

## **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. Mokkaati, 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 Oligophenylenevinylenes

**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. Beausang, 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-University 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