Professor McClelland 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.

RSPE saw a variety of changes to the management and organization of its educational programs in 2011. The retirement of Professor Neil Manson, who had served the School in the role of Associate Director (HDR) for more than 20 years, and the stepping down of both Professor Craig Savage as Associate Director (undergraduate) in July and Professor David McClelland as Deputy Director (Education) in November occasioned a significant restructuring of responsibilities. RSPE would like to extend heartfelt thanks to all three for their work. Professor Manson has created a high quality, welcoming environment for postgraduate research students entering the school for more than two decades, and has been an extremely important representative of the School’s interests on relevant University-level committees. Profs McClelland and Savage oversaw the creation of the Physics Education Centre, the virtual Centre initially responsible for delivery of the School’s undergraduate programs, during the merger of the former Department of Physics with the Research School of Physical Sciences and Engineering to create the new RSPE. Their contribution to both planning and delivery of the undergraduate program in particular will continue to be valued after they relinquish their formal leadership roles.

A/Professor Anna Wilson assumed overall responsibility of the School’s undergraduate and graduate education programs as the new Deputy Director (Education), with formal responsibility commencing in January 2012. A new HDR Board of Studies was constituted to deliver strategic planning as well as day-to-day management of the School’s postgraduate research-based education activities. On the coursework side of the School’s programs, each research department appointed an Education Coordinator, responsible for liaisons between the Physics Education Centre and their home department. Current members of the HDR Board of Studies (BoS) and Departmental Education Coordinators are listed below.

As well as structural changes at the School level, 2011 saw a major overhaul of the University’s undergraduate degree structure, with the introduction of a new Major, Specialisation and Minor system to replace the old Majors-only system. Through the Physics Education Centre, RSPE now offers two Majors, in Physics and Theoretical Physics; two specialisations, in Physics and Optics; and a minor in Physics. It is also a major contributor to specialisations in Astrophysics, Geophysics and Mathematical Physics in the College of Physical and Mathematical Sciences, and to the Photonics Major in the College of Engineering and Computer Science.

In education research, A/Professor Anna Wilson was successful in obtaining competitive funding for three national teaching enhancement projects, one based at ANU and two in partnership with the University of Canberra, totaling over $400,000 over 2011/2. Professor Savage’s 2010 Teaching Enhancement Grant collaboration with A/Professor Paul Francis (RSAA/PEC) and Dr Nick Robins (QS), on the use of iPads to enhance student learning, has continued in 2011 with Dr Robins taking a lead role in the transition to 2012. The School (through the Physics
Recognition for the outstanding contribution of RSPE staff to undergraduate and graduate education continued with three academics nominated for College of Physical and Mathematical Sciences Awards for Teaching Excellence. Professor Andrew Stuchbery, Dr Nick Robins and Dr Xiwen Guan were all highly-deserving nominees who missed out by a whisker and have been encouraged by the College to nominate for Vice-Chancellor’s awards.

School staff continue to engage at a local and national level in a variety of educational leadership roles. A/Professor Wilson participated in the ACARA National Curriculum Consultation Process and, together with academics from the Australian Council of Deans of Science, RMIT, USyd, UTS and UQ, formed a new national Physics Education Network. She also took over the baton of ACT representation on the Australian Institute of Physics’s Program Accreditation Panel from Professor Hans Bachor (Professor Bachor continues to serve on the panel).

Recent trends of increasing student numbers at the undergraduate level continued with record numbers in the Advanced Physics subjects at first year. In collaboration with first year coordinator Paul Francis and Life Physics convenor Adrian Sheppard, Undergraduate Laboratory Development Officer Mika Kohonen continued to introduce a range of new experiments at first year. Greg Lane introduced two new experiments into PHYS3033 (Nuclear Physics). Andrew Papworth introduced several new experiments at second and third year, and continued his sterling work providing overall management and delivery of the undergraduate laboratory program.

**Departmental Education Coordinators**
- David Williams (AM)
- Stephen Gibson (AMPL)
- Patrick Kluth (EME)
- Matthew Sellars (LP)
- Andrew Stuchbery (NP)
- Andrei Sukhorukov (NLP)
- Cormac Corr (PRL)
- Joe Hope (QS)
- Vladimir Mangazeev (TP)

**Undergraduate Year Coordinators**
- Paul Francis (1st year)
- Anna Wilson (2nd year)
- Joe Hope (3rd year)
- David Williams (Honours)

**Coursework program convenors**
- Anna Wilson (Physics and Theoretical Physics Majors, Physics Specialisation and Physics Minor)
- Daniel Shaddock (Optics Specialisation)
- Andrew Stuchbery (Master of Nuclear Science)
- John Love (Master of Photonics)

**Laboratory Coordinators**
- First year: Mika Kohonen
- Second year: Ben Buchler and Anna Wilson

**Administrator**
- Laura Walmsley
STAFF WHO CONTRIBUTED TO TEACHING

Physics Education Centre Lecturers

Undergraduate coursework (years 1-3)

PHYS1001 Foundations of Physics: Craig Savage, Nick Robins
PHYS1101 Advanced Physics I: Paul Francis, Craig Savage
PHYS1004 Life Physics: Adrian Sheppard, Jodie Bradby, Phil Threlfall
PHYS1201 Advanced Physics II: Craig Savage, Paul Francis, Bianca Haberl, Patrick Kluth, John Love
PHYS2013 Quantum Mechanics: Anna Wilson, Andrew Truscott
PHYS2016 Electromagnetism: John Close, Cormac Corr
PHYS2017 Waves and Optics: Ben Buchler, Jong Chow
PHYS2020 Thermal and Statistical Physics: Frank Mills, Raquel Salmeron, Vladimir Mangazeev
PHYS3001 Theoretical Physics: Joe Hope
PHYS3002 Advanced Theoretical Physics: Susan Scott, Joe Hope
PHYS3031 Atomic Physics: Matthew Sellars, Stephen Gibson, Vincent Daria
PHYS3032 Condensed Matter Physics: Darren Goossens, David Williams
PHYS3033 Nuclear Physics: Greg Lane, Cedric Simenel, Maurits Evers
PHYS3034 Fluid Physics: Graham Hughes, Ross Griffiths, Andy Hogg, Ross Kerr (RSES)
PHYS3044/5 Plasma Physics: Cormac Corr
PHYS3051/ENGN4613 Microphotonics, Biophotonics & Nanophotonics: John Love
PHYS3057/ENGN3512 Optical Physics: Daniel Shaddock, Dragomir Neshev
PHYS3058 Work Experience in Photonics: John Love
PHYS3060/ENGN4513 Fibre Optic Communication Systems: John Love, Jong Chow
PHYS3070 Physics of the Earth: Hrvoje Tkalcic, Ian Jackson (RSES)
MATH2406 Mathematical Methods 2 Honours: Vladimir Mangazeev, Murray Batchelor
MATH3351/MATH6211 Topics in Mathematical Physics Honours: David Ridout, Murray Batchelor

Honours coursework

Hans Bachor: Science Communication.
Murray Batchelor: Introduction to integrable models in statistical mechanics
Steve Buckman: Scattering
Ron Burman (UWA): Advanced Electromagnetism
Mahananda Dasgupta: Scattering.
Denis Evans (RSC): Non-equilibrium Thermodynamics
Matthew Hole: Electromagnetism
Joe Hope: Quantum Mechanics
Mathew James (CECS): Quantum Measurement
Dragomir Neshev: Nonlinear Physics
Nick Robins: Remote Broadcast Organiser
Susan Scott: General Relativity
Andrey Sukhorukov: Nonlinear Physics
Maarten Vos: Surface Physics
David Williams: Classical Mechanics
David Williams: Motor Vehicle Physics
Stephen Williams (RSC): Thermodynamics
David Williams: Convenor
Graduate coursework

Master of Photonics Courses
PHYS6500 Optical Physics: Daniel Shaddock, Dragomir Neshev
PHYS6501 Fibre Optic Communication Systems: John Love
PHYS6502 Microphotonics, Biophotonics & Nanophotonics: John Love
PHYS6503 Work Experience in Photonics: John Love
PHYS6504 Semiconductors: Andrew Blakers
PHYS8505 Research Project: John Love
ENGN6624 Solar Electricity
ENGN6626 Digital Communications

Master of Engineering Courses
ENGN6512 Optical Physics: Daniel Shaddock, Dragomir Neshev
ENGN6513 Fibre Optic Communication Systems: John Love
ENGN6613 Microphotonics, Biophotonics & Nanophotonics: John Love
ENGN6625 Power Electronics: Boyd Blackwell

Master of Nuclear Science Courses
PHYS8201 Nuclear Fundamentals: Andrew Stuchbery
PHYS8202 Reactor Science: Andrew Stuchbery, Tony Irwin
PHYS8203 Accelerator Science: Andrew Stuchbery
PHYS8204 Nuclear Radiation: Greg Lane
PHYS8205 Nuclear Fuel Cycle: Andrew Stuchbery,
PHYS8206 Nuclear Measurement Methods: Greg Lane

Physics Education Centre Tutors and Demonstrators

First year
Rose Ahlefeldt, Boshra Afra, Imam Alam, Scott Bales, Michele Bannister, Thomas Bierschenk, Jessica Brunton, Samuel Dixon, Timothy Duignan, James Farnell, Kate Ferguson, Iain Forsyth, Kim Heenan, Diana James, Ksawery Kalinowski, Emma Kirby, Rajeev Lal, James Leslie, Rashel Li, Benjamin McKinley, Prasanga Palihawadana, Vidya Ramesh, Jason Roberts, Phil Threlfall, Frédéric Vogt, Khu Vu, Danielle Wuchenich,

Second year
Geoff Campbell, Helen Chrzanowski, Kimberley Heenan, Daniel Higginbottom, Mahdi Hosseini, Andrew Manning, Robin Stevenson, Cameron Samuell, Ben Sparkes, Michael Stelfszyk, Stuart Szigeti, Thanh Nguyen, Greg von Nessi, Joseph Paulraj, Dhruv Saxena, Imam Alam, Andrew Wade

Third year
Tibor Kibedi, Steve Tims, Vincent Margerin, Greg Lane, Nick Riesen, Sandy Box, Jesse Everett, Mohammed Atiq, Richard Barry, Michael Hush, Rose Ahlefeldt, Emma Anderson, Lewis Ryan, Kimberley Heenan
STUDENTS

Honours Students
Anderson, Emma
Adlong, Sarah
Bentley, Christopher
Cain, Callan John
Collin, Gabriel
Higginbottom, Daniel
Hillman, Briana
Horsley, Andrew
Hoschke, Matthew
Lester, Romana
Leykam, Daniel
McNeil, Steven
Ng, Ping Fung
Reid, David
Robertson, Calum
Ross, Joshua
Stock, Graham
Vickers, Byron

PhD Students
Abdullaev, Jasur
Abdullatif, Raden
Afra, Boshra
Ahlefeldt, Rose
Alam, Imam
Altin, Paul
Ameruddin, Amira
Armstrong, Seiji
Barry, Richard
Bartholomew, John
Bayu Aji, Leonardus
Beavan, Sarah
Bennet, Francis
Bertram, Jason
Bierschenk, Thomas
Boadle, Roisin
Brown, Michael
Burgess, Timothy
Byrne, David
Caballero Benitez, Santiago
Campbell, Geoff
Caneses, Juan
Caradonna, Peter
Castle, Toen
Chan, Keng
Chang, Lei
Chowdury, Md. Amdadul
Chua, Sheon
Chrzanowski, Helen
Debs, John
Dedrick, James
Deniz, Vivianne
Deshmukh, Sarita
Deshpande, Shrinivas
Dixon, Samuel
Doering, Daniel
Dudalev, Mikhail
Duering, Malte
Duignan, Timothy
East, Michael
Eckerskorn, Niko
Edwards, Michael
Evans, Myfanwy
Ferguson, Katherine
Fonseka, Aruni
Freeman, Darren
Frost, Benjamin
Gai, Qian
Gai, Xin
Garretson, Joshua
Gibson, Ashley
Han, Ting
Hannam, Kirsty
Haskey, Shaun
Hedges, Morgan
Heenan, Kimberley
Hodgman, Sean
Hoo, Wee Teck

Summer Scholars
Bai, Bing
Cairns, Cameron
Chua, Alvin
Churton, Blake
Duignan, Timothy
Farrell, James
Ferguson, Kate
Forsyth, lain
Henry, Robert Alexander
Kowarsky, Mark
Lee, Boon Quan
Leslie, James
Leykam, Daniel
McNeil, Steven

Milburn, Thomas
Ng, Ping Fung (Davidson)
Pooranachandran, Sathyana
Rajan, Puvanesvar
Sammut, Steven
Somerville, Walter
Teniswood, Clara
Teo, Ming Hao
Thorman, Alex
Wong, Sherman

McNeil, Steven

STUDENTS