

## National and International Links

### Conference Presentations

**1st Cornforth Foundation Symposium**, University of Sydney,  
30 September–1 October.

L.N. Mander presented the invited lecture: *Synthesis of the galbulimima alkaloids*.

The following posters were presented:

L. Barr, C.J. Easton, K. Lee, S.F. Lincoln, and J.S. Simpson, *Metallocyclodextrin catalysts for the hydrolysis of organophosphate triesters*.

B.J.W. Barratt, C.J. Easton, and J.S. Simpson, *PAM enzyme inhibitors to regulate hormone production*.

K.A. Fairweather and L.N. Mander, *Synthetic studies towards the marine natural product, diisocyanoadociane*.

M.M.W. McLachlan and L.N. Mander, *Towards the synthesis of the galbulimima alkaloids*.

**1st National Conference and Exhibition on Nanotechnology**, Sydney, 25 – 27  
September

J.W. White presented the invited lecture: *Biologically Directed Assembly of Soft Matter*.

**2nd International Conference on Computational Nanoscience**, San Juan, Puerto Rico, USA, 21–25 April 2002.

D.J. Evans presented the lecture *The fluctuation theorem and thermodynamic limitations for nanomachines*.

**5th Asian International Seminar on Atomic and Molecular Physics**, Nara, Japan, 2–5 October.

M.A. Collins presented the invited lecture: *Ab initio potential energy surfaces for chemical reaction dynamics*.

**5th Australia/Japan Symposium on Drug Design and Development**, Nara, Japan, 13–16 May.

C.J. Easton presented the invited lecture: *Enzyme inhibitors as pharmaceutical agents*.

**6th Liblice Conference on the Statistical Mechanics of Liquids**, Spindleruv Mlyn, Czech Republic, 9–14 June.

D.J. Evans presented a Plenary Lecture: *The fluctuation theorem of statistical mechanics*.

A poster was presented by J. Petracic: *Inherent Time Dependence in the Constant Shear Algorithm*.

**6th World Congress of the World Association of Theoretically Oriented Chemists**, Lugarno, Switzerland, 4–9 August.

L. Radom presented the plenary lecture: *The mechanism of action of coenzyme B<sub>12</sub>*.

**8th International Conference on the Chemistry of the Platinum Group Metals**, University of Southampton, UK, 7–12 July.

S.B. Wild presented the invited lecture: *Enantioselective syntheses of polytertiary phosphine metal helicates*.

**8th Euro Summer School on Electron Crystallography**, Tampere, Finland, 7–12 June.

F.J. Brink presented the poster: *Oxygen fluorine ordering, structured diffuse scattering and the local crystal chemistry of K<sub>3</sub>MoO<sub>3</sub>F<sub>3</sub>*.

**14<sup>th</sup> IUPAC International Conference on Organic Synthesis**, Christchurch, New Zealand, 14–18 July .

B.J.W. Barratt was awarded a best poster prize for the presentation:

B.J.W. Barratt, C.J. Easton, and J.S. Simpson, *PAM enzyme inhibitors to regulate hormone production*.

R. M. Taylor was awarded 2<sup>nd</sup> prize for the poster presentation:

M.G. Banwell and R.M. Taylor, *Carbon-carbon bond formation via electrocyclic ring opening of gem-dibromocyclopropanes and trapping of the ensuing allylic cations with C-centred nucleophiles*.

L.N. Mander gave the invited lecture: *The exploitation of benzenoid synthons in the synthesis of polycyclic natural products*.

H. Onagi presented the lecture:  
C.J. Easton, S.F. Lincoln, and H. Onagi, *Cyclodextrins as building blocks for supramolecular chemistry*.

The following posters were also presented:

R. Barbiellini, C.J. Easton, and I.D. Grice, *Controlled photochemical generation of superoxide*.

R. Barbiellini, C.J. Easton, A. J. Farlow, and J.S. Simpson, *Nitrate esters for the controlled generation of carbon centred radicals in the synthesis of amino acids*.

L. Barr, C.J. Easton, K. Lee, S. F. Lincoln, and A.G. Meyer, *Modified cyclodextrins as molecular reactors and catalysts in organic reactions*.

L.Y.F. Chow, P.A. Coghlan, and C.J. Easton, *Asymmetric synthesis of  $\alpha$ -nitro- $\beta$ -amino acids and their applications in solid and solution phase synthesis to afford  $\alpha,\beta$ -dehydropeptides*.

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J.R. Crow and L.N. Mander, *Studies towards gibberellin photo-affinity probes.*

P.G. Dumanski, C.J. Easton, J. O'Connell, and G.W. Simpson  
*New methods for electrophilic aromatic chlorination.*

K.A. Fairweather and L.N. Mander, *Synthetic studies towards the marine natural product, diisocyanoadociane.*

L.N. Mander and R.J. Thomson, *The total synthesis of sordaricin.*

**15th Biennial Congress of the Australian Institute of Physics**, Darling Harbour, Sydney, 8–11 July.

T.R. Welberry presented the lecture: *Strain-induced Nanoscale Structure.*

**17th Australian Conference on Electron Microscopy**, Adelaide, South Australia, 4–8 February.

F.J. Brink presented the lecture: *Oxygen/fluorine ordering in transition metal oxyfluorides from the interpretation of structured diffuse scattering.*

**19th Congress and General Assembly of the International Union of Crystallography**, Geneva, Switzerland, 6–15 August.

T.R. Welberry presented the invited lecture: *The quasicrystal-to-crystal transformation – unit cluster approach for decagonal quasicrystals.*

M. Honal presented the invited lecture: *Monte Carlo study of 'atomic size-effect' scattering in decagonal Al-Co-Ni.*

A.D. Rae presented the lecture: *Identification of idealised parent structure symmetry to rationalise the refinement of pseudo symmetric crystal structures.*

A.D. Rae presented the poster *9,10-Phenanthrenequinone: Not your average structure.*

**20th International Conference on Magnetic Resonance in Biological Systems**, Toronto, Canada, 25–30 August.

G. Otting gave the invited lecture: *New sample preparation and labelling techniques for structural studies of proteins.*

**20th International Conference on Organometallic Chemistry**, Corfu, Greece, 7-12 July.

E. Wenger presented the lecture: *Preparation of benzyne complexes of group 10 metals by intramolecular cross-coupling reaction: Towards a catalytic synthesis of polyaromatic compounds.*

M. Schultz presented the poster: A. F. Hill, B. Niess, and M. Schultz, *Organometallic chemistry of 4,7,10-trithiatrideca-2,11-diyne.*

**23<sup>rd</sup> IUPAC International Symposium on the Chemistry of Natural Products**, Florence, Italy, 28 July–2 August.

M.G. Banwell presented the invited lecture: *Chemoenzymatic methods for the synthesis of natural products*.

**24th Discussion Meeting "Magnetic Resonance and Molecular Interactions"**, Bremen, Germany, 24–27 September.

G. Otting presented the invited lecture: *Protein samples for NMR: 1) Expression and analysis without purification. 2) Stabilization by covalent cyclization*.

**25<sup>th</sup> Australasian Polymer Symposium**, University of New England, Armidale, 10–13 February 2002.

J.W. White presented the invited lecture: *Biological Macromolecules – Structure and Function at Interfaces*.

**27th Lorne Conference on Protein Structure and Function**, Lorne, Victoria, 10–14 February.

The following posters were presented:

S.E. Brown, E.M. Bulloch, P.D. Carr, N.E. Dixon, S. Hamdan, M.A. Keniry, and D.L. Ollis, *Structural basis for proofreading during replication of the Escherichia coli chromosome*.

S.E. Brown, B. Dalrymple, N.E. Dixon, P. Jennings, K. Kongsuwan, and G. Wijffels, *A hierarchy of binding to the sliding clamp protein of E. coli through a universal pentapeptide motif*.

S.E. Brown, N.E. Dixon, B.R. Henderson, G. Otting, K. Ozawa, and P.M. Schaeffer, *In vitro expression of human cyclophilin A*.

N.E. Dixon, S. Hamdan, E. Liepinsh, M. Mulcair, G. Otting, P. Prosselkov, A. Sharipo, and N.K. Williams, *Protein cyclization by intein-mediated protein splicing*.

**35th International Conference on Coordination Chemistry**, Heidelberg, Germany, 21–26 July.

N.E. Brasch presented the lecture: A.C. Cregan, M.E. Vanselow, and N.E. Brasch. *Studies on the reaction between the Vitamin B<sub>12</sub> derivatives 5'-deoxyadenosylcobinamide and cyanide: Further evidence for solvent-assisted, heterolytic Co-C bond cleavage*.

E. Wenger presented the lecture: M.A. Bennett, C.J. Cobley, and E. Wenger. *Thioether and phosphine chelating ligands with polyaromatic backbones: Organometallic preparations and coordination chemistry*.

E.R. Humphrey presented the poster: E.R. Humphrey, M.R. St.-J. Foreman, and A. F. Hill, *Transition metal complexes containing S<sub>2</sub> and S<sub>3</sub> donor scorpionate ligands: Agostic interactions and metal-boron bond formation*.

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M. Schultz presented the poster: M. Schultz, F. Eisentrager, F. Rominger, and P. Hofmann, *[[ $\eta^5$ -PCP)NiR]<sup>+</sup> Cations for ethylene polymerisation, experimental and theoretical results.*

**40th Annual Meeting of Biophysical Society of Japan**, Nagoya University, Japan, 2–4 November.

K. Ozawa presented the following poster:

N.E. Dixon, L. Guignard, G. Otting, K. Ozawa, and S.E. Pursglove, *In vitro expression of various proteins for NMR measurements.*

**85<sup>th</sup> Canadian Society of Chemistry Conference**, Vancouver, Canada, 1–5 June.

C.J. Easton presented the keynote lecture: *Cyclodextrins: industrial waste with applications in pharmacy, catalysis and microelectronics.*

**223rd National American Chemical Society Meeting**, Orlando, Florida, USA, 8–11 April.

M.A. Collins presented the invited lecture: *Exploring molecular potential energy surfaces.*

**Analytical X-rays for Industry and Science**, University of Newcastle, 11–15 February.

J.W. White presented the invited lecture: *X-ray Small Angle Scattering and Reflectivity – Novel Applications.*

**Australian Institute of Physics meeting**, Wagga, February.

M. Henderson and D. King made a presentation: *The Development of the Millisecond X-ray Reflectometer at ANU.*

**Australian Institute of Physics/Royal Australian Chemical Institute joint meeting**, Research School of Physics, Science and Engineering, Canberra, 6 June.

J.W. White presented the invited lecture: *Developments in Human Stem Cell Research.*

**Australia-New Zealand Milk-fat Workshop**, Food Science Australia, Melbourne, 18–20 March.

J.W. White presented the invited lecture: *Neutron Scattering from the Milk Fat Membrane – first results.*

**Australasian Polymer Symposium**, Armidale, 10 –13 February.

E.M. Sevick presented the invited lecture: *Pulling Single Polymer Chains.*

**Australian Society for Biophysics Conference**, University of Melbourne, Nov 29-30

S. Peterson presented the lecture:

S. Peterson, V. Masters, P. Smith, B Prince, T. Wydrzynski, R. Pace, and E. Krausz: *A Comparison of Different Photosystem II Preparations from Plants and Cyanobacteria by Absorption and CD Measurements.*

Two posters were presented:

S. Peterson, B. Prince, P. Smith, V. Masters, T. Wydrzynski, R. Pace, and E. Krausz: *Assignment of Plant Photosystem II Reaction-Centre Chromophores by Stark-Shifted Low-Temperature Optical Spectroscopy.*

P. Smith, S. Peterson, E. Krausz and R. Pace: *EPR Spectroscopy of Oxygenic Reaction Cores of Photosystem II isolated from Higher Plants.*

**Beam Instrument Advisory Group**, ANSTO, Lucas Heights, NSW, 15–16 July.

P.A. Reynolds made a presentation (with E. Gilbert): *Proposal for a SANS instrument at the Australian Research Replacement Reactor.*

**Brisbane Biological and Organic Chemistry Symposium**, Brisbane, 29–30 November.

C.J. Easton presented the keynote lecture: *Cyclodextrins: industrial waste with applications in pharmacy, catalysis and microelectronics.*

**CHAOTRAN – Microscopic Chaos and Transport in Many-particle Systems**, Dresden, Germany, 5–25 August.

D.J. Evans presented the invited lecture: *The Fluctuation Theorem and a lecture course on Nonequilibrium Statistical Mechanics.*

**ComBio2002**, Sydney, NSW, 29–30 September–4–5 October.

G. Otting presented the invited lecture:

N.E. Dixon, E. Liepinsh, G. Otting, K. Ozawa, P. Prosselkov, and N.K. Williams, *Protein samples for NMR: expression and analysis without purification, and stabilization by covalent cyclization.*

Dr P.D. Carr presented the lecture: *Evolution of a organophosphate degrading enzyme; a comparison of natural and directed evolution.*

Mr J.M. Murphy presented the lecture: *A novel ligand-binding interface formed by domains 1 and 4 of the common  $\beta$ -subunit of the human GM-CSF, IL-3 and IL-5 receptors.*

The following posters were presented:

J.L. Beck, N.E. Dixon, R. Gupta, S. Hamdan, and M.M. Sheil, *Use of electrospray ionisation mass spectrometry to probe the interactions between the  $\beta$  and  $\beta'$  subunits of DNA polymerase III.*

N.E. Dixon, P. John, E. Liepinsh, J.M. Matthews, P. Prosselkov, G. Otting, and N.K. Williams, *Some properties of circular proteins.*

J.L. Beck, N.E. Dixon, P. Prosselkov, M.M. Sheil, and S.J. Watt. *Conformational states of linear and cyclized DnaB-N protein studied by electrospray ionization mass spectrometry (ESI-MS).*

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**Conference on Physical Chemistry**, University of Canterbury, New Zealand, February 3-7.

E. Krausz presented the lecture:  
V. Masters, S. Peterson, P. Smith, J. Hughes, E. Krausz, R. Pace, M. Seibert, and R. Jankowiak: *The Nature of P680: Spectroscopy of PSII reaction Centres: Native and Isolated*.

**Conservation Science**, The Royal Museum of Scotland, Edinburgh, 22–24 May.

G.A. Heath presented the lecture:  
*'Crystals from Merlin', corrosion deposits in the Merlin engines of an historic Avro-Lancaster bomber*.

**Creation and Complexity Workshop**, ANU, Canberra, 25 – 30 January.

J.W. White presented the invited lecture: *Developments in Human Stem Cell Research: Science and Christian Ethics*.

**EUCHEM – Organic Free Radicals Conference**, York, UK, 21 – 25 July.

L. Radom presented the plenary lecture: *B<sub>12</sub>-mediated reactions: Radical chemistry in action*

C.J. Easton presented the lecture:  
R. Barbiellini, C.J. Easton, and I.D. Grice, *SOPH-S-1 – For the controlled photochemical generation of superoxide*.

M.J. Davies presented the lecture:  
M.J. Davies, C.J. Easton, H.A. Headlam, and A. Mortimer, *γ-Scission of alkoxy radicals on peptides and proteins results in backbone cleavage and loss of side-chains*.

**Exploring Modern Computational Chemistry**, Nottingham, England, 29 July – 2 August.

L. Radom presented the invited lecture: *Adventures with metal oxides and hydroxides*

**Gordon Conference on Atomic and Molecular Interactions**, Newport, Rhode Island, USA, 7–12 July.

M.A. Collins introduced and chaired the opening session.

**Gordon Conference on Photosynthesis**, Roger Williams University Rhode Island USA, June 16–21.

The following posters were presented:

S. Peterson, V. Masters, P. Smith, C. Dobson, J. Hughes, M. Seibert, R. Jankowiak, T. Wydrzynski, R. Pace, and E. Krausz: *Characterization of P680 in the Intact PSII Assembly: Low-Temperature magneto-Optical Studies from RC's to Thylakoids*.

P. Smith, E. Krausz, S. Peterson, S. Styring, and R. Pace, *Spectroscopic Comparisons between Higher Plants and Cyanobacteria of the Mn Cluster and P680 Reaction Centre of PSII*.

**International Union of Crystallography Satellite Meeting**, Grenoble, France, 1 August.

J.W. White presented the invited lecture: *Measuring Time Dependent Interfacial Structures*.

**International Workshop on Ab Initio Direct Dynamics**, Maui, Hawaii, 18–20 December.

M.A. Collins presented the lecture: *Better to remember or use it and lose it?*

**Local and Nanoscale Structure in Complex Systems International Conference**, Sante Fe, New Mexico, USA, 27 January – 1 February.

T.R. Welberry presented the invited lecture: *Nanoscale Structure Induced by Strain*.

**Microscopy Society of America/Microscopical Society of Canada Annual Meeting (Microscopy and Microanalysis 2002)**, Québec City, Canada, 5–8 August.

R.L. Withers presented the invited lecture: *Electron microscopy and its application to the study of incommensurately modulated compositionally and/or displacively flexible phases*.

**Nano-Composite Materials Workshop**, Canberra, 22 October.

J.W. White presented the invited lecture: *Self-directed Assembly*.

**Orica Emerging Science Symposium**, Melbourne, 8 November.

C.J. Easton presented the keynote lecture: *Cyclodextrins: industrial waste to commercial applications*.

A. Philbrook presented the invited lecture: *Melamine replacements in MUF resins*.

**Polymers in Dentistry**, University of Queensland, Brisbane, 7 February.

J.W. White presented the invited lecture: *Template-Induced Biomineralisation*.

**Royal Australian Chemical Institute Organic Chemistry Group of NSW 23<sup>rd</sup> Annual One-Day Symposium**, Sydney, 3 December.

H. Onagi was awarded the best lecture prize for the presentation: C.J. Easton, H. Onagi, and S.F. Lincoln, *Cyclodextrins as building blocks for supramolecular chemistry*.

D.W. Lupton received the prize for 'the poster showing the most creative chemistry' for the presentation:



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M.G. Banwell and D.W. Lupton, *The development of new methodologies for the synthesis of Aspidosperma alkaloids: towards a total synthesis of (+)-vinblastine.*

R.M. Taylor was awarded 2<sup>nd</sup> prize for the poster presentation:

M.G. Banwell and R.M. Taylor, *Carbon-carbon bond formation via electrocyclic ring opening of gem-dibromocyclopropanes and trapping of the ensuing allylic cations with C-centred nucleophiles.*

B.D. Kelly presented the lecture: *A chemoenzymatic synthesis of the decahydro-as-indacene core associated with the spinosyn class of insecticide.*

The following posters were also presented:

M.G. Banwell and X.H. Ma, *A chemoenzymatic synthesis of differentially protected D-talose derivatives.*

M.G. Banwell and D.T.J. Loong, *Towards a chemoenzymatic total synthesis of the ten-membered macrolide microcarpalide.*

M.G. Banwell and M.J. Coster, *Towards a stereoselective total synthesis of the marine natural product haliclonacyclamine A.*

M.G. Banwell, N.L. Hungerford, and K.A. Jolliffe, *Chemoenzymatic approaches to sialic acids.*

M.G. Banwell, M.J. Coster, O.P. Karunaratne, and J.A. Smith, *A chemoenzymatic synthesis of the styryllactone (+)-goniodiol from naphthalene.*

M.G. Banwell and J.A. Smith, *Pyrrrole as a template for natural product synthesis.*

M.G. Banwell and M.O. Sydnes, *Towards a concise and completely stereoselective total synthesis of quinine.*

M.G. Banwell and B.D. Kelly, *A chemoenzymatic approach to the decahydro-as-indacene core associated with the spinosyn class of insecticide.*

M.G. Banwell and D.W. Lupton, *Towards the total synthesis of the Aspidospermidine alkaloid (-)-vindoline.*

M.G. Banwell, D.A.S. Beck, and J.A. Smith, *Pyrrrole cyclisation onto N-tethered electrophiles: application to a synthesis of the indolizidine alkaloid tashiromine.*

M.G. Banwell and M.J. Coster, *Towards a stereoselective total synthesis of the marine natural product haliclonacyclamine.*

M.G. Banwell, D.A.S. Beck, and J.A. Smith. *Nucleophilic addition of pyrrole to N-tethered electrophiles: application to a synthesis of the indolizidine alkaloid tashiromine.*

M.G. Banwell, A.J. Edwards, M. Essers, and K.A. Jolliffe, *Conversion of (-)-3-dehydroshikimic acid into derivatives of the (+)-enantiomer.*

M.G. Banwell and D.T.J. Loong, *Towards a chemoenzymatic total synthesis of the ten-membered macrolide microcarpalide.*

M.G. Banwell and R.M. Taylor, *Carbon-carbon bond formation via electrocyclic ring opening of gem-dibromocyclopropanes and trapping of the ensuing allylic cations with C-centred nucleophiles.*

K.A. Fairweather and L.N. Mander: *Synthetic studies towards the marine natural product, diisocyanoadociane.*

M.M.W. McLachlan and L.N. Mander: *Towards the synthesis of the galbulimima alkaloids.*

L.N. Mander and T.P. Le: *Synthesis of 11,13-dihydroxy C-20 gibberellins.*

L.N. Mander and R. J. Thomson: *The total synthesis of sordaricin.*

B.J.W. Barratt, A.K. Croft, C.J. Easton, L. Radom, and J.S. Simpson, *PAM enzyme inhibitors to regulate hormone production.*

**Royal Australian Chemical Institute Organic Chemistry Group of Victoria 23<sup>rd</sup> Annual One-Day Symposium, University of Melbourne, 6 December.**

M.G. Banwell presented a plenary lecture: *Chemoenzymatic methods for the synthesis of natural products.*

O.P. Karunaratne presented the poster:

M.G. Banwell, M.J. Coster, O.P. Karunaratne, and J.A. Smith  
*A chemoenzymatic synthesis of the styryllactone (+)-goniodiol from naphthalene.*

**Royal Australian Chemical Institute/New Zealand Institute of Chemistry Conference on Physical Chemistry, Christchurch, New Zealand, 3–7 February.**

M.A. Collins presented the lecture: *Molecular potential energy surfaces and chemical reaction dynamics.*

**SETnet meeting, Australian Academy of Science, Canberra, 12 June.**

J.W. White presented the invited lecture: *National research priorities.*

**SMART- Royal Australian Chemical Institute Industrial Symposium, RMIT, Melbourne, 11 October 2002**

J.W. White presented the invited lecture: *Marriage between Industry and Academia – how to develop this relationship.*

**Southern Highlands Conference on Heterocyclic Chemistry, Bowral, NSW, 1–3 September. Conference President: M. G. Banwell**

A.F. Hill presented the lecture: *Metallaboratranes: Masked metal bases.*

R.J. Thomson presented the lecture: *The total synthesis of sordaricin.*

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G.J. Harfoot presented the lecture: *Enzymes and photochemistry: a new and enantioselective route to triquinanes.*

A poster was presented by O.E. Hutt: *Toward the total synthesis of the hetisine skeleton.*

**The Financial Future of Australia's Universities**, Australian Academy of Science, Canberra, 11–12 September 2002.

J.W. White presented the invited lecture: *Research Funding and the UK Experience.*

**Tulluride Workshop on Condensed Phase dynamics**, Tulluride, Colorado, USA, 22–28 July 2002.

D.J. Evans presented the lecture: *The Fluctuation Theorem.*

**University of Queensland Mathematical Physics Workshop**, Woolangatta, Qld.

J. Petravic presented the lecture: *Analytic solution of a hard sphere system under homogeneous shear.*