

ASB 2004 Perth

Wednesday 29th September

Hotel Esplanade

19:00 – 21:00 *Registration, open bar and welcome*

By the pool

Note that provision will be made for ComBio participants who are staying at Burswood to register for ASB [at Burswood on Thursday at morning tea time or] and upon arrival at Fremantle on Thursday afternoon. The bus will be available to get back to Fremantle on Thursday afternoon.

Thurs 30th September

Burswood Resort/Joint sessions with ComBio

08:00- 09:15

Breakfast

Hotel Esplanade

09:15 - 09:30

Assembly in front of the Hotel Esplanade

09:30 - 10:15

Coach to Burswood

10:30 - 11:00

Morning Tea

Burswood Resort

11:00 - 12:30

Concurrent Symposia 6

ASB Symposium:

Ion Transport and Disease

Chair: J. Vandenberg/
H. Rasmussen

11:00 – 11:05 Welcome Address

11:05 – 11:30 M. Montal: Structure-function correlates of Vpu, a membrane protein of HIV-1

11:30 – 11:50 H. Rasmussen: The sarcolemmal sodium pump in heart disease – while not always the problem, does it play a key role in the solution?

11:50 – 12:10 P. Gage: Ion channels formed by viruses

12:10 – 12:30 J. Vandenberg: HERG K⁺ channels: an open and shut case?

12:30 - 13.30

Lunch

13:30 - 14:15

Plenaries 22 (transporter structure function)

Chair: B. Martinac

ASB Plenary: E. Perozo: Structure and dynamics of voltage-dependent K⁺ channels

14:15 - 14:45

Afternoon Tea

Burswood Resort

14:45 - 16:15

Concurrent Symposia 7

ASB Symposium:

Mechanosensitive ion channels

Chair: C. Kung/M. Sokabe

14:45 - 15:15 M. Sokabe: Force-sensing domain of mechanosensitive BK channels cloned from heart cells: a study using loss-of-function mutants

15:15 - 15:35 D. Saint: Differential gene expression and current density of TREK-1 in rat ventricle: Implications for mechanoelectric feedback

15:35 - 15:55 A. Macdonald: Effect of high hydrostatic pressure on the bacterial mechanosensitive channel MscS

15:55 - 16:15 C. Kung: Mechanosensitive TRP channels in microbes

16:15 – 17.00

Plenaries 23 and 24 (ASB/Microarray)

Chair: E. Perozo

ASB Plenary F. Sachs: Mechanical transduction: biophysics to the clinic?
(*UWA Institute of Advanced Studies Lecture*)

17:00

COMBIO CLOSING ADDRESS, followed by Farewell drinks

18:00 – 18:30 Coach return to The Esplanade Hotel, Fremantle

Evening

Free time

Friday 1st October

Hotel Esplanade Fremantle

07:00 -08:30 *Breakfast
and posters up* *Atrium Garden Restaurant
King Sound/Admiralty Gulf Room*

08:30 - 09:15 Bob Robertson Awardee King Sound/Admiralty Gulf Room
Chair: P. Barry

09:15 - 10.00 Plenary Talk King Sound/Admiralty Gulf Room
Chair: J. Wilce

J. Rossjohn: T cell receptor interactions up close

10:00 -10:30 *Morning Tea*

Membrane Dynamics/Fluorescence King Sound/Admiralty Gulf Room
Chair: R. Clarke/L. Hool

10:30 – 10:50 L. Tilley: Membrane dynamics studies using fluorescence photobleaching techniques

10:50 – 11:10 N. Klonis: Fluorescence spectral analysis of membranes using the confocal microscope

11:10 - 11:30 R. Clarke: Effect of cholesterol and its derivatives on the dipole potential of phosphatidyl-
choline vesicles

11:30 – 11:50 M. Perugini: Hexameric structure of GDP-mannose pyrophosphorylase: a key enzyme and
novel drug target in *Leishmania*

11:50 – 13:30 *Buffet Lunch* *Atrium Garden Restaurant*

Ion Channels King Sound/Admiralty Gulf Room
Chair: M. Montal

13:30 - 13:50 S. Kuyucak: Testing molecular simulation models in Gramicidin A

13:50 - 14:10 T. Vora: A model of sodium channels

14:10 - 14:30 B. Cromer: Insights into the structure and function of the GABA_A receptor from molecular
modelling.

14:30 - 14:50 M. O'Mara: Brownian dynamics studies of ion permeation in a homology model of
the GABA_A receptor

14:50 – 15:10 D. Laver: Regulation of calcium release channels by luminal Ca²⁺

15:10 - 17:30 *Afternoon Tea, Exhibits and Poster session*

17:30 - 18:30 *ASB ANNUAL GENERAL MEETING*

19:30 - 23:30 *Conference dinner (The Mussel Bar, Fremantle)*

Saturday 2nd October

Hotel Esplanade Fremantle

07:00-08:30 *Breakfast (check out)*

Luggage storage

08:30 - 09:15

Plenary talk

King Sound/Admiralty Gulf Room
Chair: D. Saint

D. Adams: Conotoxins: novel probes for ion channel structure and function

Molecular interactions

King Sound/Admiralty Gulf Room
Chair: J. Matthews/J. Wilce

9:15 – 9:35

P. Poronnik: NHERF-1: a novel scaffold for astrocyte glutamate transporters

9:35 - 9:55

R. Norton: C-terminal domain of insulin-like growth factor (IGF) binding protein-6:
Structure, dynamics and interaction with IGF-II

9:55 – 10:15

J. Mackay: Transcription factor interactions: trying to bring it all together

10:15 - 10:35

J. Matthews: Dissecting and reassembling a transcriptional complex

10:35 - 10:55

J. Gerrard: Unravelling the structure of dyhydrodipicolinate synthase, a key enzyme

10:55 - 11:20

Morning Tea

Biological Spectroscopy/Spectrometry

King Sound/Admiralty Gulf Room
Chair: M. Wilce

11:20 – 11:40

C. Love: Expression, crystallization and structure determination of Semaphorin4D (CD100)

11:40 - 12:00

G. Otting: Paramagnetic labeling for protein NMR studies

12:00 – 12:20

T. St Pierre: Non-invasive measurement and imaging of human liver tissue iron
concentrations using proton magnetic resonance transverse relaxometry

12:20 - 12:40

C. Curtain: Biophysical studies on a mutant Alzheimer's disease Amyloid- β peptide
(A β M35V)

12:40 – 13:00

W. Hillier: The use of inorganic and site-directed mutants to study water splitting in
Photosystem II

13:00 - 15:30

BBQ lunch by the pool

Pool area

FAREWELL AND DEPARTURE

POSTERS

1. C. S. Barton, E. J. McMurchie, W. Leifert, M. Floetenmeyer, J. Zou, K.-H. Müller, L. Wieczorek: G-protein coupling examined with Dynamic Light Scattering and Transmission Electron Microscopy.
2. Yasuo Takahashi and Hiroaki Ishii: Carbon dioxide anesthesia to the frog by application of dry ice.
3. White M, Cordwell S, Tchen A, McCarron H, Hambly B, Jeremy R: Free radical scavengers reduce myocardial mitochondrial damage.
4. Cecily Oakley, Piotr Fajer, Louise Brown, and Brett Hambly: Structural basis of the regulation of cardiac contraction by myosin binding protein-C.
5. Melissa Tacy, Megan O'Mara, and Shin-Ho Chung: Tests of the Goldman theory in single ion channels.
6. J. P. Rayment, B. Martinac, A. J. McKinley: Electron Spin Resonance (ESR) Spectroscopic Analysis of Membrane Proteins using Loop-Gap Resonators and Stacked Dielectric Resonators in a TE102 Cavity.
7. Mary J. Beilby, Sebastian Westermann: Modeling the hyperpolarizing response in *Chara corallina*.
8. VA Shepherd, MJ Beilby and T Shimmen: Calcium, mechanosensing and the response to salinity stress in *chara*.
9. MA Bisson and MJ Beilby: Mechanisms of turgor regulation in *Ventricaria ventricosa*.
10. Thom Nguyen and Boris Martinac: The Effects of Parabens on the Large Conductance Mechanosensitive Ion Channel (MscL) of *Escherichia Coli*.
11. I-Jung Tsai, Zhen-Wei Liu, John Rayment, Christel Norman, Allan Mckinley and Boris Martinac: Role of the periplasmic loop residue Glu65 residue for MscL mechanosensitivity.
12. J.E. Carland, A.J. Moorhouse, P.H. Barry, G.A.R. Johnston and M.Chebib: Glutamate at the 2' position of the human GABA_C $\rho 1$ M2 domain inverts receptor channel ion selectivity.
13. W. Qu, A. J. Moorhouse, T. M. Lewis, K. D. Pierce and P. H. Barry: Mechanism of dequalinium block in olfactory CNGA2 channels.
14. J. Kelly, E. A. Williams and M.C. J. Wilce: The role of proline residues in the hinge region of Cdc2 kinase subunit proteins.
15. Ben Corry: Theoretical study of the closed and open states of the acetylcholine receptor channel.
16. Christel Norman, Zhen-Wei Liu, Paul Rigby, Albert Raso and Boris Martinac: Visualization of MscL in bacteria using confocal microscopy.
17. Angie Harris, Jie Shen, Brett Hambly and Shisan Bao: Is GM-CSF pro-atherogenic?
18. Kong, G.K.W.; McKinstry, W.J.; Adams, J.J.; Cappai, D.; Barnham, K.J.; Cappai, R. & Parker, M.W.: Untangling the role of copper ion binding to the amyloid precursor protein in Alzheimer's disease.
19. Yevgeniy Y. Petrov: Bullfrogs' Hair Cell Ca^{2+} Currents during Membrane Potential Oscillations: Experiment and Modeling.
20. M. Sidiqi, J. A. Wilce, J. P. Vivian, C. J. Porter, P. J. Leedman and M. C. J. Wilce: An investigation of the Poly(C)-binding protein KH domains and androgen receptor mRNA interactions.
21. Philippa H. Stokes, Lyndal Thompson and Jacqui M. Matthews: The interaction between RB and the copressor CTIP.
22. A. Drechsler, G. Anderluh, B. Wallace, R. Norton and F. Separovic: Determination of the membrane binding mechanisms of equinatoxin II.
23. Christopher J Garvey and John M Ferris: Fractal scaling and the assembly of biosilica into diatom frustules.
24. Christopher J. Garvey, Kerie Hammerton and Robert B. Knott: Contrast variation small angle scattering studies of crocodile hemoglobin solution.
25. Anna Kloda and David J. Adams: Voltage-dependent inhibition of recombinant NMDA receptor-mediated currents by 5-hydroxytryptamine.
26. Jason Dang, Robert P. Metzger, Robert T. C. Brownlee, Chai Ann Ng, Mikael Bergdahl, LeRoy Lafferty and Frances Separovic: The conformation of the antibiotic Virginiamycin M1 differs in solution and when bound to an enzyme of ribosome.
27. Steven Hughes, Alicia El Haj, Jon Dobson and Boris Martinac: The effects of static magnetic fields on MscL channel activity.
28. C. J. Porter, M. C. J. Wilce, J. P. Mackay, P. J. Leedman, and J. A. Wilce: The structural basis for GRB7 proteins binding specificity.
29. Helena M. Viola, Peter G. Arthur and Livia C. Hool: NAD(P)H-oxidase is not involved in the regulation of L-type Ca^{2+} channel function during acute hypoxia in ventricular myocytes.

30. Livia C. Hool: Hypoxia differentially regulates the slow and rapid components of the native cardiac delayed rectifier K^+ channel.
31. Timothy McGarvey and Hideo Mabuchi: Cavity-enhanced spectroscopy: towards a new spectroscopic method for understanding molecules and systems of biological interest.