

## Appendix – Honours and Awards

**Michael Aggett** was awarded a 2003 Council Medal for General Staff Excellence.

**Dr Ken Baldwin**, Finalist, Eureka Prize for the Promotion of Science.

**Dr Annette Berriman** was awarded the Australian Institute of Physics 2002 Bragg Gold Medal for the best PhD thesis from an Australian University. In her thesis entitled *Investigating Entrance Channel Effects in Fusion-Fission Dynamics*, Dr Berriman proposed and carried out a challenging program of research to identify and explain new physical processes involved in the fusion-fission of heavy ions. She was presented with the Medal after giving a talk entitled *Nuclear Fusion: Not as simple as you thought!* at the AIP Meeting on 22 May.

See photograph at: <http://www.rspysse.anu.edu.au/nuclear/text/awards2003.html>

**Professor Rod Boswell** was awarded a Centenary Medal by the Australian Government.

**Professor Rodney Baxter** was awarded a Centenary Medal by the Australian Government.

**Mr Philip Brydon** received the ANU University Medal (Theoretical Physics) awarded at the Degree's Ceremony.

**Professor John Carver** was awarded a Centenary Medal by the Australian Government.

**Professor Bob Crompton** was awarded a Centenary Medal by the Australian Government.

**Mr Gareth Crook** was selected as finalist in the 2003 ACT Training Excellence Awards.

**Dr Mukunda Das** has been elected as a Fellow of the American Physical Society.

**Professor Bob Dewar** was awarded a Centenary Medal by the Australian Government.

**Professor George Dracoulis** was awarded the 2003 Lyle Medal. The Lyle Medal honours the contributions to science of the late Sir Thomas Ranken Lyle. Professor

Dracoulis will be presented with the Medal at the Shine Dome in May 2004, as part of the Australian Academy's of Science 50th Anniversary celebrations. He was also was presented with an RSPHysSE Thirty-Year-Pin for extended services to the School.

Professor Dracoulis was awarded a Centenary Medal, "struck to mark the centenary of Federation and the achievements of a broad cross-section of the Australian community at the commencement of the new century".

The citation reads: George Dracoulis – *For Service to Australian Society and Science in Nuclear Physics*

See photographs at: <http://www.rspphysse.anu.edu.au/nuclear/text/awards2003.html>

**Professor Rob Elliman** was elected to Fellowship of the Institute of Physics, UK.

**Electronic & Computer Units** were awarded the Clare Burton Award for their support of Mr Dean Larkman.

**Professor Neville Fletcher** was awarded a Centenary Medal by the Australian Government and was appointed Adjunct Professor, School of Physics, University of New South Wales (2003-2004).

**Mr Thomas Hanna** was awarded the General Sir John Monash Award, enabling his DPhil studies at Oxford University.

**Ms Christine Henry** has won the CSEM prize for best "Science of Materials" honours thesis in 2003 for her thesis entitled *Nanorheology: Dynamic Measurements using the AFM*.

**Mr Stephen Holgate** was selected as finalist in the 2003 ACT Training Excellence Awards.

**Professor C. Jagadish** was appointed as a member of the International Editorial Advisory Board, *Journal of Optical Society of Korea* and was appointed as an Associate Editor (Nano-Photonics) of IEEE/OSA *Journal of Lightwave Technology*. He has been elected as a Fellow of the American Physical Society and an IEEE Lasers and Electro-Optics Society Distinguished Lecturer.

**Mr Anthony Jones** was awarded with the AusBiotech 2003 Student Excellence Award - ACT winner.

**Professor Yuri Kivshar** was awarded a Centenary Medal by the Australian Government.

**Professor Kenneth Le Couteur** was awarded a Centenary Medal by the Australian Government.

**Professor Barry Luther-Davies** was awarded a Federation Fellowship.

**Professors John Newton** was awarded a Centenary Medal, struck to mark the centenary of Federation and "the achievements of a broad cross-section of the Australian community at the commencement of the new century".

The citation reads: John Newton – *For Service to Australian Society and Science in Nuclear Structure Physics*

See photographs at: <http://www.rphysse.anu.edu.au/nuclear/text/awards2003.html>

**Professor Barry Ninham** was awarded the prestigious Humboldt Professorship which he will take up in Regensburg in February and was awarded a Centenary Medal by the Australian Government.

**Professor Satomi Ohnishi** was awarded the J G Russell Award by the Australian Academy of Science.

**Dr Mark Ridgway** was awarded the Vice-Chancellor's Award for Excellence in Supervision and was appointed to the International Committee, Radiation Effects in Insulators International Conference Series.

**Dr Andre Rode** received the "Certificate of Award" for the project "Synthesis of Nano-clustered Materials by Laser Ablation" supported by CNRS (France) and the French Embassy in Australia in 2002 - 2003.

**Dr Marek Samoc** was appointed a Research Professor in the Institute for Lasers, Photonics and Biophotonics at the University of Buffalo for 3 years to September 2006.

**Mr Ilya Shadrivov** was awarded the Director's Award for the best student paper (I.V. Shadrivov, A.A. Sukhorukov, and Yu. S. Kivshar, Beam Shaping by a Periodic Structure with Negative Refraction, *Appl. Phys. Lett.* 82 (2003) 3820-3822) published in a recognized refereed journal during the year 2003. He was also awarded The Dean's Prize for the best talk on theoretical subject in the Annual Graduate Program in Physical

Seminar Series, and received High Distinction in the Annual Graduate Program in the Physical Seminar Series.

**Professor Allan Snyder** was awarded a Centenary Medal by the Australian Government.

**Dr Andrew Truscott** was awarded an Australian Academy of Sciences Early Career Researcher Award.

**Professor Erich Weigold** was awarded a Centenary Medal by the Australian Government.

**Professor Jim Williams** was awarded a Centenary Medal by the Australian Government.

## **Appendix – Collaborations and Cooperative Agreements**

### **Collaborations**

#### **Dr C.H. Arns**

**Project:** Geostatistical Analysis of Tomographic Data

**Partner:** Professor D. Stoyan, University of Freiberg, Germany

**Project:** Velocity-dispersion in Porous Media

**Partner:** Professor P. Callaghan, University of Wellington, New Zealand

#### **Dr T. Aste**

**Project:** Nanometric Surface Ripples

**Partner:** Professor U. Valbusa, University of Genoa, Italy

**Project:** Glass Dynamics and Granular Matter

**Partner:** Professor A. Coniglio, University of Naples, Italy

**Project:** Dynamical Maps on Three-valent Networks

**Partner:** Professor N. Rivier, University of Strasbourg, France

**Project:** Characterization of Collective Dynamics in Financial Markets and Complex Systems

**Partner:** Professor R.N. Mantegna, University of Palermo, Italy

#### **Dr T. Aste and Dr T. Di Matteo**

**Project:** High-frequency Dynamics of Financial Markets (Fondo Speciale per lo Sviluppo della Ricerca di Interesse Strategico)

**Partners:** R.N. Mantegna, M. Marsili, M. Bernaschi, E. Scalas, G.M. Gallo, M. Gallegati, V. Marinari and G. Susinno, Italian Ministry of Education Research and Technology

#### **Dr K.G.H. Baldwin and Centre for Quantum-Atom Optics**

**Project:** Metastable Helium Bose-Einstein Condensation

**Partners:** Professor M. Leduc, École Normale Supérieure, Paris, France; Dr W. Vassen, Vrije Universiteit Amsterdam, The Netherlands

#### **Dr R. Ball and Professor R.L. Dewar**

**Project:** Modelling Plasma Turbulence Using the DALF3 Code

**Partners:** Dr H. Sugama, National Institute for Fusion Science, Japan; Dr A. Kendl and Dr B.D. Scott, Max Planck Institute for Plasma Physics, Germany; Mr R.W. Brown, Australian Partnership for Advanced Computing

**Project:** Low-order Dynamical Models for Non-linear Fluid Behaviour in Quasi Two-dimensional Plasmas

**Partner:** Dr F.L. Waelbroeck, University of Texas, USA

**Professor F.C. Barker**

**Project:** Levels of  $^{11}\text{N}$

**Partner:** Dr V. Guimarães, University of Sao Paulo, Brazil

**Project:** Diproton Decay Half-life of  $^{45}\text{Fe}$

**Partner:** Professor B.A. Brown, Michigan State University, USA

**Dr T.T. Barrows**

**Project:** Cosmogenic Isotope Exposure Ages for Tropical Glaciation

**Partners:** Dr M. Prentice, University of New Hampshire, USA; Professor G. Hope, ANU

**Project:** Direct Dating of Fossil Bone Using Cosmogenic  $\text{Cl-36}$

**Partners:** Dr L. Reed and R. Wells, Flinders University; Professor D. Ride, ANU

**Project:** Improving Estimates of Climate Change Using Nearest Analog Methods and Artificial Neural Networks

**Partner:** Dr S. Juggins, University of Newcastle, UK

**Project:** Quantifying Climate Change in the Eastern Pacific Ocean

**Partner:** Dr J.I. Martinez, Universidad EAFIT, Colombia

**Professor M.T. Batchelor**

**Project:** Combinatorics and Solvable Models

**Partners:** Dr J. de Gier, University of Melbourne; Professor B. Nienhuis and Mr S. Mitra, University of Amsterdam, The Netherlands

**Project:** Quantum Spin Ladders

**Partners:** Dr Z. Tsuboi, University of Tokyo, Japan; Dr K. Sakai, Tokyo Institute of Technology, Japan

**Project:** Stromalite Morphogenesis

**Partners:** Dr R. Burne, Faculty of Science; Dr B. Henry, University of New South Wales

**Professor V.V. Bazhanov**

**Project:** Integrable Structure of Conformal Field Theory

**Partners:** Professor S.L. Lukyanov and Professor A.B. Zamolodchikov, Rutgers University, USA

**Project:** Algebraic Properties of Solvable Models

**Partner:** Professor S.M. Khoroshkin, Institute for Experimental and Theoretical Physics, Russia

**Dr B.D. Blackwell and Dr J. Howard**

**Project:** Soft X-ray Measurements on H-1NF

**Partner:** A/Professor A.D. Cheetham, University of Canberra

**Professor R.W. Boswell and Dr C. Charles**

**Project:** Helicon Assisted Reactive Evaporation (HARE)

**Partners:** Professor D. MacKenzie and Professor M. Bilek, University of Sydney

**Professor R.W. Boswell and Mr O. Sutherland**

**Project:** High Brightness Ion Source

**Partner:** FEI Company, USA

**Professor S.J. Buckman**

**Project:** Low Energy Electron-molecule Scattering

**Partners:** Dr M.J. Brunger and Professor P.J.O. Teubner, Flinders University

**Project:** Electron Scattering from Molecular Radicals

**Partners:** Dr M.J. Brunger and Professor W. Lawrance, Flinders University

**Project:** Electron Scattering from Metal Vapours

**Partners:** Professor P.D. Burrow, University of Nebraska, USA; Professor K. Bartschat, Drake University, USA

**Project:** Electron-molecule Scattering

**Partners:** Professor H. Tanaka, Sophia University, Japan; Professor H. Cho, Chungnam National University, Korea

**Project:** Positron Interactions

**Partners:** Dr A. Hill, CSIRO; Professor B. Lohmann, Griffith University; Professor P.J.O. Teubner and Dr M.J. Brunger, Flinders University; Dr J. Mitroy, Charles Darwin University

**Project:** Positron Scattering from Atoms and Molecules

**Partner:** Professor C. Surko, University of California, USA

**Professor S.J. Buckman and Professor L.T. Chadderton**

**Project:** Rainbows in Scattering of Electrons from Molecules

**Partners:** Professor S.A. Cruz, Metropolitan Autonomous University of Mexico, Mexico; Dr A. Tolmachev, Moscow State University, Russia

**Dr M. Buda**

**Project:** DFB Lasers

**Partners:** Dr T.G. van de Roer and Professor G.A. Acket, Eindhoven University of Technology, The Netherlands

**Dr A.P. Byrne**

**Project:** Ion Implanter for Radioisotopes

**Partners:** Dr H. Timmers and A/Professor D.H. Chaplin, ADFA, University of New South Wales

**Project:** Superallowed Fermi Decays

**Partner:** A/Professor P.H. Barker, University of Auckland, New Zealand

**Dr A.P. Byrne and Dr M.C. Ridgway**

**Project:** PAC Studies of Materials

**Partner:** Dr R. Vianden, Universität Bonn, Germany

**Ms C. Carmody and Professor C. Jagadish**

**Project:** Self Assembled Monolayers on Semiconductor Surfaces

**Partners:** Dr B. Raguse and Dr V. Braach-Maksvytis, CSIRO Telecommunications and Industrial Physics

**Ms C. Carmody, Dr H.H. Tan and Professor C. Jagadish**

**Project:** Ultrafast Photodetector Materials

**Partners:** Mr A. Gaarder, Dr S. Anand and Dr S. Marcinkevicius, Royal Institute of Technology, Stockholm, Sweden



**Dr S.J. Cavanagh**

**Project:** (e,2e) Experiments on Water

**Partner:** Professor B. Lohmann, Griffith University

**Professor L.T. Chadderton**

**Project:** Atomic Force Microscopy of Fission Fragment Irradiated Quartz, Fullerite, Apatite and Natural Opal

**Partners:** Professor G. Espinosa and Professor S.A. Cruz, Metropolitan Autonomous University of Mexico, Mexico

**Project:** Phase Changes in Transition Metal Dichalcogenides Due to GeV Heavy Ion and MeV Fullerene Ion Bombardments: Transmission Electron Microscopy and Surface Force Microscopy

**Partner:** Dr A. Dunlop, École Polytechnique, Paliseaux, France

**Project:** Radiation Effects on Polymers and Semiconductors

**Partner:** Dr D. Fink, Hahn-Meitner Institute, Berlin, Germany

**Project:** GeV Ion Tracks in Alkali and Alkali Earth Halides

**Partner:** Dr C. Trautmann, GSI, Germany

**Project:** Annealing of Fission Tracks in Apatite: Kinetics, Effects of Pressure and Applications in Geothermometry

**Partners:** Dr R. Jonckere, University of Freiberg, Germany; Dr A. Wendt, British Antarctic Survey, UK

**Professor L.T. Chadderton and Professor E. Gamaly**

**Project:** Studies of Plasma Effects, and Electronic and Nuclear Vicinage in the Stopping of Swift Clusters in Solids

**Partner:** Professor S.A. Cruz, Metropolitan Autonomous University of Mexico, Mexico

**Project:** Theory and Practice of Organic Radical Formation and Motion in GeV Ion-irradiated Polymers

**Partner:** Professor S.A. Cruz, Metropolitan Autonomous University of Mexico, Mexico

**Professor L.T. Chadderton and Dr S.Y. Kun**

**Project:** Studies of Ultrafast Coherent Dynamics of Localised Modes in Many-body Systems

**Partners:** Professor W. Greiner, University of Frankfurt, Germany; Professor S. Haas, University of Strasbourg, France

**Professor L.T. Chadderton and Dr A. Stewart**

**Project:** Radioactivity in the Fine Structure of Precious Opal; Exploration and Artificial Opal Synthesis

**Partners:** Dr B. Senior, Senior and Associates, Canberra; Dr R. Jonckee, University of Freiberg, Germany

**Dr C. Charles and Professor R.W. Boswell**

**Project:** Plasma Deposition of Platinum for Fuel Cells

**Partners:** Dr P. Brault and Dr A.L. Thomann, University of Orleans-CNRS, France

**Project:** Helicon Source Modelling

**Partners:** Professor M. Lieberman, University of Berkeley, USA; Associate Professor S. Cho, Kyonggi University, Korea

**Dr Y. Chen**

**Project:** Synthesis of C and BN Nanotubes Using Mechano-thermal Processes

**Partner:** Dr J. Fitz Gerald, Research School of Earth Sciences

**Project:** Microanalysis of BN Nanotubes

**Partner:** Dr J. Zou, University of Queensland

**Project:** Mossbauer Analysis of Nanotubes

**Partner:** Professor G. Le Caer, University of Rennes, France

**Project:** Mossbauer Study of Metal Catalysts for Nanotube Growth

**Partner:** Professor S. Campbell, ADFA, University of New South Wales

**Ms V. Coleman, Dr P.N.K. Deenapanray, Dr H.H. Tan, Dr S.O. Kucheyev, Professor J.S. Williams and Professor C. Jagadish**

**Project:** Ion Beam Processing of Zinc Oxide

**Partners:** Professor M. Yano and Professor M. Inoue, Osaka Institute of Technology, Japan

**Ms V. Coleman, Ms P. Lever, Ms K. Stewart, Ms S. Mokkalapati, Mr S. Barik, Dr P.N.K. Deenapanray, Dr H.H. Tan, Professor J.S. Williams and Professor C. Jagadish**

**Project:** Cathodoluminescence Studies of Semiconductor Epitaxial Layers and Quantum Structures

**Partner:** Professor M.R. Philips, University of Technology, Sydney

**Dr V. Craig**

**Project:** Fundamental Studies of Surfactant and Polymer Adsorption

**Partners:** Dr R. Atkin, Bristol University, UK; Dr E. Wanless, University of Newcastle; Professor S. Biggs, University of Leeds, UK; Dr P. Hartley, CSIRO Molecular Science

**Project:** The Influence of Roughness on Boundary Slip

**Partners:** Dr E. Bonaccorso and Professor H-J. Butt, Max-Planck Institute for Polymer Research, Germany

**Project:** Dynamic Atomic Force Microscope and QCM Studies of Adsorbed Polymer Layers

**Partners:** Professor S. Biggs, University of Leeds, UK; Dr S. Notley, Royal Institute of Technology, Sweden

**Project:** Calibration of Colloid Probe Cantilevers Using the Dynamic Viscous Response of a Confined Liquid

**Partners:** Professor S. Biggs, University of Leeds, UK; Dr S. Notley, Royal Institute of Technology, Sweden

**Project:** Determination of Coupled Solvent Mass in Quartz Crystal Microbalance Measurements

**Partner:** Dr M. Plunkett, Ytkemiska Institutet, Sweden

**Dr V. Craig and Dr D.R.M. Williams**

**Project:** Hofmeister Effects in pH Measurements

**Partners:** Dr M. Boström, Linköping Universitat, Sweden; R. Albion, Department of Chemical Engineering; Professor B. Ninham, Institute for Physical and Theoretical Chemistry, Regensburg, Germany

**Project:** Shear Dependent Boundary Slip in Newtonian Liquids

**Partner:** Dr C. Neto, University of Ulm, Germany

**Dr M.P. Das**

**Project:** Fluctuations in Mesoscopic Systems

**Partner:** Dr F. Green, University of New South Wales

**Project:** Two-dimensional Interacting Coulomb Systems

**Partner:** Professor K.I. Golden, University of Vermont, USA

**Dr M. Dasgupta**

**Project:** Quantum Tunnelling in Nuclear Fusion

**Partners:** Dr K. Hagino, Kyoto University, Japan; Professor N. Rowley, Strasbourg University, France

**Dr M. Dasgupta and Dr D.J. Hinde**

**Project:** Fusion with Radioactive  $^{14}\text{O}$

**Partner:** Professor S. Kubono, University of Tokyo, Japan

**Project:** Deep Sub-barrier Fusion

**Partner:** Dr K. Hagino, Kyoto University, Japan

**Project:** Double Folding Calculation of Nuclear Potentials

**Partner:** Dr I.I. Gontchar, Omsk State Transport University, Russia

**Dr P.N.K. Deenapanray, Dr L. Fu and Professor C. Jagadish**

**Project:** Analysis of Semiconductor and Insulating Thin Films by XPS

**Partners:** Dr B. Gong and Professor R. Lamb, University of New South Wales

**Professor R.L. Dewar**

**Project:** Quantum Chaos in the Ideal-MHD Spectrum for Stellarators

**Partners:** Dr C. Nuehrenberg, Max Planck Institute for Plasma Physics, Germany; Professor Z. Yoshida, University of Tokyo, Japan; Dr T. Tatsuno, University of Maryland, USA

**Professor R.L. Dewar and Dr R. Ball**

**Project:** Studies of Turbulence and Coherent Structures in Quasi two-dimensional Plasmas and Fluids

**Partner:** Dr J.S. Frederiksen, CSIRO Atmospheric Research

**Professor R.L. Dewar, Professor M.T. Batchelor and Dr R. Ball**

**Project:** ARC Special Research Initiative Seed-funding Application: Energetically Open Systems Network Study

**Partners:** Professor S. Benkadda, University of Provence, France; Professor P.H. Diamond, University of California at San Diego, USA; Professor C. Grebogi, University of Sao Paulo, Brazil; Professor R MacKay, FRS University of Warwick, UK; 22 participants from other Australian universities

**Dr T. Di Matteo and Dr T. Aste**

**Project:** Multiscaling Behaviours in financial Markets

**Partner:** Dr M.M. Dacorogna, Converium Ltd Zurich, Switzerland

**Project:** High Frequency Data Dynamics in Financial Markets

**Partner:** Dr E. Scalas, Universita del Piemonte Orientale, Alessandria, Italy

**Project:** Relationships Between the Structure of Social Networks and Productivity

**Partner:** Professor M. Gallegati, Universita Politecnica delle Marche, Italy

**Dr T. Di Matteo, Dr T. Aste and Professor S.T. Hyde**

**Project:** EU Project COST P10 "Physics of Risk"

**Partner:** Professor P. Richmond, Trinity College, Dublin, Ireland

**Professor G.D. Dracoulis**

**Project:** Intrinsic and Rotational Bands in  $^{180}\text{Ta}$

**Partners:** Professor G. Sletten, University of Copenhagen, Denmark; Euroball Collaboration, Strasbourg, France

**Project:** High-K Isomers

**Partners:** Professor P.M. Walker, University of Surrey, UK; Dr D.M. Cullen, University of Liverpool, UK

**Project:** High-K Isomers in Hafnium

**Partners:** Dr F.G. Kondev and Dr R. Janssens, Argonne National Laboratory, USA; Dr D. Hartley, University of Tennessee, USA

**Project:** Nuclear Structure in the  $N = 74$  Region

**Partner:** Dr A.M. Bruce, University of Brighton, UK

**Project:** Laser Spectroscopy of Deformed Isomers

**Partners:** Dr J. Billowes, University of Manchester, UK; Professor J.A.R. Griffith, University of Birmingham, UK; Dr P. Dendooven, University of Jyväskylä, Finland

**Project:** Spectroscopy of Heavy Nuclei

**Partner:** Professor A.R. Poletti, University of Auckland, New Zealand

**Professor G.D. Dracoulis, Dr A.P. Byrne and Dr G.J. Lane**

**Project:** Realistic Shell Model Calculations for Trans-lead Nuclei

**Partner:** Professor A. Covello, University of Naples, Italy

**Project:** Neutron Rich Trans-lead Nuclei Using Radioactive Beams

**Partners:** Professor P.M. Walker, University of Surrey, UK; Dr G. de France, GANIL, France

**Project:** Spectroscopy of Neutron Deficient Lead and Thallium Nuclei

**Partners:** Dr A.M. Baxter, Faculties; Dr A.O. Macchiavelli, Lawrence Berkeley National Laboratory, USA

**Professor G.D. Dracoulis, Dr G.J. Lane, Dr A.P. Byrne and Dr T. Kibédi**

**Project:** Shape Co-existence in Very Neutron-deficient Pb Nuclei

**Partners:** Dr J. Gerl, GST, Germany; Dr A. Andreyev, University of Liverpool, UK

**Professor G.D. Dracoulis, Dr G.J. Lane, Dr T. Kibédi and Dr A.P. Byrne**

**Project:** Structure of Multi-quasiparticle Isomers in  $^{176}\text{Lu}$  and  $^{177}\text{Lu}$

**Partners:** Dr F.G. Kondev and Dr R. Janssens, Argonne National Laboratory, USA

**Professor R.G. Elliman**

**Project:** Silicon Based Photonic Devices and Structures

**Partners:** Professor J. Linnros, Royal Institute of Technology, Stockholm, Sweden; Dr J. Valenta, Charles University Prague, Czech Republic; Professor E. Krausz, Research School of Chemistry

**Project:** Optical and Physical Properties of Semiconductor Nanocrystals

**Partner:** Professor S-H. Choi, Kyung Hee University, Korea

**Project:** Light Emission from Silicon Nanocrystals: The Effect of Impurities

**Partner:** Professor G. Ross, INRS-Energie et Matériaux, Canada

**Project:** Mechanical Properties of Silicon Nanostructures

**Partners:** K.R. Virwani and A.P. Malshe, University of Arkansas, USA; D.K. Sood, Royal Melbourne Institute of Technology

**Project:** Ion Beam Mixing of Metallic Thin Films on Ceramic Substrates

**Partners:** Dr A. Balogh and Mr W. Berkey, Darmstadt University of Technology, Germany

**Professor R.G. Elliman and Mr N. Smith**

**Project:** Optical Gain in Silicon Nanocrystals

**Partners:** Professor P. Fauchet, Mr J. Ruan, University of Rochester, USA; Professor A. Polman, FOM Institute, Amsterdam, The Netherlands

**Professor R.G. Elliman and Dr T.D.M. Weijers**

**Project:** Heavy-ion Beam Analysis of Materials

**Partners:** Dr H. Timmers, ADFA, University of New South Wales; Dr S. Butcher, Macquarie University

**Dr L.K. Fifield and AMS Group**

**Project:** Dating of Marine Cores With Carbon-14

**Partners:** Dr P. De Deckker and Dr B. Opdyke, Geology Department

**Project:** Measurement of Erosion Rates at a Range of Scales in the Australian Landscape Using in situ Produced  $^{10}\text{Be}$

**Partner:** Professor J. Chappell, RSES

**Project:** Landscape Evolution in the Southern Highlands Region of NSW Using  $^{10}\text{Be}$  Deposited from the Atmosphere

**Partner:** Professor R. Wasson, CRES

**Project:** Studies of Meteorites Using Cosmogenic Isotopes

**Partner:** Professor G. Herzog, Rutgers University, USA

**Project:** Dating of Ice in Temperate-region Glaciers with  $^{32}\text{Si}$

**Partners:** Dr U. Morgenstern and Dr A. Zondervan, Geological and Nuclear Sciences, Lower Hutt, New Zealand

**Project:** Tracing Releases of Plutonium from Nuclear Processing Plants in Russia

**Partners:** Dr D. Oughton, Agricultural University of Norway; Dr W. Standring, Norwegian Radiation Protection Authority, Norway

**Project:** Plutonium in the Deep Ocean

**Partner:** Dr P. Povinec, IAEA Marine Research Laboratory, Monaco

**Project:** Tracing of Groundwater Flow and Mixing in a Number of Australian Aquifer Systems

**Partners:** Dr R.G. Cresswell, Dr R. Habermehl and Dr J. Kellett, Bureau of Rural Sciences

**Project:** Tracing of Groundwater Flow in a Natural Analogue of a Nuclear Waste Repository Using  $^{36}\text{Cl}$

**Partners:** Dr Y. Mahara, Abiko Research Laboratory, Japan; Dr R. Habermehl and Dr R.G. Cresswell, Bureau of Rural Sciences

**Project:** The Origin of Brines from a Geothermal Area in Mexico

**Partner:** Dr P. Birkle, Instituto de Investigaciones Electricas, Mexico

**Project:** Plutonium from Weapons Fallout in an Ice Core from the Attai Mountains, Siberia

**Partners:** Professor H. Gäggeler and S. Olivier, University of Bern, Switzerland

**Project:** Basin Wide Erosion Rates in a Tectonic Landscape: The San Bernadino Mountains, California

**Partners:** Dr W. Phillips and S. Binnie, University of Edinburgh, UK

**Project:** Glaciation History of the Cairngorms, Scotland

**Partners:** Dr W. Phillips and R. Mottram, University of Edinburgh, UK

**Project:** Erosion Rates of a Rapidly-uplifting Mountain Block: The Sierra Nevada Range, Spain

**Partners:** Professor P. Bishop and L. Reinhardt, University of Glasgow, UK

**Project:** Exposure Dating of Glacial Landforms in Scotland, and Lava Flows in Hawaii

**Partners:** Professor J. Stone, University of Washington, USA; Professor C. Ballantyne, University of St. Andrews, UK

**Project:** Calibration of the Cosmic-ray Production of Chlorine-36 on Iron in Surface Rocks

**Partner:** Professor J. Stone, University of Washington, USA

**Project:** Plutonium as a Tracer of Soil Movement

**Partner:** Dr G. Hancock, CSIRO Land and Water

**Dr L. Fu, Dr H.H. Tan, Dr M. Buda and Professor C. Jagadish**

**Project:** Optoelectronic Devices

**Partner:** Dr F. Karouta, Eindhoven University of Technology, The Netherlands

**Mr Q. Gao, Ms P. Lever, Ms C. Carmody, Ms V. Coleman, Ms K. Stewart, Ms S. Mokkaapati, Mr S. Barik, Dr L. Fu, Dr P.N.K. Deenapanray, Dr M. Buda, Dr H.H. Tan and Professor C. Jagadish**

**Project:** Optical Spectroscopy of Semiconductor Quantum Structures and Devices



**Partners:** Mr P. Reece, Dr B.Q. Sun, Dr M. Zhang and Professor M. Gal, University of New South Wales

**Dr S.T. Gibson and Professor B.R. Lewis**

**Project:** (NASA) Laboratory Measurements of Molecular Photoabsorption Cross Sections in the Ultraviolet for Planetary Atmospheres Applications

**Partners:** Professor G. Stark, Wellesley College, USA; Dr P.L. Smith, Harvard-Smithsonian Center for Astrophysics, USA

**Project:** (NSF) Molecular Photoabsorption Cross Sections in the Ultraviolet: Laboratory Measurements for Atmospheric Analyses

**Partners:** Professor G. Stark, Wellesley College, USA; Dr P.L. Smith, Harvard-Smithsonian Center for Astrophysics, USA

**Project:** Thermosphere Ionosphere, Mesosphere, Energetic and Dynamics (TIMED) Mission

**Partner:** Dr J-H. Yee, Johns Hopkins University, USA

**Dr M. Gulacsi**

**Project:** Effects of Phonons on Magnetic Impurities

**Partners:** Dr A.R. Bishop, Los Alamos National Laboratory, USA; Dr A. Busmann-Holder, Max-Planck Institut, Germany

**Project:** Correlation Effects in Kondo Lattice Models

**Partners:** Professor J. Zaanen and Dr I. McCulloch, University of Leiden, The Netherlands

**Project:** Strip Formation in Two-dimensional Lattices

**Partner:** Professor Z. Gulacsi, University of Debrecen, Hungary

**Project:** Impurity Effects in Mesoscopic Systems

**Partners:** Professor A. Rosengren and Mr A. Juozapavicius, Royal Institute of Technology, Sweden

**Professor J.H. Harris and Dr M.G. Shats**

**Project:** Cross Platform Studies of Transport on Tokamaks and Stellarators

**Partners:** Dr A. Turnbull, Dr M. Austin and Dr T. Evans, General Atomics, USA

**Dr D.J. Hinde**

**Project:** Fission Dynamics

**Partner:** Professor Y. Abe, Kyoto University, Japan

**Project:** Fusion-fission and Fusion-evaporation

**Partners:** Professor Y. El Masri and Dr Th. Keutgen, Université de Louvain, Belgium; Professor R.J. Charity, Washington University, USA; Professor J.B. Natowitz, Texas A & M University, USA

**Dr D.J. Hinde and Dr M. Dasgupta**

**Project:** Inhibition of Fusion by Quasi-fission

**Partner:** Dr A. Mukherjee, Variable Energy Cyclotron Centre, Calcutta, India

**Project:** Fusion with  $^{178}\text{Hf}^{m2}$

**Partner:** Professor N. Rowley, Strasbourg University, France

**Dr D.J. Hinde, Dr M. Dasgupta and Dr C.R. Morton**

**Project:** Transfer and Breakup of  $^9\text{Be}$

**Partner:** Professor B.R. Fulton, University of York, UK

**Dr J. Howard**

**Project:** Spectroscopic Studies of the Plasma Divertor in W7-AS

**Partners:** Dr R. Konig and Mr J. Chung, Max Planck Institute for Plasma Physics, Germany

**Project:** Coherence Imaging on RFX Reversed Field Pinch

**Partner:** Dr M. Valisa, Consorzio RFX, Padova, Italy

**Project:** Development of Infrared Coherence Imaging Radiometer

**Partner:** Dr S. Kelly, DSTO, Salisbury

**Project:** Measurement of Electric Field in H-1NF Using Laser Induced Fluorescence Techniques

**Partners:** Professor B.W. James and Mr D. Andruczyk, University of Sydney

**Dr A. Kheifets**

**Project:** Convergent Close-coupling Theory of Double Ionization by Photon and Electron Impact

**Partner:** Professor I. Bray, Murdoch University

**Project:** Electron Impact Double Ionization of the Helium Atom

**Partners:** Professor A. Lahmam-Bennani, University of Paris–Orsay, France; Dr A. Dorn, University of Freiburg, Germany

**Project:** Theoretical and Experimental Studies of Double Photoionization of He and H<sub>2</sub>

**Partners:** Dr L. Avaldi, Consiglio Nazionale delle Ricerche, IMIP, Italy; Professor R. Dörner, University of Frankfurt, Germany

**Dr T. Kibédi and Professor G.D. Dracoulis**

**Project:** Internal Conversion Electron Spectroscopy of  $0^+$  States

**Partners:** Dr S. Yates, University of Kentucky, USA; Dr P. Gerrett, Lawrence Livermore Laboratory, USA; Dr R. Julin, University of Jyväskylä, Finland

**Professor Y. Kivshar**

**Project:** A Book for Academic Press: Optical Solitons: From Waveguides to Photonic Crystals

**Partner:** Professor G. Agrawal, University of Rochester, USA

**Project:** A Book for Springer-Verlag: The Frenkel-Kontorova Model: Concepts and Methods of Nonlinear Physics

**Partner:** Professor O.M. Braun, Institute of Physics, Kiev, Ukraine

**Project:** Nonlinear Effects in Photonic Crystals and Structures

**Partner:** Professor C. Soukoulis, Ames Laboratories, USA

**Project:** Linear and Nonlinear Left-handed Metamaterials

**Partner:** Professor C. Soukoulis, Ames Laboratories, USA

**Project:** Nonlinear Photonic Crystals: Concepts and Applications

**Partner:** Dr M. Scalora, US Air Force Research Laboratories, USA

**Project:** Nonlinear Left-handed Metamaterials

**Partner:** Professor A. Zharov, Institute for Physics of Microstructures, Russia

**Project:** Nonlinear Localized Spin Waves

**Partner:** Professor H. Benner, Technical University of Darmstadt, Germany

**Project:** Soliton Clusters and Light Bullets

**Partner:** Professor L. Torner, University of Barcelona, Spain

**Project:** Discrete Solitons in All-optical Switching in Waveguide Arrays

**Partner:** Professor M. Molina, University of Santiago, Chile

**Professor Y. Kivshar and Dr E. Ostrovskaya**

**Project:** Dynamics of the Dispersion-managed Solitons in Fiber Transmission Systems  
**Partners:** Professor D. Anderson and Professor M. Lisak, Chalmers University of Technology, Sweden

**Project:** Multimode Spatial Optical Solitons  
**Partners:** Professor C. Denz and Dr A. Desyatnikov, University of Münster, Germany

**Professor Y. Kivshar and Dr A. Sukhorukov**  
**Project:** Multi-step Harmonic Generation in Nonlinear Photonic Crystals  
**Partner:** Professor S.M. Saltiel, University of Sofia, Bulgaria

**Project:** Parametric Optical Conversion Due to Cascaded Nonlinearities  
**Partner:** Professor S.M. Saltiel, University of Sofia, Bulgaria

**Project:** Self-written Optical Waveguides in Polymerized Materials  
**Partner:** Professor S. Kawata, Osaka University, Japan

**Project:** Stability Analysis of Solitary Waves  
**Partner:** Professor D.E. Pelinovsky, McMaster University, Canada

**Project:** Discrete Solitons in Waveguide Arrays  
**Partners:** Dr R. Morandotti and Professor S. Aitchison, University of Toronto, Canada; Professor Y. Silberberg, Weizmann Institute of Technology, Israel

**Dr M.M. Kohonen**  
**Project:** Wet Granular Materials  
**Partner:** Professor S. Herminghaus, University of Ulm, Germany

**Project:** Thin Film Coalescence  
**Partner:** Dr N. Maeda, University of California, Santa Barbara, USA

**Dr W. Krolikowski**  
**Project:** Optical Beams in Nonlocal Nonlinear Media  
**Partners:** Professor O. Bang, Technical University, Denmark; Professor J. Wyller, Norway Agricultural University, Norway; Professor J. Rasmussen, Riso National Laboratory, Denmark

**Project:** Localised Structure in Second Harmonic Generation  
**Partner:** Professor M. Saffman, University of Wisconsin, USA

**Project:** Modulational Instability in Photorefractive Media

**Partner:** Professor M. Saffman, University of Wisconsin, USA

**Project:** Photorefractive Solitons

**Partner:** Professor C. Denz, University of Münster, Germany

**Project:** Discrete Solitons

**Partner:** Professor F. Lederer, University of Jena, Germany

### **Dr S.Y. Kun**

**Project:** Experimental Test of New Theory of Quantum Chaos in Finite Many-body Systems

**Partners:** Professor W. Qi, Dr T. Wedong, Mr L. Songlin, Dr J. Zhonghe and Ms D. Yuchuan, Institute of Modern Physics, Lanzhou, China; Professor L. Zhichang, Dr L. Xiuqin, Dr Z. Kui, Dr F. Changbo, Dr L. Jiancheng, Dr J. Hua and Dr H. Guiqing, China Institute of Atomic Energy, China; Professor W. Greiner, Goethe University Frankfurt, Germany

**Project:** Slow Phase Randomisation in Microscopic Systems and Nanostructures

**Partners:** Professor Y. Abe, Kyoto University, Japan; Professor K. Nakamura, Osaka City University, Japan

**Project:** Cross-symmetry Spectral Correlations in Microscopic Systems and Nanostructures: Beyond Random-matrix Theory

**Partners:** Dr J. Flores and Dr T. Seligman, University of Mexico, Mexico

### **Dr S.Y. Kun and Professor L.T. Chadderton**

**Project:** Schrödinger Cat States in Highly Excited Strongly Interaction Many-body Systems

**Partners:** Dr L. Benet, University of Mexico, Mexico; Professor S. Greiner, Goethe University Frankfurt, Germany; Dr F. Haas, CNRS and Louis Pasteur University, Strasbourg, France

### **Dr S. Kuyucak**

**Project:** Modelling Inward Rectifier Potassium Channels

**Partner:** Dr T. Takahashi, National Institute for Physiology, Japan

**Project:** Study of Ion Selectivity in KcsA Potassium Channel

**Partner:** Dr A. Baumgaertner, Forschungszentrum Jülich, Germany

### **Dr A-K. Larsson**

**Project:** Modulated Structures

**Partner:** Dr J. Garcia-Garcia, Stockholm University, Sweden

**Project:** Structural Modulations of NiAs-type Phases

**Partners:** Professor R. Withers and Dr L. Noren, RSC

**Ms P. Lever, Dr H.H. Tan and Professor C. Jagadish**

**Project:** Optical Spectroscopy of Quantum Dots

**Partner:** Professor J. Wolter, Eindhoven University of Technology, The Netherlands

**Professor B.R. Lewis and Dr S.T. Gibson**

**Project:** Analysis of REMPI Spectra

**Partners:** Professor M.L. Ginter, University of Maryland, USA; Dr J.S. Morrill, Naval Research Laboratory, USA; Dr R.A. Copeland, SRI International, USA

**Project:** Coupled-channel Calculations of Linewidths for the *b* State of N<sub>2</sub>

**Partners:** Professor H. Lefebvre-Brion, Université de Paris-Sud, Orsay, France; Professor J.-M. Robbe, Université de Lille, France

**Project:** Review of Molecular Oxygen

**Partners:** Professor M.L. Ginter, University of Maryland, USA; Dr J.S. Morrill, Naval Research Laboratory, USA

**Professor B.R. Lewis and Dr K.G.H. Baldwin**

**Project:** High Resolution XUV Laser Spectroscopy of Isotopic Nitrogen

**Partners:** Professor W. Ubachs and Professor W. Hogervorst, Vrije Universiteit Amsterdam, The Netherlands

**Professor B.R. Lewis, Dr K.G.H. Baldwin and Dr M. Kono**

**Project:** Development of Ultra-high Resolution VUV Laser Sources

**Partner:** Professor B.J. Orr, Macquarie University

**Mr P. Linardakis, Dr G.G. Borg and Professor J.H. Harris**

**Project:** Plasma Switches for Mobile Phones

**Partner:** Dr R. Scheer, Motorola, USA

**Professor J.D. Love**

**Project:** Planar GRIN Lens

**Partner:** Dr C. Cogswell, University of Colorado at Boulder, USA

**Project:** Undergraduate Book on Guided Wave Photonics

**Partner:** Dr F.P. Payne, University of Oxford, UK

**Project:** EPSRC Grant - Optical Wave Propagation Through Multimode Fibres and Devices

**Partners:** Professor D. Abrahams and Dr E. Perrey-Debain, University of Manchester, UK; Dr T. Munro, University of Southampton, UK; Dr D. Alwright, University of Oxford, UK; Dr J. Lawrie, Brunel University, UK; Dr D. Gallagher, Photon Design, Oxford, UK

**Project:** Fibre Pigtailling to Buried Channel Waveguides

**Partners:** Dr S. Huntington, University of Melbourne; Dr S. Law, University of Sydney; Mr B. Gibson, La Trobe University

**Professor J.D. Love and Dr A. Ankiewicz**

**Project:** Bend Loss Minimisation in Optical Fibres

**Partner:** J. Katsifolis, La Trobe University

**Dr J.C.A. Lower**

**Project:** Investigation into (e,3e) and (e (2e) Processing Using Time-of-flight Techniques and Toroidal Electrostatic Analysers

**Partner:** Dr A. Dorn, Max-Planck-Institute for Nuclear Physics, Germany

**Project:** Application of Position Sensitive Detectors to Nano-second Timing Experiments

**Partner:** Professor H. Schmidt-Böcking, University of Frankfurt, Germany

**Professor B. Luther-Davies**

**Project:** Highly Oriented Nanostructures of Nonlinear Optical Materials for Applications in Polarized Light Emitting Diodes and Optical Devices

**Partner:** Dr H.B. Schulz, Potsdam University, Germany

**Professor B. Luther-Davies and Professor W. Krolikowski**

**Project:** Centre of Excellence for Ultrahigh Bandwidth Devices for Optical Systems

**Partners:** University of Sydney; Macquarie University; UTS; Swinburne University of Technology; NSW State Government through Department of State and Regional Development; CSIRO; Osaka University, Japan; University of Central Florida, USA; Lucent Technologies, USA; Institut Fresnel, France

**Professor B. Luther-Davies and Ms A. Smith**

**Project:** Production of Bulk Samples of Novel Chalcogenide Glasses

**Partner:** Professor K. Richardson, University of Central Florida, USA

**Professor N.B. Manson and Dr M. Sellars**

**Project:** Quantum Computing Using the Nitrogen-vacancy Centre in Diamond

**Partners:** Professor M. Scully and Professor P. Hemmer, T & M University, USA; Dr D. Pulford, DSTO, Canberra; Professor S. Prawer, University of Melbourne

**Professor R.P. McEachran**

**Project:** Electron Excitation of Atoms

**Partners:** Dr R. Srivastava, Roorke University, India; Professor A.D. Stauffer, York University, Canada

**Project:** Positron Excitation of Krypton and Xenon

**Partners:** Professor A.D. Stauffer, York University, Canada; Dr L.A. Parcell, MacQuarie University

**Project:** Low Energy Transport Properties in Zinc

**Partners:** Dr R. White, James Cook University; Professor K. Bartschat, Drake University, USA

**Dr F.P. Mills**

**Project:** Photochemical Modeling of the Venus Middle Atmosphere

**Partners:** Dr M. Allen, NASA Jet Propulsion Laboratory, USA; Professor Y.L. Yung, California Institute of Technology, USA

**Project:** Ultraviolet Characterization and Remote Sensing of Aerosols

**Partner:** Dr A. Eldering, NASA Jet Propulsion Laboratory, USA

**Project:** Analysis and Modeling of OH Column Abundances

**Partners:** Dr S.P. Sander, Dr R.P. Cageao and Dr M. Allen, NASA Jet Propulsion Laboratory, USA

**Dr D. Neshev**

**Project:** Discrete Solitons in Two-dimensional Photonic Lattices

**Partner:** Professor Z. Chen, San Francisco State University, USA

**Project:** Optical Signal Processing by Spatial Soliton Arrays and Nonlinear Periodic Structures

**Partner:** Professor C. Denz, Universität Münster, Germany



**Dr C. Neto**

**Project:** Dewetting of Thin Liquid Films

**Partner:** Professor K. Jacobs, Saarland University, Germany

**Project:** Characterisation of Magnetic Nanoparticles

**Partners:** M. Bonini and Professor P. Baglioni, University of Florence, Italy

**Project:** Interaction Forces Between Nucleoside-functionalised Lipids

**Partners:** Dr D. Berti and Professor P. Baglioni, University of Florence, Italy

**Dr M. Petravac**

**Project:** Surface Analysis Using a Free Electron Laser

**Partners:** A/Professor B.V. King, University of Newcastle; Dr M.J. Pelin and Dr J.F. Moore, Argonne National Laboratory, USA

**Dr M. Petravac and Dr P.N.K. Deenapanray**

**Project:** Synchrotron-based Photoemission and NEXAFS Studies of Composition Changes on III-N-V Surfaces under Low Energy Ion Bombardment

**Partners:** Dr B. Kim and Ms K-J. Kim, PAL, Pohang, Korea

**Project:** Synchrotron-based Photoemission and NEXAFS Studies of Composition Changes on Hydrogenated Semiconductor Surfaces

**Partners:** Dr B. Kim and Ms K-J. Kim, PAL, Pohang, Korea

**Dr M. Ridgway**

**Project:** Formation of Dilute  $\text{GaAs}_x\text{N}_{1-x}$  and  $\text{Ga}_x\text{Mn}_{1-x}\text{As}$  Alloys by Ion Implantation

**Partners:** Dr O. Dubon, University of California at Berkeley, USA; Dr K.M. Yu, Lawrence Berkeley National Laboratory, USA

**Project:** Laser Annealing of Ion-implanted Semiconductors

**Partner:** Professor M. Rao, George Mason University, USA

**Dr M. Ridgway and Dr A.P. Byrne**

**Project:** Pd-defect and Pd-dopant Characterisation with Perturbed Angular Correlation

**Partner:** Dr R. Vianden, University of Bonn, Germany

**Dr M. Ridgway, Dr C.J. Glover and Dr S. Kluth**

**Project:** EXAFS Characterisation of Amorphous Semiconductors

**Partners:** Dr G. Azevedo, Laboratorio Nacional de Luz Sincrotron, Brazil; Dr K.M. Yu, Lawrence Berkeley National Laboratory, USA; Dr G.J. Foran, ANSTO

**Project:** EXAFS Characterisation of Semiconducting and Metallic Nanocrystals

**Partners:** Dr G. Azevedo, Laboratorio Nacional de Luz Sincrotron, Brazil; Dr G.J. Foran, ANSTO

**Dr M. Ridgway, Dr S. Kluth and Dr C.J. Glover**

**Project:** Implantation-induced Amorphisation of Ternary Semiconductors

**Partner:** Professor W. Wesch, Friedrich-Schiller University, Germany

**Dr M. Ridgway and Professor J.S. Williams**

**Project:** Nanocavity Evolution in Si Under Ion Irradiation

**Partners:** Professor H. Bernas, Dr M.-O. Ruault and Dr F. Fortuna, CNRS, France

**Dr V. Robins**

**Project:** Topology and Intelligent Data Analysis

**Partner:** Professor E. Bradley, University of Colorado at Boulder, USA

**Project:** Signatures of Spatial Morphology in Disordered Media

**Partner:** Dr K.R. Mecke, University of Stuttgart and Max-Planck-Institut für Metallforschung, Germany

**Dr B.A. Robson**

**Project:** Antiproton Scattering

**Partner:** Professor Zhang Yu-shun, Institute of High Energy Physics, China

**Project:** Fusion

**Partners:** Dr B. Giraud, Service de Physique Theorique, France; Dr K.A. Amos and Dr S. Karataglidis, University of Melbourne

**Dr R.E. Robson**

**Project:** The Electron-hydrogen Vibrational Excitation Cross Section

**Partners:** Professor M.A. Morrison, University of Oklahoma, USA; Dr R. White, James Cook University

**Project:** Fluid Equations for Weakly Ionised Plasmas

**Partner:** Professor Z. Petrovic, Institute of Physics, Belgrade, Serbia

**Project:** Transport Processes in Weakly Ionised Gases and Plasmas

**Partners:** Dr R.D. White, James Cook University; Professor M.A. Morrison, University of Oklahoma, USA; Professor Z. Petrovic, Institute of Physics, Belgrade, Serbia

**Project:** Transport Processes in Amorphous Semiconductors and Polymers

**Partners:** Professor A. Blumen, University Freiburg, Germany; Dr P. Meredith, University of Queensland

**Dr A. Rode**

**Project:** 100-W Laser System for Ultra-fast Pulsed Laser Deposition

**Partners:** Dr J. Gieseckus and Mr M. Duering, Fraunhofer Institute for Laser Technique Aachen, Germany

**Project:** Boron Nitride Nanostructures Formed by the High Repetition-rate Laser Ablation

**Partners:** Dr D. Golberg and Professor Y. Bando, National Institute for Material Science, Tsukuba, Japan

**Project:** Magnetic Properties of Laser-deposited Carbon Nanofoam

**Partners:** Dr J. Giapintzakis, Foundation for Research and Technology, Hellas and Institute of Electronic Structure and Lasers, Crete, Greece; Dr D. Tomanek, Michigan State University, USA

**Project:** Sub-picosecond Laser Deposition of Optical Films

**Partner:** Professor B.N. Chirkov, Laser Zentrum Hannover e.V., Germany

**Project:** Recording and Reading of Three-dimensional Memory in Glasses

**Partners:** Professor H. Mizawa and Dr S. Juodkazis, University of Tokushima, Japan

**Dr A. Samoc and Dr M. Samoc**

**Project:** Crystal Structure of the Second Order Nonlinear Optical Addition Complex  $AsI_3 \cdot 3S_8$

**Partners:** Dr E.R. Krausz and Dr A.C. Willis, Research School of Chemistry

**Dr A. Samoc, Dr M. Samoc and Professor B. Luther-Davies**

**Project:** Nonlinear Optical Properties of Soluble Oligomers of PPV

**Partner:** Dr M.S. Wong, Baptist University, HongKong

**Project:** Third-order Optical Nonlinearities of Oligomers, Dendrimers and Polymers Derived from Solution Z-Scan Studies

**Partner:** Dr M. Humphrey, Department of Chemistry, Faculty of Science

**Project:** Synthesis and Third-order Nonlinear Optical Properties of End-functionalized Oligophenylenevinyls

**Partner:** Dr M.S. Wong, Baptist University of HongKong

**Dr M. Samoc**

**Project:** Nonlinear Optics and Nanophotonics

**Partner:** Professor P.N. Prasad, State University of New York at Buffalo, USA

**Project:** Nonlinear Properties of Evaporated Films of Disperse Red

**Partner:** Professor M.O. Tjia, Bandung Institute of Technology, Indonesia

**Dr M. Sellars**

**Project:** Diode Laser Frequency Stabilisation via Locking to Spectral Hole

**Partners:** Professor R. Cone and Dr G. Pryde, Montana State University, USA

**Project:** Investigation of EIT and Slow Light

**Partner:** Professor P. Hemmer, Texas A & M University, USA

**Dr M.G. Shats**

**Project:** Confinement Studies in Stellarators

**Partner:** Professor K. Toi, National Institute for Fusion Science, Japan

**Project:** Turbulent Structures and Transport in Plasmas

**Partners:** Professor P.H. Diamond and Dr D. Rudakov, University of California, USA

**Ms K. Stewart, Dr L. Fu, Dr M. Buda, Dr H.H. Tan and Professor C. Jagadish**

**Project:** Tuning of Detection Wavelength of Quantum Dot Infrared Photodetectors

**Partners:** Dr A. Stiff-Roberts and Professor P. Bhattacharya, University of Michigan, USA

**Dr A.E. Stuchbery**

**Project:** Nuclear Moments and Structure Changes in Exotic Nuclei

**Partner:** Dr P.F. Mantica, Michigan State University, USA

**Project:** Competing Core and Single Particle Excitations in the  $2_1^+$  State of  $^{44}\text{Ca}$

**Partners:** Professor N. Benczer-Koller and Dr M.J. Taylor, Rutgers University, USA; Dr C. Beausang, Yale University, USA

**Project:** Competition Between Proton and Neutron Hole Excitations in  $^{96}\text{Zr}$

**Partners:** Dr G. Kumbartzki and Professor N. Benczer-Koller, Rutgers University, USA; Professor K.-H. Speidel, Universität Bonn, Germany; Dr C. Beusang, Yale University, USA

**Project:** Spin Polarization of  $^{37}\text{K}$  Produced in a Single-proton Pick Up Reaction at Intermediate Energies

**Partners:** Professor P.F. Mantica and Dr D.E. Groh, Michigan State University, USA

**Project:** Angular Distributions of  $\gamma$ -rays with Intermediate Energy Beams

**Partners:** H. Olliver and Professor G. Glasmacher, Michigan State University, USA

**Project:**  $\gamma$  -  $\gamma$  Angular Correlations from Reactions with Intermediate-energy Beams

**Partners:** H. Olliver and Professor T. Glasmacher, Michigan State University, USA

**Project:** Intermediate Energy Coulomb Excitation as a Probe of Nuclear Structure at Radioactive Beam Facilities

**Partners:** Professor C.A. Bertulani, Dr T.J. Mertzimekis and A.D. Davies, Michigan State University, USA

**Project:** Systematics of First  $2^+$  State  $g$  Factors Around Mass 80

**Partners:** Dr T.J. Mertzimekis, Michigan State University, USA; Professor N. Benczer-Koller and Dr M.J. Taylor, Rutgers University, USA

**Dr A.E. Stuchbery and Dr A.P. Byrne**

**Project:** Hyperfine Interactions Spectrometer

**Partners:** A/Professor D.H. Chaplin, ADFA, University of New South Wales; Professor H.H. Bolotin, University of Melbourne

**Dr H.H. Tan and Professor C. Jagadish**

**Project:** Thermionic Cooling in Semiconductors

**Partner:** Professor R. Lewis, University of Wollongong

**Dr A.G. Truscott and Dr K.G.H. Baldwin**

**Project:** Metastable Helium Bose-Einstein Condensation

**Partners:** Professor M. Leduc, École Normale Supérieure, Paris, France; Dr W. Vassen, Vrije Universiteit Amsterdam, The Netherlands

**Dr M. Vos**

**Project:** Comparison of Electron and Neutron Scattering at High Momentum Transfer

**Partners:** Dr T. Abdul-Redah, ISIS, UK and University of Kent, UK; Professor Dr C.A. Chatzidimitriou-Dreismann and Dr C. Kleiner, Technical University, Berlin, Germany; Dr J. Mayers, ISIS, UK

**Project:** Electronic Structure of Alloys

**Partners:** Dr A. Ernst and Dr K. Kouzakov, Max Planck Institute Mikrostrukturphysik, Germany

**Dr M. Vos, Dr A. Kheifets and Professor E. Weigold**

**Project:** Electron Correlations in Solids

**Partners:** Dr F. Aryasetiawan, National Institute of Advanced Industrial Science and Technology, Japan; Dr M. Usuda, Synchrotron Radiation Research Center, Japan

**Dr X-H. Wang**

**Project:** Fabrication and Characterization of Two-dimensional Triangular Polymer Based Void-channel Photonic Crystals

**Partners:** Professor M. Gu, Dr G. Zhou, Dr M.J. Ventura and Dr M. Straub, Swinburne University of Technology

**Project:** Giant Lamb Shift in 3D Photonic Crystals

**Partner:** Professor B.Y. Gu, Chinese Academy of Science, China

**Professor E. Weigold**

**Project:** Correlations in the Helium Asymptotic Wavefunction

**Partner:** Professor H. Schmidt-Böcking, University of Frankfurt, Germany

**Project:** Electron Momentum Spectroscopy of Atoms and Molecules

**Partner:** Dr M.J. Brunger, Flinders University

**Professor E. Weigold and Dr J.C.A. Lower**

**Project:** (e,2e) Processes with Polarized Electrons and Targets

**Partners:** Dr J. Berakdar, Max Planck Institut für Mikrostruktur Physik, Germany; Dr S. Mazevet, Los Alamos Laboratory, USA

**Dr T.D.M. Weijers and Professor R.G. Elliman**

**Project:** Heavy Ion Stopping in Solids

**Partners:** Professor H.J. Whitlow, University of Lund, Sweden; Dr H. Timmers and Mr S. Shrestha, ADFA, University of New South Wales; A/Professor D.J. O'Connor, University of Newcastle

**Dr A.N. Wilson**

**Project:** High-spin States in Nuclei with  $A=120$  Near the Proton Dripline

**Partners:** Dr J.F. Smith, Manchester University, UK; Dr C.J. Chiara, Washington University, St Louis, USA; Dr E.S. Paul, Liverpool University, UK

**Project:** Effective Operators in the No-core Shell Model

**Partners:** Professor B.R. Barrett and Dr I. Stetcu, University of Arizona, USA

**Dr A.N. Wilson, Professor G.D. Dracoulis, Dr G.J. Lane, Dr A.P. Byrne and Dr P.M. Davidson**

**Project:** Superdeformation in Light Pb Isotopes

**Partners:** Dr A.O. Macchiavelli, Dr P. Fallon, Dr R. Clark and Dr A. Gørgen, Lawrence Berkeley National Laboratory, USA

**Dr W.S. Woolcock**

**Project:** Phase Shift Analysis of Low Energy Pion-nuclear Scattering Data

**Partner:** Dr E. Matsinos, Varian, Baden, Switzerland

**Project:** Electromagnetic Corrections to the Scattering Parameters Obtained from Pionic Hydrogen Experiments

**Partners:** Professor G. Rasche, University of Zurich, Switzerland; Professor G.C. Oades, University of Aarhus, Denmark

**Dr J. Wong-Leung, Dr P.N.K. Deenapanray and Professor C. Jagadish**

**Project:** Defects and Electron Microscopy of Semiconductors

**Partners:** Professor B.G. Svensson, Dr M. Linnarsson, Dr A. Kuznetsov, Dr A. Hallen, Mr M. Janson and Dr P. Leveque, Royal Institute of Technology, Stockholm, Sweden

**Dr J. Wong-Leung, Dr H.H. Tan, Ms C. Carmody, Professor J.S. Williams and Professor C. Jagadish**

**Project:** Electron Microscopy Study of Defects in Ion Implanted Semiconductors

**Partners:** Dr J. Zou, University of Sydney; Dr J. Fitz Gerald, Research School of Earth Sciences; Professor D.J.H. Cockayne, Oxford University, UK

**Dr W. Xu**

**Project:** Magnetotransport of Two-dimensional Electron Gases in the Presence of Terahertz Free-electron Laser Radiation

**Partners:** A/Professor R.A. Lewis, University of Wollongong; Professor P.M. Koenraad, Eindhoven University of Technology, The Netherlands; Professor C.J.G.M. Langerak, FOM Institute for Plasma Physics, The Netherlands

**Project:** Optoelectronic Properties of Semiconductor Nanostructures Under Infrared Free-electron Laser Radiation

**Partner:** Professor L.B. Lin, Sichuan University, China

**Project:** Electronic and Transport Properties of Spintronic Systems

**Partners:** Professor P. Vasilopoulos, Concordia University, Canada; Professor C.S. Tang, National Centre for Theoretical Sciences, Taiwan

**Project:** Electronic Subband Structure of the Broken-gap Semiconductor Quantum Wells

**Partners:** Dr P.A. Folkes, US Army Research Laboratory, USA; Professor G. Gumbs, City University of New York, USA

## **International Collaborative/Cooperative Agreements**

The School holds collaborative/cooperative agreements and/or memoranda of understanding with the following institutions and organisations:

- Institute of Nuclear Physics, Belgium
- Department of Communications, Canada
- Beijing University, China
- Shanghai Institute of Technical Physics (SITP), Chinese Academy of Sciences, China
- National Laboratory for Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China
- Tsinghua University, China
- Institute of Mathematics Modelling, Technical University of Denmark, Denmark
- Physics Department, University of Jyväskylä, Finland
- GANIL IN2P3, France
- L'Ecole Polytechnique, France
- University of Augsburg, Germany
- Hahn-Meitner Institute, Germany
- Institute of Advanced Energy, Kyoto University, Japan
- National Institute for Fusion Science, Japan



- RCNP, Japan
- Samsung Electronics Co. Ltd, Korea
- Telecom Korea, Seoul, Korea
- Agrigenesis Biosciences Ltd, Auckland, New Zealand
- National Accelerator Facility and FRD, South Africa
- The Physics Department, University of Pretoria, South Africa
- Ericsson Components AB, Sweden
- Ericsson Fibre Optic Research Centre, Sweden
- Royal Institute of Technology, Sweden
- COBRA Inter-Universiy Research Institute on Communication Technology, Eindhoven University of Technology, The Netherlands
- ANU-Engineering & Physical Sciences Research Council Agreement (ANU-EPSRC), UK  
(The ANU-EPSRC agreement in effect covers a range of UK universities)
- Cambridge University, UK
- British Telecom Laboratories, UK
- British Telecom Research Laboratories, UK
- Oxford University, UK
- ATLAS Accelerator Facility, Argonne National Laboratory, USA
- Bell Laboratories, USA
- Intel Corporation, USA
- Physics Division, Lawrence Berkeley Laboratory, USA
- Lightwave Microsystems Corporation, USA
- Lucent Technologies, USA
- Motorola, USA
- HHRIF, Oak Ridge National Laboratory, USA
- Lockheed Martin Energy Research Corporation, Oak Ridge National Laboratory, USA
- OFT Associates, USA
- Princeton Plasma Physics Laboratory, Princeton University, USA
- Stanford University, USA
- Stanford Linear Accelerator Center, Stanford Synchrotron Radiation Laboratory, USA
  
- The European Union-Australia Science & Technology Agreement, DIST
- Deutscher Akademischer Austauschdienst (DAAD) Exchange Service

## **National Collaborative Agreements**

The School holds the following collaborative agreements under the IAS/Other Australian University Collaboration Scheme and has various independent agreements with Australian industries:

- ADC Australia, Canberra
- AGEN Pty Ltd, Brisbane
- Canberra Institute of Technology
- Central Queensland University
- Curtin University of Technology
- Ericsson Australia Pty Ltd, Melbourne
- Flinders University
- Griffith University
- Hypatia Analytic Thought Pty Ltd, Melbourne
- James Cook University
- JDS/Uniphase, Sydney
- La Trobe University
- Macquarie University
- Monash University
- Photonic Technologies Pty Ltd, Sydney
- Royal Melbourne Institute of Technology
- Siemens Ltd, Sydney
- University College, Canberra,
- University of Canberra
- University of Melbourne
- University of New England
- University of New South Wales
- University of Newcastle
- University of Queensland
- University of South Australia
- University of Sydney
- University of Western Australia
- Faculty of Business and Technology, University of Western Sydney
- University of Wollongong
- The Powerhouse Museum of Applied Arts & Sciences, Sydney

## **Appendix – Grants and Contracts**

### ***ABB Transmission and Distribution Pty Ltd & Transgrid***

Dr A. Samoc

*Fibre Optic Voltage Sensor*

April 1999 – April 2003

\$ 30,000

### ***ACT Government Knowledge Fund***

Dr G.G. Borg and Professor J.H. Harris

*BushLAN Development of Novel VHF Wireless Internet Technology for Rural Australia*

2002 – 2003

\$ 25,000

Dr J. Howard

*Development of Absolute Thermal Imaging Systems for Industrial Process Monitoring and Control*

2002 – 2003

\$ 40,000

### ***ACT R&D Grant***

Professor J.S. Williams

*Developing Technology Prototype Products & Markets for Semiconductor Lasers*

September 2001 – April 2003

\$ 350,000

### ***AusIndustry***

#### **Innovation Access Program**

Professor J.S. Williams

*Establishment of the Australian Materials Technology Network*

2003 – 2006

\$ 2,683,520

***Australian Academy of Science***

Dr S.Y. Kun

*Research Visit to Japan*

April 2002 – March 2003

\$ 8,300

Dr S.Y. Kun

*Research Visit to France*

July 2002 – June 2003

\$ 2,500

Dr D. Neshev

*Research Visit to Germany*

2003

\$ 7,000

***Australian-German Joint Research Co-operation Scheme***

Professor S. Hyde

*Signatures of Spatial Morphology in Ordered and Disordered Media*

2002 – 2004

\$ 17,100

Professor B. Luther-Davies

*Highly Oriented Nanostructures of Nonlinear Optical Materials for Applications in Polarized Light Emitting Diodes and Optical Devices*

2002 – 2004

\$ 16,400

Dr M. Ridgway

*Application of the Perturbed Angular Correlation Technique for the Microstructural Identification of Implantation-Induced Disorder in Compound Semiconductors for Improved Optoelectronic Device Performance* with R. Vianden (University of Bonn, Germany)

2001 – 2003 \$ 10,920

Dr A. Rode

*100-W Laser System for Ultra-fast Pulsed Laser Deposition*

2002 – 2003 \$ 16,250

Dr M. Vos

*The Determination of the Hydrogen Concentration in Polymer Films by Electron Scattering and Neutron Compton Scattering Experiments*

2002 – 2003 \$ 7,520

Professor E. Weigold and Dr J. Lower

*Investigations into Atomic Collisions through the Development of Advanced Technologies*

2001 – 2003 \$ 19,380

***ANU Commercialisation (Venture Capital) Fund***

Professor C. Jagadish

*General Contingency Fund: Develop Stage 1 of Acton Lasers*

March 2000 onwards \$ 500,000

***ANU General Staff Development Fund***

Dr N.R. Lobanov

*Attendance of the 11<sup>th</sup> Workshop on RF-Superconductivity SRF2003, Lübeck/Travemünde, Germany*

2003 \$ 1,500

***ANU Major Equipment Grant***

Dr B. Blackwell

*Interactive Computational Physics Cluster*

2003 \$ 133,900

Dr J. Howard

*A Voltage-Tunable High Power Millimetre-Wave Source for Time-Resolved Plasma Tomography and Transport Studies*

2003 \$ 110,000

Ms Anita Smith, Professor N. Manson and Dr M Sellars

*Crystal Growth Facilities for Quantum Information Processing*

2003 \$ 99,200

***Australian Institute of Nuclear Science & Engineering Grant***

Dr M.C. Ridgway

*Nanocavity Formation Mechanisms in Si Substrates Studied with In-situ Transmission Electron Microscopy*

2003 \$ 4,601

***Australian Nuclear Science and Technology Organisation***

**Access to Major Research Facilities Program**

Professor G.D. Dracoulis and Dr G.J. Lane

*Structure of Multi-quasiparticle States in Lu-176 and Lu-177*

2003 \$ 12,000

Dr M. Petravac and Dr P.N.K. Deenapanray

*Photoemission Studies of Composition Changes on III-N-V Compounds under Ion Bombardment; and FEL-based Resonance Ionisation Spectrometry of Impurities from Semiconductor Surfaces*

2003 \$ 12,000

Dr M.C. Ridgway

*EXAFS Characterisation of Implantation-induced Disorder in Compound Semiconductors and Structural Perturbations in Elemental Nanocrystals*

2003 \$ 7,350

**Australian Synchrotron Research Program**

Dr C.J. Glover

*EXAFS Measurements of the Local Structure of Ferromagnetic GaMnAs Alloys*

2003 \$ 4,370

Dr P. Kluth

*Ion Irradiation Induced Preferential Amorphisation of Metallic Nanocrystals in Silica Measured with EXAFS*

2003 \$ 4,280

Dr P. Kluth

*Structural Characterisation of Ion Irradiated Metallic Nanocrystals in Silica using EXAFS*

2003 \$ 4,380

Dr P. Kluth and Dr M. Ridgway

*Structural Properties of Metallic Nanocrystals Formed by Ion Implantation into SiO<sub>2</sub> Measured with Temperature Dependant EXAFS*

2003 \$ 4,480

Dr M. Ridgway and Dr C.J. Glover

*Electronic Structure and Interface Effect of Ge Nanocrystals in a SiO<sub>2</sub> Matrix*

2003 \$ 6,850

Dr M. Ridgway

*Irradiation-induced Preferential Amorphisation of Semiconducting and Metallic Nanocrystals in SiO<sub>2</sub> Measured with EXAFS*

2003 \$ 4,370

Dr M. Ridgway and Dr C.J. Glover

*Local Structural Characterisation of Amorphised and Annealed InP and GaP*

2003 \$ 5,801

Dr M. Ridgway

*Amorphous Compound Semiconductors*

2003 \$ 6,830

***Australian Partnership for Advanced Computation***

Dr Shin-Ho Chung

*Studies on Biological Ion Channels*

2001 – 2003 \$ 119,048

Professor S.T. Hyde and Dr M.A. Knackstedt

*Mesoscale Physics Computation*

2001 – 2003 \$ 250,000

***Australian Photonics Pty Ltd***

Professor J.D. Love and Dr A. Ankiewicz

Consultancy: *Feasibility Study of a Planar Waveguide Grating AWG*

2003 \$ 36,263



Professor B. Luther-Davies and Dr W. Krolikowski , Ms R.M. Krolikowska, Mr J. Bottega, Mr I. McRae and Mr C. Macleod

*Polymer Waveguides and Integrated Optics Projects (Redfern Polymer Optics)*

June 2002 – May 2003 \$ 160,296

June 2003 – May 2004 \$ 108,000

Dr A. Samoc

*Nonlinear Polymers*

2002 – 2003 \$ 183,447

Dr M. Sellars and Professor B. Luther-Davies

*Real-time Optoelectronic Spectrum Analyser System*

2002 – 2003 \$ 30,000

***Australian Research Council (ARC) Grants and Awards***

**ARC Australian Postgraduate Awards (Industry)**

Dr S. Huntington, Professor J.D. Love and Dr A. Carter (Nufern Inc)

Mr P. Pace

December 2001 – November 2004 \$ 86,598

Nufern contribution \$ 15,000

**ARC Australian Senior Research Fellowship**

Dr D.R.M. Williams (transferred 2003 from University of Sydney)

*Deformation and Dynamics of Single Polymer Chains*

2003 – 2004 \$ 179,032

**ARC Centre for Excellence**

Professor B. Luther-Davies, Professor Y.S. Kivshar and Dr W. Krolikowski

*Centre for Ultrahighband Devices for Optical Systems (CUDOS)*

**(Total \$ 11,513,850)**

2003 – 2007 (RSPSE Share) \$ 2,967,000

Professor Y. Kivshar

*ARC Centre of Excellence for Quantum-Atom Optics (ACQAO)*

*RSPHysSE Project: Optical Lattices*

**(Total \$ 10,950,000)**

2003 – 2008 (Project Share) \$ 719,000

Dr A.G. Truscott and Dr K.G.H. Baldwin

*ARC Centre of Excellence for Quantum-Atom Optics (ACQAO)*

*RSPHysSE Project: Metastable BEC*

**(Total \$ 10,950,000)**

2003 – 2008 (Project Share) \$ 1,203,000

University of Queensland

Dr Y. Chen (ANU Partner)

*Australian Centre for Functional Nanomaterials*

**(Total \$ 6,380,544)**

2003 – 2007 (RSPSE Share) \$ 452,256

**ARC Discovery Project Grants**

Professor N.N. Akhmediev

*Multi-soliton Complexes*

2003 – 2005 \$ 245,000

Professor V.V. Bazhanov and Professor R.J. Baxter

*Solvable Models on Regular and Random Lattices in Statistical Mechanics and Field Theory*

2002 – 2004 \$ 318,000

Professor S.J. Buckman

*Electron Collision Studies with Laser-Cooled Metastable Helium-Recoil Atom Spectroscopy*

2003 – 2005 \$ 265,000

Professor S.J. Buckman and Dr J. Lower

*A Microscope for Molecular Reactions*

2003 – 2005 \$ 245,000

Dr M. Buda

*Asymmetric InP-based Structures for High Power Laser Diodes at 1400-1500 nm for Pumping Optical Amplifiers Used in Communication Systems*

2003 – 2006 \$ 165,000

Professor J. Chappell and Dr T. Esat (administered by RSES)

*Millennial-scale Instability of Sea Level and the Climate System: New Analysis of Coral Terraces in Papua New Guinea*

2003 – 2005 (\$ 295,000)

Professor J. Chappell, Dr M. Honda, Dr D. Fabel and Dr L.K. Fifield (administered by RSES)

*Production and Transport of Soil and Sediments, Determined by Cosmogenic Radionuclides and Noble Gases*

2003 – 2005 (\$ 295,000)

Dr Shin-Ho Chung

*Theoretical Studies on the KcsA Potassium Channel and L-type Calcium Channels*

2002 – 2004 \$ 231,000

Professor R.L. Dewar and Dr R. Ball

*Studies of Turbulence and Coherent Structures in Quasi Two-dimensional Plasmas and Fluids*

2003 – 2007 \$ 605,000

Professor G.D. Dracoulis, Dr A.P. Byrne, Dr T. Kibédi, Dr R.A. Bark, Professor P.M. Walker and Dr J. Gerl

*Isomers as Probes of Nuclear Structure and Sources of Energetic Protons*

2003 – 2005 \$ 402,000

Professor R.G. Elliman and Dr J. Valenta

*Novel Silicon-based Photonic Device*

2003 – 2005 \$ 290,000

Professor J.H. Harris, Dr B.D. Blackwell, Dr J. Howard and Dr M.G. Shats

*Localised Instabilities in Magnetically Confined Plasmas Heated by Radio Waves*

2003 – 2005 \$ 162,000

Dr D.J. Hinde, Dr M. Dasgupta and Dr K. Hagino

*Dynamics of Nuclear Fusion: Evolution Through a Complex Multi-Dimensional Landscape*

2003 – 2005 \$ 575,000

Professor C. Jagadish

*Fabrication and Monolithic Integration of II-V Semiconductor Photonic Devices using Impurity Free Interdiffusion*

2003 – 2006 \$ 510,000

Professor N. Manson and Dr M.J. Sellars

*Storage of Nonclassical Light in a Solid*

2003 – 2005 \$ 265,000

Professor B. Ninham

*Ionic Dispersion Forces in Physical Chemistry: Implications for pH, Electrochemistry, Nanoparticle Formation and Organic Synthesis*

2003 – 2005 \$ 270,000

Dr M. Petravac and Professor J.S. Williams

*Nanocavities and Nanoparticles in Silicon-base Materials Tailored by Ion Bombardment*

2003 – 2005 \$ 350,000

Dr M.C. Ridgway and Professor H. Bernas

*Nanocavities in Si: Structural Evolution and Metal Gettering*

2002 – 2004 \$ 183,000

Dr M.C. Ridgway, Dr A.P. Byrne and Dr K.M. Yu

*Atomic-scale Identification of Amorphisation and Relaxation Processes in Compound Semiconductors*

2003 – 2005 \$ 285,000

Dr M. Sellars

*Development of a Quantum Computer Based on Solid State Optical Impurity Sites*

2003 – 2005 \$ 130,000

Dr M. Vos, Professor E. Weigold and Dr A.S. Kheifets

*Electron Momentum Spectroscopy of Correlated Nanoscale Structures*

2003 – 2005 \$ 295,000

University of Melbourne

Professor N. Fletcher (ANU Partner)

*Acoustics of the Didjeridu*

2002 – 2004 (\$ 253,000)

University of New South Wales ()

Dr M.A.Knackstedt (ANU Partner)

*Structures and Properties of Tissue Engineering Matrices for Cartilage and Bone: Imaging, Visualising and Modelling Tissue/Scaffold Constructs in 3D*

(Total \$ 312,000)

2003 – 2005 (ANU share) \$ 211,000

University of Queensland

Professor V.V. Bazhanov, and Professor R.J. Baxter (ANU Partners)

*Algebraic Structures in Mathematical Physics and their Applications*

(Total \$ 457,836)

2002 – 2004 (ANU share) \$ 92,000

University of Sydney

Professor A. Snyder (ANU Partner)

*The Physics of Network Computation: Mathematical Modelling of the Nonconscious*

2002 – 2004 (\$ 203,000)

University of Sydney

Professor J.S. Williams (ANU Partner)

*Characterisation of Structural Defects in Ion-beam Processed III-V Nitrides*

2001 – 2003 (\$ 208,126)

## **ARC Discovery Project Grants and Australian Postdoctoral Fellowships (APD)**

Dr M. Boström (Relinquished August 2003)

*Intermolecular Interactions Revisited - Flaws in the Fabric and Applications to Lower Dimensional Structures*

2003 – 2005 (Total \$ 205,035)

2003 \$ 68,345

Dr J. Bradby

*Mechanical Deformation of Layered Semiconductor Structures*

2003 – 2005 \$ 234,000

Dr V. Craig, A/Professor S. Biggs and Dr C. Neto (APD)

*Nanorheology: Hydrodynamic Slip in Newtonian Fluids*

2003 – 2006 \$ 291,000

Professor R.G. Elliman, Dr E. Krausz, Dr T.D.M. Weijers (APD) and A/Professor S. Choi

*The Physical and Optical Properties of Self-Assembled Si Nanocrystals*

2003- 2005 \$ 318,035

Dr L. Fu

*Growth and Intermixing of Quantum Dots for Multi Wavelength Infrared Photodetectors*

2003- 2005 \$ 255,000

Dr C.J. Glover

*Applying Advanced Synchrotron Radiation Based Techniques to Determine the Connection between the Geometric and Electronic Structure of Semiconductor Nanocrystals*

2003- 2005 \$ 249,500

Dr S. Kluth

*Ion Implantation Induced Diffusion and Defect Evolution in Si Nanostructures*

2003- 2005 \$ 242,700

Dr E. Ostrovkaya (APD), Professor Y.S. Kivshar and Dr C.M Savage

*Nonlinear Atom Optics of Bose-Einstein Condensates in Optical Lattices*

2003 – 2005 (Total \$ 353,035)

2003 – 2005 \$ 193,035

Fellowship only, project component relinquished as of 1.1.03 due to overlap with CoE research program.

**ARC Discovery Project Grant and Australian Professorial Fellowship**

Professor M.T. Batchelor

*The Mathematics and Physics of Interacting Systems*

2003 – 2007 \$ 1,122,000

**ARC Discovery Project Grants and Australian Research Fellowships (ARF)**

Dr V. Craig

*Surface Adsorption, Repulsion and Attraction: A New Experimental Approach to Surface Forces*

2002 – 2006 \$ 573,782

Dr T.J. Senden

*Dynamic Force Microscopy of Small Molecular Assemblies*

2002 – 2006 \$ 391,782

Dr G.J. Lane

*Structure of Exotic Neutron-Rich Nuclei Populated using Novel Reaction Mechanisms*



2003 – 2007 \$ 566,605

Dr A.G. Truscott (ARF) and Dr J.J. Hope

*How Does a Bose Einstein Condensate Develop Phase?*

2003 – 2007 (Total \$ 1,056,605)

2003 – 2007 \$ 401,605

Fellowship only, project component relinquished as of 1.1.03 due to overlap with CoE research program

**ARC Discovery Project Grants and QEII Fellowships (QEII)**

Professor S.T. Hyde, Dr. T. Aste and Dr T. Di Matteo (QEII)

*The Architecture of Networks: Characterisation and Visualisation of Complex Systems as Fluctuating Networks*

2003 – 2007 \$ 687,275

Dr S. Ohnishi

*Friction and Capillary Forces*

2003 – 2008 \$ 548,000

Dr J. Wong-Leung (QEII) and Professor B.G. Svensson

*Ion Implantation Processing in Silicon Carbide for Microelectronic Applications*

2002 – 2006 \$ 619,411

Dr W. Xu (Transferred from University of Wollongong)

*Generation of Coherent-hypersound from Semi-conductor Systems*

(Total \$ 354,160)

2002 – 2005 (ANU share) \$ 249,628

### **ARC Federation Fellowship**

Professor Y. Kivshar

*Nonlinear Photonics and All-Optical Technologies*

2002 – 2006

\$ 1,448,515

Professor B. Luther-Davies

*Creation of a Novel Photonic and Nanostructured Materials by Ablation of Solids with Ultra Fast Lasers*

2003 – 2007

\$ 1,481,765

### **ARC Large Grants**

Dr M.A. Knackstedt

*Three Dimensional Image Analysis*

2001 – 2003

\$ 164,961

Dr D.R.M. Williams

*Specific Ion Effects in Colloid, Surface and Polymer Science*

2001 – 2003

\$ 70,139

Dr D.R.M. Williams

*Size-separation of Polymers in Ordered Obstacle Assemblies: DNA Electrophoresis in Microlithographic Arrays*

2003

\$ 5,762

### **ARC Linkage – Infrastructure Equipment and Facilities**

Dr G.G. Borg, Professor J.H. Harris and Dr H.M. Jones

*Infrastructure for Wireless Internet Technology Development for Rural Australia*

2003

\$ 100,000

2003 (Major Equipment Committee, ANU) \$ 47,500

Professor A.W. Snyder, Professor M.V. Srinivasan and Professor W.A. Foley

*Intelligent Computer System to Access Information Directly from the Brain using High Resolution Electroencephalography and Repetitive Transcranial Magnetic Stimulation*

2003 \$ 115,490

2003 (Major Equipment Committee, ANU) \$ 57,745

University of Sydney

Dr M.C. Ridgway (ANU Partner)

*Fluorescence Detector for the Australian National Beamline Facility*

2003 (Total \$ 530,000)

2003 (Major Equipment Committee, ANU) \$ 15,000

### **ARC Linkage International Award**

Dr R. Ball and Professor R.L. Dewar

*Low-order Dynamical Models for Non-linear Fluid Behaviour in Quasi Two-dimensional Plasmas*

2003 – 2005 \$ 9,000

Professor S.J. Buckman (Jointly with Flinders University)

*Environmental and Technological Applications of Electron-Driven Processes*

(Total \$ 33,000)

2003 – 2005 (ANU Share) \$ 16,500

Dr W. Xu

*Optoelectronic Properties of Los-dimensional Semiconductor Systems and Semiconductor Nanostructures under Terahertz Free Electron Laser Radiation*

2003 – 2004 \$ 28,800

**ARC Linkage International Fellowship (IF)**

Professor E. Weigold, Professor S.J. Buckman and Dr M. Lange (IF)

*Investigating Near-threshold Atomic and Molecular Collision Processes with Multiparameter Detection Techniques*

2003 – 2004 \$ 77,649

**ARC Linkage Project**

Dr G.G. Borg, Professor J.H. Harris and Dr H.M Jones

*VHF Wireless Technologies for Last-mile Internet Access in Regional Australia*

2003 – 2006 \$ 138,198

Professor R. Boswell

*Development of Inert Gas Ion Beams for Fabrication of Nanostructures*

2003 – 2006 \$ 300,000

Professor B. Luther-Davies

*Polymer Optical Fibre Drawing Tower Facility*

2003 \$ 20,000

University of Sydney

Professor A. Snyder (ANU Participant)

*What Makes a Corporate Champion?*

2002 – 2004 (Total \$ 210,000)

**ARC Postdoctoral Research Fellowship**

Dr R. Ball

*Turbulence and Anomalous Transport in Magnetically Confined Plasmas: A Theoretical and Computational Study of Transport Barrier Bifurcations*

2000 – 2003 \$ 177,009

Dr S.J. Cavanagh

*Photodissociation Dynamics of Diatomic Sulphur, S<sub>2</sub>, and its Role in Environmentally Friendly Energy Efficient Lamps*

2001 –2004 \$ 195,261

Dr P.N.K. Deenapanray

*Defect Engineering of Quantum Well Interdiffusion for Optoelectronic Device Applications*

2001 – 2004 \$ 168,702

Dr M. Hoyles

*Postdoctoral Fellowship*

2000 – 2003 \$ 166,131

Dr C.R. Morton

*Mechanisms for Formation of Heavy Elements*

2000 – 2003 \$ 179,769

### **ARC QEII Research Fellowship**

Dr M. Dasgupta

*Fusion Barrier Distributions: A New Approach to Understanding Complex Nuclear Interactions*

1998 – 2003 \$ 360,000

Dr H.H. Tan

*Growth, Characterisation and Fabrication of GaInNAs Lasers*

2001 – 2006 \$ 357,590

**ARC Special Research Initiatives**

**Research Networks Seed Funding**

Dr K. Baldwin

*Network for Optical and Quantum Science and Technology*

2003 \$ 30,000

Professor R.L. Dewar

*Energetically Open Systems Research Network Study*

2003 – 2004 \$ 10,000

Professor C. Jagadish

*Australian Semiconductor Nanotechnology Network*

2003 – 2004 \$ 10,000

Professor J.S. Williams

*Innovative Materials Production, Processing and Analysis Network*

2003 – 2004 \$ 30,000

**ARC Strategic Partnerships with Industry, Research and Training Scheme (SPIRT)**

Professor J.H. Harris, Dr G.G. Borg, Dr N.M. Martin, Dr D. Thorncraft and Mr L. Lungu

**CEA Technologies and Neolite Neon**

*The Application of Plasma Antennas to Communications and Radar*

2000 – 2003 \$ 63,240

**BASF A.G.**

Dr M.A. Knackstedt

*Characterization of Foam Morphology and Simulation of Mechanical and Thermal Foam Properties*

2002 – 2004 \$ 75,000

***BusinessACT***

Professor J.D. Love

*Biophotonics Development*

2003 – 2004 \$ 75,000

***Commonwealth Scientific Industrial Research Organisation***

Dr R. Ball

*Consultancy: Cross Disciplinary Bridges in Complex Systems Science*

2003 – 2005 \$ 18,000

Professor L. Chadderton

*Swift Ions Project*

1998 – 2003 \$ 150,000

***Consorzio RFX, Padova, Italy***

Dr J. Howard

*Development of Single-channel Coherence Imaging System for Plasma Spectroscopy*

2003 \$ 74,000

***Defence Advanced Research Project Agency, USA***

Professor N. B. Manson, Professor M.S. Scully and Dr P. Hemmer

Texas A & M University

*Spin-based Lattice-gas Quantum Computers in Solids using Optical Addressing*

2001 – 2004 US \$ 240,000

***Defence Science and Technology Organisation***

**Materials Research Laboratory**

Professor C. Jagadish

*Research in Novel Opto-electronic Device Fabrication*

2003 – 2004 \$ 44,000

**Weapons Systems Research Laboratory**

Professor C. Jagadish

*Feasibility Study on the Use of Stacked Array Detectors to EO Threat Warning*

2003 \$ 55,000

Professor N.B. Manson and Dr M. Sellars

*Deliverables for ANU/DSTO Joint Collaboration*

2002 – 2003 \$ 50,000

Dr M. Sellars

*Real-time Optoelectronic Spectrum Analyser System*

2002 – 2003 \$ 30,000

***Department of Defence – Defence Signals Directorate***

Professor N.B. Manson and Dr M. Sellars

*Quantum Computing and Quantum Cryptography Research*

2003 \$ 53,900



***Department of Education Science & Training***

**Innovation Access Program – International Science & Technology**

Professor R.W. Boswell

*Visit of NASA Astronaut*

2003 \$ 22,500

Professor J. Harris and Dr M. Shats

*Cross Platform Studies of Fusion Plasma Confinement in Tokamaks and Stellarators*

2003 – 2004 \$ 50,600

Professor B.R. Lewis

*Fourteenth International Conference on Vacuum Ultraviolet Physics*

2003 – 2005 \$ 55,000

***Department of Industry, Tourism and Resources***

Professor J. Harris *et al.*

*National Plasma Fusion Research Facility*

December 1995 to December 2003 \$ 8,700,000

**Australian Photonics Cooperative Research Centre**

Professor J.D. Love & Dr A. Ankiewicz

*Modelling & Design of Light Processing Devices*

May 1999 – April 2005 \$ 700,000

**CRC for Functional Communication Surfaces**

Dr M.A. Knackstedt, Dr T. Senden, Dr V. Craig, Mr R. Roberts and Dr V. Yaminsky

Program 1: *Fundamental Surface Measurements and Liquid Penetration Sciences*

July 2001 – June 2008 \$ 2,864,000

Program 6: *Education, Scholarship*

July 2001 – June 2008 \$ 525,000

***Ericsson Australia Pty Ltd***

Professor J.D. Love and Dr A. Ankiewicz

*Planar Waveguide Design and Fabrication*

2002 – 2003 \$ 77,000

***French Embassy, Canberra***

Dr S.Y. Kun

*Experimental Test of Quantum Dots*

2002 – 2003 \$ 5,950

Dr M.C. Ridgway

*Nanocavity Evolution under Ion Irradiation*

2002 – 2003 \$ 3,480

***Japan Society for Promotion of Science***

Dr S.Y. Kun

*Slow Phase Randomisation in Nanostructures*

2002 – 2003 \$ 11,200

***Lawrence Livermore National Laboratory***

Dr J. Bradby

*Nanoindentation of Films*

2003 \$ 9,800

***Max Planck Institut für Plasma Physik, Germany***

Dr J. Howard

*Development of Coherence Imaging System for Edge Plasma Studies*

2002 – 2003 \$ 155,000

***McKinsey and Company***

Professor A. Snyder

*What Makes a Corporate Champion?*

2002 – 2004 \$ 60,000

***MOTOROLA Inc (USA)***

Dr G.G. Borg and Professor J.H. Harris

*Application of Plasma Switches to Mobile Personal Communication Systems*

2003 US \$ 54,826

***National Health & Medical Research Council Grant***

Dr Shin-Ho Chung

*Investigation of Biological Ion Channels: Theoretical Formulation, Computer Simulation and Experimental Verification*

2002 – 2004 \$ 620,000

***Parliament of Australia***

Professor J.H. Harris and Dr G.G. Borg

*Report on Parliamentary Enquiry for Wireless Broadband*

2003 \$ 20,000

***Redfern Polymer Optics***

Professor B. Luther-Davies *et al*

*Industry Funded PhD Scholarship*

2001 – 2004 \$ 90,000

***US Army Research Office (Far East)***

Professor N. Akhmediev

*Modelling of Active Optical Systems with Nonlinear Amplifiers*

2002 – 2003 \$ 20,000

***US Air Force Office (Far East)***

Professor Y. Kivshar

*Nonlinear Photonic Crystals: Concepts and Applications*

2002 – 2003 \$ 15,000

***Vice-Chancellor's Plan for Growth***

Professor S.T. Hyde

2001 – 2003 \$ 287,000

*Recruitment and Training of Technical Staff*

2001 – 2003 \$ 157,500

***Victorian Department of Innovation, Industry & Regional Development***

Professor B.R. Lewis

*Fourteenth International Conference on Vacuum Ultraviolet Physics*

2003 – 2005 \$ 22,000

Dr M.C. Ridgway

*Australian Synchrotron Summer School*

2003 \$ 30,000

***Vimed Biosciences Pty, Ltd***

Dr T.J. Senden

*Vimed Collaborative Research and Development Agreement*

2002 – 2003 \$ 444,800

**General Endowments**

*Donation from Personal Estate*

June 1997 – indefinite \$ 222,896

**Named Scholarships and Prizes**

*Jagadishwar Mahanty Prize* \$ 16,840

To be confirmed by Andrew James

## Appendix – Interactions with the Faculties

**Professor N. Akhmediev** lectured *Nonlinear Dynamics* (PHYS3002) to 3<sup>rd</sup> year undergraduate students.

**Dr K. Baldwin** presented a short course in *Lasers in Semiconductor Technology* to 3<sup>rd</sup> year engineering students.

**Dr R. Ball** supervised a 4<sup>th</sup> year honours project in the Department of Physics and Theoretical Physics, The Faculties.

**Professor M.T. Batchelor** lectured the 3<sup>rd</sup> year mathematics course *Mathematical Methods Honours* (MATH3322); supervised an advanced studies project in the PhB Program and acted as a student mentor in the PhB program; and gave a joint seminar with Dr R.V. Burne on "The Natural History of Conophyton" in the Department of Geology, Faculty of Science.

**Dr A.M. Baxter** of the Department of Physics, Faculty of Science, carried out research on nuclear spectroscopy in the Department of Nuclear Physics.

**Dr B.R. Barrett**, a visitor from the University of Arizona, gave a short lecture series on "The Interacting Boson Model and Rotational Model" in the Department which formed part of the 4<sup>th</sup> year *Nuclear Spectroscopy* course for students from the Department of Physics, Faculty of Science.

**Dr T.T. Barrows** collaborated with Dr L. Reed and R. Wells, Flinders University and Professor D. Ride, Geology Department, The Faculties on "Direct Dating of Fossil Bone Using Cosmogenic Cl-36".

**Dr G. Borg** is supervising three honours students in their research projects on BushLAN. These students are Rhys Goodwin, Chris Brooke and Robert May, all from Faculty of Engineering and Information Technology.

**Dr M. Buda, Dr H.H. Tan and Professor C. Jagadish** supervised a Physics Special Topics student in the Faculties.

**Dr A.P. Byrne** holds a joint appointment with the Department of Nuclear Physics and the Department of Physics, Faculty of Science. He was Acting Head of the Department of Physics, Faculty of Science until August.

**Dr Y. Chen** gave lectures in "Nanotechnology" to undergraduate students from the Faculties.

**Professor R. Elliman** was a member of PhD Supervisory Panel for Mr Helmut Mackel.; gave lectures for course ENG4057 *Ion Implantation Technology* delivered as part of a Semiconductor course for 4<sup>th</sup> year students at the Faculties; and contributed to PHY3033, *Nuclear Physics and Reactions*, consisting of one lecture and six laboratory classes in Ion Beam Analysis of Materials for 3<sup>rd</sup>/4<sup>th</sup> year students at the Faculties.

**Dr T. Esat** holds a joint appointment with the Research School of Earth Sciences from July.

**Dr L.K. Fifield** continues collaborations with Dr Bradley Opdyke and two students, Helen Bostock and Siwan Rees, of the Department of Geology.

**Dr S. Gibson** supervised Ashley Norris, a 3<sup>rd</sup> year student, in Physics Special Topics, and Owen Dive, Distinguished Scholar Program in Science.

**Dr M. Gulacsi** taught *Statistical Physics and Quantum Field Theory* at the Department of Physics and Theoretical Physics, The Faculties.

**Professor J. Harris** presented an 18-lecture course on *Plasma Physics* to 3<sup>rd</sup> year students, Department of Physics, The Faculties.

**Professor J. Harris, Dr B. Blackwell and Dr K. Walshe** presented an 18-lecture and laboratory course in *Power Electronics and Applications* (ENGN4506) for 4<sup>th</sup> year engineering students in the Faculty of Engineering and Information Technology.

**Professor S. Hyde** delivered an illustrated lecture on "Geometry" to visual arts undergraduates at the National Institute for the Arts

**Professor Jagadish** gave guest lectures on "Epitaxial Growth and Optoelectronic Devices" to 4<sup>th</sup> year students in the Department of Engineering, FEIT; and designed and gave an elective course on *Semiconductor and Optoelectronic Devices* (ENGN4519).



**Dr G.J. Lane** taught half of the *Nuclear Physics* course (PHY3033) for 3<sup>rd</sup> year students in the Department of Physics, Faculty of Science.

From 1 July 2003, **Professor J. Love** was appointed 25% to the Department of Physics, Faculty of Science, with responsibility as Convenor for undergraduate and graduate photonics teaching up to the Masters level; presented the 18-lecture course *Optical Fibre and Waveguide Transmission* (PHYS3050) during the first half of second semester to 11 engineering and physics students; presented a lecture for the physics course PHYS1020 *Photonics Today*; and a lecture for the engineering course ENG4507 *Microelectronics & Photonics Technology*.

**Professor J. Love and Dr A. Ankiewicz** presented the 18-lecture course *Fibre and Waveguide Devices for Optical Systems and Networks* (PHYS3051) during the second half of second semester to 11 engineering and physics students.

**Professor J. Love & Dr S. Tomljenovic-Hanic** developed an Electronic Photonics module in collaboration with the Faculty of Science as part of the new Master of Contemporary Science degree.

**Dr R.E. Robson** gave a lecture course on *Life Physics* (PH1004) in the Department of Physics and Theoretical Physics, The Faculties.

**Dr A. Rode** collaborated with Dr A. Christy, Department of Geology, on "Mass-Spectroscopy of Carbon Nanostructures".

**Dr A. Samoc** continued her collaborations with Professor M. Humphrey and Dr. M. P. Cifuentes, Department of Chemistry, on "Investigations of Third-order Optical Nonlinearities of Dendrimers"; and presented "Principles and Demonstrations of the Use of a Prism Coupler" for engineering students.

**Dr A. Samoc, Dr M. Samoc and Professor B. Luther-Davies** continued their collaborations on "Third-order Optical Nonlinearities of Oligomers, Dendrimers and Polymers Derived from Solution Z-scan Studies" with Dr M. Humphrey, Department of Chemistry, Faculty of Science.

**Dr M. Samoc and Professor B. Luther-Davies** collaborated with Dr Mark G. Humphrey, Department of Chemistry, on "NLO Properties of Organometallics".

**Dr A.G. Truscott** gave an honours course on *Atom Optics* which was delivered to students in Physics, The Faculties.

**Dr A.N. Wilson** taught the 3<sup>rd</sup> year Special Research Topics course in *Particle Physics* (PHYS3041) in the Department of Physics, Faculty of Science and was an Advanced Studies Instructor for the PhB courses SCNC1101 and SCNC1102.

## **Appendix – Internal Management**

### **School Committees**

#### ***Faculty Board***

Together with meetings of Heads of Departments, Faculty Board is the principal mechanism for advising the Director on a regular basis. It reports to the Board of the Institute of Advanced Studies. The Board spends a significant proportion of its time on issues affecting the environment in which the School operates — especially funding and the impact of industrial and other legislation — rather than on strictly academic issues. Members are:

Professor Jim Williams (Chair)

Professor Rod Boswell (Chair of Faculty)

Professor Stephen Buckman, Associate Director (Academic)

Professor Neil Manson, Associate Director (Students)

#### ***Heads of Departments***

Dr David Williams, AM

Professor Brenton Lewis, AMPL

Professor John Love, DU

Professor Yuri Kivshar, DU

Professor Rob Elliman, EME (also Faculty Representative on BIAS)

Professor Barry Luther-Davies, LPC

Professor George Dracoulis, NP

Professor Allan Snyder, OSC

Professor John Mitchell, Deputy Head, OSC

Professor Jeffrey Harris, PRL

Professor Vladimir Bazhanov, TP

Ms Megan O'Mara (Student Representative until September)

Mr Devin Ramdutt (Student Representative from September)

Dr Rowena Ball (Faculty Representative)

Dr Aidan Byrne (Faculty Representative)

Mrs Judith Huppertz (By Invitation – non-voting continuing until May)

Mr Rana Ganguly ((By Invitation – non-voting continuing from June)

Mr Kevin Lonsdale

Secretary – Mrs Gayle Samuel

### ***Faculty***

The Faculty of the School consists of all academic staff, including long-term visitors and postgraduate students. Faculty functions as a means for informing academic staff on activities within the School.

Chair – Professor R.W. Boswell

Secretary – Mrs Gayle Samuel

### ***Heads of Departments***

Heads of Departments met with the Director throughout the year and, where appropriate, senior administrative staff attended. Aspects of the School budget and strategic planning dominated the meetings. Because of the School's requirements for major items of equipment, consideration of bids to the ARC Linkage Infrastructure, Equipment and Facilities (LIEF) and the University Major Equipment Committee was again given high priority. Issues concerning the Institute Planning Committee grants and the Vice-Chancellor's Plan for Growth Fund were also of importance.

Professor Jim Williams (Chair)

Professor Stephen Buckman, Associate Director (Academic)

Professor Neil Manson, Associate Director (Students)

Heads of Departments/Centres

### ***Advisory Groups***

At the beginning of 1998 the Director established a number of internal groups to offer advice regarding major School activities to optimise the academic functions of the School. Together with the Heads of Departments meetings, they prove extremely effective in formulating a cohesive approach to School management.

#### ***Academic Staffing Advisory Group***

Professor Stephen Buchman (Chair)

Professor George Dracoulis

Professor Stephen Hyde

Professor Bob Dewar

Professor C. Jagadish

Secretary – Mrs Gayle Samuel

#### ***Budget Strategy Advisory Group***

Professor Jim Williams (Chair)

Professor Stephen Buckman

Mrs Judith Huppatz (until May)

Mr Rana Ganguly (from June)

Ms Maree Kearns

#### ***Commercialisation Advisory Group***

Dr Tim Senden (Chair)

Professor Rod Boswell

Mr Tony Cooke (Anutech representative)

Professor Jeffrey Harris  
Professor Barry Luther-Davies  
Professor Jim Williams  
Secretary – Ms Martina Landsmann

***External Grants Advisory Group***

Professor Stephen Buckman (Chair)  
Professor Rob Elliman  
Professor Jeffrey Harris  
Dr David Hinde  
Professor Yuri Kivshar  
Professor Barry Luther-Davies  
Dr Mark Ridgway

***Major Equipment & LIEF Advisory Group***

Professor Brenton Lewis (Chair)  
Professor Stephen Buckman  
Professor Robert Elliman  
Dr Keith Fifield  
Professor John Love

***General Staff & Facilities Advisory Group***

Professor Stephen Buckman (Chair)  
Ms Julie Dalco  
Dr Keith Fifield  
Mr Rana Ganguly (from June)

Mr Kevin Lonsdale  
Mr Ian McRae  
Dr David Weisser  
Secretary – Mrs Gayle Samuel

***Student Advisory Group***

Professor Neil Manson (Chair) and Convenor, Graduate Program in Physics  
Dr Aidan Byrne  
Dr Steve Gibson  
Dr John Howard  
Professor Chennupati Jagadish  
Professor John Love  
Dr Tim Wetherell  
Ms Megan O'Mara (Student Representative, Faculty Board) (until September)  
Mr Devin Ramdutt (Student Representative, Faculty Board) (from September)  
Secretary – Ms Gillian Harman

***Other School Committees (alphabetically)***

***Colloquium Committee***

Professor C. Jagadish (Chair)  
Professor Hans Bachor  
Dr Rowena Ball  
Professor Robert Crompton  
Professor Rob Elliman  
Professor Neville Fletcher

Dr Miklos Gulascsi

Dr Tim Senden

Ms Laura Walmsley – Secretary

***Computing Policy Advisory Committee***

Dr Boyd Blackwell (Chair)

Dr Gordon Foote

Dr Stephen Gibson

Mr Heinz Horn

Professor John Mitchell

Dr Elena Ostrovskaya

Dr Marek Samoc

Dr Adrian Sheppard

Dr Hark Hoe Tan

*Executive members:*

Mrs Judith Huppatz (until May)

Mr Rana Ganguly (from June)

Mr Kevin Lonsdale

Dr Shiu Tin

***Annual Report Committee***

Professor Jim Williams

Professor Steve Buckman

Dr Keith Fifield

Dr Mark Knackstedt

Professor Brenton Lewis



Dr Timothy Wetherell

Ms Martina Landsmann

***Fixed-Term Academic Appointments Committee***

*To increase flexibility the Chair may second other School staff if required. Core members are:*

Professor Stephen Buckman (Chair)

Dr Nanda Dasgupta

Professor Rob Elliman

Professor Jeffrey Harris

Professor John Love

***Occupational Health & Safety Committee***

Mr Anthony Hyde (Chair)

Dr Keith Fifield (Deputy-Chair)

Mr Michael Blacksell

Mr Alan Cooper

Mr Kevin Lonsdale

Mr Gary Picker

Dr Maarten Vos

*By invitation:*

Mr Stephen Atree-Williams (ANU OH&S Unit)

Mr Tom Halstead

***Public Relations Committee***

Dr Tim Wetherell (Chair)

Professor Rod Boswell

Dr Aidan Byrne

Dr Stephen Gibson

Dr Miklos Gulacsi

Dr John Howard

Professor John Love

Professor Neil Manson

Dr Tim Senden

Professor Jim Williams

Ms Elena Wilson (Student representative)

***Local Promotions Committee***

Professor Jim Williams, Director (Chair)

Professor Rob Elliman

Professor Adrienne Hardham (RSBS)

Professor Stephen Hyde

Professor Neil Manson

Professor Leo Radom (RSC)

Secretary – Mrs Gayle Samuel

## Appendix – Invited Conference Presentations & Lectures

Legend:       \* *External to the University*  
              # *Member of another area of this University other than this School*  
              Presenter of contributed paper is underlined

**Petrotech-2003: 5<sup>th</sup> International Petroleum Conference and Exhibition**, New Delhi, India, 9-12 January

Arns, C.H., Sakellariou, A., Senden, T.J., Sheppard, A.P., Sok, R.M., Pinczewski, W.V.\* and Knackstedt, M.A. — *Virtual Core Laboratory: A Facility for Imaging and Modeling Petrophysical Properties of Sedimentary Rock*

**International Conference on Phonons in Condensed Materials**, Bhopal, India, 20-23 January

Das, M.P. — *Coupled Plasmon-phonon Modes in a Two Dimensional Electron Gas in Presence of Spin-orbit Interaction*

**NUPP Summer School 2003**, Victor Harbor, 20-24 January

Byrne, A.P. — *Shell Model Approaches to Multiparticle States in Heavy Nuclei*

Dasgupta, M. — *Nuclear Fusion: Towards the Driplines*

Hinde, D.J. — *Nuclear Fusion: Towards Superheavy Elements*

**Sydney University XAFS Workshop**, Sydney, 28 January

Ridgway, M.C. — *An EXAFS Beamline for the Australian Synchrotron*

**1<sup>st</sup> Australian Synchrotron Users Workshop**, Melbourne, 29-31 January

Ridgway, M.C. — *An EXAFS Beamline for the Australian Synchrotron*

**Centre of Nonlinear Studies Workshop: Advances in Raman-Based, High Speed Photonics: Raman Amplifiers, Data Transmission and Signal Processing**, Los Alamos, USA, 3-5 February

Akhmediev, N.N. — *Dissipative Solitons*

**Conference on Advanced Materials and Nanotechnology**, Wellington, New Zealand, 10-14 February

Jagdish, C. — *Atomic Interdiffusion for Photonic Integrated Circuits*

**TMS 2003: 132<sup>nd</sup> Annual Meeting & Exhibition**, San Diego, USA, 2-6 March

Williams, J.S. — *Ion-irradiation of Electronic Materials: Defects and Microstructures*

**International Workshop: Chaos in Nuclei from a Dynamical Point of View**, Beijing, China, 12-15 March

Kun, S.Yu. — *Critical Phenomena in Finite Quantum Many-body Systems*

**International Electric Propulsion Conference**, Toulouse, France, 17-21 March

Charles, C. and Boswell, R.W. — *The Helicon Double Layer Plasma Thruster*

**Number Theory and Combinatorics in Physics**, Gainesville, USA, 21-23 March

Batchelor, M.T. — *The XXZ Spin Chain and Combinatorics*

**Current Trends in International Fusion Research: Review and Assessment,**  
Washington, USA, 23-29 March

Sen, S. — *Transport Barrier by RF Waves*

**11<sup>th</sup> International Workshop on Optical Waveguide Theory & Numerical Modelling,**  
Prague, Czech Republic, 4-5 April

Love, J.D. — *Passive Planar Devices for Light Processing in Telecommunications*

**Materials Research Society Spring Meeting,** San Francisco, USA, 21-25 April

Smith, N., Lederer, M.J.\*, Samoc, M., Luther-Davies, B. and Elliman, R.G. — *Pump-probe Measurements Using Silicon Nanocrystal Waveguides*

Williams, J.S., Jagadish, C. and Kucheyev, S.O. — *Challenges for Device Processing of Group-III Nitrides and Zinc Oxide Using Ion Beam Technologies*

**Material Research Society Meeting, Symposium Y: Advanced Optical Processing of Materials,** San Francisco, USA, 22-25 April

Luo, X., Zha, C. and Luther-Davies, B. — *Anhydrous Sol-gel Synthesis of Zirconia-doped Siloxane Polymer for Integrated Optics*

Luo, X., Zha, C. and Luther-Davies, B. — *Synthesis of Photosensitive Organic-inorganic Hybrid Polymers via Anhydrous Sol-gel Process for Integrated Optics*

Luther-Davies, B., Kolev, V.Z., Lederer, M.J.\*, Yinlan, R., Samoc, M., Jarvis, R.A., Rode, A.V., Gieseckus, J.\*, Du, K.-M.\* and Duering, M.\* — *Ultrafast Pulsed Laser Deposition of Chalcogenide Glass Films for Low-loss Optical Waveguides*

Zegrioti, I.\*, Papazoglou, D.G.\*, Gamaly, E.G., Rode, A.V. and Fotakis, C.\* — *Studies on Ultra-sort Laser Microstructuring*

**CSIRO Centre for Complex Systems Science Workshop**, Canberra, 10-12 June

Ball, R. — *Stability and Control of Complex Dynamical Systems*

**5<sup>th</sup> Dublin Differential Equations Conference**, Dublin, Ireland, 10-14 June

Love, J.D. — *Differential Equations for Optical Communications – Rays, Modes & Light Processing*

**7<sup>th</sup> International Conference on Frontiers of Polymers and Advanced Materials (ICFPAM)**, Bucharest, Romania, 10-15 June

Samoc, A., Samoc, M., Luther-Davies, B., Kelly, J.F.<sup>#</sup>, Krausz E.<sup>#</sup>, and Willis A.C.<sup>#</sup> — *New Second-order Nonlinear Octupolar Molecules*

Samoc, M., Samoc, A., Luther-Davies, B., Humphrey, M.G.<sup>#</sup>, Cifuentes, M.P.<sup>#</sup>, Powell, C.E.<sup>#</sup>, Morrall, J.P. and Heath, G.A.<sup>#</sup> — *New Trends in the Studies of Third-order Nonlinearities of Organics*

**International Conference on Dynamic Inhomogeneities in Complex Systems**, Bled, Slovenia, 14-20 June

Gulacsi, M. — *Competing Interactions of Spin and Lattice in the Kondo Model*

**The VIII International Conference on Nucleus-Nucleus Collisions**, Moscow, Russia, 17-21 June

Dasgupta, M., Hinde, D.J., Morton, C.R. and Newton, J.O. — *Importance of Entrance Channel Dynamics on Heavy Element Formation*

**CLEO-Europe 2003**, Munich, Germany, 22-27 June

Kolev, V.Z., Lederer, M.J.\*, Luther-Davies, B., Rode, A.V., Tan, H.H. and Jagadish C. — *Ultra-low Variable Repetition Rate Nd:YVO4 Laser Mode-locked with Semiconductor Saturable Absorber Mirrors*

**European Quantum Electronics Conference**, Munich, Germany, 22-27 June

Grelu, P.\*, Belhache, F.\*, Soto-Crespo, J.M.\*, Akhmediev, N.N. — *Discrete Set of Separations Between Phase-locked Soliton Pairs in a Passively Mode-locked Fiber*

**Materials Science & Ion Beams**, Ontario, Canada, 25-27 June

Williams, J.S. — *Stitching: Cotton Buds and Scotchtape*

**5<sup>th</sup> International Conference on Transparent Optical Networks**, Warsaw, Poland, 29 June to 3 July

Tomljenovic-Hanic, S. — *Symmetry-selecting Gratings and their Applications*

**5<sup>th</sup> International Congress on Industrial and Applied Mathematics**, Sydney, 7-11 July

Akhmediev, N.N. — *Nonlinear Schrödinger Equation and its Varieties: Integrable, Hamiltonian and Dissipative Systems*

Sen, S. — *Effect of Parallel Flow on Ballooning Modes*

**20<sup>th</sup> International Conference on Organometallic Chemistry**, Corfu, Greece, 7-12 July

Humphrey, M.G.#, Cifuentes, M.P.#, Samoc, M., Isoshima, T.\* and Persoons, A.\* — *Hyper-structured Alkynylruthenium Complexes: Effect of Dimensional Evolution of NLO Properties*

**Australian Conference on Optical Fibre Technology 2003 (COIN/ACOFT),**  
Melbourne, 13-16 July

Luo, X., Zha, C. and Luther-Davies, B. — *Synthesis of Low-OH Photosensitive Ormosil Polymers via Anhydrous Sol-gel Process for Integrated Optics*

Ruan, Y., Luther-Davies, B., Li, W.T., Rode, A.V. and Krolikowski, W. — *Fabrication and Characterisation of  $As_2S_3$  Waveguides Etched by a Helicon Plasma*

**NATO Advanced Research Workshop Nonlinear Waves: Classical and Quantum Aspects,** Estoril, Portugal, 13-17 July

Akhmediev, N.N. — *Dissipative Solitons*

**Space Futures Conference,** Melbourne, 14-17 July

Charles, C., Boswell, R.W. and Sutherland, O. — *To Mars and Beyond, Plasma Thrusting into the Future*

**23<sup>rd</sup> International Conference, on Photonic Electronic and Atomic Collisions,**  
Stockholm, Sweden, 23-29 July

Buckman, S.J. — *Electron-molecule Collisions at Low Incident Energies*

Lower, J.C.A. — *Developments in Quantum State Resolved ( $e,2e$ ) Experiments*

**8<sup>th</sup> International Meeting on Hole Burning, Single Molecule and Related Spectroscopies: Science and Applications,** Bozeman, USA, 27-31 July

Sellars, M., Longdell, J.J., Fraval, E.L. and Manson, N.B. — *Rare Earth Quantum Computing*



**International Symposium on (e,2e) Double Photoionization and Related Topics,**  
Königsstein, Germany, 30 July to 2 August

Kheifets, A.S. — *Double Photoionization: Beyond Helium Atom*

**International Symposium on Electron-Molecule Collisions and Swarms,** Prague,  
Czech Republic, 30 July to 2 August

Robson, R.E., White, R.D.\* and Morrison, M.A.\* — *The Enduring e-H<sub>2</sub> Controversy: Is a New Transport Theory Required?*

**Linear and Nonlinear Optics of Organic Materials III,** San Diego, USA, 4 August

Lucas, N.T.<sup>#</sup>, Notaras, E.G.A., Humphrey, M.G.<sup>#</sup>, Samoc, M. and Luther-Davies, B. —  
*Syntheses, Characterization, and Optical Limiting Properties of Heterometallic Cluster-containing Polymers*

**Sagamore XIV, International Conference on Charge, Spin and Momentum Densities,** Broome, 13-18 August

Vos, M., Bowles, C.\*, Chen, C.\*, Kheifets, A.S., Sashin, V.A. and Weigold, E. —  
*Electron Momentum Spectroscopy of Single Crystal Silicon and Nickel Targets*

**International Workshop on Energy Storage and other Opportunities with Nuclear Isomers,** Idaho, USA, 14-15 August

Dracoulis, G.D. — Nuclear Structure Aspects of Isomer Formation

**XII International Workshop on Sol-gel Science and Technology,** Sydney, 25-29 August

Luo, X., Zha, C. and Luther-Davies, B. — *Anhydrous Sol-gel Synthesis of Titania-doped Siloxane Polymer for Integrated Optics*

**CSIRO Complex Systems Science Symposium and Project Development Workshop,**  
Sydney, 27-29 August

Ball, R. — *Cross-disciplinary Bridges in Complex Systems Science*

**12<sup>th</sup> International Conference on Radiation Effects in Insulators,** Gramado, Brazil, 31  
August to 5 September

Ridgway, M.C. — *Structural Perturbations and Amorphisation of Semiconductor  
Nanocrystals in a Silica Matrix*

**3<sup>rd</sup> European Conference on Neutron Scattering,** Montpellier, France, 3-6 September

Vos, M., Abdul-Redah, T.\* , Kleiner, C.\* and Chatzidimitriou-Dreismann, C.A.\* —  
*Anomalous Neutron Compton Scattering from Entangled Protons of a Solid Polymer*

**New Laser Technologies and Applications,** Patras, Greece, 5-8 September

Rode, A.V., Gamaly, E.G., Uteza, O.P.\*, Kolev, V.Z., Lederer, M.J.\* , and Luther-  
Davies, B. — *Generation of Third-harmonic Radiation of IR Picosecond Lasers for  
Ultrafast Pulsed Laser Deposition*

**Joint Meeting of the 14<sup>th</sup> World Congress on Animal, Plant and Microbial Toxins  
and Australian Society of Biophysics,** Adelaide, 14-19 September

Chung, S.-H. — *Plenary Lecture*

**X International Nicolas Cabrera Summer School, New Trends in Ion Beam Physics  
and Applications: A Road to Nanotechnologies** Miraflores de la Sierra, Madrid,  
Spain, 15-19 September

Elliman, R.G. — *Production of Si Nanocrystals by Ion-implantation in SiO<sub>2</sub> and Heavy-ion Elastic Recoil Detection Analysis*

**The 27<sup>th</sup> International Workshop on Condensed Matter Theories**, Toulouse, France, 15-20 September

Das, M.P. — *Landauer Formula without Landauer's Assumptions*

**International Conference on Advances in Optoelectronics and Lasers**, Alushta, Ukraine, 16-19 September

Jagadish, C. — *Quantum Well and Dot Intermixing for Photonic Integrated Circuits*

**NATO Advanced Research Workshop on Molecular Nanowires and other Quantum Objects**, Bled, Slovenia, 20-24 September

Gulacsi, M. — *Finite Temperature Luttinger Liquids*

**17<sup>th</sup> European Colloid and Interface Society Meeting**, Florence, Italy, 21-26 September

Hyde, S.T. — *Formation of Silica-carbonate Biomorphs*

**14<sup>th</sup> International Stellarator Workshop**, Greifswald, Germany, 22 September to 1 October

Howard, J., Michael, C.A., Glass, F. and Blackwell, B.D. — *Imaging of Ion Temperature and Flows in Edge Plasmas*

Shats, M.G., Punzmann, H., Xia, H. and Solomon, W.M. — *L-H Bifurcations as Phase Transitions, the Role of Zonal Flows and the Spectral Energy Transfer*

**Dynamics Days Conference**, Palma de Majorca, Spain, 23-26 September

Akhmediev, N.N. — *Dissipative Solitons*

**Materials 2003: Adaptive Materials for a Modern Society**, Sydney, 1-3 October

Williams, J.S. — *AMTN – The Vision*

**NATO Advanced Research Workshop on Symmetry and Heterogeneity in High Temperature Superconductors**, Erice, Italy, 4-10 October

Gulacsi, M. — *High Temperature Superconductivity: The Attractive Up Regime*

**Frontiers in Optics: The 87<sup>th</sup> OSA Annual Meeting and Exhibit Laser Science X1X**, Tuscon, USA, 5-9 October

Kivshar, Yu.S. — *Optical vs Matter-wave Solitons: Difference and Similarities*

Kivshar, Yu.S. — *Solitons in Optical and de Broglie Waves 11*

**Conference on Laser Ablation COLA'03**, Crete, Greece, 6-10 October

Luther-Davies, B., Kolev, V.Z., Lederer M.J.\* , Rode, A.V., Gieseckus, J.\* , Du, K-M\* and Duering, D. — *Table-top 50 W Laser System for Ultra-fast Laser Ablation*

**The 8<sup>th</sup> IUMRS International Conference on Advanced Materials**, Yokohama, Japan 8-13 October

Williams, J.S. — *Materials Research, Education and Networking in Australia*

**PIERS 2003**, Hawaii, USA, 13-16 October

Kivshar, Yu.S. — *Nonlinear Photonic Crystals and Circuits: Towards All-optical Technologies*

**2<sup>nd</sup> IFIP-TC6 International Conference on Optical Communications and Networks**  
Bangalore India, 20-22 October

Ankiewicz, A. — *Substantial Sidelobe Suppression in Optical Bandpass Filtering Using Grating-assisted and Apodized Directional Coupler*

**57<sup>th</sup> Gaseous Electronics Conference**, San Francisco, USA, 21-24 October

Buckman, S.J. — *Collisions with Laser-cooled Metastable He Atoms*

Herrick, A., Perry, A. and Boswell, R.W. — *Etching Silicon by SF<sub>6</sub> in a Continuous and Pulsed Power Helicon Reactor*

**CONSEA\*ACT 2003: Working Scientifically – Teaching and Experience**, CSIRO, Canberra, 23-24 October

Williams, J.S. — *Nanoscience and Nanotechnology*

**International Exposition and 73<sup>rd</sup> Annual Meeting of the Society of Exploration Geophysicists**, Dallas, USA, 27-31 October

Arns, C.A., Sakellariou, A., Senden, T.J., Sheppard, A.P., Sok, R.M., Knackstedt, M.A., Pinczewski, W.\* and Bunn, G.\* — *Virtual Core Laboratory: Properties of Reservoir Rock Derived from X-ray Images*

Arns, C.A., Sakellariou, A., Senden, T.J., Sheppard, A.P., Sok, R.M., Knackstedt, M.A., Pinczewski, W.\* and Bunn, G.\* — *Micro-CT Facility for Imaging Reservoir Rocks at Pore Scale*

**American Physical Society Division of Nuclear Physics Fall Meeting (DNP03)**, Tucson, USA, 29 October to 1 November

Lane, G.J. — *Structure of Neutron-rich Nuclei Near and Above Pb-208 Populated Using a Variety of Reaction Techniques*

**International Network of Nuclear Structure and Decay Data Evaluators, Vienna, Austria, 10-14 November**

Kibédi, T. and Spear, R.H. — *Electric Monopole Transitions*

Kibédi, T. — *ENSDFtools and Spectools*

**FUSION03: From a Tunneling Nuclear Microscope to Nuclear Processes in Matter, Miyagi, Japan, 12-15 November**

Dasgupta, M. — *The Nuclear Potential in Heavy Ion Fusion*

Hinde, D.J., Dasgupta, M., Morton, C.R. and Newton, J.O. — *Three Steps to Fusion*

**Asia Pacific Nanotechnology Forum, Oz Nano'03, Cairns, 19-21 November**

Elliman, R.G. — *Light Emission from Si Nanocrystals – Size Does Matter*

Rode, A.V., Gamaly, E.G., Christy, A.G., Fitz Gerald, J.G.<sup>#</sup>, Hyde, S.T., Elliman, R.G., Luther-Davies, B., Veinger, A.I.\*<sup>\*</sup>, Androulakis, J.\*<sup>\*</sup> and Giapintzakis, J.\*<sup>\*</sup> — *Unconventional Ferromagnetism in All-carbon Nanofoam*

Rode, A.V., Golberg, D.\*<sup>\*</sup>, Madsen, N.R., Mitome, M.\*<sup>\*</sup>, Bando M.\*<sup>\*</sup>, Gamaly, E.G. and Luther-Davies, B. — *BN-nanostructures Formed by Ultra-fast Laser Ablation*

**Workshop on Future Directions in Condensed Matter Physics, Melbourne, 26-27 November**

Das, M.P. — *Condensed Matter Theory: Revolution Continues*

**13<sup>th</sup> Nuclear Techniques of Analysis & 8<sup>th</sup> Vacuum Society of Australia Congress,**  
Sydney, 26-28 November

Elliman, R.G. — *Light Emission from Silicon Nanocrystals – Mechanisms and Applications*

**Australian Conference on Lasers, Optics, and Spectroscopy ACOLS'03,** Melbourne,  
30 November – 4 December

Madsen, N.R., Duering, M.\*, Gamaly, E.G., Rode, A.V., Kolev, V.Z., Gieseckus, J.\* and Luther-Davies, B. — *High Repetition Rate Laser-solid Interaction: Cumulative Ablation*

Luther-Davies, B., Kolev, V.Z., Lederer, M.J.\*, Madsen, N.R., Rode, A.V., Gieseckus, J.\*, Du, K-M.\* and Duering, M.\* — *Table-top 50 W Laser System for Ultra-fast Laser Ablation*

Jarvis, R.A., Rode A.V. and Luther-Davies B. — *Laser-written Waveguides in As<sub>2</sub>S<sub>3</sub> Chalcogenide Glass*

**First International Symposium on Radiation Physics,** Mexico, 1-3 December

Chadderton, L.T. — *Opening and Inaugural Presentation: The Nanotechnological World of Charged Particle Tracks in Solids*

**Materials Research Society Fall Meeting,** Boston, USA, 1-5 December

Deenapanray, P.N.K. — *Defect Engineering and Atomic Relocation Processes in Impurity-Free Disordered GaAs for Optoelectronic Devices Applications* (presented by Jagadish, C.)

**13<sup>th</sup> Gordon-Godfrey Condensed Matter Workshop,** Sydney, 3-4 December

Das, M.P. — *Physics of Mesoscopic Organic Transistors*

**International Conference on Materials Advances and Technology**, Singapore, 7-12 December

Tan, H.H. — *Interdiffusion in Quantum Wells and Quantum Dots and its Application to Optoelectronic Devices*

**International Toki Conference**, Toki City, Japan, 9-12 December

Dewar, R.L., Nuehrenberg, C.\*, Tatsuno, T.\* — *Quantum Chaos Theory and the Spectrum of Ideal-MHD Instabilities in Toroidal Plasmas*

**5<sup>th</sup> CLEO Pacific Rim Conference**, Taipei, Taiwan, 15-19 December

Akhmediev, N.N., Soto-Crespo, J.M.\* — *Composite Soliton Generation in Systems with Two Peak Spectral Filtering*

Akhmediev, N.N., Soto-Crespo, J.M.\*, Grelu, P.\*, Belhache, F.\* — *Generation of Interacting Pulse Pairs in Passively Mode-locked Fiber Lasers*

Love, J.D. — *Novel Adiabatic & Grating-Based Devices for WDM Wavelength Add/Drop Applications*

Maruno, K.-I., Ankiewicz, A., Akhmediev, N.N. — *Dissipative Solitons in Discrete Systems*

**IEEE Conference on Electron Devices and Solid State Circuits**, Hong Kong, 16-18 December

Lan, F. — *Spatial Selectivity of Impurity Free Vacancy Disorder Using Different Layers for Photonic/Optoelectronic Integrated Circuits*



## Appendix – Outreach Activities

### *Individual Outreach Activities*

**Murray Batchelor** supervised a student as part of the CSIRO Student Research Scheme.

**Aidan Byrne** presented a lecture on physics to groups of year-3-6 students at Wanniasa School and conducted a tour of the Department of Nuclear Physics Heavy Ion Facility for students from Canberra Girls Grammar. *Photos available*

**Anna Carnerup, Scott Collis, Ira Cooke, Fenton Glass, Lydia Knüfing and Gerd Schröder** participated in the Adopt-a-Physicist program, visiting different schools in Canberra, talking about their work and what it is like to be a scientist:

Sam Moreau from St Gregory's College, Campbelltown spent one week in the Department of Nuclear Physics to undertake a Vocational Education Work Placement in "Computer Aided Design and Machine Tool Production" supervised by **Alan Cooper** and **other members of the Technical Team**.

**Mahananda Dasgupta** conducted a tour of the Department of Nuclear Physics Heavy Ion Facility for approximately 20 students from Narrabundah College in October. *Photos available*

**Keith Fifield** conducted a lecture and a laboratory session for the ADFA Environmental Physics course students in May and jointly with Dr Steve Tims supervised two year-10 work experience students, Sue Xu and Brad Pillans, both from Canberra High School, for a period of one week during May.

**Stephen Hyde** delivered a public lecture, "Animal, Vegetable or Mineral: An Astrobiologist's Journey from Marble Bar to Mars", co-organised by the National Institutes for Physical Sciences and Biological Sciences, at the National Museum of

Australia. This work was also featured in a number of national and international radio and newspaper interviews in November.

**Stephen Hyde** and **Andy Christy** took part in the ABC documentary, "Alien Underworld", screened nationally for Science Week in August.

**C. Jagadish** visited IEEE Lasers and Electro-Optics Society chapters in Ukraine, Scotland, Turkey, Italy, Benelux, Dallas, Albuquerque, Denver, Boston, Baltimore, Norfolk, New Delhi and gave distinguished lecture seminars on "Quantum Well and Quantum Dot Intermixing for Integration of Optoelectronic Devices". He also gave an overview of the Research School and National Institute of Physical Sciences.

Scott McLachlan (B. Physics Engineering) and Sulabh Jain (B. Software Engineering) both final year students at Canberra University visited the Department of Nuclear Physics from March to November to undertake a "LINAC Cryogenics Control" project to develop a graphical user interface program, supervised by **Tibor Kibédi**.

**Dr S. Kuyucak** lectured the Honours Course "Electrodynamics" at the School of Physics, Sydney University

**Greg Lane** spoke at the National Youth Science Forum on "How I Became a Scientist" in January and supervised students Beina Wei (Hawker College) and Sudipto Pal (Narrabundah College) on a project "Magnetic Moments in Radioactive Lead Nuclei" as part of the CSIRO Student Research Scheme.

**John Love** gave a talk on photonics to the National Science Teachers Summer School at ANU in January. He presented introductory lectures on photonics at ANU to undergraduates in the Department of Physics in March and in the Department of Engineering in May. He supported the ANU and Photonics Institute involvement in the National Science Festival in Canberra and an Engineering Careers evening at University House. He organised the ACT Siemens Science & Engineering Experience involving ANU, University of Canberra and the CIT, which ran from 29 September to 1 October.

**Anna Samoc** provided laboratory tours for participants of the CUDOS Workshop in November and summer students.

**Andrew Stevenson** was a speaker and industry partner for the National Youth Science Forum held at the University of Canberra in January and a speaker and laboratory presenter for the ACT Siemens Science & Engineering Experience in September.

**Steve Tims, Aidan Byrne, Greg Lane, Nanda Dasgupta, David Hinde and Anna Wilson** ran workshops and conducted tours of the School's Heavy-Ion Facility for the Rio Tinto National Science Forum, the Siemens Winter School and the National Science Teacher's Summer School.

**Tessica Weijers** presented tutorials at the School of Physical, Environmental and Mathematical Sciences (formerly School of Physics) at the Australian Defence Force Academy, University of NSW.

**Anna Wilson** was closely involved in arranging the Women in Physics Lecture in Canberra, which is primarily aimed at high school students, in the hope of encouraging them to study physics at a higher level.

## **Appendix – Service to Outside Organisations**

### **Professor N. Akhmediev**

Member, Scientific Program Committee, 3<sup>rd</sup> IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Georgia, USA, April 2003

Member, Sub-committee, Nonlinear Guided Waves and Their Applications Conference, Toronto, Canada, March 2003

### **Dr A. Ankiewicz**

Member, Technical Committee, Australian Conference on Optical Fibre Technology, Melbourne, July 2003

Member, Technical Committee, European Conference on Optical Communications, Italy, September 2003

### **Dr T. Aste**

Founding Member and Member, Board of "ARIA-Canberra", the Association for the development of collaborative research between Italy and Australia

Founding Member, "Marie Curie national Group" for Australia

Member, EU collaboration, COST P10 Physics of Risk network (September 2003 – December 2007)

### **Dr K.G.H. Baldwin**

Member, Australian Research Council Expert Advisory Committee: Mathematics, Information and Communication Sciences

Chair, International Council on Quantum Electronics

Chair, Australian Institute of Physics Congress, Canberra, 2005

Member, General Organising Committee, International Conference on Laser Spectroscopy 2003

Treasurer, Vacuum Ultraviolet Conference XIV, Cairns, 2004

Member, Liaison Committee, Australian Conference on Optics, Lasers and Spectroscopy

Member, National Committee for Spectroscopy, Australian Academy of Science

Member, National Committee for Physics, Australian Academy of Science

Chair, Science Policy Committee, Federation of Australian Scientific and Technological Societies

Member, Australasian Council on Quantum Electronics

### **Dr R. Ball**

Minutes Secretary, ACT Branch of the Australian Institute of Physics

Liaison Officer, Forum for European-Australian Science and Technology Cooperations (FEAST-France)

Member, WISENET

Member, ANZIAM

**Dr T.T. Barrows**

Member, Committee Australasian Quaternary Association

Member, Committee National Institute for the Environment

Regional Coordinator, MARGO Project (Multiproxy Approach for the Reconstruction of the Glacial Ocean Surface)

**Professor M.T. Batchelor**

Member, Advisory Board, Journal Physics A

Referee, Grant Application, NSF, USA

Member, AIP Congress 2005 Program Committee

**Dr G.G. Borg**

Editor, Czech Journal of Physics

**Professor R.W. Boswell**

Member, Asia Pacific Conference on Plasma Science and Technology

Member, Forum for Europe and Australian Science and Technology

Member, Foreign Relations Committee, ATSE

**Professor S. Buckman**

Member, Editorial Board, New Journal of Physics

Chair, ACT Chapter, Fulbright Alumni Association

Member, Scientific Committee, International Conference on Electron Molecule Scattering

Member, International Scientific Committee, Symposium on the Physics of Ionized Gases (SPIG 21)

Member, Futures Committee, International Conference on Photonic, Electronic and Atomic Collisions

Member, Will Allis Prize Committee, American Physical Society

**Professor A.P. Byrne**

Member, Committee ACT Branch, Australian Institute of Physics

Member, Organising and Program Committees, 16<sup>th</sup> Biennial Congress of the Australian Institute of Physics, Canberra, 30 January – 4 February 2005

Member, Committee (Secretary/Treasurer) Nuclear and Particle Physics Group (NUPP), Australian Institute of Physics

Referee, The Engineering and Physical Sciences Research Council (EPSRC), UK proposals

**Dr S.J. Cavanagh**

Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

**Professor L.T. Chadderton**

Founding Editor, International Journal of Radiation Effects and Defects in Solids

Member, Editorial Advisory Board, Nuclear Tracks and Radiation Measurement

Member, Editorial Advisory Board, International Materials Science Forum

Member, Steering Committee, Bilateral Science & Technology Agreement, Mexico and the Federal Government of Australia

Member, United Nations Committee on Photovoltaic Applications in Less-Developed Countries, UN Centre for Science & Technology for Development

Member, International Committee, Biennial Conference Series on Radiation Effects in Insulators

Honorary Life Member, International Nuclear Track Society, and International Committee, Biennial Conference Series on Particle Tracks in Solids

Member, International Committee, Biennial Conference Series on Quantum Electrodynamics and Statistical Physics

Member, Advisory Committee, International Conference on Radiation Physics, Government of Mexico, Mexico DF

Member, Advisory Committee, Instituto de Petrolleo Mexicana, Mexico DF

**Dr Y. Chen**

Program Leader, ARC Centre of Excellence in Functional Nanomaterials

Member, Editorial Board, International Journals of Indian Nanotechnology

Regional Editor, Journal of Asian Pacific Nanotechnology Forum

Co-organiser, 2003 Annual Conference of the Australian National Nanotechnology Network (Nano Oz 03) and Asia Pacific Nanotechnology Forum (APNF03), 19-21 November 2003, The Hilton, Cairns.

Co-chair, Nanomaterials Program, 2003 Annual Conference of the Australian National Nanotechnology Network (NanoOz 03)

**Professor R.W. Crompton**

Vice-president, Australian Fulbright Association, ACT Chapter Convenor

Member, International Advisory Board, International Conferences on Atomic and Molecular Data and their Applications

**Dr M P. Das**

Member, Editorial Advisory Board, Journal of Physics: Condensed Matter

Member, Editorial Board, International Journal of Condensed Matter and Materials Communications

Co-convenor, Annual Gordon-Godfrey Research Workshops on Condensed Matter Physics

Member, International Advisory Committee, International Workshops on Condensed Matter Theories

Member, International Advisory Committee, International Conference on Phonons in Condensed Materials, Bhopal, India, January 2003

**Dr M. Dasgupta**

Member, Committee, Nuclear and Particle Physics Group, Australian Institute of Physics

Member, International Advisory Committee, Nuclear Structure, Astrophysics and Reactions International Conference, Surrey, UK, January 2005

**Professor R.L. Dewar**

Member, Commission 16, International Union of Pure and Applied Physics

Member, National Committee for Physics

Chair, ACT Branch Committee, Australian Institute of Physics

Member, International Advisory Committee, International Congress on Plasma Physics, Nice, France, October 2004

Member, Program Committee, International Toki Conference, Toki, Japan, December 2003

Alternate, Executive Committee, IEA Implementing Agreement on the Development of the Stellarator Concept

Member, Board of CSIRO Complex Systems Science Centre

Member, AIP Congress 2005 Organising Committee

**Dr T. Di Matteo**

Founding Member and Member, Board of "ARIA-Canberra", the Association for the development of collaborative research between Italy and Australia

Member, EU collaboration, COST P10 Physics of Risk network (September 2003 – December 2007)

**Professor G.D. Dracoulis**

Member, Committee, Nuclear and Particle Physics Group, Australian Institute of Physics

Member, North America Committee, Australian Academy of Science, International Program of Scientific Visits

Member, Program Advisory Committee, 88-inch Cyclotron (including Gammasphere), Lawrence Berkeley National Laboratory

Member, Australian Academy of Science, Reactor Working Group

Member, 19<sup>th</sup> AINSE Nuclear and Particle Physics Program Committee, (in association with the AIP Congress), Sydney

Member, International Advisory Committee, Conference on Nuclear Structure, Crete, July 2003

Member, International Advisory Committee, Conference on Radioactive nuclear Beams RNB6, Argonne National Laboratory, USA, September 2003

Member, International Advisory Committee, 8<sup>th</sup> International Spring Seminar on Nuclear Physics, Paestrum, Italy, May 2004

ANU Representative, Engineering and Physical Sciences Research Council (UK), ANU-EPSRC Agreement: Beam Time Allocation

Referee, Engineering and Physical Sciences Research Council (UK), Senior Research Fellowship Scheme

Expert Referee, Engineering and Physical Sciences Research Council (UK), Research Grants; Nuclear Physics Program

Evaluator, Foundation for Research Development (South Africa) - Evaluation of Research Outputs of Principal Grant Holders

Reader, Physical and Earth Sciences, Australian Research Council

### **Professor R.G. Elliman**

President, Australian Institute of Physics

Member, International Committee, International Conference on Ion Beam Modification of Materials

Member, International Committee, International Conference on Ion Beam Analysis

Member, International Committee, International Conference on Atomic Collisions in Solids

Member, Editorial Advisory Board, Vacuum

Member, ACT Branch Committee, Australian Institute of Physics

Member, Program Review Committee, Accelerator Applications Program, Australian Nuclear Science and Technology Organisation

Member, External Advisory Board, Microanalytical Research Centre, University of Melbourne

Member, Divisional Committee, Electronic Materials and Processing Division, International Union of Vacuum Science Techniques and Applications

Co-chair and Co-organiser, Symposium on Group IV Optoelectronics, MRS Spring Meeting, 2003

Member, Program Committee, Nuclear Techniques of Analysis Conference, Sydney, 26-28 November, 2003

### **Dr L.K. Fifield**



Member, Scientific Advisory Committee, 17<sup>th</sup> International Radiocarbon Conference, Wellington, New Zealand, September 2003

Major Grant Proposal Referee, United States NSF major facilities proposal 2003

ANU nominee, ACT Radiation Council

International member, AMS Strategy Group of the UK National Environment Research Council (NERC)

Major Grant Proposal Referee, NERC (UK)

### **Professor N. Fletcher**

Representative, Academy of Science and Academy of Technological Sciences and Engineering, on the Board of FEAST (the Forum for Europe-Australia Science and Technology collaboration)

Member, Selection Committee, Australia-Europe senior travel awards

Member, Selection Committee, Australia-USA travel awards for young researchers

Editor, Acoustics Australia

Associate Editor, Journal of the Acoustical Society of America

### **Dr S.T. Gibson**

Council and web membership database administrator, Australian Optical Society

Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

### **Dr M. Gulacsi**

Associate Editor, Philosophical Magazine, UK

Deputy Director General, International Biographical Center, UK

### **Professor J.H. Harris**

Member, Stellarator Physics Advisory Committee, Princeton Plasma Physics Laboratory, Princeton, USA

Member, Plasma Specialist Committee, AINSE

Member, Executive Committee, International Energy Agency Implementing Agreement for Research on Stellarators

### **Dr D.J. Hinde**

Member, International Advisory Committee, 8<sup>th</sup> International Conference on Nucleus-Nucleus Collisions, Moscow, 2003

Member, International Advisory Committee, FUSION03 International Conference, Japan, November 2003

Reader, Physical, Chemical and Earth Sciences, Australian Research Council

**Dr J. Howard**

Member, Editorial Board, Plasma Physics and Controlled Fusion

Member, 11<sup>th</sup> International Congress on Plasma Physics Program Committee

Treasurer, Australian Institute of Physics Congress, 2005

**Professor C. Jagadish**

Chair, IEEE Australian Chapter of Electron Devices and Lasers & Electro-Optics Societies

Member, Publications Committee, IEEE Electron Devices Society, USA

Member, Meetings Committee, IEEE Electron Devices Society, USA

Chair, Optoelectronic Devices Technical Committee of the IEEE Electron Devices Society, USA

Elected Member, Administrative Committee, IEEE Electron Devices Society, USA

Member, IEEE Compound Semiconductor Devices and Circuits Technical Committee, Electron Devices Society

Member, IEEE Nanotechnology Technical Committee, Electron Devices Society

Member, IEEE Lasers and Electro-Optics Society Quantum Electronics Award Selection Committee

Member, Administrative Committee, IEEE Nanotechnology Council

Chair, IEEE Nano-Optoelectronics and Nano-Photonics Technical Committee, Nanotechnology Council

Member, Dielectric Science & Technology Division Executive Committee, The Electrochemical Society, Inc.

Member, Electronics Division Executive Committee, The Electrochemical Society, Inc.

Associate Editor, IEEE/OSA Journal of Lightwave Technology

Associate Editor, Journal of Nanoscience and Nanotechnology, American Scientific Publishers

Member, Steering Committee, IEEE Journal of Lightwave Technology

Member, Editorial Board, Journal of Materials Sciences, Materials for Electronics, Kluwer

Member, International Editorial Advisory Board, Journal of Optical Society of Korea

Chair, Technical Program Committee, 3<sup>rd</sup> IEEE Conference on Nanotechnology, San Francisco, August 2003

Chair, Conference on Photonics: Design, Technology and Packaging, SPIE's International Symposium on Microelectronics, MEMS, and Nanotechnology, Perth, December 2003

Member, Program Sub-Committee on Active and Compound Semiconductor Devices, OSA Integrated Photonics Research Conference (IPRC 2003), Washington, USA, July 2003

Member, IEEE Lasers and Electro-Optics Society Annual Meeting, Optoelectronic Materials and Processing Program Committee, Tucson, USA, October 2003

Member, International Advisory Committee, IEEE Electron Devices and Solid State Circuits Conferences, Hong Kong, December 2003

Member, Steering Committee, IEEE 24<sup>th</sup> International Conference on Microelectronics, Nis, Yugoslavia, May 2004

Member, Scientific Advisory Committee, 2004 Conference on Optoelectronic and Microelectronic Materials and Devices, Australia, December 2004

Member, Program Committee, 13<sup>th</sup> International Semiconducting and Insulating Materials Conference, September 2004, Beijing, China

Member, International Advisory Committee, Photonics 2004, 7<sup>th</sup> International Conference on Optoelectronics, Fibre Optics and Photonics, Cochin, India, December 2004

Member, International Advisory Committee, COBRA, Inter University Research Institute for Communications Technology, Eindhoven University of Technology, The Netherlands

Member, International Advisory Board, The MacDiarmid Institute for Advanced Materials and Nanotechnology, Centre of Research Excellence, Victoria University of Wellington and University of Canterbury, New Zealand

Member, Expert Steering Committee, Nanotechnology Benchmarking Project, Australian Academy of Science

Professional Advisor, LEDEX Corporation

Director, Acton Semiconductors Pty Ltd

Reader, Australian Research Council

#### **Dr A.S. Kheifets**

Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

Editor, Proceedings of the 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics

#### **Professor Y.S. Kivshar**

Referee, Physics Letters A

Referee, Physica D

Referee, Optics Letters

Referee, Optics Communications

Referee, National Science Foundation, USA

Referee, Research Foundation of Singapore

Reader and Referee, Australian Research Council

#### **Dr M. Kono**

Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

#### **Dr W. Krolikowski**

Referee, Physical Review Letters and Physical Review A & E  
Referee, Journal of the Optical Society of America B  
Referee, Optics Letters, Optics Express & Optics Communications  
Referee, Acta Physica Polonica A

**Dr K. Kumar**

Member, Editorial Board, Transport Theory and Statistical Mechanics

**Professor B.R. Lewis**

Chairman, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004  
Associate Editor, Journal of Quantitative Spectroscopy and Radiative Transfer

**Professor J.D. Love**

Advisory Member, Far East & Australia, European Conference on Optical Communications, Italy, September 2003  
Member, International Advisory Committee, OptoElectronics & Communications Conference (OECC)  
Convenor, Singapore-Australia Photonics School, Singapore, September 2003  
Convenor, China-Australia Photonics School, Wuhan, September 2004  
Convenor, 2<sup>nd</sup> Korea-Australia Photonics School, Busan, October 2004  
Convenor, 13<sup>th</sup> International Workshop on Optical Waveguide Theory & Numerical Modelling, Kiama, July 2004  
Convenor, Physics in Industry Workshop, ANU, January 2005  
Co-convenor, Education & Training Workshop, CRC Association Conference, Canberra, May 2003  
Co-chair, Australian Conference on Optical Fibre Technology/Bragg Grating, Poling & Photosensitivity Conference (ACOFT/BGPP), Sydney, July 2005  
Director, ACT Siemens Science & Engineering Experience  
Director, Education & Training, Australian Photonics CRC  
Director, Photonics Institute Pty Ltd, Sydney  
Director, Australian Optical Society  
General Chair, International Congress on Optics, Australian Conference on Optical Fibre Technology, Australian Conference on Optics, Lasers & Spectroscopy (ICO/ACOFT/ACOLS), Sydney, July 2008  
Group Head, Australian Photonics CRC, ANU  
Honorary Ambassador for Canberra  
International Advisor, Network Technology Research Centre, Nanyang Technological University, Singapore  
Member, ACT Government, Knowledge Based Economy Board

Member, ACT Government, Knowledge Fund Panel  
Member, Korea-Australia Photonics Association Committee  
Member, Organising Committee, Australian Conference on Optical Fibre Technology (ACOFT)/Conference on the Optical Internet (COIN), Melbourne, July 2003  
Member, Organising Committee, Australian Institute of Physics Congress, Canberra, 2005  
Member, Steering Committee, Australian Conference on Optical Fibre Technology (ACOFT)  
Member, Technical Subcommittee, 5<sup>th</sup> Pacific Rim Conference on Lasers & Electro- Optics, Taipei, July 2003  
Member, Advisory Committee, International Symposium on Advances & Trends in Fibre Optics & Applications, Chongqing, China, October 2004  
Member, Organising Committee, Australian Conference on Optical Fibre Technology/Australian Optical Society Conference (ACOFT/AOS), ANU, July 2004  
Postgraduate research student supervisor, La Trobe University  
Postgraduate research student supervisor: University of Melbourne  
Postgraduate research student supervisor: University of Sydney  
Program Manager, Photonic Integrated Circuits, Australian Photonics CRC  
Reader, Australian Research Council  
Referee, Engineering & Physical Sciences Research Council, UK  
Referee, Research Grants Council, Hong Kong  
Referee, Agency for Science, Technology And Research, Singapore  
Referee, Journal of Lightwave Technology  
Referee, Optics Letters  
Referee, Optical & Quantum Electronics  
Referee, Journal of Physics  
Senior Vice-president Education, Photonics Institute, Bruce, ACT

**Dr J.C.A. Lower**

Member, General Committee, International Conference on Photonic, Electronics, and Atomic Collisions (ICPEAC)

**Professor B. Luther-Davies**

Research Director, Australian Photonics CRC - Canberra Node to October 2003  
Director, Board of Australian Photonics Pty Ltd.

**Dr D. Neshev**

Referee, Optics Letters

**Emeritus Professor B.W. Ninham**

Co-founder ANU Emeritus Faculty; Italian National Chair of Chemistry, Universities of Florence and Cagliari

Co-organiser, 17<sup>th</sup> International Conference of European Colloid and Interface Society

**Dr E. Ostrovskaya**

Referee, Physical Review Letters

Referee, Physical Review A

**Dr M. Petravic**

Member, Local Organising Committee, First Australian Synchrotron Summer School

**Dr M.C. Ridgway**

Member, Organising Committee/Program Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Radiation Physics, Australia 2004

Member, Organising Committee/Program Committee, 1<sup>st</sup> Australian Synchrotron Users Workshop, Australia 2003

Member, International Committee, Radiation Effects in Insulators International Conference Series

Chair, Photon Factory Specialist Committee, Australian Synchrotron Research Program

Member, Executive Committee, Australian Synchrotron Research Program

Chair, EXAFS Beamline Development Committee, Australian Synchrotron Project

Member, National Scientific Advisory Committee, Australian Synchrotron Project

Co-Chair, 1<sup>st</sup> Australian Synchrotron Summer School, Canberra, Australia 2004

**Dr B.A. Robson**

Member, Australian-French Association for Science and Technology (ACT) Incorporated

**Dr R.E. Robson**

National secretary, Australian Association of von Humboldt Fellows

**Dr T.J. Senden**

Board Member, The Rio Tinto Australian Sciences Olympiads

Consultant, Vita Life Sciences assisting with FDA submission

Member, Program Committee, biophysics representative, 2005 AIP Physics Congress

**Dr M.G. Shats**

Member, Program Committee, 11<sup>th</sup> International Congress on Plasma Physics

**Dr A. Stevenson**

General Manager and Advisory Committee Chair, Photonics Institute, Bruce, ACT  
Member, Program Reference Group, and consultant on new course development, Faculty of Science and Technology, Canberra Institute of Technology  
Co-convenor, CRC Education & Training Managers Meeting, CRCA Conference, Canberra, May 2003  
Member, ACT Branch Committee, Australian Institute of Physics

**Dr A.E. Stuchbery**

Chair, Nuclear and Particle Physics Group (NUPP), Australian Institute of Physics  
Reader, Physical, Chemical and Earth Sciences, Australian Research Council

**Dr M. Vos**

Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

**Professor E. Weigold**

Member, International Scientific Committee, International Conferences on X-Ray and Inner Shell Processes  
Member, International Scientific Advisory Committee, International Symposium on (e,2e) Double Photoionization and Related Topics, Frankfurt, Germany  
Member, International Organising Committee, Sagamore (International Conference on Charge, Spin and Momentum Densities)  
Member, Australian Academy of Science Committee, Major National Research Facilities  
Member, Finance Committee, Australian Academy of Science  
Member, International Scientific Committee, Electron and Photon Impact Ionization and Related Topics, Louvain-la-Neuve, Belgium, July 2004  
Member, International Advisory Committee, Spectroscopies in Novel Superconductors, Sitges, Spain, July 2004  
Chair, Innovation Access Program – International Science and Technology Competitive Grants Assessment Panel  
Chair, Australian Academy of Science 50<sup>th</sup> Anniversary Committee  
Member, Local Organising Committee, 14<sup>th</sup> International Conference on Vacuum Ultraviolet Physics, Cairns, 2004

**Professor J.S. Williams**

President, Australian Materials Research Society  
Member, Board Australian Materials Research Institute  
Member, Board CRC for Functional Communication Services

Member, Board National Youth Science Forum Council  
Member, Board Australian Phototonics CRC  
Member, Adhering Body Commission, International Union of Materials Research Society  
Member, Board Australian Materials Technology Network  
Member, Board Australian Maths Science Institute  
Member, 2004 Pawsey Medal Selection Committee, Australian Academy of Science  
Member, 2004 Selby Fellowship Selection Committee, Australian Academy of Science  
Professional Advisor, LEDEX Corp, Taiwan  
Director, Acton Semiconductors Pty Ltd

**Dr A.N. Wilson**

Member, Meetings Secretary, ACT Branch of Australian Institute of Physics  
Coordinator, Australian Institute of Physics Women in Physics Lecture (Canberra)  
Member, Organising Committee, Australian Institute of Physics Congress 2005



## **Appendix – Postdoctoral Fellowship Completions and Destinations**

**Dr Turgut Bastug** completed his term in December and took up a position at the University of Sydney.

**Dr Radmila Panajotovic** completed her term in November and took up a position at the University of Sherbrooke, Canada.

**Dr Vladimir Sashin** left in June and took up a position in medical physics at Geelong Hospital.

## Appendix – Students

### *Other Supervised Undergraduate Students*

Name	Home University/ANU Faculty	Host Department
Ms Reanna Albion	Physics Department	AM
Mr Christopher Brooke	FEIT	PRL
Mr Toen Castle	Mathematics Department	AM
Mr Owen Dive	Physics Department	AMPL
Mr Matthew Duggan	FEIT	EME
Mr Stanton Hooley	Physics Department	EME
Mr Bernt Johannessen	Physics Department	EME
Mr Ashley Norris	Physics Department	AMPL
Mr Martin Raynor	Physics Department	NP
Ms Tracy Slatyer	Physics Department	NP
Mr Khu Vu	Monash University	LPC
Mr Nan Ye	Engineering	AM

### *Summer/Winter Scholars*

Name	Home University	Host Department
Ms Reanna Albion	Australian National University	EME
Mr Gerard Atkinson	Australian National University	NP
Mr Christopher Brooke	Australian National University	PRL
Ms Eireann Cosgriffe	Melbourne University	TP
Mr Rhys Goodwin	Australian National University	PRL
Ms Katrina Hahn	Australian National University	AM
Mr Thomas Hanna	Australian National University	AMPL
Mr James Hata	University of Otago, NZ	PRL
Mr Chris Hollins	Australian National University	PRL
Mr Matthew Jeppesen	Melbourne University	NP
Mr Peter Liddicoat	Australian National University	EME

Mr Robert May	Australian National University	PRL
Ms Olivia Morrison	Australian National University	AM
Mr Joseph Nixon	Australian National University	PRL
Mr Nick Pak	University of Otago, NZ	LPC
Mr Lawrence Pashley	Australian National University	AM
Mr Thomas Pask	Brisbane University	AMPL
Ms Kathryn Pilypas	Flinders University	LPC
Mr James Ridgeway	Australian National University	PRL
Mr Michael Sheather	Australian National University	PRL
Ms Susie Sheehy	Melbourne University	NP
Mr Anthony Sinderman	Australian National University	PRL
Ms Erin Stonestreet	Australian National University	APG
Ms Melissa Tacy	Australian National University	TP
Mr Byron Villis	Melbourne University	LPC
Mr Andrew Walter	LaTrobe University	AMPL
Mr David Watts	Melbourne University	PRL
Mr Michael West	Sydney University	PRL

### *Visiting Scholars*

Name	Home University	Host Department
Mr Ghous Abid	University of NSW	AM
Ms Saher Ahmed	University of Birmingham, UK	NP
Mrs Ji-Youn Arns	University of NSW	AM
Mr Nick Ashwood	University of Birmingham, UK	NP
Mr Uli Assmann	University of Augsburg, Germany	EME
Mr Michael Baker	University of Wollongong	NP
Ms Tamara Baldwin	University of Surrey, UK	NP
Mr Steve Binnie	University of Edinburgh, UK	NP
Mr Alex Bissember	University of Wollongong	NP
Mr Massimo Bonini	University of Florence, Italy	AM
Mr Boris Breidenbach	MPI für Metallforschung, Germany	AM
Mr Tom Brown	University of York, UK	NP
Mr Mark Bucci	University of Wollongong	NP
Mr Jinil Chung	MPI, Greifswald, Germany	PRL
Mr Neil Curtis	University of Birmingham, UK	NP

Mr Andrew Davies	Michigan State University, USA	NP
Mr Malte Deuring	Fraunhofer Institute, Aachen, Germany	LPC
Ms Hasna El-Masri	University of Surrey, UK	NP
Mr Maurits Evers	Australian National University	TP
Ms Pearl Gallagher	University of Wollongong	NP
Mr Javier Garcia Garcia	Stockholm University, Sweden	AM
Mr Fernando Gesto	Australian National University	PRL
Mr Brant. Gibson	La Trobe University	APG
Mr Darren Groombridge	University of York, UK	NP
Mr Nick Hardcastle	University of Wollongong	NP
Mr Sulabh Jain	University of Canberra	NP
Ms Kellie Jericho	Flinders University	AM
Mr Jim Katsifolis	La Trobe University	APG
Mr Jeroen Koelemeij	Vrije Universiteit, The Netherlands	AMPL/LPC
Mr Michael Lane	Australian National University	NP
Mr Tobias Langenbruch	Australian National University	TP
Mr Francai Le Meur	University of NSW	AM
Mr Sean Liddick	Michigan State University, USA	NP
Mr Ole Christian Lind	Agricultural University of Norway	NP
Mr Paul McEwan	University of Birmingham, UK	NP
Mr Scott McLachlan	University of Canberra	NP
Mr Kristian Motzek	Darmstadt University of Tech, Germany	NPG
Mr Luis Munoz	University of Wollongong	NP
Ms Johanna Nes	Vrije Universiteit, The Netherlands	AMPL/LPC
Mr Viet Nguyen	University of NSW	AM
Mr Nikola Nikolov	Technical University of Denmark	NPG
Ms Susanne Olivier	University of Berne, Switzerland	NP
Mr Shannon Orbons	Flinders University	EME
Mr Peter Pace	Melbourne University	APG
Ms Rebecca Pitkin	University of York, UK	NP
Ms Meivy Ratachathong	University of Melbourne	AM
Ms Erin Redfearn	University of Wollongong	NP
Mr Tom Ryan	Sydney University	APG
Mr Etienne Sandre	Ecole Polytechnique, France	EME
Mr Jochen Schröder	Münster University, Germany	LPC
Mr Thomas Senn	EPFL, Switzerland	AMPL
Mr Santosh Kumar Shresta	ADFA, University of NSW	NP
Ms Lindis Skipperud	Agricultural University of Norway	NP

Mr Mathias Smolarski	University of Frankfurt, Germany	AMPL
Mr Arjan Sprengers	Vrije Universiteit, The Netherlands	AMPL
Mr David Sprouster	University of Wollongong	NP
Ms Tania Tehovnik	University of Wollongong	NP
Mr Cozmin Timis	University of Surrey, UK	NP
Mr Brian Tomlin	Michigan State University, USA	NP
Ms Sarah Turek	University of Wollongong	NP
Mr Russell Wood	University of Surrey, UK	NP
Mr Tony Young	University of Wollongong	NP

### ***Work Experience***

Name	School/College	Host Department
Ms Claire Li	Ginninderra College	LPC
Mr Geoffrey Pillans	Canberra High School	NP
Ms Sue Xueyu Xu	Canberra High School	NP

## **Appendix – University and School Services**

*Membership of regular School Committees is given under Internal Management*

### **Dr A. Ankiewicz**

Member, Physics Library Advisory Committee

Member, Cyclists' Reference Group

### **Dr K. Baldwin**

Member, RSPHysSE Careers Development Group

Member, Physics Library Advisory Committee

### **Professor M.T. Batchelor**

Deputy Coordinator, Centre for Complex Systems

Coordinator, Mathematical Physics Program, MSI

Promotions Committee, MSI

Board, MSI

Board of Studies Graduate Program in Mathematical Sciences

### **Dr B.D. Blackwell**

Member, ANU Information Technology Sponsors Committee

### **Professor S.J. Buckman**

Associate Director (Academic), RSPHysSE

### **Dr A.P. Byrne**

Member, Staff Selection Panels, Faculty of Science

Member, Staff Selection Panels, Department of Nuclear Physics

Convenor, Board of Studies, Graduate Program in Physical Sciences

Member, National Institute of Physical Sciences Management Committee

Convenor, Workshop in Nuclear Techniques, September 2003

Member, ANU Scholarships Selection Panel

### **Dr M. Dasgupta**

Member, Staff Selection Panels, Department of Nuclear Physics

Assistant Coordinator, Graduate Student Program for RSPHysSE (since August)

**Mr G.C.J. Davies**

Member, Radiation Committee

**Professor R.L. Dewar**

Coordinator, Centre for Complex Systems

**Professor G.D. Dracoulis**

Member, Staff Selection Panels, Department of Nuclear Physics

**Professor R. Elliman**

Member, ANU Board of the Institute of Advanced Study (BIAS)

Member, ANU Physical Sciences Library Committee (Physlac)

Member, ANU Major Equipment Committee (MEC)

Member, ANU Leadership Program Steering Committee

Member, RSPHysSE Equipment and Facilities Advisory Committee

Member, Physics Library Advisory Committee

**Dr L.K. Fifield**

Chair, Radiation Safety Sub-committee, ANU Occupational Health and Safety Policy Committee

Radiation Officer, Department of Nuclear Physics

**Professor N. Fletcher**

Member, Board, ANU Centre for Complex Systems

**Dr S.T. Gibson**

Member, Board of Studies, Graduate Program in Physical Sciences

Local IT Contact Representative, RSPHysSE

Member, Sub-committee evaluation and tender for RSPHysSE Computer Cluster

AMPL coordinator - group visits:

National Science Teacher's Summer School

National Youth Science Forum

Students of the Australian National Physics Competition.

**Professor J.H. Harris**

Member, ANU Research Committee

Member, ANU Board of the Institute of Advanced Study (BIAS) (until August)

Referee, IAS Performance and Planning Fund

IAS Representative, Review of the Faculties

**Dr D.J. Hinde**

Member, Staff Selection Panels, Department of Nuclear Physics

**Dr J. Howard**

School Honours Coordinator

**Professor S. Hyde**

Member, School Promotions Committee

Member, Advisory Committee of the High Performance Computing Facility, ANU

Member, Advisory Committee for the ANU Centre for Science and Engineering of Materials

**Professor C. Jagadish**

Member, Management Board, National Institute of Engineering and Information Science

Member, Academic Staffing Advisory Group

**Dr T. Kibédi**

Librarian, Department of Nuclear Physics Library

**Dr G.J. Lane**

Member, Staff Selection Panels, Department of Nuclear Physics

**Professor B.R. Lewis**

Member, Faculty, Research School of Astronomy and Astrophysics

Member, Scholarly Information Services Committee

Member, Information Strategy Committee

Member, Board of the Institute of Advanced Studies

Member, Physics Library Advisory Committee

Member, Science Library Advisory Committee

IAS Representative, Board of Faculties (from December)

**Professor N. Manson**

Associate Director (Students), RSPHysSE

Advisor, Graduate Program in Physics

ANU Laser Safety Officer



**Dr F.P. Mills**

Member, Faculty Board, Centre for Resource and Environmental Sciences

**Dr M. Ridgway**

Advisor, Graduate Program in the Science and Engineering of Materials

Member, Board of Studies, Graduate Program in Physics

Member, Board of Studies, Graduate Program in Environment

Chair, Cross-Campus Activities Committee, National Institute of Physical Sciences

Member, Steering Committee, Centre for the Science and Engineering of Materials

Editor, 2002 Annual Report, Research School of Physical Sciences and Engineering

**Dr B.A. Robson**

RSPHysSE Advisor on Integrity in Research

Convenor, Working Party, Jagadishwar Mahanty Prize

**Dr M.G. Shats**

Member, Physics Library Advisory Committee

Member, RSPHysSE Web Committee

**Ms A. Smith**

Member, RSPHysSE Area Classification Advisory Committee

Participant, ANU Career Development Scheme

**Dr S.G. Tims**

Deputy Radiation Officer, Department of Nuclear Physics

**Mr R.B. Turkentine**

Member, Tender Evaluation Committee for the supply of Liquid Nitrogen and Compressed Gases

**Professor J.S. Williams**

Convenor, National Institute for Physical Sciences

Chair, Board Science ANU

Member, BIAS

Member, ANU Deans & Directors

Member, Research Committee

Member, Research Policy Option Working Group

Member, University Insurance User Group

Member, Research Services Office User Group

Member, ANU Enterprise Bargaining Negotiating Team

Member, Advisory Board, ARC Centre of Excellence for Ultra-high bandwidth Devices for Optical Systems (CUDOS)

Member, Selection Committee, Fellow/Senior Fellow, Research School of Astronomy and Astrophysics

Member, Selection Committee, DVC(R)

Member, Selection Committee, Dean – Research School of Chemistry

**Dr A.N. Wilson**

Editor, Department of Nuclear Physics Annual Report

## Appendix – Visitors

Name	Home University/Institute	Host Department
Dr S. Anand	The Royal Institute of Technology, Sweden	EME
Dr L. Avaldi	Consiglio Nazionale delle Ricerche, IMIP, Italy	AMPL
Dr D. Balabanski	University of Sofia, Bulgaria	NP
Professor A. Bansil	Northeastern University, USA	AMPL
Professor B. Barbiellini	Northeastern University, USA	AMPL
Professor P. Barker	University of Auckland, NZ	NP
Dr J. Bartels	University of Bonn, Germany	EME
Professor K. Bartschat	Drake University, USA	AMPL
A/Professor R. Blaikie	University of Canterbury, NZ	EME
Dr E. Boaretto	Weizmann Institute, Israel	NP
Dr M. Boström	Linköping University, Sweden	AM
Dr B. Bouriquet	University of Kyoto, Japan	NP
Professor L. Brehmer	University of Potsdam, German	LPC
Professor C. Brion	University of British Columbia, Canada	AMPL
Mr S. Brown	Business ACT	APG
Dr W. Catford	University of Surrey, UK	NP
Professor A. Chatzidimitriou Dreismann	Technical University Berlin, Germany	AMPL
Professor H. Cho	Chungnam National University, Korea	AMPL
Dr N. Clarke	University of Birmingham, UK	NP
Dr J. DeGier	University of Melbourne	TP
Dr M. Deleuze	Limburgs Universitair Centrum, Belgium	AMPL
Dr A. Dharamsi	Old Dominion University, USA	EME
Professor J. Di Meglio	Université de Paris, France	AM
Dr A. Dowling	University of Victoria, Canada	NP
Professor P. Drummond	University of Queensland	NPG
Professor S. Durbin	University of Canterbury, New Zealand	EME
Mr M. Düring	Fraunhofer Institute, Aachen, Germany	LPC
Dr R. Ettl	BASF, Germany	AM
Professor P.M. Fauchet	University of Rochester, USA	EME
Dr P. Fichtner	Federal University Rio Grande do Sul, Brazil	EME
Dr S. Fox	University of York, UK	NP
Dr M. Freer	University of Birmingham, UK	NP

Professor B. Fricke	University of Kassel, Germany	TP
Professor H. Friedrich	Technische Universität München, Germany	AMPL/TP
Professor B. Fulton	University of York, UK	NP
Professor M. Gal	University of New South Wales	EME
Professor W. Geldart	Dalhousie University, Canada	TP
Dr J. Gieseckus	Fraunhofer Institute, Aachen, Germany	LPC
Dr I.I. Gonchar	Omsk State Railway University, Russia	NP
Dr B. Greenhalgh	University of York, UK	NP
Dr D. Groombridge	University of York, UK	NP
Dr P. Hemmer	Texas A & M University, USA	LPC
Mr R. Holgate	Business ACT	APG
Dr M. Hoogerland	University of Auckland, NZ	AMPL
Dr M. Hurdal	Florida State University, USA	AM
Dr T. Itina	University Aux Marseille, France	LPC
Mr P. Jagpal	University of Birmingham, UK	NP
Professor B. Kenny	University of Western Australia	TP
Mr J. Koelemeij	Vrije Universiteit Amsterdam, The Netherlands	LPC
Professor G. Korschinek	Technical University of Munich, Germany	NP
Professor V. Krishnamurthy	University of British Columbia, Canada	TP
Professor M. Leduc	École Normale Supérieure, France	AMPL/LPC
Dr F. Ladouceur	Bandwidth Foundry, Sydney	APG
Professor S. Lee	Daejeon University, Korea	EME
Professor Y-H. Lee	Advanced Institute of Science & Technology, Korea	EME
Dr J.P. Lestone	Los Alamos National Laboratory, USA	NP
Professor G. Leuchs	University of Erlangen-Nürnberg, Germany	NPG
Dr K. Liu	University of Peking, China	NP
Dr A. Macchiavelli	Lawrence Berkeley National Laboratory, USA	NP
Dr C. Maden	ETH, Zurich, Switzerland	NP
Dr D. Mahboub	University of Surrey, UK	NP
Professor B. Malomed	Tel Aviv University, Israel	NPG
Professor J.B. McGuire	Florida Atlantic University, USA	TP
Professor B. McKellar	University of Melbourne	TP
Mr R. McKerracher	Optical Fibre Technology Centre	NPG
Dr K. Mecke	MPI für Metallforschung, Stuttgart, Germany	AM
Dr T. Mertzimekis	Michigan State University, USA	NP
Professor I.V. Mitchell	University of Western Ontario, Canada	EME
Professor T. Miwa	Kyoto University, Japan	TP
Dr. U. Morgenstern	Geological and Nuclear Sciences, Wellington, NZ	NP

Dr A. Navin	TIFR, Mumbai, India	NP
Ms J. Nes	Vrije Universiteit Amsterdam, The Netherlands	LPC
Professor D. Oughton	Agricultural University of Norway	NP
Dr G. Periera	University of Sydney	AM
Dr T. Pertsch	Friedrich-Schiller University of Jena, Germany	NPG
Professor W. V. Pinczewski	University of NSW	AM
Dr V. Pucknell	Daresbury Laboratory, UK	NP
Dr T.A. Redah	ISIS, UK and University of Kent, UK	AMPL
Dr J. Reiche	University of Potsdam, Germany	LPC
Dr C. Roberts	Argonne National Laboratory, USA	TP
Dr A. Samarin	IOS, Switzerland	TP
Mr S. Scheeler	Bandwidth Foundry, Sydney	APG
Professor H. Schmidt-Böcking	University of Frankfurt, Germany	AMPL
Dr B. Schulz	University of Potsdam, Germany	LPC
Professor G. Shlyapnikov	FOM Institute, The Netherlands	NPG
A/Professor M.Y. Simmons	University of NSW	EME
Dr P. Smith	Harvard Center for Astrophysics, USA	AMPL
Mr A. Sprengers	Vrije Universiteit Amsterdam, The Netherlands	LPC
Dr W. Standring	Agricultural University of Norway	NP
Dr B.Q. Sun	University of New South Wales	EME
Dr K. Tamada	National Institute of Advanced Industrial S&T, Japan	AM
Mr D. Thorncraft	Bishop Innovation Ltd, Sydney	APG
Professor V. Tikhonchuk	University of Bordeaux, France	LPC
Professor T. Tran	Nuclear Physics Centre, Vietnam	NP
Dr Z. Tsuboi	University of Tokyo, Japan	TP
Dr O. Uteza	University Aux Marseille, France	LPC
Dr R. Vianden	University of Bonn, Germany	EME
Dr T. Vukasinac	University of Mexico, Mexico	TP
Dr K. Vyvey	University of Leuven, Belgium	NP
Dr L. Wacker	ETH Zurich, Switzerland	NP
Dr F. Waelbroeck	University of Texas, USA	TP
Professor P. Walker	University of Surrey, UK	NP
Dr D. Watson	University of York, UK	NP
Mr T. White	CUDOS, University of Sydney	NPG
Professor H.J. Whitlow	University of Lund, Sweden	EME
Dr H-J. Woo	Institute of Geoscience & Mineral Resources, Korea	EME
Dr M. Zhang	University of New South Wales	EME
Dr V. Ziman	University of Birmingham, UK	NP



## Appendix – Workshops and Conferences

**The International Congress on Industrial and Applied Mathematics (ICIAM 2003)** was held in Sydney from 7-11 July. Professor Dewar organised a minisymposium on *Spectral Problems in MHD Wave and Instability Theory* as part of ICIAM 2003.

The 3rd Annual **Workshop on Nuclear Techniques**, organised by Dr Aidan Byrne, was held from 22-25 September in the Department of Nuclear Physics. Eleven undergraduate students from the University of Wollongong's Medical Physics program participated in this year's workshop. The workshop program is designed to actively engage students in the fundamentals of the measurements of nuclear radiations and the elements of isotope production using accelerator facilities. Students participated in an intensive four-day program that included experiments on the 14UD heavy-ion accelerator. Topics covered included radiation safety, detector design and operation, isotope production, accelerator operation.

(Photographs taken during the Workshop are available at <http://www.rphysse.anu.edu.au/nuclear/workshops/Workshop2003.html> )

The Department of Applied Mathematics hosted the **New Materials and Complexity Conference** in Kioloa from 3-9 November. The conference was supported by the Edith and Joy London Foundation and the Scientific Attaché of the Italian Embassy. Participants attended from Italy, Germany, France, Japan, New Zealand, Sweden and the UK.

**The 30<sup>th</sup> Annual Australian Statistical Mechanics Meeting** was held from 1-2 December and organised by Professor M.T. Batchelor.

**The 13<sup>th</sup> Gordon-Godfrey Workshop on Condensed Matter Physics: Condensed Matter**, was held from 3-4 December at the Coogee Bay Hotel, Sydney, and was organised by Dr M.P. Das.