Lee

Anticancer activities and structure-activity relationships of novel antimicrobial undecapeptides derived from gaegurin 5 *abs#124*

Santanu Deb Choudhury

Improved binary high performance liquid chromatography for amino acid analysis of collagens *abs#125*

Helen Rachel Lagiakos

New β -amino acid derived peptidomimetics for the design and synthesis of angiotensin converting enzyme-2 (ACE-2) inhibitors *abs#126*

George Wilson

Antibacterial activity in the sea urchin, *Heliocidaris erythrogramma* *abs#127*

Danielle Smith

Investigating the mechanism of redox chemistries of the Alzheimer's disease A β peptide *abs#128*

Kristopher Hall

Mechanism of membrane lysis by antimicrobial peptides *abs#129*

Jo Casey

Peptide mimotopes for diagnosis of Epstein-Barr virus *abs#130*

Santanu Deb Choudhury

The interactions of complex aldehydes with collagens. Unravelling the mechanism of organic tanning *abs#131*

Amy Guilfoyle

Developing protocols for high-throughput structure determination *abs#132*

Jeffrey Yeoman

Characterisation of a metal-dependent KDO8P synthase. *abs#133*

Andrew Pow

Protein complementation assay as a display system for intracellular protein-ligand binding reactions *abs#134*

Anne Pettikiriarachchi

'Chromoprotein blues' - recolouring a monomeric chromoprotein using random mutagenesis. *abs#135*

Frank Schaefer

New proteomics tools for in vitro synthesis of recombinant proteins *abs#136*

Adam Charlton

Phage based catalysis *abs#137*

George Kopsidas

Optimizing protein expression using RNA mutagenesis and ribosome display *abs#138*

Anthony Roberts

Molecular Engineering of a protein therapeutic to achieve altered binding specificity *abs#139*

David Ascher

Purification of His and MBP Tagged Proteins from Baculovirus expression systems *abs#140*

Meghna Sobti

Assembling the Yeast LSm Protein Complex *abs#141*

Vincent Batori

Integrated development of therapeutic antibodies with high affinity utilizing SuperhumanisationTM and EvoGeneTM maturation *abs#142*

Robyn Mansfield

RNA-binding specificity of human splicing factor ZNF265 *abs#143*

Jolyon Claridge

Protein-RNA interactions involved in human rhinovirus replication *abs#144*

Jackie Wilce

Structure of alphaCP1-KH1/DNA complex and comparative binding to RNA vs DNA: model of the triple-KH domain protein bound to target androgen receptor mRNA. *abs#145*

Fionna Loughlin

The splicing factor ZNF265 recognizes specific RNA sequences. *abs#146*

Ah Young Park

Structural and kinetic analysis of substrate specificity of the 3'-5' proofreading exonuclease subunit of *E. coli* DNA polymerase III *abs#147*

Aaron Oakley

Replication fork arrest by Tus-Ter sites in *E. coli*: A molecular mousetrap *abs#148*

Liza Cubeddu

DNA damage detection by an archaeal single stranded DNA binding protein *abs#149*

Jason Lowry

Characterizing the MED1 GATA-type zinc finger interaction with DNA *abs#150*

Anna Fitzgerald

Novel method for prefractionation of plasma for proteomic analysis *abs#151*

Vincent Strangis

Automated urinary proteomics applied to renovascular hypertension *abs#152*

Van Kelly

Identification of minor proteins in human skim colostrum by proteomics. *abs#153*

Terry Nguyen-Khuong

Altered proteomic profiles of prostate cancers after treatment with traditional Chinese medicines *abs#154*

Nathan Cowieson

Using a high throughput protein production pipeline and synchrotron radiation to characterise novel macrophage proteins. *abs#155*

Agnes Debril

Discovery of biomarkers in Type 2 diabetes urine: Potential for a non-invasive early diagnostic *abs#156*

Graeme Currie

4800 MALDI TOF/ TOF™ Analyzer - High throughput peptide sequencing and quantitation with attomole sensitivity. *abs#157*

Mark Baker

New approaches towards the proteomic analysis of the human spermatozoon *abs#158*

Euan Rodger

Proteomic analysis of structural arterial proteins in a mouse model of atherosclerosis *abs#159*

Albert Sickmann

Towards the platelet membrane proteome *abs#160*

Robert Barkovich

Top down sequencing of biomarkers and splice variants *abs#161*

Patrick James

Lipid-Lipid and Apolipoprotein-Lipid interactions in the gas phase *abs#162*

Gautier Robin

High throughput structural studies of novel macrophage proteins associated with inflammatory disease. *abs#163*

Anton Posch

The power of proteomics in allergy research *abs#164*

Alice Len

Identification of early expressed biomarkers for macular telangiectasia *abs#165*

Pauliina Uitto

Stable Isotope Labeling in Cell Culture (SILAC) as a Tool for Quantitative Proteomics of Urokinase-type Plasminogen Activator Receptor Signaling in Ovarian Cancer *abs#166*

Matthias Pelzing

Investigation of Protein Phosphorylation sites by Electron Transfer Dissociation Mass Spectrometry *abs#167*

Abidali Mohamedali

Cracking the Egg Proteome *abs#168*

James Lui

A fluorescent labeling technique to identify proteins responding to mild oxidative stress *abs#169*

Michael Mariani

Novel biochip platform for high-throughput MALDI mass spectrometry *abs#170*

Michael Lazarou

Biogenesis of human mitochondrial complex I: Assembly of nuclear encoded subunits. *abs#171*

Karl McCann

Detection of contaminant proteins in Immunoglobulin G preparations - A proteomics approach *abs#172*

Mika Jormakka

Crystal structure of the integral membrane protein Polysulfide Reductase- electron transport and quinone binding site *abs#173*

Doo Hun Kim

Cyclization of α -Synuclein derived peptide increases its chaperone-like activity *abs#174*

Matias Abregu

Identification of protein-protein interactions of activation-induced deaminase (AID) *abs#175*

Randall Learish

A multipurpose fusion protein tag for analysis of dynamic cellular events *abs#176*

Achim Rothe

Selection of human anti-CD28 scFvs from a T-NHL related scFv library using ribosome display *abs#177*

Achim Rothe

Selection of human anti-CD22 scFvs from an acute lymphocytic leukemia related scFv library with ribosome display *abs#178*

PROGRAM - Tuesday 7th February

Session 7: Parasites

8:30 AM - 10:30 AM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Ray Norton

- 30 min **Daniel Goldberg**
Falcilysin: a multitalented malaria metalloprotease *abs#017*
- 30 min **Katja Becker**
Peroxiredoxin systems of the Malarial parasite *Plasmodium falciparum* *abs#018*
- 20 min **Bart Faber**
The development of new vaccine candidates based on Apical Membrane Antigen 1 *abs#019*
- 20 min **Emanuela Handman**
MiX, a novel component of the machinery regulating mitochondrial segregation and cell division in *Leishmania*. *abs#020*

Morning Tea Break

10:30 AM - 11:00 AM

Trade area in the new Conference Centre

Session 8: Getting Across Membranes

11:00 AM - 1:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Johnson Mak

- 30 min **Stephen Harrison**
Molecular mechanisms of viral entry into cells *abs#021*
- 30 min **David Stuart**
Crystallographic analyses of complex viruses *abs#022*
- 20 min **Tom Kirchhausen**
Molecular snapshots and movies of clathrin-based endocytosis *abs#023*
- 15 min **Jacqueline Gulbis**
Crystal structure of the mitochondrial chaperone TIM9•10 reveals a six-bladed α -propeller. *abs#024*

Lunch

1:00 PM - 3:30 PM

Trade area in the new Conference Centre

Pall Australia Workshop

2:00 PM - 3:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Yardenah Brickman

Practical understanding of today's technology options for preparative protein biopurification

Poster Preview

3:30 PM - 4:00 PM

Trade area in the new Conference Centre

Session 9: Poster Session B

4:00 PM - 6:30 PM

Trade area in the new Conference Centre

See listing at end of Tuesday Program

Membrane proteins; Protein structure and function

Dinner

6:30 PM - 8:00 PM

own arrangements

Session 10: Young Investigators award session

8:00 PM - 9:30 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

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Chair: James Whisstock

- 20 min **Danny Huang**
Insights into E1-E2 interactions from ubiquitin-like protein cascade *abs#025*
- 20 min **Danny Hatters**
Structural differences in apolipoprotein E driven by domain interaction and lipid-binding. *abs#026*
- 20 min **Natasha Zachara**
O-GlcNAc, A new paradigm for regulating stress-signaling networks *abs#027*
- 20 min **Travis Beddoe**
A new mode of recognition: an entropically favoured T-cell receptor *abs#028*

Happy Hour and Trade Display

9:30 PM - 11:00 PM

Trade area in the new Conference Centre

Tuesday Posters

Dominic Bellini

Structure-function analysis of the secretin pIV of M13 (f1) filamentous phage *abs#201*

Nickie Chan

Functional dissection of the mitochondrial import receptor Tom70 *abs#202*

Jonathan Paul

Oolemmal Proteomics: Characterisation of glycoposphatidylinositol anchored proteins involved in murine fertilisation *abs#203*

Lisa Mitchell

The role of decapacitation factors in the regulation of mouse sperm capacitation *abs#204*

Brett Cromer

Cytoplasmic CBS domains mediate the regulation of skeletal muscle ClC-1 chloride channels by ATP and acidosis; implications for fatigue. *abs#205*

Brett Nixon

Evidence for the involvement of PECAM-1 in a receptor mediated signal-transduction pathway regulating capacitation-associated tyrosine phosphorylation in human spermatozoa *abs#206*

Chris Dunning

CIA30: A mitochondrial Complex I accessory protein involved in mitochondrial disease *abs#207*

Zon Lai

Characterisation of ectodomain shedding of angiotensin-converting enzyme 2 (ACE2) *abs#208*

Michael Dagley

Characterisation of a candidate Tom40 protein translocation channel from *Giardia intestinalis* *abs#209*

Miranda Davies

A new method for membrane protein purification *abs#210*

Natalia Nalivaeva

The metallopeptidase neprilysin is shed from human neuroblastoma cells *abs#211*

Franziska Lueder

Control of mitochondrial morphology in *Saccharomyces cerevisiae*. *abs#212*

Katherine Vascotto

Meet The Metaxins *abs#213*

Andrew Walsh

Identification of a metalloprotease, ADAMTS10, in complex with sperm surface molecular chaperones *abs#214*

David Ascher

Expression and purification of insulin-regulated membrane aminopeptidase *abs#215*

Nik Veldhuis

Copper-regulated kinase phosphorylation of Menkes transmembrane copper-translocating P-type ATPase (ATP7A, MNK) *abs#216*

Daniel Lambert

Pro-inflammatory cytokines promote ectodomain shedding of renal angiotensin-converting enzyme-2 (ACE2) *abs#217*

Christopher Adda

The intrinsically disordered *Plasmodium falciparum* merozoite surface protein 2 contains a structured core that forms amyloid fibrils *in vitro*. *abs#218*

Thomas Roberts

A highly conserved plant serpin may be induced by cold stress in *Arabidopsis thaliana* and *Chlamydomonas reinhardtii* *abs#219*

N Pardini

Probing the importance of the N-terminal region of human biotin protein ligase. *abs#220*

Mareike Kurz

Three classes of DsbA in the bacterial kingdom *abs#221*

Lisa Bailey

A cell culture model of multiple carboxylase deficiency: examining N-terminal mutations of holocarboxylase synthetase *abs#222*

Andrew Sutherland-Smith

Structural studies of actin binding by utrophin and dystrophin *abs#223*

Simon Oakley

Manganese superoxide dismutases and substrate mimic derivatives *abs#224*

Kwok Wun

Crystallisation of Alzheimer's disease A β peptides bound to a monoclonal antibody FAB fragment *abs#225*

SuJin Kang

Solution Structure of HP1242 from *Helicobacter pylori* *abs#226*

Andy Coley

Structure-function studies of an inhibitory epitope on the surface of the malarial vaccine candidate AMA1. *abs#227*

Sarah Weisman

Tough coiled coil fibres from bees *abs#228*

Celia Webby

The structure of DAH7P synthase from *Mycobacterium tuberculosis* reveals a common catalytic scaffold and ancestry for type I and type II enzymes. *abs#229*

Richard George

Bioinformatic approaches to identify redox-active disulfides in protein structures *abs#230*

Trevor Loo

The three-dimensional structure of an esterase from *Streptococcus pyogenes*. *abs#231*

Katharine Michie

Structural Investigation of Smc complexes *abs#232*

Bridget Mabbutt

Structure-led definition of the mobile metagenome *abs#233*

Eric Hanssen

New insights in β ig-h3 structure *abs#234*

Anthony Hodder

The crystal structure of the enzyme domain of the serine repeat antigen, SERA5 *abs#235*

Corrine Porter

Structural characterisation and peptide binding of the Grb7-SH2 domain *abs#236*

David Dougan

ClpS is an essential component of the N-end rule pathway in *Escherichia coli* *abs#237*

Jeffrey Babon

Structure and cellular interactions of suppressor of cytokine signalling 3 (SOCS3) *abs#239*

Komala Ponniah

The crystal structure of bovine beta-lactoglobulin variant C in complex with the fluorescent probe ANS (Anilinonaphtalene-8-Sulfonic Acid) suggests a new binding site *abs#240*

Jesse Schloegel

Merozoite surface protein 2 has a potential role in *Plasmodium falciparum* invasion of red blood cells *abs#241*

Sarah Hennebry

The evolution of transthyretin and transthyretin-like proteins *abs#242*

Seth Masters

The novel structure of the SPRY domain - Implications for the pyrin protein and familial Mediterranean Fever (FMF). *abs#243*

Maryam Shahhoseini

Some structural studies on the LMG₁₆₀, a ribonucleoprotein particle isolated from rat liver nuclei *abs#244*

Christian Gruber

A plant protein disulfide isomerase with novel activities *abs#245*

Bostjan Kobe

Structure and function of the cytosolic long-chain acyl-CoA thioesterase *abs#246*

David Smith

Deciphering the neurotoxic nature of the Amyloid β - Cu²⁺ complex *abs#247*

Julian Tang

Structural studies of pore-forming toxins *abs#248*

Molly Clifton

Does FOG-1 recruit Sin3b to regulate gene expression? *abs#249*

Julie Angerosa

Generation of single-domain immunoglobulin binding reagents based on the neural cell adhesion molecule *abs#250*

Zara Marland

Structure of an essential lipoprotein implicated in cell wall synthesis in *Mycobacterium tuberculosis* *abs#251*

Chris Baxter

Chemical modification and immobilization of *E. coli* DHDPS. *abs#252*

Jion Battad

Kindling in the dark: The structural basis for the pH-induced Increase in fluorescence quantum yield of a chromoprotein *abs#253*

Kristina Turcic

Amino acid substitutions near the chromophore of the chromoprotein Rtms5, influence polypeptide fragmentation. *abs#254*

David Gell

A novel haem interaction interface from the 22 kDa haem-binding protein, p22HBP. *abs#255*

Roland Gamsjaeger

Characterization of the interaction of myelin transcription factor-1 with DNA *abs#256*

Briony Forbes

Molecular interactions in the IGF system: New insights into the IGF-II:Insulin receptor interactions *abs#257*

Anderson Wang

Structural basis of plant disease resistance induction in flax by flax rust avirulence proteins *abs#258*

Conan Wang

Dynamics of the cyclotide fold: a comparison of the crystal and solution structures of the cyclotide varv F. *abs#259*

Erinna Lee

Exploring the BH3 domain binding surface *abs#260*

Nishen Naidoo

6's, 7's, and 8's: Protein organization and recruitment in RNA-binding LSM complexes *abs#261*

Nancy Hancock

Investigation of the interaction between human specific toxin, Intermedilysin, and its receptor CD59 *abs#262*

Sheena Gordon

Characterization of BUB Spindle Checkpoint Proteins *abs#263*

Shiva Rao

Controlling the self assembly of insulin by chemical modification *abs#264*

Chu Liew

12 Fingers of death *abs#265*

Grant Pearce

Are Amyloid Fibrils Formed During Cooking ? *abs#266*

Bo Baker

A pH-dependent molten globule transition is required for activity of the steroidogenic acute regulatory protein, StAR *abs#267*

Jana Gutsche

Cloning, purification and characterisation of a new PNGase F-like protein from *Deinococcus radiodurans* *abs#268*

Mihwa Lee

Structural Analysis of Mutant *E. coli* Dihydroorotase: Role of a Conformational Change in Catalysis. *abs#269*

Kylie Henderson

Selection of Shark IgNAR Variable Domains (V_{NARS}) From a Synthetic *in vitro* Library Against Polymorphic Variants of Apical Membrane Antigen-1 (AMA-1) From *Plasmodium falciparum*. *abs#270*

Jennifer Martin

Oxidative protein folding in gram-positive bacteria? Structure and function of *Staphylococcus aureus* DsbA *abs#271*

Sung Jean Park

Structural understanding for copper ion binding property of CopP from *Helicobacter pylori* *abs#272*

Peter Czabotar

The structure of Mcl-1 in complex with the Bim BH3 peptide at 1.7Å resolution *abs#273*

Thomas Murray-Rust

Post-translational modifications of HIF: a hARD1 to acetylate? *abs#274*

Harry Tong

Determining the crystal structure of the forkhead domain of the language gene product Foxp2 --- the first step towards understanding the functional roles of a gene of evolutionary significance *abs#275*

David Eakins

Characterisation of ultraviolet-C irradiated plasma derived human immunoglobulin solutions *abs#276*

Aysun Alpyurek

Interactions of *Plasmodium falciparum* glyceraldehyde 3-phosphate dehydrogenase with heme *abs#277*

Pascal Wilmann

Structural Investigations on GFP-like Proteins *abs#278*

Saraswathi Ramachandran

Characterization of *M. smegmatis* DNA-Binding Proteins from Starved Cells *abs#279*

Hooi Ling Ng

Virtual high-throughput screening for drug discovery programs *abs#280*

Delia Hernández-Deviez

Aberrant dysferlin trafficking in cells lacking caveolin or expressing dystrophy mutants of caveolin-3 *abs#281*

Clair Alvino

Defining the molecular interactions of insulin-like growth factor-II *abs#282*

Christopher Lee

NMR Solution Structure of an Idb1:Lhx3 complex *abs#283*

PROGRAM – Wednesday 8th February

Session 11: Drug Resistance and Transport

8:30 AM - 10:30 AM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Michael Parker

- 30 min **Colin Hughes**
Structure and function of drug resistance and virulence efflux pumps spanning the cell envelope *abs#029*
- 15 min **James Camakaris**
Regulation and role of a major copper-transporting ATPase involved in human disease *abs#030*
- 20 min **Kiaran Kirk**
Chloroquine resistance and the chloroquine resistance transporter of the malaria parasite *abs#031*
- 15 min **Paul Curmi**
Structure and dynamics of CLIC proteins: soluble proteins that integrate into membranes *abs#032*
- 15 min **Charles Deber**
Interface switching mechanism for assembly of bacterial multidrug resistance proteins *abs#033*

Morning Tea Break

10:30 AM - 11:00 AM

Trade area in the new Conference Centre

Session 12: Protein Misfolding and Disease

11:00 AM - 1:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Geoff Howlett

- 30 min **Andrew Miranker**
Catalytic origins of protein misfolding in end-stage renal disease *abs#034*
- 30 min **Iliia Baskakov**
Synthetic mammalian prions: assembly and substructure *abs#035*
- 20 min **Joel Mackay**
The structure and function of AHSP, a specific chaperone for alpha-hemoglobin *abs#036*
- 15 min **Margaret McCammon**
Avoiding amyloidosis - what TTR isn't telling us *abs#037*

Lunch

1:00 PM - 3:30 PM

Trade area in the new Conference Centre

Poster Preview

3:30 PM - 4:00 PM

Trade area in the new Conference Centre

Session 13: Poster Session C

4:00 PM - 6:00 PM

Trade area in the new Conference Centre

See listing at end of Wednesday Program

Conformational diseases and protein folding; Enzymes and enzyme inhibitors; Protein dynamics and interactions; Protein modelling and design; Protein transport

Pre Dinner Drinks and Poster Awards

6:00 PM - 7:00 PM

The Lawn

Conference Dinner

7:00 PM - 9:30 PM

Main Street Restaurants

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Your ticket, if purchased, will indicate the restaurant to attend

Supper Party

9:30 PM - 12:00 AM

Erskine Dining Hall

Wednesday Posters

Lorna Wilkinson-White

Effect of metals ions on amyloid formation from transthyretin *abs#301*

Karin Sörgjerd

The role of the chaperone BiP in transthyretin amyloidosis *abs#302*

Heath Ecroyd

The role of phosphorylation on the chaperone action of alphaB-crystallin *abs#303*

Sarah Meehan

The unusual nature of amyloid fibrils assembled from a small heat-shock protein. *abs#304*

Arwen Cross

Studies of α -synuclein amyloid formation *abs#305*

Katrina Binger

The reversibility of amyloid fibril formation *abs#306*

Karin Almstedt

The thermodynamics of folding and misfolding in marble brain syndrome - mutant mapping of carbonic anhydrase position 107 *abs#307*

Frances Separovic

Membrane interactions of the amyloid- β peptide and the effect of metals. *abs#309*

Victor Streltsov

X-ray absorption studies of metal binding to β -Amyloid peptide *abs#310*

Kate Fulton

Protein folding meets informatics: the international foldomics consortium *abs#311*

Michael Griffin

Thioflavin T reactivity of human plasma as a measure of modified lipoprotein levels. *abs#312*

Stephen Titmuss

Combined quantum mechanics and molecular mechanics simulation of the copper binding site of the β -amyloid peptide *abs#313*

Bronwen Thomas

Analysis of the ataxin-3 species formed during the polyglutamine repeat protein's aggregation. *abs#314*

Deborah Tew

Characterising toxic β -sheet intermediates on the (mis)-folding pathway of AB. *abs#315*

Andrew Ellisdon

ATAXIN-3 Misfolding And Fibril Formation: kinetic and morphological insights into polyglutamine disease. *abs#316*

Glenn Powers

The serpin antichymotrypsin contributes to the formation and increases the rate of amyloid fibril formation. *abs#317*

Katja Fischer

Interaction partners of scabies mite inactivated protease paralogues *abs#318*

Yasu Morita

A mannosyltransferase involved in phosphatidylinositol mannoside biosynthesis in *Mycobacterium smegmatis* *abs#319*

Noelene Quinsey

Investigating the role of the Mannose lectin binding associated serine proteinase 3 in the innate complement system. *abs#320*

John Parisot

High-throughput chemical screening drug discovery: the search for effective anti-trypanosomal therapeutics *abs#321*

Matthew Bennett

Expression of lactic acid bacterial esterases in *E. coli*. *abs#322*

Genevieve Evans

Kinetic studies of dihydrodipicolinate synthase from *Mycobacteria tuberculosis* *abs#323*

Benjamin Curry

Inactivation OF C-ABL Via PKA During Capacitation Of Mouse Spermatozoa *abs#324*

Lakshmi Wijeyewickrema

Isolation of a snake venom metalloproteinase, crotarhagin, that induces ectodomain shedding of the platelet collagen receptor, glycoprotein VI. *abs#325*

Christine Gee

Inhibition of PNMT by substituted THIQ inhibitors: Implications for drug design *abs#326*

Michael Ho

Characterization of γ -secretase using an *in vitro* assay *abs#327*

Fiona Warner

Comparative localisation of angiotensin-converting enzymes in polarised kidney cells *abs#328*

Annie Quan

MTMAB inhibits dynamin GTPase activity and depletes nerve terminals of vesicles *abs#329*

Fiona Cochrane

Re-establishing a metal-binding scaffold in a metal-independent KDO8P synthase *abs#330*

Sean Devenish

A new NMR-based assay to monitor the activity of dihydrodipicolinate synthase *abs#331*

Lorien Parker

Structural studies of glutathione transferase in complex with the commonly used anti-cancer drug cis-diamminedichloroplatinum(II) . *abs#332*

Rosemary Brown

Expression and Purification of Human Heparanase and Screening Potential Inhibitors. *abs#333*

Linus Olofsson*

TBADH activity in water-miscible organic solvents: Correlations between enzyme performance, enantioselectivity and protein structure through spectroscopic studies *abs#334*

Genevieve Evin

γ -Secretase Inhibitors Stabilize a 900 kDa Presenilin/Nicastrin Complex *abs#335*

Hong Yang

High-throughput chemical screening - Identification of small molecule compounds for research and potential therapeutic benefit *abs#336*

Renwick Dobson

Investigating the catalytic and regulatory mechanisms in dihydrodipicolinate synthase (DHDPS) *abs#337*

Linley Schofield

Structure and function of *Pyrococcus furiosus* DAH7P synthase - the ancestral type I enzyme *abs#338*

Ross Fernley

A High-throughput assay for dihydropteroate synthase activity suitable for inhibitor identification. *abs#339*

Ngoc Chau

BIST is a nanomolar potent inhibitor of dynamin: a new colorimetric Gtpase assay *abs#340*

Karl Andersson

Rapid kinetic analysis of hybridoma samples using Biacore A100 *abs#341*

Geoff Doherty

Composition of transcription complexes in *Bacillus subtilis* *abs#342*

Kritaya Kongsuwan

Plasmid-encoded replication initiation protein TrfA recruits *E. coli* sliding clamp (β_2) protein to the plasmid replication origin *abs#343*

Karl Andersson

Selectivity-based compound screening by parallel analysis of a multi-protein panel using Biacore A100 *abs#344*

Mugdha Bhati

Interactions between the LIM homeodomain proteins Isl-1 and Lhx-3 *abs#345*

Jessica Bell

The estrogen-responsive β box protein and its function in the retinoid anticancer signal *abs#346*

Caroline Reddel

Proteoglycan interactions with elastin: characteristics of a heparin/tropoelastin model system *abs#347*

Jacqui Matthews

Mix and match - transcription factor complexes *abs#348*

Maria del Pilar Crespo Ortiz

Interaction of the *Plasmodium falciparum* chloroquine resistance transport protein with 8-aminoquinolines *abs#349*

Ann Kwan

Unravelling a fungus' raincoat *abs#350*

Ann Frazier

Putative interaction partners of human Fis1 involved in mitochondrial fission *abs#351*

Matthew McKenzie

Assembly of mitochondrial-encoded subunits into respiratory complexes in cultured human cells *abs#352*

Catherine Latham

Greasing the molecular machinery of synaptic vesicle exocytosis: arachidonic acid potentiates exocytosis by a direct effect on SNARE-mediated exocytosis *abs#353*

Jessie Kelly

The Characterisation of a Novel Autophagic Protein *abs#354*

Fiona Legge

Stressed Proteins: the effects of heat and electric field on structure *abs#355*

Per Andren

Identification of Binding Partners to A Parkinson's Disease Related Protein, FKBP-12 *abs#356*

Nicolai Bache

Collisional activation by MALDI tandem time-of-flight mass spectrometry induces intramolecular migration of amide hydrogens in protonated peptides. *abs#357*

Luke Rooney

A model for fibronectin self-association in fibrillogenesis *abs#358*

Peter Lewis

Dynamic reorganisation of membrane proteins on initiation of bacterial cell division *abs#359*

Philippa Stokes

Dimerisation of CtIP in complex formation with LMO4 *abs#360*

Kim Pham

A computer-vision based method for analysing Scribble dynamics in T cells *abs#361*

Julian Grusovin

Lesional Effect of Mx2 Expression on Glucose Transport and Adipogenesis in 3T3L1 Cells *abs#362*

Erdahl Teber

Alternate conformational analysis of protein structures from X-ray crystallography *abs#363*

Christopher MacRaid

Relating protein dynamics to the thermodynamics of ligand binding in Arabinose Binding Protein *abs#364*

Steven Pascal

Mapping an EF-hand protein's potential metastatic surfaces via NMR-based calcium titration and relaxation studies *abs#365*

Pierre Moens

Effect of G-Actin on profilin binding to sub-micellar concentration of polyphosphoinositides *abs#366*

Dmitri Mouradov

Hybrid biochemical/bioinformatic approach to modelling structures of protein complexes *abs#367*

Sophie Walker

Using algorithms to design aggregating proteins *abs#368*

Thorsten Kampmann

The mechanism of viral membrane fusion and identification of novel antiviral lead compounds *abs#369*

Hong Wing Lee

Building a protein in a membrane *abs#370*

Huseyin Mustafa

The green fluorescent protein asFP499 contains a functional nuclear exclusion signal *abs#371*

Tony Velkov

Interaction with intestinal fatty acid binding protein increases the membrane permeability of lipophilic drugs *Abs#372*

Ian Gentle

The SAM complex: A transmembrane molecular chaperone. *abs#373*

Peter Walsh

Tom20 and Tom22: the master receptor and her friend. *abs#374*

Pierre Faou

A cytosolic complex (importosome) mediates the import of mitochondrial preproteins. *abs#375*

Sarah Frankland

Delivery of the Malaria virulence protein, PfEMP1, to the erythrocyte surface requires cholesterol-rich domains *abs#376*

Akinola Adisa

Double EGF-like domain of the *Plasmodium falciparum* protein MSP1 is essential for its transport to the parasite surface *abs#377*

Joanne Hulett

The Dynamic TOM Complex *abs#378*

Katherine Jackson

Lipid modifying enzymes of *Plasmodium falciparum*. *abs#379*

Elizabeth Johnson

Trafficking of the floral defensin of *Nicotiana glauca* *abs#380*

Pavel Dolezal

The evolution of mitochondrial protein import. *abs#381*

PROGRAM – Thursday 9th February

Session 14: Cardiovascular Disease

9:15 AM - 10:45 AM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Michael Berndt

- 30 min **Anthony Turner**
Membrane protein shedding: mechanisms and regulation from ACE to APP *abs#038*
- 20 min **Martin Lackmann**
Eph-All insights into structure and function of cell positioning proteins *abs#039*
- 15 min **Cristobal dos Remedios**
Antibody arrays are effectively a proteomic diagnostic for cardiac disease *abs#040*

Morning Tea Break

10:45 AM - 11:00 AM

Trade area in the new Conference Centre

Session 15: Proteoglycans and Inflammation

11:00 AM - 12:50 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Chair: Amanda Fosang and John Hamilton

- 30 min **Anthony Day**
Glycosaminoglycan-protein interactions in inflammation *abs#041*
- 20 min **Amanda Fosang**
Deletion of ADAMTS-5 catalytic activity protects against aggrecan loss and cartilage destruction in a mouse model of inflammatory arthritis *abs#042*
- 15 min **Michael Hickey**
Macrophage migration inhibitory factor induces migration of monocyte lineage cells in vivo *abs#043*
- 20 min **Rebecca Lew**
Shedding of angiotensin converting enzyme-2 and its presence in human plasma and urine *abs#044*

Concluding Remarks

12:50 PM - 1:00 PM

GE Healthcare Bio-Sciences Lecture Hall (Heritage Ballroom)

Boxed Lunch (on request)

1:00 PM - 1:10 PM