FOR FURTHER INFORMATION PLEASE CONTACT

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Research School of Physics and Engineering
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Director’s Report

Professor Jim Williams

The Research School of Physics and Engineering (RSPE) is the leading institution in the country for physics research and its applications. It is the largest physics-based research activity by some measure with over 140 academics during 2010.

RSPE maintains excellence in education and training standards and ensures a quality educational experience for all our students. We continue to develop our staff to their full potential whilst ensuring that staff skills are matched to priority directions, and implement appropriate succession planning to replace key late career staff. It is the ability of the School to launch appropriately resourced research efforts built around outstanding staff in a number of important areas of national significance, the unique and integrated research infrastructure and the interdisciplinary collaboration with colleagues across the ANU, nationally and internationally, that distinguish the School’s research effort and capacity.

Grant successes during 2010 from the Australian Research Council included two new Centre of Excellence nodes, 19 discovery projects, nine Future Fellowships, two linkage projects and one linkage infrastructure Equipment and Facility (LIEF). The School is also involved in four externally-led LIEF grants, with some of the equipment being located at the School. Along with the award of five super science fellowships, and other grant successes of note were the award of an Australian Space Research Program from the Department of Innovation, Industry, Science and Research (DIISR), three from the Australian Nuclear Science and Technology Organisation (ANSTO) and eight from the Australian Synchrotron Company Ltd.

During 2010 the School significantly ramped up its development program to grow non-conventional funding through focusing on individual donors, foundations and companies including the appointment of a Development Manager, the formation of a Development Board, the consolidation of School endowments and planning towards philanthropic endowed funds (initially endowed chairs in areas of research strength) the encouragement of work place giving and the engagement with Alumni and friends of the School.

The School also lead a cross-campus effort to coordinate energy research at ANU, through an Energy Change Institute. A tenure policy was formulated and a position paper for succession planning drafted, as well as mentoring of mid-career academics in the School. We continue to communicate our research achievements through ScienceWise and ANU Reporter as well as key press releases of scientific breakthroughs.

External collaborations with colleagues from national or international institutions are indicated through:

- Published works - 66% (330 of 499) have been as a result of collaborations with external authors;
- Research Grants - 49% (81 of 179) have been as a result of collaborations with external institutions; and
- Visiting Fellows – 62 visiting fellows have spent a substantial period of time at the school during the year.

The School also continued its strong performance in commercialization of its research through more than 30 grants or research contacts with industry and four active spin-off companies in 2010.

Jim Williams
Staff Accomplishments

External Honours and Awards

- **Professor Nail Akhmediev** - Humboldt Research Award, Alexander von Humboldt Foundation
- **Professor Hans Bachor** – Harrie Massey Medal and Prize, Institute of Physics and the W.H. (Beattie) Steel Medal, Australian Optical Society
- **Professor Ken Baldwin** - Barry Inglis Medal, National Measurement Institute
- **Professor Vladimir Bazhanov** – Fellowship, Australian Academy of Science
- **Dr Darren Goossens** - ACT Young Tall Poppy Scientist of the Year, Australian Institute of Policy & Science
- **Dr Matthew Hole** – Young Scientist Prize, International Union of Pure and Applied Physics
- **Distinguished Professor Chennupati Jagadish** - Fellowship, Materials Research Society and the Quantum Device Award, 37th International Symposium on Compound Semiconductors Steering Committee
- **Professor Mark Knackstedt** - New Frontiers of Hydrocarbons Prize, ENI Award 2010 and Fellowship, Australian Academy of Technological Sciences and Engineering
- **Professor David McClelland** – Fellowship, American Physical Society
- **Dr Craig Savage** - Outstanding Contribution to Student Learning, Australian Learning and Teaching Council
- **Professor Jim Williams** – Thomas Ranken Lyle Medal, Australian Academy of Science

Promotions

**Level B**: Drs Andrew Kingston, Avi Shalav, Dinesh Venkatachalam and Zhiyong Xu  
**Level C**: Dr Ilya Shadrivov  
**Level D**: Drs Tibor Kibedi, Stephen Madden, Dragomir Neshev, Matthew Sellars, Andrew Truscott, Anna Wilson, and Yin Yin Wong-Leung  
**Level E**: Drs Christine Charles, Craig Savage and Tim Senden

ANU Vice-Chancellor awards

- Mr Alan Cooper, Career Achievement  
- Dr Darren Goossens, Excellence in Education  
- Dr Joseph Hope, Excellence in Education  
- Mr Bernie King, Innovation & Excellence in Service Quality
Fellowships of Australian Academies and International Societies

American Physical Society (APS)
- Professor Kenneth Baldwin (since 2008)
- Professor Rod Boswell (since 1998)
- Professor Stephen Buckman (since 1998)
- Emeritus Professor Robert Crompton (since 1995)*
- Adjunct Professor Mukunda Das (2003)*
- Professor Robert Dewar (since 1980)
- Professor George Dracoulis (since 1993)*
- Professor Chennupati Jagadish (since 2003)
- Professor Anatoli Kheifets (since 2004)
- Professor Yuri Kivshar (since 2006)
- Professor Brenton Lewis (since 2001)*
- Emeritus Professor Erich Weigold (since 1990)*
- Professor Jim Williams (since 2006)

Australian Academy of Science (AAS)
- Professor Rod Boswell (since 2008)
- Professor Vladimir Bashanov (since 2010)
- Emeritus Professor Robert Crompton (since 1979)*
- Professor Robert Dewar (since 1992)
- Professor George Dracoulis (since 1997)*
- Professor Neville Fletcher (since 1976)*
- Professor David Hinde (2006)
- Professor Stephen Hyde (since 2005)
- Professor Chennupati Jagadish (since 2005)
- Professor Yuri Kivshar (since 2002)
- Professor Stjepan Marcelja (since 1991)*
- Emeritus Professor Barry Ninham (since 1978)*
- Emeritus Professor Erich Weigold (since 1986)*
- Professor Jim Williams (since 2003)

Australian Academy of Technological Sciences and Engineering (ATSE)
- Professor Rod Boswell (since 1999)
- Professor Neville Fletcher (since 1987)*
- Professor Chennupati Jagadish (since 2002)
- Professor Barry Luther-Davies (since 2005)
- Emeritus Professor Erich Weigold (since 1996)*
- Professor Jim Williams (since 1992)

Institute of Electrical and Electronics Engineers (IEEE)
- Professor Chennupati Jagadish (since 2002)

Materials Research Society (MRS)
- Professor Jim Williams (since 2008)

Optical Society of America (OSA)
- Professor Hans Bachor (since 2009)*
- Professor Kenneth Baldwin (since 2000)
- Professor Chennupati Jagadish (since 2005)
- Professor Yuri Kivshar (since 2001)
- Professor Wieslaw Krolikowski (since 2007)
- Professor Brenton Lewis (since 2003)*
- Professor Barry Luther-Davies (since 2006)
Significant Outreach Activities

The RSPE Founder’s Day was held on 15 October with invited guests from ANU, government organisations, industry and the media, as well as former employees. Two School development events were held for donors, alumni and friends of the School in July and November each involving public lectures available for the wider community. The following are examples of some major research and student events where RSPE staff members were key organisers:

- Professor Stephen Buckman, Dr Christine Charles,– Advisory Group, 16th Gaseous Electronics Meeting, Batemans Bay (31 January)
- Professor Rod Boswell - LAM Research retreat and lecture series, LAM Research Corporation, Lake Tahoe, California (first half of 2010)
- Professors Robert Dewar and Murray Batchelor – International Advisory Committee, Dynamic Days Asia Pacific 6, Sydney (12-14 July)
- Professor Murray Batchelor, Organizing Committee – Statphys 24, XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), Cairns, Queensland (19-23 July)
- Professors Jim Williams and Chennupati Jagadish, Organizing Committee, Joint ARNAM/ARCNN Early Career Researcher Workshop, Adelaide (19-23 July)
- Professor Hans Bachor – Program Committee, International Conference on Atomic Physics Student Workshop, Cape Tribulation (21-23 July)
- Professors Ken Baldwin, Hans Bachor – Local Organizing Committee, International Conference on Atomic Physics, Cairns (25-30 July)
- Professor Stephen Buckman – Organising Committee, International Workshop on Slow Positron Beam Techniques, Magnetic Island, Queensland (1-6 August)
- School delegation visit to the Colorado School of Mines; National Renewable Energy Laboratory and the Australian Embassy, Washington DC (29 August - 2 September)
- Professor Hans Bachor – Laserfest: 50 years of Lasers and a Brilliant Future, Macquarie University, Sydney (8 September)
- Professor Barry Luther-Davies - Laserfest: Beaming with Pride, Celebrating 50 Years of Laser Innovation, University of Sydney, Sydney (10 November)
- Professor Hans Bachor – Laserfest: 50 years of Lasers and a Brilliant Future, Questacon, Canberra (19 November)
- Dr Matthew Hole – Chair, Australian ITER Forum, International Thermonuclear Energy Research
- Dr Hark Hoe Tan, Professor Chennupati Jagadish, Organizing Committee, Conference on Optoelectronic and Microelectronic Materials and Devices, Canberra (12-15 December)
- Professor Rod Boswell – President, Australia-France Association of Scientific and Technical Experts Committee, Alliance Française
Research

The Research School of Physics and Engineering (RSPE) is the largest university-based institution in the country for physics research and its applications by some measure, with over 140 academics, 130 general staff and 140 post graduate students.

The School’s research thrusts in selected areas of strength cover the entire spectrum from fundamental research (understanding nature) through applied research to pre-commercial development. The research program is built around three “big picture” themes: quantum science and technology; advanced materials and technology, and energy and environmental science and technology.

The School continued to excel in its research performance, with almost 500 journal publications in 2010 and its staff involved in more than 200 major international conferences.

The link between research and teaching is critical to the future of the School and the nation. The School has made a major commitment in using its research strength and scale, together with its unique mix of outstanding researchers, teachers and infrastructure, to developing world leading education programs for gifted students that link directly to postgraduate research study. The research and teaching links are not only confined to the Physics discipline but have significant involvement with Engineering in CECS and in other science disciplines in CPMS and CMBE.

RSPE is comprised of nine research departments. A brief description of each department is detailed in the following pages as well as a list of staff dedicated to that area.

- Applied Mathematics
- Atomic & Molecular Physics Laboratories
- Electronic Materials Engineering
- Laser Physics
- Nonlinear Physics
- Nuclear Physics
- Plasma Research Laboratory
- Quantum Science
- Theoretical Physics

Professor Ken Baldwin, Deputy Director (Research) is also Deputy Director of the Australian Research Council Centre of Excellence for Quantum-Atom Optics and Professor in the Atomic and Molecular Physics Laboratories.
Condensed matter and materials research dominates the research performed in the Department but we are notoriously difficult to pigeon-hole as the range of research programs currently underway are numerous and diverse; for example, statistical mechanical studies of liquids at interfaces, specific ion effects in soft matter, modelling and experiments of multiphase flow properties of oil-bearing rocks, tomographic imaging of fossils, nanobubbles for cleaning, low dimensional geometry and topology as structure descriptors and studies of networks and are all part of the department's ongoing research programs. This large portfolio of research is possible due to our strong network of collaborators around the world and the contribution of individuals in the Department to areas outside of their core areas of interest.

A significant part of the Department's effort has been funded by a large international consortium of oil and gas companies and the Department has recently spun-off a start-up company, Digicore, to service a strong and growing worldwide demand for X-Ray CT experiments and analysis of rock cores.

We are also commercializing a puzzle toy that has developed from one of the long-term research themes of the Department.
Academic Staff

Heads of Department
Vince Craig PhD, ARC FF (from July)
Mark Knackstedt BSc Columbia, PhD Rice
(until July)

Professors
Stephen Hyde PhD Monash, ARC FF
Mark Knackstedt BSc Columbia, PhD Rice
David Williams BSc Sydney, PhD Cambridge

Senior Fellows
Tomaso Aste DipHons Genova, PhD Milan
Vince Craig PhD, ARC FT
Tim Senden PhD
Adrian Sheppard BSc Adelaide, PhD

Research Fellows
Lilliana De Campo PhD Graz
Andrew Fogden PhD Docent Lund
David King BSc
Shannon Notley PhD
Drew Parsons PhD
Vanessa Robins PhD Colorado
Ross Stephens PhD Sydney
Arthur Sakellariou PhD Melbourne
Rob Sok BSc PhD Groningen
Trond Varslot PhD NTNU

Postdoctoral Fellows
Nicolas Francois PhD Bordeaux (from September)
Anthony Jones PhD (until September)
Andrew Kingston PhD Monash
Shane Latham PhD UQ
Guangming Liu PhD China
Mahyar Madadi BSc Tehran, PhD IASBS
Glenn Myers PhD Monash
Mohammad Saadatfar PhD (from November)
Vincent Tariel PhD Ecole Polytechnique (from July)
Peter Wood PhD Flinders (until June)

General Staff

Technical, Administrative & IT Officers
Holger Averdunk
Anthony Hyde AssocIE
Janet James (until July)
Jill Middleton
Tim Sawkins
Paul Veldkamp BSc BEc

Departmental Administrator
Margo Davies DipDent Tasmania

Visiting Fellows
Dr Christoph Arns, UNSW
Dr Ji-Youn Arns, UNSW
Dr Judith Caton
Mr Arthur Davies
Dr Gareth Delaney
Dr Tiziana Di Matteo
Ms Christine Henry
Prof Stjepan Marcelja, University of Rochester
Dr Yasmin Melean, University of Venezuela
Prof Norman Morrow, University of Wyoming
Prof Barry Ninham
Mr Jafar Qajar, UNSW
Dr Ewa Radlinksa
Mr Rodney Urquhart
Atomic & Molecular Physics Laboratories

The Atomic and Molecular Physics Laboratories are engaged in a broad range of experimental, theoretical and computational studies of the interaction of electrons, positrons, and photons with atoms, molecules and solids, in order both to further our knowledge of fundamental physical and chemical processes, and to provide essential information that is critical to applications in other scientific disciplines, technology, and the environment.

The Laboratories research activities include Photon interactions: VUV/XUV laser spectroscopy, laser photodetachment and photofragment spectroscopy, computational molecular physics, computational planetary atmospheres, computational multiple photo ionization; Positron and electron interactions: low-energy positron and electron physics, materials studies with positrons, (e-2e) studies of gases, Electron Momentum Spectroscopy studies of gases and solids, and computational studies of charged particle interactions; and Quantum-Atom Optics: Bose Einstein condensation studies of helium atoms, atom manipulation, experimental tests of QED theory, and quantum-atom optics.

The Laboratories also host two Australian Research Council Centres of Excellence: the Australian Research Council Centre of Excellence for Quantum-Atom Optics (ACQAO), which plays a leading role in the study of the quantum properties of Bose-Einstein condensates and atom lasers via insights gained from quantum optics; and the Australian Research Council Centre of Excellence for Antimatter-Matter Studies (CAMS), whose experimental and theoretical program is based on the study of the interaction of positrons and electrons with matter.
Academic Staff

Professors and Heads of Laboratories
Brenton Lewis PhD DSc Adelaide, C Phys, FInstP, FAPS, FOSA, FAIP (until June)
Stephen Buckman BSc PhD Flinders, FAPS, FAIP, FInstP (from July)

Professors
Kenneth Baldwin MSc, DIC PhD London, FAIP, FInstP, FOSA, FAPS
Anatoli Kheifets BSc PhD St Petersburg, FAPS

Senior Fellows
Stephen Gibson BSc PhD Adelaide
Robert Robson BSc Queensland, DMBoM, PhD, FRMetS (until July)
Maarten Vos MSc PhD Gröningen

Fellows
Julian Lower BSc Adelaide, PhD Flinders (until August)
Franklin Mills BSE Princeton, MS PhD Caltech
James Sullivan BSc PhD
Andrew Truscott BSc PhD Queensland

Research Fellows
Steven Cavanagh BSc PhD Griffith
Robert Dall BSc Queensland PhD
Mitsuhiko Kono MSc KyotoIT, PhD GUAS Tokyo (until February)
Igor Ivanov PhD DSc Moscow

Postdoctoral Fellows
Casten Makochekanwa BSc Zimbabwe, MSc PhD Yamaguchi
Eskender Mume BSc PhD Uppsala (ANSTO)
Selvakumar Sellaiyan BSc PhD (ANSTO)
Daniel Slaughter BSc PhD Flinders (until April)
Michael Went BSc Newcastle, PhD Griffith (until August)

General Staff

Technical Officers
Stephen Battisson AssocDip MechEng CIT
Colin Dedman AssocDip Scilnst Bendigo CAE
Ross Tranter

Departmental Administrators
Deborah Bordeau SBM CIT (until June)
Julia Wee BA Sydney, GCM MGSM (from September)

CAMS Chief Operating Officer
Colin Taylor BSc, PhD (UWA) (until July)
Adam Edwards LLB Nottingham, BSc Wollongong,
GDM Western Sydney, MAppFin Charles Sturt (from August)

Visiting Fellows
Prof Lewis Chadderton
Em Prof Robert Crompton AM
Dr Mitsuhiko Kono (from March)
Prof Robert McEachran
Em Prof Erich Weigold AM
Prof Robert Robson (from November)
The Department of Electronic Materials Engineering (EME) conducts interdisciplinary research under four broad research themes:

a) materials science and engineering;
b) semiconductor device engineering;
c) nanoscience and nanotechnology; and
d) ion-solid interactions and ion-beam modification of materials.

The strength of its research program is underpinned by core experience and expertise in key aspects of semiconductor materials science, a team of outstanding early to mid-career researchers, enthusiastic graduate students, a strong network of national and international collaborators, and a comprehensive suite of state-of-the-art experimental facilities. The latter are complemented by facilities and staff funded by the NCRIS Australian National Fabrication Facility (ANFF), which is hosted by the Department.
**Academic Staff**

**Professor and Head of Department**
Robert Elliman BAppSci MAppSci RMIT, PhD DSc Salford, FAIP, FIP

**Distinguished Professor**
Chennupati Jagadish MSc PhD Delhi, FAA, FTSE, FAIP, FInstP, FlmN, FIEEE, FAPS, FOasa FSpie, FEcs, Fiet, FAAAS, Favs, ARCCF, ALF

**Professor**
Jim Williams BSc PhD UNSW, FAA, FAIP, FIEAust, FTSE, FAPS, FMRS

**Senior Fellows**
Mark Ridgway BSc MCm, MSc PhD Queens
Hoe Tan BE Melbourne, PhD
Yin Yin (Jennifer) Wong-Leung* BSc Bristol, PhD

**Fellows**
Jodie Bradby BAAppSc RMIT, PhD
Lan Fu MSc UTSC, PhD
Patrick Kluth DipPhys Dusseldorf, PhD Jülich
Jiandong Ye PhD Nanjing China (from June)

**Research Fellows**
Leandro Araujo MSc PhD UFRGS Brazil
Almamun Ashrafi MSc PhD Hokkaido
Qiang Gao MS BSc NEU China, PhD
Wen Lei MSc CUG, PhD CAS
Qing Li BSc BNU China, MSc CAS, PhD HKU (until March)

**Postdoctoral Fellows**
Satyam Bhuyan PhD Iowa State
Suprakit Charnvanichborikarn PhD (from August)
Bianca Haberi PhD (from December)
Tae Hyun Kim PhD
Patrick Parkinson MPsys DPhil Oxon (from July)
Matias Rodriguez PhD
Simon Ruffell MEng Surrey, PhD UWO Canada
Avi Shalav PhD UNSW, MSc DipTchg Massey
David Sprouster PhD (from March)
Dinesh Venkatachalam PhD RMIT, MSc BITS India
Hao Wang MSc Jinan, PhD South China Normal (from September)

*jointly with College of Medicine, Biology & Environment

**General Staff**

**Research Assistants**
Kidane Belay MSc AAU Ethiopia, PhD
Gregory Jolley PhD (from April)
David Llewellyn (joint CMBE)

**Technical Officers**
Michael Aggett AssocDipMechEng CIT
Dane Kelly
Bernie King ONC London
Craig Saint

**Departmental Administrator**
Scott Yates

**ARCNN Manager**
Elizabeth Micallef (until September)

**ANFF Manager**
Fouad Karouta BSc LUB, PhD Perpignan, PhD Montpellier

**ANFF Processing Engineers**
Xijun Li PhD CAEP
Jie Tian PhD CAEP
Kaushal Vora PhD Latrobe

**ANFF Administrator**
Jeffrey Kealley

**Visiting Fellows**
A/Prof Ping Ping Chen, SITP
Professor Neville Fletcher
Dr Haroldo Hattori, ADFA
Dr Stefan Decoster, KUL
2010 saw the celebrations of the 50th anniversary of the demonstration of the first laser by Theodore Maiman in May 1960. Members of the Laser Physics Centre (LPC) contributed to those celebrations though Laserfest events such as public lectures and special symposia at national conferences. In these 50 years lasers have become ubiquitous in science, in medicine and in industry. However, exciting new applications continue to emerge and members of the Laser Physics Centre are at the forefront of this research studying topics spanning fundamental and applied physics and engineering. Generally fundamental questions have been addressed in studies of the interaction of laser light with matter, in materials science, in ultra-high resolution spectroscopy of solids and the manipulation of quantum information. Research of more strategic nature includes work on photorefractive materials on the properties of solitons and other nonlinear waves, on nonlinear optical materials for photonics and quantum technology. Applied research includes the development of novel parametric devices, the production and application of novel waveguides, photonic crystals and other photonic devices. A major achievement during 2010 was the award of funding to two teams in LPC from the ARC Centres of Excellence scheme. From 2011-2017, funding will be received from the Centre for Ultra-high-bandwidth Devices for Optical Systems (CUDOS) for work on photonic devices, whilst work on quantum information processing will be funded from the Centre for Quantum Computing Technology. Research highlights for 2010 have included:

• work on laser trapping and guiding of airborne particles conducted in collaboration with the Non-Linear Physics Centre, was identified as in the 30 most exciting peer-reviewed papers in optics research in 2010;
• a heralded single photon source based on rare-earth doped crystals;
• spectroscopic investigations demonstrated the presence of electron-vibration effects within the electronic levels of the nitrogen-vacancy centre in diamond that give rise to novel optical properties;
• a high gain Tellurium dioxide based Erbium doped waveguide amplifier;
• the first high quality polarisation independent waveguide gratings and nanoimprinted arsenic trisulphide waveguides by nano-imprint lithography;
• broadband third harmonic generation in two-dimensional short-range ordered nonlinear photonic structures;
• experimental investigations on the Cerenkov-type second harmonic generation from a virtual beam and the cascaded nonlinear processes based on this mechanism; and
• high-Q 1D photonic crystal nanocavities in chalcogenide glass waveguides and demonstrated optical bistability.
Academic Staff

Professor and Head of Department
Barry Luther-Davies PhD S’ton, SIEE, FAIP, ARCFF

Professors
Wieslaw Krolikowski MSc PhD Warsaw
Neil Manson PhD Aberdeen
Andrei Rode PhD Moscow

Senior Fellows
Duk Yong Choi PhD Seoul
Eugene Gamaly PhD Moscow
Steve Madden PhD Imperial College
Matthew Sellars PhD

Research Fellows
Douglas Bulla PhD Sao Paulo (until September)
Cyril Hnatovsky PhD Ottawa
Vladlen Shvedov PhD Taurida National, Ukraine
Rongping Wang PhD CAS

Postdoctoral Fellow
Yan Sheng (from March)

General Staff

Technical Officers
John Bottega
Sukanta Debbarma
Romana Krolikowska
Craig Macleod AssocDip MechEng CIT
Anita Smith BSc Flinders

Departmental Administrator
Belinda Barbour

Visiting Fellows

Dr Graham Atkins
Dr Robbie Charters
Deng Feng Chen
Prof. Mark Humphrey
Dr Dax Kukulj
Dr David Pulford
Ms Joanna Olesiak, WUT, Poland
Dr Anna Samoc
Dr Marek Samoc
Nonlinear Physics are engaged in theoretical and experimental interdisciplinary research in a number of diverse areas unified by the general concepts of nonlinear physics and nonlinear photonics. Nonlinear Physics are defined by five major research directions and groups.

The experimental photonics group, led by Dr Dragomir Neshev, undertakes experimental study of linear and nonlinear properties of light propagation and localization in integrated and optically-induced photonic structures including waveguide arrays, photonic lattices, photonic crystals, as well as polychromatic light, nonlinear patterns and self-focusing. In 2010, the group’s activities moved towards nonlinear plasmonics, nanophotonics, and the physics of optical metamaterials.

The theoretical photonics group, led by Dr Andrey Sukhorukov undertakes the study of different nonlinear optical systems. Currently, this involves the development of theoretical models and numerical simulations of the propagation of slow light in nonlinear photonic structures with close collaboration with the experimental group. More recently this included the development of novel concepts of light control in periodically modulated waveguide arrays and optomechanics.

The singular photonics group, led by Dr Anton Desyatnikov undertakes both theoretical and experimental studies of the light beams with angular momentum, optical vortices, optical polarization singularities, and vortex lattices. The new activities in 2010 are associated with the physics of light localization and propagation in nematic liquid crystals.

The nonlinear matter waves and quantum-atom optics group, led by Dr Elena Ostrovskaya, is involved in the development of novel theoretical models, analytical and numerical studies of matter waves and nonlinear atom-optics problems, cold atoms, Bose-Einstein condensates in optical lattices and magnetic waveguides, atom lasers, quantum optics of nonclassical and squeezed light. More recently, the group developed several novel concepts, including the novel application of the ratchet effect to control the dynamics of matter-wave solitons in oscillating potentials.

The research on composite structures and left-handed metamaterials, led by Dr Ilya Shadrivov is in directions involving the phenomenon of negative refraction, nonlinear metamaterials and left-handed superlattices, optical cloaking and transformation optics. Recently, the group developed novel concepts for tunable metamaterials, and supported them by a series of experimental observations.
**Academic Staff**

**Professor and Head of Department**
Yuri Kivshar BSc PhD Kharkov, FAiP, FOSA, FAA, FAPS, ARC Federation Fellow

**Senior Fellows**
Andrei Lavrynenko PhD Belarus (September-October)

**Fellows**
Anton Desyatnikov PhD Moscow
Dragomir Neshev MSc PhD Sofia
Elena Ostrovskaya MSc Moscow, PhD
Alexander Savin PhD Moscow (January and from November)
Andrey Sukhorukov MSc Moscow, PhD

**Research Fellows**
Tristram Alexander PhD (until August)
Andrey Miroshnichenko PhD Dresden
David Powell PhD Monash
Ilya Shadrivov PhD

**Postdoctoral Fellows**
Ivan Garanovich PhD
Yana Izdebskaya PhD Simferopol
Mikhail Lapin PhD Osnabruck (from December)
Ivan Maksymov PhD Kharkov (from September)
Michal Matuszewski PhD Warsaw
Aliaksandr Minovich PhD (from October)
*Thomas White PhD
Zhiyong Xu PhD Barcelona

**General Staff**

**Research Assistants**
Artur Davoyan (from November)
Sangwoo Ha (March to July)
Aliaksandr Minovich (July to October)

**Departmental Administrator**
Kathy Hicks AdvDipAcct CIT

**Visiting Fellows**

Prof Sergey Dmitriev, RAS, Russia
Dr Volodymyr Lashkin, NASU
Dr Yuriy Rubo, UNAM, Mexico
Prof Jose Salgueiro, UVL, Spain
Prof Roland Schiek, UASR, Germany
Dr Rangcao Yang, Shanxi University

*jointly with Laser Physics
The Department of Nuclear Physics carries out fundamental studies in experimental Nuclear Physics as well as developing and applying nuclear techniques for basic studies in interdisciplinary research, much of it accelerator-based. The Heavy Ion Accelerator Facility, maintained, developed and operated by the Department, provides a range of energetic heavy-ion beams produced with a suite of ion sources and accelerated by a 15 million-volt tandem electrostatic accelerator and a superconducting linear accelerator. Beams are delivered to ten separate beam-lines, each dedicated to specialized detector instrumentation.

The facilities are used by staff and students of the Department as well as external users from other Australian universities and institutions, and international scientists from a number of laboratories. Scientists from the United Kingdom, for example, have formal access to the facilities through the ANU-STFC agreement.

The Department and its facilities constitute the main laboratory in Australia for accelerator-based research and training in Nuclear Physics. It contributes to undergraduate and postgraduate training at honours, masters and PhD levels, conducts expert workshops in radiation physics and accelerator techniques, and manages a Master of Nuclear Science by coursework degree that was instituted in 2007. To complement the research carried out on the local facilities, Department members collaborate with international scientists and utilize major experimental facilities overseas, gaining access through competitive processes.

Current nuclear research areas of interest cover nuclear spectroscopy and the study of exotic nuclear quantum states heavy-ion reaction dynamics including nuclear fusion and nuclear fission, and reactions of weakly-bound nuclei, and the study and use of hyperfine interactions for moment measurements and for elucidating nuclear science. Nuclear techniques and heavy-ion detection techniques are used in a range of materials science applications including materials modification and characterization. The technique of Accelerator Mass Spectrometry is applied to a broad range of topics including research and applications in archaeology, hydrology, climate change, soil erosion and trace isotopic analyses applied to environmental pollution studies, both nuclear and non-nuclear.
Academic Staff

**Professor and Head of Department**
David Hinde BSc Manchester, PhD, FAIP, FInstP, FAA

**Professors**
Mahananda Dasgupta MSc Rajasthan, PhD Bombay, FAIP
George Dracoulis PhD Melbourne, FAIP FAPS, Hon FRSNZ, FAA (retired June)
Keith Fifield MSc Auckland, PhD Penn, FAIP
Andrew Stuchbery PhD Melbourne, FAIP

**Fellows**
Tibor Kibédi PhD Debrecen
Gregory Lane PhD
Stephen Tims PhD Melbourne

**Research Fellows**
Rickard Du Rietz PhD Lund
Chengjian Lin BSc Sichuan, MSc GSNM, DSc CIAE (until October)
Cédric Simenel MSc Paris, PhD Caen

**Postdoctoral Fellows**
Maurits Evers PhD (from October)

Visiting Fellows

Emeritus Prof George Dracoulis
Dr Tezer Esat, ANSTO
Dr Toshiyuki Fujioka, ANSTO
Dr Kushal Kalita, Gauhati University
Dr Heiko Timmers, ADFA

General Staff

**Manager Accelerator Operations**
Nikolai Lobanov BSc Moscow, PhD St Petersburg
David Weisser PhD Minn, FAIP

**Technical & IT Officers**
John Bockwinkel, AdvDip MechEng CIT
Alan Cooper, AssDip MechEng CIT
Gareth Crook
Gordon Foote BSc Lond, PhD
Angus Gratton
Alan Harding
Justin Heighway, AssDip AppSci CIT
Tom Kitchen, AdvDip Mech Eng CIT
Lorenzo Lariosa
Alistair Muirhead
Dimitrios Tsifakis

**Departmental Administrator**
Petra Rickman
Plasma Research Laboratory

Plasma Research Laboratory conducts research in two main areas: toroidal and space plasma.

Prof John Howard

Toroidal plasma research embraces a multiplicity of activities associated with the physics of magnetised plasma, electromagnetics, remote sensing and inverse methods. The Department operates the Australian Plasma Fusion Research Facility which is centred on the H-1 heliac, an innovative plasma confinement device with flexible magnetic geometry. As a national focus for fusion-science research, collaboration and education, the Facility accommodates the study of basic plasma physics, advanced magnetic configurations and remote measurement systems for future fusion power plants. Advanced data mining techniques and novel remote-sensing technologies pioneered on the heliac, are now being applied to the world's largest fusion devices in the US, Asia and Europe. This year saw the commencement of the 4-year, $7M upgrade of heating, vacuum and diagnostic H-1 infrastructure.

The Plasma Theory and Modeling group focuses on the fundamental physics and the modelling of magnetic confinement fusion energy devices. The group has active research links with the Culham Centre for Fusion Energy, (England) Princeton Plasma Physics Laboratory (USA) and a number of other major fusion research institutes in both Europe and Asia. The Physics of Fluids group undertakes research into physics of fluid turbulence, nonlinear wave phenomena and rotating fluids, including applications to environmental and atmospheric physics, weather and climate. The BushLAN project aims at providing wireless broadband to remote areas using distributed MIMO (Multiple transmitter and multiple receiver) techniques on the band I TV spectrum. An important research focus is the development of protocols to handle universal synchronization on the distributed MIMO network.

Dr Christine Charles

Space Plasma, Power and Propulsion research conducts work on both basic and applied plasma physics. The core research areas involve experimental and theoretical aspects of expanding radiofrequency helicon plasmas applied to space science, space propulsion and hydrogen fuel cells. The discovery of current free double layers and of the Helicon Double Layer Thruster led to a contract with EADS/ASTRIUM, Europe's largest Space company and an Australian Research Council Linkage grant. Work includes thrust measurement, prototype space qualification and plasma modeling. Furthermore, the laboratory double layers are being applied to understanding space plasma physics such as the magnetic funnels of the solar corona and the Earth's aurora. A large contract has been signed with LAM Research Corporation in Silicon Valley for the further development of an SP3 invention to be used for the next generation of plasma etching systems for microelectronics. This opens a new and exciting career path for students and researchers alike.
**Academic Staff**

**Professor and Head, Toroidal Plasma**  
John Howard BSc PhD Sydney, FInstP

**Head, Space Plasma, Power and Propulsion**  
Christine Charles BEng MSc Rennes, PhD Hab Orléans, BMus

**Director, Australian Plasma Fusion Research Facility**  
Boyd Blackwell BSc PhD Sydney

**Professors**  
Roderick Boswell BSc Adelaide, PhD Flinders, FTSE, FAPS  
Robert Dewar MSc Melbourne, PhD Princeton, FAIP, FAPS, FAA  
Michael Shats MSc KPI, PhD GPI Moscow

**Senior Fellows**  
Boyd Blackwell BSc PhD Sydney  
Christine Charles BEng MSc Rennes, PhD Hab Orléans, BMus

**Fellows**  
Gerard Borg BSc PhD Sydney  
Matthew Hole BSc BE PhD Sydney

**Research Fellows**  
Cormac Corr PhD Belfast  
Shantanu Padhi PhD Delhi  
Hua Xia, MSc Chongquing, PhD  
Shuiliang Ma PhD (from February)

**Postdoctoral Fellow**  
Gregory von Nessi BSc Massachusetts PhD  
Michael Fitzgerald PhD (from June)

**General Staff**

**Research Engineer**  
Horst Punzmann BSc Regensburg, PhD

**Technical Officers**  
Peter Alexander  
Mark Gwynneth  
David Pretty PhD  
John Wach BAppSci CAE Ball, GradDipEl CCAE

**Departmental Administrator**  
Maxine Hewitt BA UC

**Visiting Fellows**

Dr Sudeep Bhattacharjee, IIT  
Dr Frank Detering  
Dr Andreas Fhager, CUT  
Emeritus Prof Sydney Hamberger  
Dr Jay Larson, ANL  
Dr Kazunori Takahashi, Iwate University
Quantum Science

Prof David McClelland

The experimental research programs in the Department of Quantum Science cover a broad range of activities linked by the quest to investigate the interface between the quantum and classical realms, to probe the quantum mechanical limits to measurement, to develop precision measurement using quantum sources, and to use these concepts in technological applications. These activities are pursued in three programs.

Quantum Optics: The quantum optics group aims to exploit quantum mechanical properties of laser field for metrological and information technology applications. A new centre will be

Atom Optics: The atom optics program has focused on the development of the atom laser as a useful tool for investigations in fundamental physics and in precision measurement. In 2009, the group developed a stable atomic local oscillator and quantum noise limited atom detection with the aim of producing and studying the first squeezed atom laser and making measurements with atoms at sensitivities that exceed the atomic shot noise limit. The atom optics group has recently added a major new research direction, to use classical and squeezed atom sources to develop high precision, field deployable, inertial sensors for rotation, acceleration, gravity and its gradients.

Gravitational Wave Detection: Gravitational wave detectors need to achieve a sensitivity to length change to better than 1 part in 1023! At this sensitivity, giant kilometer scale laser interferometers are limited by quantum noise on the readout laser over a large part of their signal band. The experimental gravity group is developing quantum optical techniques to reach and beat these limits.

The Centre for Gravitational Physics (CGP) undertakes research on many aspects of gravity, from mathematical relativity to searching for gravitational waves to developing technology for future generations of ground and space based gravitational wave detectors. CGP is also very active in exploiting spin offs from precision metrology into areas such as fibre sensing for oil and gas monitoring and satellite separation sensing for Earth Observations from Space. In 2010, the CGP won an Australia Space Research Program grant to develop technology for the next Gravity Recovery and Climate Experiment space mission.
Academic Staff

Professor and Head of Department
David McClelland MSc UWA, PhD Otago

Professors
Hans Bachor PhD Hannover (until August)
John Close PhD Berkeley
Ping Koy Lam BSc Auckland, PhD
Susan Scott BSc Melbourne, PhD Adelaide

Senior Fellows
Joseph Hope PhD
Craig Savage PhD Waikato

Fellows
Nicholas Robins PhD
Daniel Shaddock PhD

Research Fellows
Benjamin Buchler PhD
Vincent Daria PhD
Andre de Carvalho PhD UFRJ Brazil
Cristina Figl PhD Hannover (until September)
Mattias Johnsson PhD Canterbury
Thomas Symul PhD CNET
Bram Slagmolen PhD
Jiri Janousek PhD DTU Denmark

Postdoctoral Fellows
Julien Bernu PhD ENS France
Jong Chow BSEE Vermont, PhD
Boris Hage PhD LUH Germany
Ra Inta PhD UNSW
John Miller PhD Glasgow

General Staff

Head Technical Officer
Andrew Papworth

Technical Officers
Neil Devlin
James Dickson
Shane Grieves
Neil Hinchey
Paul McNamara
Paul Tant
The Department of Theoretical Physics is one of the university's founding departments. The core research areas involve theoretical aspects of mathematical physics, condensed matter physics and optical sciences.

Research in the mathematical physics group is centred on the two related areas of string theory and integrable models. The string theory team is led by Professor Peter Bouwknegt. The main area of research focuses on the mathematical structures underlying string theory, in particular on duality symmetries and generalizations of geometry. Dr David Ridout from University of Montreal joined the Department in October on an ARC Research Fellowship to work on conformal field theory.

The integrable model team is led by Professor Murray Batchelor, Professor Vladimir Bazhanov, Dr Xiwen Guan and Dr Vladimir Mangazeev. Research is based on the development of theoretical models and methods of analysis for the exact physical description of fundamental interacting systems in statistical mechanics and quantum field theory. It includes the study of phase transitions and magnetic ordering in low-dimensional spin systems and cold atomic gases, along with the development of new approaches and applications in quantum geometry and computational many-body physics.

Staff and students were heavily involved in STATPHYS 24, the XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), held in Cairns on 19-23 July.

The optical sciences group is led by Professors Nail Akhmediev and John Love and involves studies in nonlinear optics and soliton theory. The group develops basic theory of solitons for optical systems that includes modern all-optical information transmission lines and ultra-short pulse lasers. The group is strongly linked to experimental photonics groups within the School, across campus, and to international research laboratories. Professors Akhmediev’s group gained considerable publicity for their work on rogue waves.

Research activity of Adjunct Professor Mukunda Das includes the theory of electron transport and noise in mesoscopic systems, high-temperature superconductivity, density functional theory of disordered systems and strongly correlated electrons.
Academic Staff

Professor and Head of Department
Murray Batchelor BSc UNSW, PhD, FAIP, FAustMS, FInstP

Professors
Nail Akhmediev MS PhD DSc Moscow, FOSA
Vladimir Bazhanov PhD Serpukhov FAA
Pier Bouwknegt MSc Utrecht, PhD Amsterdam, FAIP, FAustMS
John Love MA Cambridge, MA DPhil DSc Oxford

Fellows
Adrian Ankiewicz BSc BE UNSW, PhD
Xi-Wen Guan BSc Qufu, MSc Sichuan, PhD Jilin
Vladimir Mangazeev MSc Moscow, PhD Serpukhov
David Ridout BSc, MSc UWA PHD Adelaide (from October)

Postdoctoral Fellow
David Baraglia BSc Adelaide, PhD Oxford

General Staff

Departmental Administrator
Juan (Lucia) Lu (from February)

Visiting Fellows

Professor Helen Au-Yang, Oklahoma State University
Dr Rowena Ball
Adjunct Professor Mukunda Das
Dr Michael Hall
Professor Jacques Perk, Oklahoma State University
Dr Brian Robson
Dr Lindsay Tassie
Professor Paul Wiegmann, University of Chicago
Professor JianBo Zhang, Zhejiang University
Education

The Research School of Physics and Engineering provides undergraduate and graduate physics education and supports research and innovation in physics education. In 2010 there were 133 postgraduate (PhD/MPhil) students current during the year, with 932 undergraduate enrolments in courses (Y1 497, Y2 188, Y3 228, Y4 19) and 65 student visitors from external institutions. The school boasts a number of recipients of local and national teaching awards and competitive grants.

The link between research and teaching is critical to the future of the School and the nation. The School has made a major commitment in using its research strength and scale, together with its unique mix of outstanding researchers, teachers and infrastructure, to developing world leading education programs for gifted students that link directly to postgraduate research study. The research and teaching links are not only confined to the Physics discipline but have significant involvement with Engineering in CECS and in other science disciplines in CPMS and CMBE.

Professor David McClelland, Deputy Director (Education); is also Head of the Department of Quantum Science, and the Physics Education Centre (PEC), which was established in 2009 to coordinate education across the School.

Whilst the Department of Quantum Science continued to provide the most teachers, academics from all nine research departments now contribute to the undergraduate teaching program as well as supervising graduate students. A number of areas offer postgraduate coursework degrees.

The Physics Education Centre (PEC) enhances the recruitment of high quality students into physical sciences; increase the education involvement of outstanding researchers in the School, particularly early career researchers; mentor/train outstanding teaching academics for the ANU and other universities from the large base of outstanding academics in the School; facilitate and deepen interaction between researchers and students; provide support and training for secondary teachers, at the national level; increase the number of bids for national teaching and learning grants; and develop innovative teaching methods and materials.

In 2010 Dr Craig Savage lead a team of four year coordinators who ensured the delivery of a well functioning and integrated undergraduate program. Professor Neil Manson continued in his role as Convenor of School's higher degree research program. Reports from these areas can be found on the following pages.
Staff who contributed to teaching in 2010

Professors
Hans Bachor PhD Hannover (until August)
Pier Bouwknegt MSc Utrecht, PhD Amsterdam, FAIP, FAustMS
Stephen Buckman BSc PhD Flinders, FAPS, FAIP, FInstP
John Close PhD Berkeley
Mahananda Dasgupta MSc Rajasthan, PhD Bombay, FAIP
George Dracoulis BSc PhD Melbourne
Denis Evans BSc Sydney, PhD (RSC)
Keith Fifield, MSc Auckland, PhD Penn
Ian Jackson BSc UQ, PhD (RSES)
John Love MA Cambridge, MA DSc Oxford
Ping Koy Lam BSc Auckland, PhD
Neil Manson PhD Aberdeen
Susan Scott BSc Melbourne, PhD Adelaide
Andrew Stuchbery BSc PhD Melbourne
David Williams BSc Sydney, PhD Cambridge

Senior Fellows / Readers
Paul Francis BA PhD Cambridge (RSAA)
Matthew Hole BE PhD Sydney
Joseph Hope PhD
Tibor Kibedi, PhD Debrecen
Craig Savage PhD Waikato
Matthew Sellars PhD
Maarten Vos MSc PhD Gröningen

Fellows / Senior Lecturers
Andre Carvalho MSc PhD UFRJ
Gregory Lane BSc PhD
Frank Mills BSE Princeton, MS PhD Caltech
Dragomir Neshev PhD Sofia
Nicholas Robins BSc PhD
Stephen Tims BSc PhD Melbourne
Anna Wilson BSc Bristol, PhD Liverpool

Research Fellows / Lecturers
Tristam Alexander PhD
Benjamin Buchler PhD
Cormac Corr PhD Belfast
Vincent Daria PhD Osaka
Darren Goossens PhD Monash (RSC)
Graham Hughes PhD (RSES)
Patrick Kluth PhD Jülich
Drew Parsons PhD Moscow
Simon Ruffell PhD UWO Canada
Adrian Sheppard BSc Adelaide, PhD
Thomas Symul PhD CNET LAB
Arthur Sakellariou BSc PhD Melbourne
Hrvoje Tkalcic PhD UCB (RSES)

Postdoctoral Fellows
Jong Chow PhD
Mahyar Madadi PhD
Trond Varslott PhD NTNU

Technical Staff
Mika Kohonen
Andrew Papworth
David Weisser
2010 was notable for its record first year physics student numbers, the continuing excellence of the later year laboratory programs, and the teaching awards won by several staff members. Other healthy developments included: the increasing range of School staff participating in educational activities, and the healthy numbers in our coursework masters programs: Master of Photonics and Master of Nuclear Science. Drs Darren Goossens and Joe Hope won ANU College of Physical and Mathematical Sciences Awards for Teaching Excellence.

Among the innovations within the Physics Education Centre were the collaborative delivery of the honours electromagnetism course with the University of Western Australia. This program is growing, with Monash University expected to participate in 2011. First year physics explored ways to move beyond the use of clickers in lectures and hence trialed web 2 technology in second semester Advanced Physics. This will expand to a trial of iPads in lectures in 2011.
Postgraduate Studies

The School has 142 postgraduate students (PhD and MPhil) and of those 91 are residents of Australia or New Zealand and 51 are international. 24 students enrolled during 2010 whereas 18 completed their program. In addition there were over 60 visiting students completing part of their higher degree program within the School.

The 2010 J G Crawford prize for the best ANU thesis in the Physical Sciences was awarded to Dr Ivan Garanovich from the Nonlinear Physic Centre for thesis titled *Light control in modulated photonic lattices*. Seiji Armstrong, a student within Department of Quantum Science, was awarded the Australia Asia Prime Minister’s Award to undertake research in Japan. Seiji works within the Quantum Imaging group associated with the ARC Centre for Excellence in Quantum-Atom Optics.

In addition many of the postgraduate students from within the School received awards for best talk or poster at local and international conferences.
<table>
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<tr>
<th>ANU Students</th>
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<td>ANU Students (PhD, MPhil, Honours, PhB, ANU Summer Scholars)</td>
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<td>Abdullaev, Jasur</td>
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### Visiting Students

*(includes Occupational Trainees and Summer Scholars from external institutions)*

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Research Highlights

under separate cover
Publications

**Book (2 publications)**

Ninham B, Lo Nostro P
*Molecular Forces and Self Assembly: In Colloid, Nano Sciences and Biology*
Cambridge University Press, UK (2010) 359

Simenel C, Lacroix D, Avez B
*Quantum Many-Body Dynamics: Applications to Nuclear Reactions*
VDM Verlag, Germany (2010) 87

**Book Chapter (11 publications)**

Bazhanov V, Mangazeev V, Sergeev S
*QUANTUM GEOMETRY OF 3-DIMENSIONAL LATTICES AND TETRAHEDRON EQUATION*

Brudzynski S, Fletcher N
*Rat ultrasonic vocalization: short-range communication*

Campbell K, Barwick R, Senden T
*Perforations and tubules in the snout region of Devonian dipnoans*
in Morphology, Phylogeny and Paleobiogeography of Fossil Fishes, Verlag Dr Friedrich Pfeil, Germany (2010) 325-361

Craig V, Henry C
*Specific Ion Effects at the Air-Water Interface: Experimental Studies*

Dewar R
*The Screened Field of a Test Particle*

Fletcher N
*A frequency scaling rule in mammalian vocalization*

Lamont M, Luther-Davies B, Yeom D, Eggleton B
*Supercontinuum generation in chalcogenide glass waveguides*

Parsons D, Ninham B, Lo Nostro P
*Specific ion Effects*
in Molecular Forces and Self Assembly: In Colloid, Nano Sciences and Biology, Cambridge University Press, UK (2010) 146-231

Shalav A, Savenije T, Schropp R
*Organic-Silicon Hybrid Photovoltaic Devices*

Williams J, Wong-Leung Y
*Voids and Nanocavities in Silicon*

Williams J, De Medeiros Azevedo G, Bernas H, Fortuna F
*Ion-Beam-Induced Amorphization and Epitaxial Crystallization of Silicon*
Journal Articles (413 publications)

Abdullaev J, Poletti D, Ostrovskaya E, Kivshar Y
Controlled transport of matter waves in two-dimensional optical lattices

Afanas'ev V, Afanas'ev M, Lubechenko A, Batrakov A, Efremenko D, Vos M
Influence of multiple elastic scattering on the shape of the elastically scattered electron peak

Ahlefeldt R, Hutchison W, Sellars M
Eu^{2+} superhyperfine structure due to magnetic dipole-dipole interactions with Nd^{3+} in Nd^{3+} : EuCl_2 · 6H_2O

Akhmediev N, Ankiewicz A, Soto-Crespo J, Dudley J
Universal triangular spectra in parametrically-driven systems

Akhmediev N, Soto-Crespo J, Ankiewicz A
Could rogue waves be used as efficient weapons against enemy ships?
European Physical Journal - Special Topics , 185 (2010) 259-266

85Rb tunable-interaction Bose-Einstein condensate machine

Measurement of inelastic losses in a sample of ultracold 85Rb
Physical Review A: Atomic, Molecular and Optical Physics 81, 012713 (2010) 012713,1-4

Amaratunga V, Premaratne M, Tan H, Hattori H, Jagadish C
Performance assessment of hybrid surface emitting lasers with lateral one-dimensional photonic-crystal mirrors

Andersson L, Jones A, Knackstedt M, Bergstrom L
Three-dimensional structure analysis by X-ray micro-computed tomography of macroporous alumina templated with expandable microspheres

Andrews M
Quantum mechanics with uniform forces

Ankiewicz A, Akhmediev N, Soto-Crespo J
Discrete rogue waves of the Ablowitz-Ladik and Hirota equations

Ankiewicz A, Clarkson P, Akhmediev N
Rogue waves, rational solutions, the patterns of their zeros and integral relations

Ankiewicz A, Soto-Crespo J, Akhmediev N
Rogue waves and rational solutions of the Hirota equation

Argento D, Stone J, Fifield K, Tims S
Chlorine-36 in seawater
Nuclear Instruments and Methods in Physics Research: Section B 268 (2010) 1226-1228

Armstrong S, Rogers L, McMurtrie R, Bergstrom L
NV-NV electron-electron spin and NV-N_S electron-electron and electron-nuclear spin interaction in diamond

Arns C, Knackstedt M, Mecke K
3D Structural Analysis: Sensitivity of the Minkowski Functionals
Journal of Microscopy Online in advance of print, xx (2010) 16

Asatryan A, Bottin L, Byrne M, Freilikher V, Gredekstul S, Shadrivov I, McPhedran R, Kivshar Y
Effects of polarization on the transmission and localization of classical waves in weakly scattering metamaterials
Asatryan A, Gredeskul S, Botten L, Byrne M, Freilikher V, Shadrivov I, McPhedran R, Kivshar Y
Anderson localization of classical waves in weakly scattering metamaterials
Ashrafi A
Band offsets at ZnO/SiC heterojunction: Heterointerface in band alignment
Ashrafi A
Exciton localization in inhomogeneously broadened ZnO/Mg$_x$Zn$_{1-x}$O quantum wells
Aste T, Shaw W, Di Matteo T
Correlation structure and dynamics in volatile markets
New Journal of Physics 12, art. no. 085009 (2010) 21
Ball R, Sceats M
Separation of carbon dioxide from flue emissions using Endex principles
Fuel 89, 10 (2010) 2750-2759
Baraglia D
Moduli of coassociative submanifolds and semi-flat G2-manifolds
Barik S, Tan H, Wong-Leung Y, Jagadish C
Growth and characterization of self-assembled InAs/InP quantum dot structures
Journal of Nanoscience and Nanotechnology 10, 3 (2010) 1525-1536
Barille R, Samoc A, Samoc M, Luther-Davies B, Nunzi J
Stable frequency doubling by all-optical poling in dye-doped polymer optical fibers
Barthoorn A, Cox S, Robinson D, Senden T
Stress- and fluid-driven failure during fracture array growth: Implications for coupled deformation and fluid flow in the crust
Geology 38, 9 (2010) 779-782
Bartschat K, Khelifets A, Fursa D, Bray I
Benchmark calculations for electron impact ionization and ionization-excitation of magnesium
Batchelor M, Foerster A, Guan X, Kuhn C
Exactly solvable models and ultracold Fermi gases
Bazhanov V, Lukowski T, Meneghelli C, Staudacher M
A shortcut to the Q-operator
Bellm S, Lower J, Weigold E, Mueller D
Fully Differential Molecular-Frame Measurements for the Electron-Impact Dissociative Ionization of H$_2$
Bennet F, Amuli I, Sukhorukov A, Krolikowski W, Neshev D, Kivshar Y
Focusing-to-defocusing crossover in nonlinear periodic structures
Binnie S, Phillips W, Summerfield M, Fifield K, Spotila J
Tectonic and climatic controls of denudation rates in active orogens: The San Bernardino Mountains, California
Geomorphology 118, 118 (2010) 249-261
Bird M, Austin W, Wurster C, Fifield K, Mojtahid M, Sargeant C
Punctuated eustatic sea-level rise in the early mid-Holocene
Geology 38, 9 (2010) 803-806
Bliokh K, Alonso M, Ostrovskaya E, Aiello A
Angular momenta and spin-orbit interaction of nonparaxial light in free space
Physical Review A: Atomic, Molecular and Optical Physics 82, 6 (2010)
Bludov Y, Konotop V, Akhmediev N
Vector rogue waves in binary mixtures of Bose-Einstein condensates
European Physical Journal - Special Topics 185 (2010) 169-180
Fabrication and subband gap optical properties of silicon supersaturated with chalcogens by ion implantation and pulsed laser melting
Boesten R, Sevick E, Williams D
Piston Rotaxane Monolayers: Shear Swelling and Nanovalve Behavior
Macromolecules 43, 17 (2010) 7244-7249
Observation and control of blinking nitrogen-vacancy centres in discrete nanodiamonds
Comparative Study of the Valence Electronic Excitations of N₂ by Inelastic X-Ray and Electron Scattering
Boay I, Fura D, Kadyrov A, Kheifets A, Lepage T, Stelbovics A
Spin-resolved electron-impact ionisation of atoms
Buchler B, Hosseini M, Hetet G, Sparkes B, Lam P
Precision spectral manipulation of optical pulses using a coherent photon echo memory
Bunin N, Ninham B, Babenko A, Suyazov N, Sychev A
Role of Dissolved Gas in Optical Breakdown of Water: Differences between Effects Due to Helium and Other Gases
Byron L, Dall R, Truscott A
Trap loss in a metastable helium-rubidium magneto-optical trap
Physical Review A: Atomic, Molecular and Optical Physics 81, 1 (2010) 013405-1/4
Byron L, Dall R, Wu J, Truscott A
Suppression of Penning ionization in a spin-polarized mixture of rubidium and He
New Journal of Physics 12, 013004 (2010) 8
Caballero Benitez S, Romero-Rochin V, Paredes R
Intrinsic decoherence in an ultracold Bose gas confined in a double-well potential
Journal of Physics B: Atomic, Molecular and Optical Physics 43, 095301 (2010) 8
Caballero Benitez S, Romero-Rochin V, Paredes R
Delocalization to self-trapping transition of a Bose fluid confined in a double-well potential: an analysis via one- and two-body correlation properties
Capasso A, Waclawik E, Bell J, Ruffell S, Sgarlata A, Scarselli M, De Crescenzi M, Motta N
Carbon nanotube synthesis from germanium nanoparticles on patterned substrates
Carretero-Palacios S, Minovich A, Neshev D, Kivshar Y, Garcia-Vidal F, Martin-Moreno L, Rodrigo S
Optical switching in metal-slit arrays on nonlinear dielectric substrates
Cartwright I, Weaver T, Simmons C, Fifield K, Lawrence C, Chisari R, Varley S
Physical hydrogeology and environmental isotopes to constrain the age, origins, and stability of a low-salinity groundwater lens formed by periodic river recharge: Murray Basin, Australia
Cavanagh S, Gibson S, Lewis B
Photodetachment of O⁻ from threshold to 1.2 eV electron kinetic energy using Velocity-Map Imaging
Charles C
High density conics in a magnetically expanding helicon plasma
Experimental investigation of a conical helicon double layer thruster arrangement
Plasma Sources Science and Technology 19 (2010) 045003 9
Effect of boron on interstitial-related luminescence centers in silicon
Chaudhary D, Went M, Nakagawa K, Buckman S, Sullivan J
Molecular pore size characterization within chitosan biopolymer using positron annihilation lifetime spectroscopy
Materials Letters 64 (2010) 2635-2637
Chaudhary D, Went M, Nakagawa K, Buckman S, Sullivan J
Molecular pore size characterization within chitosan biopolymer using positron annihilation lifetime spectroscopy
Materials Letters 64 (2010) 2635-2637
Chaudhury R, Das M
KOHN ANOMALY ENERGY IN CONVENTIONAL SUPERCONDUCTORS EQUALS TWICE THE ENERGY OF THE SUPERCONDUCTING GAP: HOW AND WHY?
Chen S, Guan L, Yin X, Hao Y, Guan X
Transition from a Tonks-Girardeau gas to a super-Tonks-Girardeau gas as an exact many-body dynamics problem
Physical Review A: Atomic, Molecular and Optical Physics 81, 031609 (2010) 4
Chen S, Guan X, Yin X, Guan L, Batchelor M
Realization of effective super Tonks-Girardeau gases via strongly attractive one-dimensional Fermi gases
Physical Review A: Atomic, Molecular and Optical Physics 81, 031608 (2010) 3
Choi D, Madden S, Bulla D, Wang R, Rode A, Luther-Davies B
Thermal annealing of arsenic tri-sulphide thin film and its influence on device performance
Choi D, Madden S, Bulla D, Wang R, Rode A, Luther-Davies B
Submicrometer-Thick Low-Loss AsS Planar Waveguides for Nonlinear Optical Devices
Calibration of the LIGO gravitational wave detectors in the fifth science run
First search for gravitational waves from the youngest known neutron star
Predictions for the rates of compact binary coalescences observable by ground-based gravitational-wave detectors
Classical and Quantum Gravity 27, 17 (2010) 25
Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1
Physical Review D (Particles, Fields, Gravitation and Cosmology) 82, 10 (2010) 11
Search for gravitational-wave inspiral signals associated with short gamma-ray bursts during LIGO’s fifth and VIRGO’s first science run
All-sky search for gravitational-wave bursts in the first joint LIGO-GEO-Virgo run
Clarke D, Matisons J, Simon G, Samoc M, Samoc A
*Polyhedral oligomeric silsesquioxane-bound iminofullerene*
*Applied Organometallic Chemistry* 24, 3 (2010) 184-188

Coe B, Fielden J, Foxon S, Helliwell M, Brunschwig B, Asselberghs I, Clays K, Olesiak J, Matczyszyn K, Samoc M
*Quadratic and Cubic Nonlinear Optical Properties of Salts of Diquat-Based Chromophores with Diphenylamino Substituents*

Coe B, Fielden J, Foxon S, Brunschwig B, Asselberghs I, Clays K, Samoc A, Samoc M
*Combining Very Large Quadratic and Cubic Nonlinear Optical Responses in Extended, Tris-Chelate Metallochromophores with Six π-Conjugated Pyridinium Substituents*
*Journal of the American Chemical Society (JACS)* 132, 10 (2010) 3496-3513

*Magnetic Ion Beam Deflection in the Helicon Double-Layer Thruster*

Creese M, Howard J
*Available information in 2D motional Stark effect imaging*

Dann R, Bidwell V, Thomas S, Wohling T, Close M
*Modeling of Nonequilibrium Bromide Transport through Alluvial Gravel Vadose Zones*
*Vadose Zone Journal* 9, 3 (2010) 731-746

Das M
*Mesoscopic systems in the quantum realm: fundamental science and applications*
*Advances in Natural Sciences: Nanoscience and Nanotechnology* 1, 043001 (2010) 11

Das M, Brandt E
*Attractive Vortex Interaction and the Intermediate-Mixed State of Superconductors*
*Journal of Superconductivity and Novel Magnetism* 23 (2010) 11

*Reaction dynamics of weakly bound nuclei at near-barrier energies*
*Nuclear Physics A* 834 (2010) 147c-150c

Dasgupta M, Hinde D, Sheehy S, Bouriquet B
*Suppression of fusion by breakup: Resolving the discrepancy between the reactions of ⁹Be with ²⁰⁸Pb and ²⁰⁹Bi*
*Physical Review C: Nuclear Physics* 81, 024608 (2010) 6

Davoyan A, Shadrivov I, Bozhevolnyi S, Kivshar Y
*Backward and forward modes guided by metal-dielectric-metal plasmonic waveguides*
*Journal of Nanophotonics* 4 (2010) 10

Davoyan A, Shadrivov I, Kivshar Y, Gramotnev D
*Optimal tapers for compensating losses in plasmonic waveguides*

Davoyan A, Shadrivov I, Zharov A, Gramotnev D, Kivshar Y
*Nonlinear nanofocusing in tapered plasmonic waveguides*

de Vine G, Ware B, McKenzie K, Sero R, Klipstein W, Shaddock D
*Experimental demonstration of time-delay interferometry for the laser interferometer space antenna*
*Experimental comparison of Raman and rf outcouplers for high-flux atom lasers*

Dedrick J, Boswell R, Charles C
*Asymmetric surface barrier discharge plasma driven by pulsed 13.56MHz power in atmospheric pressure air*

Delaney G, Di Matteo T, Aste T
*Combining tomographic imaging and DEM simulations to investigate the structure of experimental sphere packings*
Soft Matter 6, 3 (2010) 2992-3006

Delgado-Friedrichs O
*CaGe - A virtual environment for studying some special classes of plane graphs - An update*
MATCH - Communications in Mathematical and in Computer Chemistry 63, 3 (2010) 533-552

Dennis G, Johnsson M
*Generation of directional, coherent matter beams through dynamical instabilities in Bose-Einstein condensates*
Physical Review A: Atomic, Molecular and Optical Physics 82 (2010) 033615/1-16

Desyatnikov A, Buccoliero D, Dennis M, Kivshar Y
*Suppression of collapse for spiraling elliptic solitons*

Dewar R, Hudson S, Gibson A
*Unified Theory of Ghost and Quadratic-Flux-Minimizing Surfaces*

Dmitriev S, Sukhorukov A, Kivshar Y
*Binary parity-time-symmetric nonlinear lattices with balanced gain and loss*
Optics Letters 35, 17 (2010) 2976-2978

Docter B, Pozo J, Beri S, Ermakov I, Danckaert J, Smit M, Karouta F
*Discretely tunable laser based on filtered feedback for telecommunication applications*
IEEE Journal on Selected Topics in Quantum Electronics 16, 5 (2010) 1405-1412

*Quantum projection noise limited interferometry with coherent atoms in a Ramsey type setup*

*Single-crystalline hexagonal ZnO microtube optical resonators*

Dong W, Tims S, Fifield K, Guo Q
*Concentration and characterization of plutonium in soils of Hubei in central China*

*Connections between high-K and low-K states in the s-process nucleus $^{176}\text{Lu}$*
Physical Review C: Nuclear Physics 81, 011301(R) (2010) 5

*Structure of three-quasiparticle isomers in $^{166}\text{Ho}$ and $^{171}\text{Tm}$*
Physical Review C: Nuclear Physics 82, 34317 (2010) 6

*Two-quasiparticle structures and isomers in $^{168}\text{Er}$, $^{170}\text{Er}$, and $^{172}\text{Er}$*
Physical Review C: Nuclear Physics 81, 054313 (2010) 13

Du S, Fu L, Tan H, Jagadish C
*Investigations of impurity-free vacancy disordering in (Al)InGaAs(P)/InGaAs quantum wells*
Semiconductor Science and Technology 25, 5 (2010) 7

Dujko S, White R, Petrovic Z, Robson R
*Benchmark calculations of nonconservative charged-particle swarms in dc electric and magnetic fields*
crossed at arbitrary angles
Esat T, Yokoyama Y

Coupled uranium isotope and sea-level variations in the oceans
Geochimica et Cosmochimica Acta 74, 24 (2010) 7008-7020

Visualization and numerical analysis of adhesive distribution in particleboard using X-ray micro-computed tomography
Evers M, Hinde D, Dasgupta M, Luong D, Rafiei R, DuRietz R

Coulomb nuclear interference as a tool to investigate the nuclear potential
Physical Review C: Nuclear Physics 81, 014602 (2010) 5
Fadeyeva T, Shvedov V, Izdebskaya Y, Volyar A, Brasselet E, Neshev D, Desyatnikov A, Krolikowski W, Kivshar Y

Spatially engineered polarization states and optical vortices in uniaxial crystals
Optics Express 18, 10 (2010) 10848 - 10863
Fadeyeva T, Shvedov V, Shostka N, Alexeyev C, Volyar A

Natural shaping of the cylindrically polarized beams
Fallon S, Fifield K, Chappell J

The next chapter in radiocarbon dating at the Australian National University: Status report on the single stage AMS
Nuclear Instruments and Methods in Physics Research: Section B 268, online 8 October 2009 (2010) 298-901
Fifield K, Tims S, Fujioka T, Hoo W, Everett S

Accelerator mass spectrometry with the 14UD accelerator at the Australian National University
Nuclear Instruments and Methods in Physics Research: Section B 268 (2010) 858-862
Fifield K, Wasson R, Pillans B, Stone J

The longevity of hillslope soil in SE and NW Australia
Catena 81 (2010) 32-42
Fletcher N

Acoustical background to the many varieties of birdsong
Acoustics Australia 38, 2 (2010) 59-62
Fletcher N

Development of band patterns in surface films: A simple theory
Philosophical Magazine 90, 30 (2010) 3975-3985
Francis-Staite J, Schmerl B, Bruner M, Kato H, Buckman S

Elastic electron scattering from CF₃

In situ cosmogenic ⁵³Mn production rate from ancient low-denudation surface in tropic Brazil

Optical fiber sensing based on reflection laser spectroscopy
Sensors 10 (2010) 1823-1845
Gai X, Han T, Prasad A, Madden S, Choi D, Wang R, Bulla D, Luther-Davies B

Progress in optical waveguides fabricated from chalcogenide glasses
Optics Express 18, 25 (2010) 26635
Gai X, Madden S, Choi D, Bulla D, Luther-Davies B

Dispersion engineered Ge₁₁.₅As₂₄Se₆₄.₅ nanowires with a nonlinear parameter of 136W⁻¹m⁻¹ at 1550nm
Optics Express 18, 18 (2010) 18866 to 18874
Gamaly E

Ultra-fast disordering by fs-lasers: Lattice superheating prior to the entropy catastrophe
Gamaly E, Juodkazis S, Mizeikis V, Misawa H, Rode A, Krolikowski W
Modification of refractive index by a single femtosecond pulse confined inside a bulk of a photorefractive crystal
Gamaly E, Madsen N, Rode A, Golberg D
Formation of Nanoclusters in Expanding Laser Plume
Genty G, de Sterke C, Bang O, Dias F, Akhmediev N, Dudley J
Collisions and turbulence in optical rogue wave formation
Shape transformation of Sn nanocrystals induced by swift heavy-ion irradiation and the necessity of a molten ion track
Structure and Capacitive Properties of Porous Nanocrystalline VN Prepared by Temperature-Programmed Ammonia Reduction of V₂O₅
Chemistry of Materials 22, 3 (2010) 914-921
Searches for gravitational waves from known pulsars with science run 5 ligo data
Search for gravitational-wave bursts associated with gamma-ray bursts using data from LIGO Science Run 5 and VIRGO Science Run 1
Gredeskul S, Derevyanko S, Kovalev A, Prilepsky J
Soliton propagation through a disordered system: statistics of the transmission delay
Gredeskul S, Derevyanko S, Kovalev A, Prilepsky J
Soliton propagation through a disordered system: statistics of the transmission delay
Green K, Corkery T, Cifuentes M, Humphrey M, Samoc M
Various mechanisms of controlling optical nonlinearity in organometallics: wide wavelength range studies
Nonlinear Optics, Quantum Optics 40, 1-4 (2010) 235-240
Dissipative soliton resonance as a guideline for high-energy pulse laser oscillators
The GEO 600 Status
Classical and Quantum Gravity 27 (2010) 084003 9
Guan X, Lee J, Batchelor M, Yin X, Chen S
Universal Tomonaga-Luttinger liquid phases in one-dimensional strongly attractive SU(N) fermionic cold atoms
Physical Review A: Atomic, Molecular and Optical Physics 82, 021606 (2010) 4
Ha S, Sukhorukov A, Lavrynenko A, Kivshar Y
Cavity mode control in side-coupled periodic waveguides: theory and experiment
Hakkarainen T, Douheret O, Anand S, Fu L, Tan H, Jagadish C
Spatially resolved characterization of InGaAs/GaAs quantum dot structures by scanning spreading
resistance microscopy
Hall C, Do L, Koike K, Sasa S, Tan H, Inoue M, Yano M, Jagadish C, Davis J

Using graded barriers to control the optical properties of ZnO/ Zn$_{0.7}$Mg$_{0.3}$O quantum wells with an intrinsic internal electric field
Hall M

Local deterministic model of singlet state correlations based on relaxing measurement independence
Physical Review Letters 105, 250404 (2010) 4
Hall M

Complementary contributions of indeterminism and signaling to quantum correlations
Han T, Madden S, Luther-Davies B, Charters R

High-quality polarization-insensitive polysiloxane waveguide gratings produced by UV nanoimprint lithography
IEEE Photonics Technology Letters 22, 23 (2010) 1720 to 1722
Handapangoda D, Rukhlenko I, Premaratne M, Jagadish C

Optimization of gain-assisted waveguiding in metal-dielectric nanowires
Handapangoda D, Rukhlenko I, Premaratne M, Jagadish C

Electron interaction cross sections for a low-temperature ‘plasma-like’ gas mixture
Plasma Sources Science and Technology 19 (2010) 7

Advanced LIGO: the next generation of gravitational wave detectors
Classical and Quantum Gravity 27 (2010) 084006 12

Evolution of vertical knickpoints (waterfalls) with resistant caprock: Insights from numerical modeling
He P, Yin X, Guan X, Batchelor M, Wang Y

Analytical thermodynamics of a strongly attractive three-component Fermi gas in one dimension
Physical Review A: Atomic, Molecular and Optical Physics 82, 053633 (2010) 15
He Y, Kono M, White R, Sellars M, Baldwin K, Orr B

Coherent heterodyne-assisted pulsed spectroscopy: sub-Doppler two-photon spectra of krypton, characterizing a tunable nonlinear-optical ultraviolet light source
Hedges M, Longdell J, Li Y, Sellars M

Efficient quantum memory for light
Nature 465, 09081 (2010) 1052
Heimsath A, Chappell J, Fifield K

Eroding Australia: rates and processes from Bega Valley to Arnhem Land
Henry C, Craig V

The Link between Ion Specific Bubble Coalescence and Hofmeister Effects Is the Partitioning of Ions within the Interface
Hinde D, Dasgupta M

Systematic analysis of above-barrier fusion of $^9_{10,11}$Be + $^{209}$Bi
Physical Review C: Nuclear Physics 81, 064611 (2010) 12
Hinde D, Dasgupta M, Diaz-Torres A, Evers M

Quantum coherence and decoherence in low energy nuclear collisions: from superposition to irreversibility
Nuclear Physics A 834 (2010) 117c-122c
Hnatovsky C, Shvedov V, Krolikowski W, Rode A

*Materials processing with a tightly focused femtosecond laser vortex pulse*

Hole M, McClements K, Dennis G, Fitzgerald M, Akers R

*The impact of energetic particles and rotation on tokamak plasmas*


*Model Data Fusion: developing Bayesian inversion to constrain equilibrium and mode structure*


*The use of Bayesian inversion to resolve plasma equilibrium*

Hole M, Wilson H, Abeyesuriya R, Larson J

*Ideal MHD stability of a spherical tokamak power plant and a component test facility*
Plasma Physics and Controlled Fusion 52 (2010) 125005 13

Hoo W, Fifield K, Tims S, Fujioka T, Mueller N

*Using fallout plutonium as a probe for erosion assessment*
Journal of Environmental Radioactivity Online: Article in Press (2010) 6


*Benchmark Integral Cross Sections for Electron Impact Excitation of the n=2 States in Helium*
Plasma Science and Technology 12, 3 (2010) 348-352


*Single-photon double K-shell ionization of low-Z atoms*

Howard J

*Coherence imaging spectro-polarimetry for magnetic fusion diagnostics*


*Doppler coherence imaging and tomography of flows in tokamak plasmas*

Howard J, Diallo A, Jaspers R, Chung J

*Spatial Heterodyne Spectro-Polarimetry Systems for Imaging Key Plasma Parameters in Fusion Devices*

Howard J, Jaspers R, Lishtschenko O, Delable E, Chung J

*Imaging charge exchange recombination spectroscopy on the TEXTOR tokamak*
Plasma Physics and Controlled Fusion 52 (2010) 125002 10

Howard S, Craig V, Fitzgerald P, Wanless E

*Swelling and Collapse of an Adsorbed pH-Responsive Film-Forming Microgel Measured by Optical Reflectometry and QCM*
Langmuir 26, 18 (2010) 14615-14623


*Please remember we are not all brilliant*: undergraduates’ experiences of an elite, research-intensive degree at a research-intensive university

Hsu M, Knittel J, Morizur J, Bachor H, Bowen W

*Optical pattern recognition via adaptive spatial homodyne detection*

Hsu M, Littler I, Shaddock D, Herrmann J, Warrington R, Gray M

*Subpicometer length measurement using heterodyne laser interferometry and all-digital RF phase meters*

Hush M, Carvalho A, Hope J

*Number-phase Wigner representation for efficient stochastic simulation*
Physical Review A: Atomic, Molecular and Optical Physics 81 (2010) 033852/1-6
Hyde S
Contemporary Geometry For The Built Design?
Hyde S, Delgado-Friedrichs O
From untangled graphs and nets to tangled materials
Iliiev R, Etrich C, Pertsch T, Lederer F, Kivshar Y
High enhancement of backward second-harmonic generation with slow light in photonic crystals
Physical Review A: Atomic, Molecular and Optical Physics 81, 023820 (2010) 10
Ivanov I
Modifying the high-energy part of the above-threshold-ionization spectrum
Ivanov I, Kheifets A
Atomic systems with one and two active electrons in electromagnetic fields: ionization and high harmonics generation
Izdebskaya Y, Shvedov V, Desyatnikov A, Krolikowski W, Belic M, Assanto G, Kivshar Y
Counterpropagating nematicons in bias-free liquid crystals
Optics Express 18, 4 (2010) 3258-3263
Izdebskaya Y, Shvedov V, Desyatnikov A, Krolikowski W, Assanto G, Kivshar Y
Incoherent interaction of nematicons in bias-free liquid-crystal cells
Izdebskaya Y, Shvedov V, Desyatnikov A, Krolikowski W, Kivshar Y
Soliton bending and routing induced by interaction with curved surfaces in nematic liquid crystals
Optics Letters 35, 10 (2010) 1692-1694
Jeffery C, Cifuentes M, Dalton G, Corkery T, Randles M, Willis A, Samoc M, Humphrey M
Organometallic Complexes for Nonlinear Optics, 47 - Synthesis and Cubic Optical Nonlinearity of a Stilbene
tyliithnytrithenium Dendrimer
Macromolecular Rapid Communications 31, 9-10 (2010) 846-849
Johnson B, Caradonna P, Pyke D, McCallum J, Gortmaker P
Hydrogen in amorphous Si and Ge during solid phase epitaxy
Jolley G, Fu L, Tan H, Jagadish C
The influence of doping on the device characteristics of In0.5Ga0.5As/GaAs/Al0.2Ga0.8As quantum dots-in-a-well infrared photodetectors
Nanoscale 2, 7 (2010) 1128-1133
Jolley G, Lu H, Fu L, Tan H, Jagadish C
Electron-hole recombination properties of In0.5Ga0.5 As/GaAs quantum dot solar cells and the influence on the open circuit voltage
Observation of Threshold Effects in Positron Scattering from the Noble Gases
Jovic D, Timotijevic D, Piper A, Aleksic N, Kivshar Y, Belic M
Counterpropagating solitons at boundary of photonic lattices
Joyce H, Wong-Leung Y, Gao Q, Tan H, Jagadish C
Phase Perfection in Zinc Blende and Wurtzite III-V Nanowires Using Basic Growth Parameters
Nano Letters 10 (2010) 908-915
Vertically oriented epitaxial germanium nanowires on silicon substrates using thin germanium buffer layers
Nanotechnology 21, 29 (2010) 295602
Juodkazis S, Kohara S, Ohishi Y, Hirao N, Vallionis A, Mizeikis V, Saito A, Rode A
Structural changes in femtosecond laser modified regions inside fused silica
Novel growth and properties of GaAs nanowires on Si substrates
Nanotechnology 21, 3 (2010) 6
Substitution effects in elastic electron collisions with CH3X (X = F, Cl, Br, I) molecules
Kedziora D, Simenel C
New inverse quasifission mechanism to produce neutron-rich transformium nuclei
Physical Review C: Nuclear Physics 82 (2010) 023403, 1-6
Kheifets A, Fursa D, Bray I, Colgan J, Pindzola M
Delay in Atomic Photoionization
Kheifets A, Fursa D, Bray I, Colgan J, Pindzola M
Spin effects in double photoionization of lithium
The Peregrine soliton in nonlinear fibre optics
Kim M, Williams D
End-Tethered Polymer Chains under a Membrane with Stickers: Blister and Surface Micelle Formation
Macromolecules 43, 6 (2010) 3090-3093
Kim S, Das M
First-Order Quantum Correction to the Ground-State Energy Density of Two-Dimensional Hard-Sphere Bose Atoms
Self-assembled growth and luminescence of crystalline Si/SiOx core-shell nanowires
Nanotechnology 21, 205601 (2010) 1-7
Kim T, Pillai M, Aziz M, Scarpulla M, Dubon O, Yu K, Beeman J, Ridgway M
Heat flow model for pulsed laser melting and rapid solidification of ion implanted GaAs
Kim T, Shalav A, Elliman R
Active-oxidation of Si as the source of vapor-phase reactants in the growth of SiOx nanowires on Si
CdS/CdSe lateral heterostructure nanobelts by a two-step physical vapor transport method
Nanotechnology 21, 14 (2010) 5
Kingston A, Sakellariou A, Sheppard A, Varslot T, Latham S
An auto-focus method for generating sharp 3D tomographic images
Proceedings of SPIE - Progress in Biomedical Optics and Imaging 7804 (2010) Article number 78040J
Kong Q, Wang Q, Bang O, Krollkowski W
Analytical theory for the dark-soliton interaction in nonlocal nonlinear materials with an arbitrary degree of nonlocality
Physical Review A: Atomic, Molecular and Optical Physics 82, 013826 (2010) 6
Kong Q, Wang Q, Bang O, Krolikowski W
**Analytical theory of dark nonlocal solitons**

Kumar M, Fogden A
**Patterned Wettability of Oil and Water in Porous Media**
Langmuir 26, 6 (2010) 4036-4047

Kumar M, Sok R, Knackstedt M, Latham S, Senden T, Sheppard A, Varslot T, Arns C
**Mapping 3D Pore Scale Fluid Distributions: How Rock Resistivity is Influenced by Wettability and Saturation History**
Petrophysics 51, 2 (2010) 102-117

Kumar S, Blackwell B, Howard J, Harris J
**Core magnetic islands and plasma confinement in the H-1NF heliac**
Physics of Plasmas 17, 8 (2010) 082503,1-8

Lade S
**Ratchet-based magnetic micropump**
Europhysics Letters 92, 3 (2010) 33001-1/6

Lafleur T, Charles C, Boswell R
** Ion beam formation in a very low magnetic field expanding helicon discharge**
Physics of Plasmas 17 (2010) 043505

Lam T, Chow J, Shaddock D, Littler I, Gagliardi G, Gray M, McClelland D
**High-resolution absolute frequency referenced fiber optic sensor for quasi-static strain sensing**
Applied Optics 49, 21 (2010) 4029-4033

Lam T, Gagliardi G, Salza M, Chow J, De Natale P
**Optical fiber three-axis accelerometer based on lasers locked to \( \pi \) phase-shifted Bragg gratings**
Measurement Science and Technology 21 (2010) 094010 8

Lan B, Yeoh E, Ng J
**Distribution of detrended stock market data**
Fluctuation and Noise Letters 9, 3 (2010) 245-257

**Structure of neutron-rich tungsten nuclei and evidence for a 10\(^{-}\) isomer in \(^{190}\)W**
Physical Review C: Nuclear Physics 82, 051304(R) (2010) 5

Lazarides N, Molina M, Tsonis G, Kivshar Y
**Multistability and localization in coupled nonlinear split-ring resonators**

Lebedeva E, Fogden A
**Adhesion of Oil to Kaolinite in Water**
Environmental Science and Technology 44, 24 (2010) 9470-9475

Ledingham P, Naylor W, Longdell J, Beavan S, Sellars M
**Nonclassical photon streams using rephased amplified spontaneous emission**

**Photosensitive and thermal nonlinear effects in chalcogenide photonic crystal cavities**
Optics Express 18, 25 (2010) 26695

Lei W, Nothoff C, Lorko A, Reuter D, Wieck A
**Electronic structure of self-assembled InGaAs/GaAs quantum rings studied by capacitance-voltage spectroscopy**
Lei W, Notthoff C, Peng J, Reuter D, Wieck A, Bester G, Lorke A

“Artificial atoms” in magnetic fields: Wave-function shaping and phase-sensitive tunneling

Lei W, Tan H, Jagadish C
Enhanced photoluminescence efficiency of mid-infrared InAsSb nanostructures using a carrier blocking layer

Lei W, Tan H, Jagadish C
Emission wavelength extension of mid-infrared InAsSb/InP nanostructures using InGaAsSb sandwich layers

Lei W, Tan H, Jagadish C, Ren Q, Lu J, Chen Z
Strain relaxation and phonon confinement in self-assembled InAsSb/InP (001) quantum dashes: Effect of deposition thickness and composition

Li L, Chen Y, Glushenkov A
Synthesis of boron nitride nanotubes by boron ink annealing
Nanotechnology 21, 10 (2010) 5

Li L, Chen Y, Glushenkov A
Boron nitride nanotube films grown from boron ink painting

Li L, Chen Y, Lin M, Glushenkov A, Cheng B, Yu J
Single deep ultraviolet light emission from boron nitride nanotube film

Li P, Yang R, Xu Z
Gray solitary-wave solutions in nonlinear negative-index materials

Li Q, Tan H, Jagadish C
A new optical front-end compensation technique for suppression of spurious signal in photoreflectance spectroscopy using an antiphase signal

Li S, Jackowski M, Dione D, Varslot T, Staib L, Mueller K
Refraction corrected transmission ultrasound computed tomography for application in breast imaging
Medical Physics 37, 5 (2010) 2233-2246

Li T, Ruffell S, Tucci M, Mansoulie Y, Samundsett C, De Iullis S, Serenelli L, Cuevas A
Influence of oxygen on the sputtering of aluminum oxide for the surface passivation of crystalline silicon

Ling J, West M, Lafleur T, Charles C, Boswell R
Thrust measurements in a low-magnetic field high-density mode in the helicon double layer thruster

Density measurements using coherence imaging spectroscopy based on Stark broadening

Littler I, Gray M, Lam T, Chow J, Shaddock D, McClelland D
Optical-fiber accelerometer array: Nano-g infrasonic operation in a passive 100km loop

Liu D, Hattori H, Fu L, Tan H, Jagadish C
Increasing the coupling efficiency of a microdisk laser to waveguides by using well designed spiral structures

Liu D, Hattori H, Fu L, Tan H, Jagadish C
The temperature dependence of InGaAs single-wavelength quantum well and multi-wavelength quantum dot square resonator microlasers

Liu G, Craig V
Macrosopically Flat and Smooth Superhydrophobic Surfaces: Heating Induced Wetting Transitions up to the Leidenfrost Temperature
Liu W, Sukhorukov A, Miroshnichenko A, Poulton C, Xu Z, Neshev D, Kivshar Y
Complete spectral gap in coupled dielectric waveguides embedded into metal

Lo Nostro P, Peruzzi N, Severi M, Ninham B, Baglioni P
Asymmetric Partitioning of Anions in Lysozyme Dispersions
Journal of the American Chemical Society (JACS) 132, 18 (2010) 6571-6577

Observation of vibration-dependent electron anisotropy in O−2 photodetachment

Madden S, Bulla D, Luther-Davies B, Han T
Low loss Chalcogenide glass waveguides by thermal nano-imprint lithography
Optics Express 18, 18 (2010) 19286 - 19291

Paired modes of heterostructure cavities in photonic crystal waveguides with split band edges
Optics Express 18, 25 (2010) 25693-25701

Mangazeev V, Bazhanov V
The eight-vertex model and Painleve VI equation II: eigenvector results

Mangazeev V, Guttmann A
Form factor expansions in the 2D Ising model and Painleve VI
Nuclear Physics B 838, 3 (2010) 391-412

Mangazeev V, Dudalev M, Bazhanov V, Batchelor M
Scaling and universality in the two-dimensional Ising model with a magnetic field

Manning A, Hodgman S, Dall R, Johnsson M, Truscott A
The Hanbury Brown-Twiss effect in a pulsed atom laser
Optics Express 18, 18 (2010) 8

Manson N, Rogers L, Wilson E, Wei C
Hole burning-EIT studies of the NV centre in diamond
Journal of Luminescence 130, 9 (2010) 1659-1667

Finite-size effects on thermionic emission in metal-graphene-nanoribbon contacts

Marcelja S
The timescale and extent of thermal expansion of the global ocean due to climate change
Ocean Science 6 (2010) 179-184

Matuszewski M
Engineering optical soliton bistability in colloidal media
Physical Review A: Atomic, Molecular and Optical Physics 81, 013820 (2010) 6

Matuszewski M
Rotonlike Instability and Pattern Formation in Spinor Bose-Einstein Condensates

Matuszewski M, Alexander T, Kivshar Y
Magnetic domains in spinor Bose-Einstein condensates
Fizika Nizkikh Temperatur (Low temperature physics) 36, 8-9 (2010) 883-890

Matuszewski M, Garanovich I, Sukhorukov A
Light bullets in nonlinear periodically curved waveguide arrays
Physical Review A: Atomic, Molecular and Optical Physics 81, 043833 (2010) 7

Maucher F, Buccoliero D, Skupin S, Grech M, Desyatnikov A, Krolikowski W
Tracking azimuthons in nonlocal nonlinear media
Optical and Quantum Electronics On-line (2010) 12

Maucher F, Skupin S, Shen M, Krolikowski W
Rotating three-dimensional solitons in Bose-Einstein condensates with gravitylike attractive nonlocal interaction
Lasers and optics: looking towards third generation gravitational wave detectors
Exposure-age constraints on the extent, timing and rate of retreat of the last Irish Sea ice stream
Quaternary Science Reviews 29 (2010) 1844-1852
AIGO: A southern hemisphere detector for the worldwide array of ground-based interferometric gravitational wave detectors
Classical and Quantum Gravity 27, 8 (2010) 12
McClements K, Hole M
On steady poloidal and toroidal flows in tokamak plasmas
Physics of Plasmas 17 (2010) 082509
McEachran R, Stauffer A
Positron ionization of the noble gases
Investigation of the behaviour of the Sherman function for elastic electron scattering from Kr and Xe
McGann M, Hudson S, Dewar R, von Nessi G
Hamilton–Jacobi theory for continuation of magnetic field across a toroidal surface supporting a plasma pressure discontinuity
McGrath D, Wegener M, McIntyre T, Savage C, Williamson M
Student experiences of virtual reality: A case study in learning special relativity
American Journal of Physics 78, 8 (2010) 862-868
McKerracher I, Fu L, Tan H, Jagadish C
Thermal expansion coefficients and composition of sputter-deposited silicon oxynitride thin films
McMurtrie R, Rogers L, Manson N
Effects of magnetic field on the low temperature emission of nitrogen vacancy centres in diamond
Physics Procedia 3, 4 (2010) 1585 - 1589
Minovich A, Neshev D, Powell D, Kivshar Y
Influence of the substrate on negative index fishnet metamaterials
Optics Communications 283, 23 (2010) 4770-4774
Tilted response of fishnet metamaterials at near-infrared optical wavelengths
Minovich A, Neshev D, Powell D, Shadrivov I, Kivshar Y
Tunable fishnet metamaterials infiltrated by liquid crystals
Minzoni A, Smyth N, Xu Z
Stability of an optical vortex in a circular nematic cell
Miroshnichenko A
Off-resonance field enhancement by spherical nanoshells
Miroshnichenko A, Brasselet E, Kivshar Y
Reversible optical nonreciprocity in periodic structures with liquid crystals
Miroshnichenko A, Brasselet E, Krimer D, Kivshar Y

Optomechanics of liquid crystals for dynamical optical response of photonic structures
Journal of Optics 12, 12 (2010) 8

Miroshnichenko A, Flach S, Kivshar Y

Fano resonances in nanoscale structures
Reviews of Modern Physics 82, 3 (2010) 2257-2298

Moghaddam M, De Campo L, Waddington L, Drummond C

Chelating phytanyl-EDTA amphiphiles: Self-assembly and promise as contrast agents for medical imaging
Soft Matter 6, 23 (2010) 5915-5929

Molina M, Kivshar Y

Discrete and surface solitons in photonic graphene nanoribbons


Direct measure of strain and electronic structure in GaAs/GaP core-shell nanowires
Nano Letters 10, 3 (2010) 880-886

Morarka S, Rudawski N, Law M, Jones K, Elliman R

Effect of n- and p-type dopants on patterned amorphous regrowth

Morgenstern U, Fifield K, Tims S, Ditchburn R

Progress in AMS measurement of natural $^{32}$Si for glacier ice dating
Nuclear Instruments and Methods in Physics Research: Section B 268 (2010) 739-743


Programmable unitary spatial mode manipulation


K-hindered decay of a six-quasiparticle isomer in $^{176}$Hf
Physical Review C: Nuclear Physics 82, 054316 (2010) 6

Mullavey A, Slagmolen B, Shaddock D, McClelland D

Stable transfer of an optical frequency standard via a 4.6 km optical fiber
Optics Express 18, 5 (2010) 5123-5220


Search for the 2$^+$ excitation of the Hoyle state in $^{12}$C using the $^{12}$C($^{12}$C,3α)$^{16}$C reaction
Journal of Physics G: Nuclear and Particle Physics 37, 10 (2010) 13

Myers G, Thomas D, Paganin D, Gureyev T, Clement J

A general few-projection method for tomographic reconstruction of samples consisting of several distinct materials
Contributions to Plasma Physics 50, 6-7 (2010) 656-660


Metal ion binding properties of novel wool powders

Neshev D, Dreischuh A, Maleshkov G, Samoc M, Kivshar Y

Supercontinuum generation with optical vortices
Optics Express 18, 17 (2010) 18368-18373

Neshev D, Minovich A, Dieing T, Hattori H, McKerracher I, Tan H, Jagadish C, Kivshar Y

Near-field studies of arrays of chirped subwavelength apertures
Nguyen T, Chow J, Mow Lowry C, Gray M, McClelland D
A shot-noise limited fiber laser source by cascaded passive optical filtering
Notley S, Leong Y
Interaction between silica in the presence of adsorbed poly(ethyleneimine): correlation between colloidal probe adhesion measurements and yield stress
Physical Chemistry Chemical Physics 12, 35 (2010) 10594-10601
Notley S, Norgren M
Surface Energy and Wettability of Spin-Coated Thin Films of Lignin Isolated from Wood
Langmuir 26, 8 (2010) 5484-5490
Electric dipole moments in \(^{230}\)\(^{232}\)U and implications for tetrahedral shapes
Olafuyi A, Sheppard A, Arns C, Sok R, Cinar Y, Knackstedt M, Pinczewski W
Experimental Verification of Effect of Size on Drainage Capillary Pressure Computed from Digitized Tomographic Images
The effect of deposition energy on the microstructure and mechanical properties of high speed steel films prepared using a filtered cathodic vacuum arc
Surface and Coatings Technology 204, 21-22 (2010) 3552-3558
Paiman S, Gao Q, Joyce Q, Kim Y, Tan H, Jagadish C, Zhang X, Guo Y, Zou J
Growth temperature and V/III ratio effects on the morphology and crystal structure of InP nanowires
Pan S, Tims S, Liu X, Fifield K
\(^{137}\)Cs, \(^{239}\)Pu concentrations and the \(^{240}\)Pu/\(^{239}\)Pu atom ratio in a sediment core from the sub-aqueous delta of Yangtze River estuary
Journal of Environmental Radioactivity Online, 2010 (2010) 1-7
Pant R, Xiong C, Madden S, Luther-Davies B, Eggleton B
Investigation of all-optical analog-to-digital quantization using a chalcogenide waveguide: A step towards on-chip analog-to-digital conversion
Optics Communications 282, 10 (2010) 2258 - 2262
Parsons D, Ninham B
Importance of Accurate Dynamic Polarizabilities for the Ionic Dispersion Interactions of Alkali Halides
Langmuir 26, Online 2009 (2010) 1816-1823
Parsons D, Ninham B
Charge Reversal of Surfaces in Divalent Electrolytes: The Role of Ionic Dispersion Interactions
Langmuir 26, 9 (2010) 6430-6436
Pelusi M, Luan F, Choi D, Madden S, Bulla D, Luther-Davies B, Eggleton B
Optical phase conjugation by an As\(_2\)S\(_3\) glass planar waveguide for dispersion-free transmission of WDM-DPSK signals over fiber
Optics Express 18, 25 (2010) 26686
Pelusi M, Luan F, Madden S, Choi D, Bulla D, Luther-Davies B, Eggleton B
Wavelength conversion of high-speed phase and intensity modulated signals using a highly nonlinear chalcogenide glass chip
Pereira S, Sronick J, Kutchoukov V, Bachor H
Multiplexing the information on an optical disc by angle and phase coding
High Water Diffusivity in Low Hydration Plasma-Polymerised Proton Exchange Membranes
Materials Science Forum 654-656 (2010) 2871-2874
On new developments in the physics of positron swarms
Powell D, Kivshar Y

Substrate-induced biaxialisotropy in metamaterials
Powell D, Lapine M, Gorkunov M, Shadrivov I, Kivshar Y

Metamaterial tuning by manipulation of near-field interaction
Pretty D, Vega J, Ochando M, Tabares F

Empirically derived basis functions for unsupervised classification of radial profile data
Fusion Engineering and Design 85 (2010) 423-424
Pyke D, McCallum J, Johnson B

Hydrogen refinement during solid phase epitaxy of buried amorphous silicon layers

Polychromatic solitons and symmetry breaking in curved waveguide arrays

Nonlinear surface waves in arrays of curved waveguides
Raveling D, Chow J, Gray M, McClleland D

Experimental demonstration of impedance match locking and control for coupled resonators
Optics Express 18, 9 (2010) 9314-9323
Rafiei R, DuRietz R, Luong D, Hinde D, Dasgupta M, Evers M, Diaz-Torres A

Mechanisms and systematics of breakup in reactions of $^6$Be at near-barrier energies
Physical Review C: Nuclear Physics 81, 024601 (2010) 13

Discovery of Highly Excited Long-Lived Isomers in Neutron-Rich Hafnium and Tantalum Isotopes through Direct Mass Measurements
Riggs P

Colliding Ice Comets and the Reality of Energy

SOLITAIRE-A new generation solenoidal fusion product separator
Rodriguez-Herrera O, Lara D, Bliokh K, Ostrovskaya E, Dainty C

Optical Nanoprobing via Spin-Orbit Interaction of Light
Romero M, Bautista G, Daria V, Saloma C

Laser confocal microscope with wavelet-profiled point spread function
Optics Communications 283, 7 (2010) 1217-1221

The role of ferroelectric domain structure in second harmonic generation in random quadratic media
Optics Express 18, 5 (2010) 4012 - 4022
Rougieux F, MacDonald D, Cuevas A, Ruffell S, Schmidt J, Lim B, Knights A

Electron and hole mobility reduction and Hall factor in phosphorus-compensated p-type silicon
Rukhlenko I, Garanovich I, Premaratne M, Sukhorukov A, Agrawal G, Kivshar Y
Polarization rotation in silicon waveguides: analytical modeling and applications
Rukhlenko I, Premaratne M, Garanovich I, Sukhorukov A, Agrawal G
Analytical study of pulse amplification in silicon Raman amplifiers
Optics Express 18, 17 (2010) 18324-18338
Saha S, Gupta V, Sreenivas K, Tan H, Jagadish C
Third generation biosensing matrix based on Fe-implanted ZnO thin film
Tomographic image analysis and processing to simulate micro-petrophysical experiments
Proceedings of SPIE - Progress in Biomedical Optics and Imaging 7804 (2010) 9
Salgueiro J, Kivshar Y
Nonlinear plasmonic directional couplers
Saltiel S, Neshev D, Krollikowski W, Voloch-Bloch N, Arie A, Bang O, Kivshar Y
Nonlinear diffraction from a virtual beam
Hierarchical Hough all-sky search for periodic gravitational waves in LIGO S5 data
Santala M, Radmilovic V, Giulian R, Ridgway M, Glaeser A, Gronsky R
Precipitate orientation relationships in Pt-implanted sapphire
Scripta Materialia 62, online 22 October 2009 (2010) 187-190
Savin A, Kivshar Y
Surface solitons at the edges of graphene nanoribbons
Europhysics Letters 89 (2010) 46001-6
Savin A, Kivshar Y
Vibrational Tamm states at the edges of graphene nanoribbons
Savin A, Kivshar Y, Hu B
Suppression of thermal conductivity in graphene nanoribbons with rough edges
Scheuer J, Sukhorukov A, Kivshar Y
All-optical switching of dark states in nonlinear coupled microring resonators
Schnabel R, Mavalvala N, McClelland D, Lam P
Quantum metrology for gravitational wave astronomy
Nature Communications 1, 8 (2010) 12
Schnohr C, Kluth P, Giulian R, Llewellyn D, Byrne A, Cookson D, Ridgway M
Swift-heavy-ion-induced damage formation in III-V binary and ternary semiconductors
Disordered spherical bead packs are anisotropic
Europhysics Letters 90, 3 (2010) art. no. 34001
LIGO-Virgo searches for gravitational waves from coalescing binaries: a status update
Setzpfandt F, Sukhorukov A, Neshev D, Schiek R, Kivshar Y, Pertsch T

Phase transitions of nonlinear waves in quadratic waveguide arrays

Sevick E, Williams D

Piston-Rotaxanes as Molecular Shock Absorbers
Langmuir 26, 8 (2010) 5864–5868

Shadrivov I, Blokh K, Blokh Y, Freilikher V, Kivshar Y

Bistability of Anderson localized states in nonlinear random media

Shalav A, Kim T, Elliman R

Secondary Growth and Photoluminescence from Erbium Implanted Silica Nanowires

Shats M, Byrne D, Xia H

Turbulence decay rate as a measure of flow dimensionality
Physical Review Letters 105, 26 (2010) 264501 4

Shats M, Punzmann H, Xia H

Capillary Rogue Waves
Physical Review Letters 104 (2010) 104503 4

Shen M, Ding H, Kong Q, Ruan L, Pang S, Shi J, Wang Q

Self-trapping of two-dimensional vector dipole solitons in nonlocal media

Sheng Y, Best A, Butt H, Krolikowski W, Arie A, Koynov K

Three-dimensional ferroelectric domain visualization by Cerenkov-type second harmonic generation
Optics Express 18, 16 (2010) 16539 to 16545

Sheng Y, Saltiel S, Krolikowski W, Arie A, Koynov K, Kivshar Y

Cerenkov-type second-harmonic generation with fundamental beams of different polarizations

Shvedov V, Desyatnikov A, Rode A, Izdebskaya Y, Krolikowski W, Kivshar Y

Optical vortex beams for trapping and transport of particles in air

Shvedov V, Hnatovsky C, Krolikowski W, Rode A

Efficient beam converter for the generation of high-power femtosecond vortices

Shvedov V, Rode A, Izdebskaya Y, Desyatnikov A, Krolikowski W, Kivshar Y

Optical Pipeline: Trapping and Guiding of Airborne Particles
Optics and Photonics News 21, 12 (2010) 37

Shvedov V, Rode A, Izdebskaya Y, Desyatnikov A, Krolikowski W, Kivshar Y

Selective trapping of multiple particles by volume speckle field
Optics Express 18, 3 (2010) 3137 - 3142

Shvedov V, Rode A, Izdebskaya Y, Desyatnikov A, Krolikowski W, Kivshar Y

Giant optical manipulation

Shvedov V, Rode A, Izdebskaya Y, Levykam D, Desyatnikov A, Krolikowski W, Kivshar Y

Laser speckle field as a multiple particle trap

Simenel C

Particle Transfer Reactions with the Time-Dependent Hartree-Fock Theory Using a Particle Number Projection Technique
Physical Review Letters 105, 192701 (2010) 4

Singh K, Notley S

Adsorption of Nonionic Surfactants (CnEm) at the Silica-Water and Cellulose-Water Interface

Smith L, Jackson H, Yarrison-Rice J, Jagadish C

Insights into single semiconductor nanowire heterostructures using time-resolved photoluminescence
Semiconductor Science and Technology 25, 2 (2010)
Sparkes B, Hosseini M, Hetet G, Lam P, Buchler B

Ac Stark gradient echo memory in cold atoms


Ion-irradiation-induced amorphization of cobalt nanoparticles


Structural and vibrational properties of Co nanoparticles formed by ion implantation
Journal of Applied Physics 107, 014313 (2010) 1-10

Stevenson R, Carvalho A, Hope J

Production of entanglement in Raman three-level systems using feedback

Sukhorukov A

Reflectionless potentials and cavities in waveguide arrays and coupled-resonator structures
Optics Letters 35, 7 (2010) 989-991

Sukhorukov A, Marsal N, Minovich A, Wolfersberger D, Sciamanna M, Montemeyzani G, Neshev D

Lattice-controlled modulation instability in photorefractive feedback systems

Sukhorukov A, Xu Z, Kivshar Y

Nonlinear suppression of time reversals in PT-symmetric optical couplers


A trap-based positron beamline for the study of materials
Measurement Science and Technology 21 (2010) 7

Sutton A, McKenzie K, Ware B, Shaddock D

Laser ranging and communications for LISA
Optics Express 18, 20 (2010) 20759-20773


Observation of two-dimensional dynamic localization of light


Observation of localized modes at phase slips in two-dimensional photonic lattices
Optics Letters 35, 16 (2010) 2738-2740

Szegi S, Hush M, Carvalho A, Hope J

Feedback control of an interacting Bose-Einstein condensate using phase-control imaging
Physical Review A: Atomic, Molecular and Optical Physics 82, 043632 (2010) 1-10


Characterization of the temperature of free electrons diffusing from a magnetoically expanding current-free double layer plasma

Takahashi K, Charles C, Boswell R, Fujiwara T

Double-layer ion acceleration triggered by ion magnetization in expanding radiofrequency plasma sources


Swift heavy ion irradiation-induced microstructure modification of two delta-phase oxides: Sc4Zr2O12 and Lu4Zr2O12
Nuclear Instruments and Methods in Physics Research: Section B 268, 10 (2010) 3243-3247


Anisotropy-controlled topological stability of discrete vortex solitons in optically induced photonic lattices


Polymer tribology by combining ion implantation and radionuclide tracing
Timmers H, Kemp W, Byrne A, Ridgway M, Vianden R, Kessler P, Steffens M
Evidence of palladium-defect pairing in intrinsic germanium
Hyperfine Interactions 197 (2010) 159-165
Tims S, Everett S, Fifield K, Hancock G, Bartley R
Plutonium as a tracer of soil and sediment movement in the Herbert River, Australia
Plutonium AMS measurements in Yangtze River estuary sediment
Tittel W, Afzelius M, Chaneliere T, Cone R, Kroll S, Moiseev S, Sellars M
Photon-echo quantum memory in solid state systems
Laser & Photonics Reviews (Laser and Photonics Reviews) 4, 2 (2010) 244 - 267
Trzhaskovskaya M, Kibedi T, Nikulin V
Resonance behavior of internal conversion coefficients at low γ-ray energy
Physical Review C: Nuclear Physics 81, 024326 (2010) 11
The potential of New Zealand kauri (Agathis australis) for testing the synchronicity of abrupt climate change during the Last Glacial Interval (60,000-11,700 years ago)
Quaternary Science Reviews 29, 27-28 (2010) 3677-3682
Vibronic coupling in the superoxide anion: The vibrational dependence of the photoelectron angular distribution
Journal of Chemical Physics 133, 174311 (2010) 9
High-resolution optical sampling of 640-Gb/s data using four-wave mixing in dispersion-engineered highly nonlinear As₂S₃ planar waveguides
Automatic dispersion compensation for 1.28Tb/s OTDM signal transmission using photonic-chip-based dispersion monitoring
Optics Express 18, 24 (2010) 25415-25421
Varslot T, Kingston A, Sheppard A, Sakellariou A
Fast high-resolution micro-CT with exact reconstruction methods
Proceedings of SPIE - Progress in Biomedical Optics and Imaging 7804 (2010) Article number 780413
Varslot T, Morales H, Cheney M
Synthetic-aperture radar imaging through dispersive media
Inverse Problems 26, 2 (2010) 025008-27
Vasiliev A, Dmitriev S, Miroshnichenko A
Multi-field approach in mechanics of structural solids
Vasiliev A, Miroshnichenko A, Ruzzene M
A discrete model and analysis of one-dimensional deformations in a structural interface with micro-rotations
Mechanics Research Communications 37, 2 (2010) 225-229
Viviescas C, Guevara I, Carvalho A, Busse M, Buchleitner A
Entanglement Dynamics in Open Two-Qubit Systems via Diffusive Quantum Trajectories
Vo T, Hu H, Gailli M, Palushani E, Oxenlowe L, Madden S, Choi D, Bulla D, Pelusi M, Schroder J, Luther-Davies B, Eggleton B
Photonic chip based transmitter optimization and receiver demultiplexing of a 1.28 Tbit/s OTDM signal
Optics Express 18, 26 (2010) 17252 to 17261
Vo T, Pelusi M, Schroder A, Luan F, Madden S, Choi D, Bulla D, Luther-Davies B, Eggleton B
Simultaneous multi-impairment monitoring of 640 Gb/s signals using photonic chip based RF spectrum analyzer
Optics Express 18, 4 (2010) 3938 - 3945
Vo T, Schroder J, Pelusi M, Madden S, Choi D, Bulla D, Luther-Davies B, Eggleton B
*Photonic Chip-Based Simultaneous Multi-Impairment Monitoring for Phase-Modulated Optical Signals*

von Nessi G
*On the Second Boundary Value Problem for a Class of Modified-Hessian Equations*
Communications in Partial Differential Equations 35 (2010) 745-785

Vos M
*Electron scattering at high momentum transfer from methane: Analysis of line shapes*

Vos M
*Electron scattering from Xe: the relation between the differential elastic cross section and shape and intensity of the energy loss spectra*

Vos M, Aizel K, Winkelmann A
*Experimental Observation of the Strong Influence of Crystal Orientation on Electron Rutherford Backscattering Spectra*
Surface Science 604 (2010) 893-897

Vu K, Madden S
*Tellurium dioxide Erbium doped planar rib waveguide amplifiers with net gain and 2.8dB/cm internal gain*
Optics Express 18, 18 (2010) 19192 - 19200

Vukovic S, Jaksic Z, Shadrivov I, Kivshar Y
*Plasmonic crystal waveguides*

Wabnitz S, Akhmediev N
*Efficient modulation frequency doubling by induced modulation instability*
Optics Communications 283, 2010 (2010) 3

*Second- and third-harmonic parametric scattering in disordered quadratic media*

Wang W, Sheng Y, Kong Y, Arie A, Krollkowski W
*Multiple Cerenkov second-harmonic waves in a two-dimensional nonlinear photonic structure*

*Multi-quasiparticle isomers involving proton-particle and neutron-hole configurations in $^{131}$I and $^{133}$I*

West M, Clarke J
*Potential martian mineral resources: Mechanisms and terrestrial analogues*
Planetary and Space Science 58 (2010) 574-582

West M, Charles C, Boswell R
*Operating Radio Frequency Antennas Immersed in Vacuum: Implications for Ground-Testing Plasma Thrusters*

West M, Clarke J, Laing J, Willson D, Waldie J, Murphy G, Thomas M, Mann G
*Testing technologies and strategies for exploration in Australian Mars analogues: A review*

West M, Clarke J, Thomas M, Pain C, Walter M
*The geology of Australian Mars analogue sites*
Planetary and Space Science 58 (2010) 447-458

Wette K, Vigelius M, Melatos A
*Sinking of a magnetically confined mountain on an accreting neutron star*

*Non-equilibrium transport of positron and electron swarms in gases and liquids*
Plasma Sources Science and Technology 19, 3 (2010) 10
Nonlinear Absorption

Tunable, high beam quality and narrow linewidth semiconductor disk laser
Optical Engineering 49, 10 (2010) 5
Zhang Y, Skupin S, Maucher F, Pour A, Lu K, Krolikowski W

Azimuthons in weakly nonlinear waveguides of different symmetries
Optics Express 18, 26 (2010) 27846-27857

Conference Papers (73 publications)

Akhmediev N, Ankiewicz A, Soto-Crespo J
Rogue Waves in Presence of Higher Order Effects
Nonlinear Photonics Topical Meeting 2010 (2010) 3

Akhmediev N, Ankiewicz A, Wise F
Dissipative Soliton Lasers
Nonlinear Photonics Topical Meeting 2010 (2010) 2 Paper No NTuA7
Arad A, Madadi M, Christy A, Sheppard A, Averdunk H, Knackstedt M
Understanding rock mechanics and acoustic anisotropy at the pore/grain scale

Aste T, Delaney G, Di Matteo T
kGamma distributions in granular packs
IUTAM-ISIMM Symposium on mathematical modeling and physical instances of granular flows (2010) 157-166

Bellm S, Lower J, Mueller D, Weigold E

Bennet F, Amuli I, Neshev D, Sukhorukov A, Krolikowski W, Kivshar Y
Switching from nonlinear beam focusing to defocusing in periodic structures

Comparison between implanted boron and phosphorus in silicon wafers

Chang W, Ankiewicz A, Soto-Crespo J, Akhmediev N
Ultra-High Energy Pulse Generation: Dissipative Soliton Approach
Nonlinear Photonics Topical Meeting 2010 (2010) 2

Choi D, Luther-Davies B, Kim T, Belay K, Llewellyn D, Elliman R
Strain Relaxation in Germanium-on-Insulator fabricated by a modified Germanium Condensation
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 155 to 156

Craig V, Henry C
Inhibition of Bubble Coalescence by Salts and Sugars
International Mineral Processing Congress (2010)

Formation of Si-nanocrystals in SiO2 via ion implantation and rapid thermal processing
SPIE Photonics West (2010)

Daria V, Stricker C, Bowman R, Bachor H, Redman S
Four-dimensional multi-site two-photon excitation
Photonics West: Photonic Therapeutics and Diagnostics VI (2010) 8

Das M, Chaudhury R
Kohn Anomaly in Conventional Superconductors: A Surprise
Dracoulis G
On the question of connections between high-K and low-K states in $^{180}$Ta and $^{176}$Lu
INTERNATIONAL SYMPOSIUM ON ORIGIN OF MATTER AND EVOLUTION OF GALAXIES (OMEG2010) (2010) 8
Dudley J, Genty G, Dias F, Kibler B, Akhmediev N
Modulation instability, Akhmediev breathers, and rogue waves in nonlinear fiber optics
Duerinck M, Haguil R, Luther-Davies B
Resonant Infra-red Pulsed Laser Ablation of Polymers with single picosecond pulses generated by an optical parametric amplifier
Effect of Ion-implantation on Forming and Resistive-Switching Response of NiO Thin films
Fletcher N
Inverse problems in musical acoustics
Fu L, Jolley G, Lu H, Majid A, Tan H, Jagadish C
Temperature effect on device characteristics of InGaAs/GaAs quantum dot solar cell
Gai X, Choi D, Madden S, Bulla D, Luther-Davies B
Ge11.5As24Se64.5 chalcogenide glass nanowires with a nonlinear parameter of 136,000W-1km-1 at 1550nm
Gai X, Madden S, Choi D, Bulla D, Luther-Davies B
Chalcogenide nanowire waveguides with a parameter 150,000 W-1km-1
Gai X, Prasad A, Madden S, Choi D, Bulla D, Luther-Davies B
Highly Nonlinear Ge11.5As24Se64.5 nanowires with a nonlinear parameter up to 150,000 W-1km-1
Garanovich I, Matuszewski M, Sukhorukov A
Mobile light bullets in modulated photonic lattices
European Optical Society Annual Nonlinear Optics and Photonics Conference 2010 (2010) 2
Genty G, de Sterke C, Bang O, Dias F, Akhmediev N, Dudley J
Collisions in Optical Rogue Wave Formation
Genty G, de Sterke C, Bang O, Dias F, Akhmediev N, Dudley J
Collisions and Emergence of Optical Rogue Solitons
Nonlinear Photonics Topical Meeting 2010 (2010) 2
Genty G, Dias F, Kibler B, Akhmediev N, Dudley J
Akhmediev Breather dynamics and the nonlinear modulation instability spectrum
Chalcogenide glass photonic crystals: Progress and prospects
Photonic and Phononic Crystal Materials and Devices (2010) 760913-9
Han T, Madden S, Bulla D, Luther-Davies B
Production of low loss highly nonlinear chalcogenide glass waveguides by hot embossing
Han T, Madden S, Bulla D, Luther-Davies B
Fabrication of low loss Chalcogenide glass waveguide via thermal nanoimprint lithography
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 53 to 54
*Progress in Development of the Advanced Thomson Scattering Diagnostics*
Hylton N, Crowe I, Knights A, Halsall M, Ruffell S, Gwilliam R
*Optical spectroscopy of Er doped Si-nanocrystals on sapphire substrates fabricated by ion-implantation into SiO₂*
SPIE Photonics West (2010)
*Broadband Third Harmonic Generation in Quadratic Media with Disordered Ferroelectric Domains*
*Improvement of Morphology, Structure, and Optical Properties of GaAs Nanowires Grown on Si substrates*
*Structural and Optical Characterization of Vertical GaAs / GaP Core-Shell Nanowires Grown on Si Substrates*
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 57-58
*Resistance switching in polycrystalline NiOx thin film*
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 223-224
Kim T, Shalav A, Elliman R
*The Fabrication of Optically Active Silica Nanowires by Ion-Implantation*
Kim T, Shalav A, Elliman R
*Controlled lateral growth of silica nanowire*
Kumar M, Fogden A, Morrow N, Buckley J
*Mechanisms of Improved Oil Recovery from Sandstone by Low Salinity Flooding*
Kumar M, Senden T, Sheppard A, Arns C, Knackstedt M
*Variations of the Archie's Exponent; Probing Wettability and Low Sw Effects*
Lebedeva E, Fogden A, Senden T, Knackstedt M
*Kaolinite wettability – the effect of salinity, pH and calcium*
*The Evolution of Photoinduced Photonic Crystal Cavities During Writing*
Lu H, Fu L, Jolley G, Tan H, Rao Tatavarti S, Jagadish C
*Temperature Dependence of Dark Current Properties of InGaAs/GaAs Quantum Dot Solar Cells*
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 127-128
Malik A, Belay K, Llewellyn D, Hutchinson W, Elliman R
*Ion beam synthesis of metallic nanoparticles in SiO₂ thin films*
*Co and Co-Pt Nanoparticles Formed in Silica by Ion Implantation*
McKerracher I, Wong-Leung Y, Jolley G, Fu L, Tan H, Jagadish C
Spectral tuning of InGaAs/GaAs quantum dot infrared photodetectors using selective-area intermixing
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 2
Mills F, Chee C
An initial assessment of the impact of Australian aerosols on surface ultraviolet radiation and implications for human health
Nawaz M, Venkatachalam D, Belay K, Kim T, Elliman R
Bistable Resistive Switching in Hafnium-Silicate Thin Films
Normand N, Svable I, Parrein B, Kingston A
Erasure Coding with the Finite Radon Transform
Pant R, Xiong C, Madden S, Luther-Davies B, Eggleton B
All-optical quantization using a chalcogenide waveguide: Towards on-chip ultrahigh-bandwidth analog-to-digital conversion
Pyke D, Elliman R, McCallum J
Hydrogen blister depth and surface roughness during the ion-cut process
Pyke D, Elliman R, McCallum J
Hydrogen Platelet Evolution in Mechanically Strained Silicon
Second-Harmonic Generation in Disordered Quadratic Media: Role of a Ferroelectric Domain Structure
Ruffell S, Venkatachalam D, Shalav A, Elliman R
Formation of ordered arrays of gold particles on silicon and silicon-dioxide by nanoindentation patterning
Materials Research Society Meeting Fall 2009 (2010) 6
Rukhlenko I, Garanovich I, Premararne M, Sukhorukov A, Agrawal G, Kivshar Y
Kerr shutter and power equalizer using polarization rotation in silicon waveguides
European Optical Society Annual Nonlinear Optics and Photonics Conference 2010 (2010) 3289
Saleh M, Venkatachalam D, Kim S, Belay K, Elliman R
The effect of ion-implantation on the resistive switching response of NiO thin films
Shalav A, Kim T, Elliman R
The Properties of Silica and Hybrid Nanostructures
Shalav A, Venkatachalam D, Reichardt F, Fischer F, Elliman R
Titania Coated Silica Nanowires
Materials Research Society Meeting Fall 2009 (2010) 1206
Sheng Y, Koynov K
Quasi-phase matched harmonic generation in short-range ordered nonlinear photonic structure
Sheng Y, Best A, Krolikowski W, Arie A, Saltiel S, Koynov K
Direct Three-Dimensional Visualization of Inverted Domains in Nonlinear Photonic Structures by Cerenkov-Type Second Harmonic Generation Microscopy
Sheng Y, Neshnev D, Krolikowski W, Arie A, Koynov K, Kivshar Y
Conical Second Harmonic Generation in Two-dimensional Nonlinear Photonic Structures
Shvedov V, Hnatovsky C, Krolikowski W, Rode A
Focused femtosecond vortex laser pulse
Shvedov V, Rode A, Izdebskaya Y, Desyatnikov A, Krolikowski W, Kivshar Y
*Spleckle field as a multiple particle trap*

Skupin S, Maucher F, Krolikowski W
*Rotating three-dimensional solitons*

Solntsev A, Sukhorukov A
*Combined frequency conversion and pulse compression in nonlinear tapered waveguides*
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 89-90

Sukhorukov A, Qi X, Garanovich I, Krolikowski W, Mitchell A, Zhang G, Neshev D, Kivshar Y
*Polychromatic Solitons and Symmetry Breaking in Modulated Waveguide Arrays*
Optical Society of America Optics and Photonics Congress 2010 (2010) 2

Sukhorukov A, Qi X, Garanovich I, Krolikowski W, Mitchell A, Zhang G, Neshev D, Kivshar Y
*Polychromatic solitons and symmetry breaking in modulated waveguide arrays*
Nonlinear Photonics Topical Meeting 2010 (2010) 2

*Two-dimensional dynamic localization of light*

Venkatachalam D, Fletcher N, Sood D, Elliman R
*The Growth of Self-assembled Au Nanostructures during the Epitaxial Crystallization of Au-Implanted Amorphous Silicon Layers*

*All-optical demultiplexing of 1.28 Tb/s to 10 Gb/s using a Chalcogenide photonic chip*

Vo T, Schroder J, Pelusi M, Madden S, Choi D, Bulla D, Luther-Davies B, Eggleton B
*Photonic chip based optical performance monitoring of ultrahigh bandwidth phase-encoded optical signals*
Nonlinear Photonics Topical Meeting 2010 (2010) 2

*Cascaded third harmonic generation in random media*

Wang Y, Ruffell S, Sears K, Knights A, Bradby J, Williams J
*Electrical properties of Si-XII and Si-III formed by nanoindentation*
Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2010) (2010) 105-106

Zhang Y, Skupin S, Lu K, Krolikowski W
*Azimuthons in weakly nonlinear waveguides*
Nonlinear Photonics Topical Meeting 2010 (2010) 2
Grants

Listed on the next few pages are research grants by funding provider, then by scheme name and investigators. The amount is the total amount awarded to ANU over the life of the fund and is current as of 2010. External collaboration is highlighted in blue, i.e. 45% (81 of 179) of the grants listed have involved collaboration with external institutions. RSPE is also a partner in externally led funding totalling approximately $773,000, a significant amount of which flows through to the research school. Figures were sourced from ARIES on 18 July 2011.
<table>
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<tr>
<th>PRIMARY FUNDS PROVIDER</th>
<th>SCHEME</th>
<th>INVESTIGATORS</th>
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<td>Australian Academy of Science</td>
<td>Travel Grant</td>
<td>Neshev, Dragomir*; Pertsch, Thomas#; Schiek, Roland#; Sukhorukov, Andrey*</td>
<td>Signal Processing in Quadratic Nonlinear Waveguides</td>
<td>01-Jul-10</td>
<td>30-Jun-11</td>
<td>$15,675</td>
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<td>Australian Institute of Nuclear Science and Engineering (AINSE)</td>
<td>Postgraduate Research Award</td>
<td>Blackwell, Boyd*; Haskey, Shaun*; Hole, Matthew*</td>
<td>From Stellarator to tokamaks: The effects of 3D structure on Alfvén eigenmodes</td>
<td>01-Jul-10</td>
<td>24-Nov-12</td>
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<td>Postgraduate Research Award</td>
<td>Corr, Cormac*; Charles, Christine*; Hudspeth, Jessica*; Nelson, Andrew#</td>
<td>Plasma Deposition Techniques for Proton Exchange Membrane Fuel Cells</td>
<td>01-Jul-09</td>
<td>03-Feb-12</td>
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<td>Australian Mathematical Sciences Institute</td>
<td>Internship</td>
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<td>Command and Control Science Mentoring</td>
<td>17-Aug-09</td>
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<td>Jagadish, Chennupatt#; Faracoe, Lorenzo#; Williams, James S#</td>
<td>Australian National Nanofabrication Facility</td>
<td>31-Aug-07</td>
<td>30-Jun-11</td>
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<td>Australian Nuclear Science &amp; Technology Organisation (ANSTO)</td>
<td>Access to Major Research Facilities Program</td>
<td>Chow, Jong #</td>
<td>Searching for gravitational waves with the Laser Interferometer Gravitational Wave Observatory (LIGO)</td>
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<td>Searching for gravitational waves with the Laser Interferometer Gravitational Wave Observatory (LIGO)</td>
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<td>Searching for Gravitational Waves with the Laser Interferometer Gravitational Wave Observatory (LIGO)</td>
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<td>31-Oct-10</td>
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<th>Australian Research Council (ARC)</th>
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<td>2005 Discovery: Project Grant</td>
<td>Continuous Variable Quantum Information Experiments</td>
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<td>21-Sep-10</td>
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| 2005 Linkage: Infrastructure Equipment and Facilities       | A new-generation gas-source radiocarbon system for integrated environment and archaeological research - Led by ANU |
|                                                             | 01-Jan-05                                                                                 |
|                                                             | 31-Dec-10                                                                                 |
|                                                             | $854,354                                                                                  |

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<th>2006 Discovery: Project Grant</th>
<th>Fu, Lan*; Johnston, Michael B#</th>
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<td>Development of High Performance III-V Semiconductor Photoconductive Antennas for Terahertz Applications</td>
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<td>A Novel Optical Source for the Vaporization and Deposition of Polymers</td>
<td>Luther-Davies, Barry*; Haglund, Richard #</td>
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<td>Next Generation Planar Tellurite Waveguides</td>
<td>Madden, Steve*</td>
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<td>Optical-spin coupling in the nitrogen-vacancy centre in diamond</td>
<td>Manson, Neil*</td>
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<td>Pushing the frontiers of gravitational wave science: from technology to astrophysics</td>
<td>McClelland, David*; Owen, Benjamin #; Scott, Susan M*; Stagmolen, Bram*; Stagmolen, Bram*; Whitcomb, Stanley Ernest#</td>
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<td>Isotopic fractionation in planetary atmospheres</td>
<td>Mills, Franklin (Frank)*; Gladstone, George R#; Lewis, Brenton#; Yung, Yuk Li#</td>
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<td>Tunable nonlinear photonic devices with liquid crystals</td>
<td>Miroshnichenko, Andrey*</td>
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<td>Active control of light for nonlinear photonic devices (externally led by RMIT University)</td>
<td>Mitchell, Amant#; Neshov, Dragomir*</td>
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<tr>
<td>Controlled manipulation of matter-waves in atomic waveguiding structures</td>
<td>Ostrovskaya, Elena*</td>
</tr>
<tr>
<td>Engineering and control of metamaterials with negative refraction</td>
<td>Shadrivov, Ilya*</td>
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<tr>
<td>Year</td>
<td>Type of Grant</td>
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<td>Charge transport and trapping in high-k dielectric films containing self-assembled nanocrystals</td>
<td>Elliman, Robert*; Choi, Suk Ho#; Fletcher, Neville H*</td>
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<td>Sulfuric acid formation from atmospheric sulfur trioxide and disulfur oxide: is one water molecule enough?</td>
<td>Gibson, Stephen*; Lewis, Brenton*</td>
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<td>Developing and exploiting a beam of exotic neutron halo nuclei: probing quantum coherence and decoherence at the femtoscale</td>
<td>Hinde, David*; Dasgupta, Mahananda*; Freer, Martin #; Hagino, Kouichi #; Tostevin, Jeffrey Allan#</td>
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<tr>
<td>Rock Physics: A study of micromechanics of rocks and granulated materials</td>
<td>Knackstedt, Mark*; Arns, Christoph*; Arns, Christoph*; Garboczi, Edward J#; Saadatfar, Mohammed*</td>
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<td>Pore scale characterisation of the wettability of petroleum reservoir core material: Towards optimised recovery of hydrocarbon reserves</td>
<td>Knackstedt, Mark*; Fogden, Andrew*; Morrow, Norman Robert#</td>
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<tr>
<td>Positronic Atoms - A Search for Positron Bound States</td>
<td>Makochekanwe, Caste#</td>
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<td>Molecular forces: in colloid science, complex fluids and living matter</td>
<td>Ninham, Barry*</td>
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<td>Linkage: International Awards</td>
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RSPE Annual Report 2010 – page 72
<table>
<thead>
<tr>
<th>2008 Linkage: International Awards</th>
<th>Lewis, Brenton*; Mills, Franklin (Frank)*; Shemansky, Donald E#; Ubachs, Wim#; Young, Edward D#; Yung, Yuk L#</th>
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<tbody>
<tr>
<td></td>
<td>Understanding the chemistry and evolution of planets and their atmospheres: Integrating experiments, observations, and quantum mechanical models</td>
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<th>2008 Linkage: Projects</th>
<th>Boswell, Rod*; Carman, Robert John#</th>
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<td></td>
<td>Aperture and power scaling of Remote Plasma Sources for GaN film growth and development of a real-time diagnostic tool for activated Nitrogen species (externally led by Macquarie University)</td>
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<th>Boswell, Rod*; Charles, Christine*; Laine, Robert#</th>
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<td>Space development of the HDLT Australian Plasma Thruster</td>
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<th>Craig, Vincent*; Fogden, Andrew*; Senden, Timothy*; Thomson, Stuart#</th>
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<td>Innovative platforms for further enhancing security and durability of the Australian Polymer Banknote and other security documents</td>
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<td>Bachor, Hans*; Baldwin, Kenneth*; Ballagh, Robert##; Carmichael, Howard##; Close, John*; Comey, Joel Frederick##; Dalton, Bryan John##; Davis, Matthew John##; Drummond, Peter David##; Ertmer, Wolfgang##; Fabre, Claude##; Giacobino, Elisabeth##; Hannaford, Peter##; Hinds, Edward##; Hope, Joseph*; Kheruntsyan, Karen V#; Kieu, Tien D#; Kivshar, Yuri*; Lam, Ping Koy*; Leuchs, G#; McLean, R##; Ostrovskaya, Elena##; Reid, MD##; Rowlands, W#; Savage, Craig##; Sidorov, A#; Truscott, Andrew##; Vassen, Wim##; Wilson, Andrew##</td>
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<td>Buckman, Stephen*; Bartschat, Klaus R#; Bastow, Timothy##; Bray, Igor##; Brunger, Michael J##; Burrow, Paul##; Fursa, Dmitry##; Hill, Anitza##; Keller, Hubert##; Lohmann, Birgit##; Lower, Julian##; Marler, Joan R##; Mason, Nigel John#; Mccurdy, Clyde##; McEachran, Robert##; Nagai, Yasuyoshi##; Orel, Anni#; Pas, Steven##; Pasigno, Thomas Nicolas##; Samarlin, Sergei##; Smith, Suzanne##; Stelbovics, Andri#; Sullivan, James##; Surko, Clifford M#; Teubner, Peter J##; Vance, Lou##; Williams, J.F#</td>
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<td>Luther-Davies, Barry*; Kivshar, Yuri*; Krolikowski, Wieslaw*</td>
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<td>Jagadish, Chennupati*; Cameron, Fiona Helen#; Clark, Robert Graham#; Cortie, Michael#; Dastoor, Paul Christopher#; Dell, John Marcel#; Dimitrijev, Sima#; Dzurak, Andrew Steven#; Eggleton, Benjamin JF; Farace, Lorenzo#; Gal, Michael#; Grant, Kenneth John#; Gu, Min#; Hamilton, Alexander Rudolf#; Hariz, Ahsan M#; Horn, Roger Graham#; Jamieson, David Norman#; Jesson, David Edward#; Kane, Deborah#; Lewis, Roger#; Lu, Gaoping Mas#; Majewski, Peter JF; McCallum, Jeffrey Off; Meredith, Paul#; Micolicich, Adam Paul#; Mulvaney, Paul Off#; Nickau, Dan Off#; Parisi, Giancarlo#; Parkinson, Gordon Michael#; Phillips, Matthew R#; Reston, Colin Llewellyn#; Riley, John Off#; Ringer, Simon Peter#; Rubinsztein-Dunlop, Halina#; Saunders, Martin#; Sawides, Nick#; Shapter, Joseph Off#; Simmons, Michelle Yvonne#; Singh, Jugdutt#; Soed, Dinesh Kumar#; Stampfli, Catherine M#; Turner, Terence William#; Usher, Brian Off#; Voelcker, Nicholas Hill#; Witriford, Michael#; Zou, Jin#</td>
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<td>Williams, James S*; Bilek, Marosia#; Brown, Hugh#; Cheng, Yi-Bing#; Collins, George Andrew#; Faacane, Lorenzco#; Ferry, Michael#; Gall, Michael#; Halle, Peter John#; Hodgson, Peter Damian#; Horn, Roger Graham#; Jamieson, David Norman#; Jiang, Zheng Yi#; Lamb, Robert Norman#; Lu, Guoqing Mia#; McKenzie, David R#; Munroe, Paul#; Murch, Graeme Elliot#; Nie, Jian-Feng#; Nowotny, Janusz#; Raston, Colin Llewellyn#; Ringer, Simon Peter#; Scala, Christine Mary#; Simmons, Michelle Yvonne#; Sood, Dinesh Kumar#; Sprks, Gary M#; Swain, Michael Vincent#; Turney, Terence Williams#; Wang, Jun#; Wang, Xungai#; Ye, Lin#; Zou, Jin#</td>
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<td>Shaddock, Daniel*; McClelland, David*; Tregoning, Paul*</td>
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<td>Boswell, Rod*; Braut, Pascal*; Caillard, A.<em>; Charles, Christine</em>; Corr, Cormac*; Hudspeth, Jessica*</td>
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<td>Positron and Electron Induced Processes</td>
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<td>European Commission External Relations Grant</td>
<td>Faletic, Rado*; Desvignes-Hicks, Jean-Francois*; Matthews, Mark*</td>
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<td>Seventh Framework Programme (administered by another institution)</td>
<td>Bachor, Hans*; Janousek, Jiri*; Lam, Ping Koy*; Wagner, Katherine*</td>
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<td>Go8/DAAD Australia-Germany Joint Research Cooperation Scheme</td>
<td>Ans, Christoph*; Knackstedt, Mark*; Madadi, Mahyar*; Mecke, Klaus#; Robins, Vanessa*; Schroder-Turk, Gerd#</td>
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<td>Japan Oil, Gas and Metals National Corporation</td>
<td>Knackstedt, Mark*; Arns, Christoph*; Pinczewski, Wolf Valit; Senden, Timothy*; Sheppard, Adrian*</td>
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ARIES 19/07/11
School Resources

Mr Rana Ganguly

School Administration

School Manager
Rana Ganguly

EA to Director
Laura Walmsley (until May)
Deborah Bordeau (from June)

School Outreach
Tim Wetherell

School Development
Kavitha Robinson (from February)

School Projects
Liz Micallef (from September)

School Stores
Ken Staples
- Richard Adamow
- Goran Radovanovic

School Computer Unit
James Irwin
- Martin Conway
- Julie Dalco
- Deane Larkman

School Technical Services

Facilities & Services Manager
Graeme Cornish
- Ronald Cruikshank (until July)
- Josephine Ivanic
- Lyndell Paseka
- Susie Radovanovic

Electrical
Patrick Lang
- Christopher Gordon (from July)

Carpentry
Anthony MacKey
- Tristan Kent

Mechanical Workshop
Thomas McGuinness
- Anthony Barling
- Thomas Cave
- Steve Holgate
- Owen Kershaw
- Richard Kolleran
- Miroslav Peric
- Gordon Scott (until November)
- Matthew Wallace
- Craig Young

Electronic Workshop
David Anderson
- Dennis Gibson
- Steven Huynh
- David Kelly
- Steven Marshall
- Luke Materne (from February)
- Wasantha Ramasundara
- Paul Redman
- Daniel Tempra
- Oliver Thearle
- Andrew Zeylemaker

Joint Administration Group

Administrative services are now provided by the Joint Administrative Group (JAG) through the College of Medicine, Biology and Environment (CMBE) and the College of Physical and Mathematical Sciences (CPMS) for the following:

- Finance
- Human Resources
- Information Technology
- Marketing & Communications
- Research Management
- Student Administration
- Teaching and Learning

JAG General Manager
Ms Anne Kealley