

## **Astrium SAS**

Partner Contribution Australian Space Research Program Stream B: Space Science & Innovation Project Grants

Charles Christine Prof - Boswell Roderick Prof - Laine Robert

*The Australian Plasma Thruster Project (Round 4) HDLT*

1/08/2011-30/06/2013

\$102,000.00

## **Australian Institute of Nuclear Science and Engineering (AINSE)**

Postgraduate Research Award

Hole Matthew Dr - Haskey Shaun Mr - Blackwell Boyd Prof

*From Stellarator to tokamaks: The effects of 3D structure on Alfvén eigenmodes*

1/07/2010 - 24/11/2012

\$39,000.00

Hudspeth Jessica Dr - Charles Christine Prof - Corr Cormac Dr - Nelson Andrew

*Plasma Deposition Techniques for Proton Exchange Membrane Fuel Cells*

1/07/2009 - 3/02/2012

\$51,402.00

## **Australian Learning and Teaching Council**

Competitive Grants Program

Higgins Denise Ms - Howitt Susan A/Prof - Wilson Anna Dr - Roberts Pamela Ms - Ross Pauline - Akerlind Gerlese - Gill Betty

*Teaching Research- Evaluation and Assessment Strategies for Undergraduate Research Experiences (TREASURE)*

30/09/2011 - 3/10/2013

\$182,000.00

## **Australian National University (ANU)**

Discovery Translation Fund

Ganguly Rana &nbsp; - Howard John Prof - Borg Gerard Dr - Hammond Thomas Dr

*BushLAN - Distributed Wireless Broadband*

21/11/2011 - 24/12/2012

\$24,320.00

Notley Shannon Dr

*Development and evaluation of an in-vitro nematode permeability assay to discover new classes of anti-nematode drugs*

14/11/2011 - 17/12/2012

\$66,210.00

Contribution from Central Funds/Local area

Kivshar Yuri Prof

*All-optical Technologies Nanophotonics and Metamaterials*

1/11/2007 - 31/10/2012

\$1,502,520.00

Buckman Stephen Prof - Sullivan James

*ARC Centre of Excellence: Centre for Antimatter-Matter Studies*

1/07/2010 - 31/12/2013

\$1,100,000.00

Luther-Davies Barry Prof - Neshev Dragomir Prof - Kivshar Yuri Prof - Madden Steve Dr

*ARC Centre of Excellence for ultrahigh bandwidth devices for optical systems (CUDOS) (externally led by University of Sydney)*

1/01/2011 - 31/12/2017

\$2,695,000.00

Lam Ping Koy Prof - James Matthew Prof - Buchler Benjamin Dr - Symul Thomas Dr - Sellars Matthew Dr - Simmons Michelle Yvonne

*ARC Centre of Excellence for Quantum Computation and Communication Technology (QC2T) (externally led by University of New South Wales)*

1/01/2011 - 31/12/2015

\$2,457,000.00

McClelland David Prof - Slagmolen Bram Dr - Shaddock Daniel Dr - Shoemaker D - Marx Jay - Munch Jesper - Veitch Peter John - Whitcomb Stanley Ernest - Lazzarini A

*Australian Partnership in Advanced LIGO*

1/01/2009 - 31/12/2012

\$566,000.00

Jagadish Chennupati Prof - Elliman Robert Prof - Wong-Leung Yin-Yin (Jennifer) Dr - MacDonald Daniel Dr - Williams James Prof

*State-of-the-art Hall effect system for detailed electrical characterisation in semiconductors*

1/02/2011 - 31/01/2012

\$83,333.00

Shaddock Daniel Dr - McClelland David Prof - Tregoning Paul Dr

*The GRACE Follow-on mission*

1/08/2010 - 30/06/2013

\$360,000.00

[Contribution from Research School of Physics & Engineering](#)

Charles Christine Prof - Butcher Harvey Prof - Boswell Roderick Prof - Perren M - Lappas Vias - Clark Andrew

*The Australian Plasma Thruster Project (Round 4) HDLT*

1/08/2011 - 30/06/2013

\$315,000.00

## Australian Research Council (ARC)

### 2009 Australian Laureate Fellowship

Jagadish Chennupati Prof

*Nanowire Quantum Structures for Next Generation Optoelectronic*

25/11/2009 - 24/11/2014

\$2,753,840.00

### Centres of Excellence

Buckman Stephen Prof - Sullivan James

*ARC Centre of Excellence: Centre for Antimatter-Matter Studies*

1/07/2010 - 31/12/2013

\$4,550,000.00

Lam Ping Koy Prof - James Matthew Prof - Buchler Benjamin Dr - Symul Thomas Dr - Sellars Matthew Dr - Simmons Michelle Yvonne

*ARC Centre of Excellence for Quantum Computation and Communication Technology (QC2T) (externally led by University of New South Wales)*

1/01/2011 - 31/12/2015

\$5,481,875.00

Luther-Davies Barry Prof - Neshev Dragomir Prof - Kivshar Yuri Prof - Madden Steve Dr

*ARC Centre of Excellence for ultrahigh bandwidth devices for optical systems (CUDOS) (externally led by University of Sydney)*

1/01/2011 - 31/12/2017

\$7,700,000.00

### 2008 Discovery: Project Grant

Ridgway Mark C Prof - Kluth Patrick Dr - Nordlund Kai

*Tailoring the Shape Size and Orientation of Metal Nanocrystals via Swift Heavy Ion Irradiation*

1/06/2008 - 31/12/2012

\$980,000.00

Symul Thomas Dr - Ralph T C Dr - Ralph Timothy Cameron - Sanders Barry Cyril - Schnabel Roman

*Quantum repeater technologies for continuous variable*

1/01/2008 - 31/12/2012

\$766,643.00

Arns Christoph Dr - Adler Pierre Michel - Callaghan Paul T

*Reactive flow through porous media by micro-imaging*

1/01/2008 - 31/12/2012

\$613,000.00

Desyatnikov Anton S Dr

*Engineering phase and the flow of light in nanophotonics*

1/01/2008 - 31/12/2012

\$558,000.00

Hinde David Prof - Dasgupta Mahananda Dr - Freer Martin - Tostevin Jeffrey Allan - Hagino Kouichi

*Developing and exploiting a beam of exotic neutron halo nuclei: probing quantum coherence and decoherence at the femtoscale*

1/01/2008 - 31/12/2012

\$1,063,000.00

#### 2009 Discovery: Project Grant

Choi Duk-Yong Dr - Yoon Euijoon - Kim Yong

*Monolithic Integration of Silicon Waveguide and Ge<sub>1-x</sub>Si<sub>x</sub> Photodetector on Silicon-on Insulator Platform for Intra-chip Optical Interconnect*

1/06/2009 - 31/12/2012

\$360,000.00

Bradby Jodie A/Prof - Gibson John Murray

*Understanding structure-property relations in amorphous silicon*

1/01/2009 - 31/12/2013

\$735,000.00

#### 2010 Discovery: Project Grant

Shadrivov Ilya Dr

*Nonlinear metamaterials and transformation optics*

6/02/2010 - 31/12/2014

\$700,000.00

Guan Xi-Wen Dr - Batchelor Murray Prof - Liu Wensheng Vincent

*Quantum many-body systems with higher mathematical symmetries*

1/01/2010 - 31/12/2012

\$240,000.00

Bazhanov Vladimir Prof - Bobenko Alexander

*Quantization of polyhedral surfaces*

1/01/2010 - 31/12/2012

\$320,000.00

Bernu Julien Dr - Grangier Philippe - Treps Nicolas

*Non-Gaussian states and entanglement distillation for Continuous Variable quantum information protocols*

1/01/2010 - 31/12/2012

\$340,000.00

Charles Christine Prof

*Current-free double layers applied to astrophysical objects and space propulsion*

1/01/2010 - 31/12/2012

\$185,000.00

Baxter Rodney Prof - Bazhanov Vladimir Prof - Perk Jacques

*Fundamental mathematical structures in statistical and quantum systems*

1/01/2010 - 31/12/2012

\$305,000.00

Kivshar Yuri Prof - Desyatnikov Anton S Dr - Assanto Gaetano

*Photonic routing with liquid crystals*

1/01/2010 - 31/12/2012

\$345,000.00

Dewar Robert Prof - Hole Matthew Dr - Pinches Simon D - McClements Ken - Sharapov Sergei

*Burning Plasmas: resolving energetic particle physics for ITER*

1/01/2010 - 31/12/2012

\$285,000.00

Kivshar Yuri Prof

*Nonlinear nanophotonics*

1/01/2010 - 31/12/2012

\$405,000.00

Buchler Benjamin Dr - Lam Ping Koy Prof - Furusawa Akira - Sandoghdar Vahid - Aspelmeyer Markus

*Quantum Opto-Mechanics with Whispering Gallery Modes in Crystalline Materials*

1/01/2010 - 31/12/2012

\$300,000.00

Luther-Davies Barry Prof

*Rare Earth doped chalcogenide glass films for on-chip optical amplifiers*

1/01/2010 - 31/12/2012

\$365,000.00

McClelland David Prof - Scott Susan M Prof - Mavalvala Nergis - Whitcomb Stanley Ernest - Owen Benjamin - Schnabel Roman

*Probing the Universe with gravitational waves: from cutting-edge technology to astronomy*

1/01/2010 - 31/12/2012

\$410,000.00

Robins Nicholas Dr - Close John Prof - Oberthaler Markus K - Kasevich Mark A - Aspect Alain

*Advanced Atomic Sources for Precision Measurement*

1/01/2010 - 31/12/2014

\$529,797.00

Neshev Dragomir Prof

*Nanoscale nonlinear optics*

1/01/2010 - 31/12/2014

\$555,000.00

Ridout David Dr

*Indecomposable Structure in Representation Theory and Logarithmic Conformal Field Theory*

20/09/2010 - 19/06/2015

\$570,000.00

Mokkapati Sudha Dr - Fu Lan Dr

*High efficiency III-V solar cells based on low-dimensional quantum confined heterostructures*

1/08/2010 - 30/12/2012

\$330,000.00

Ye Jiandong Dr

*Development of high performance wide-bandgap polar oxide electronic and optoelectronic devices*

15/06/2010 - 31/12/2014

\$780,000.00

Sheng Yan Dr

*Optical parametric processes in randomized nonlinear photonic structures*

1/03/2010 - 28/02/2013

\$340,000.00

Gao Qiang Dr - Tan Hoe Hark Prof - Johnston Michael B

*Integration of III-V semiconductor nanowires on silicon platform*

1/03/2010 - 28/02/2015

\$740,000.00

#### 2011 Discovery: Project Grant

Dasgupta Mahananda Dr - Hagino Kouichi - Tostevin Jeffrey Allan

*From coherent to dissipative dynamics in complex quantum systems: Emerging new ideas from precision measurements of nuclear collisions*

4/04/2011 - 3/04/2014

\$450,000.00

Izdebskaya Yana Dr

*All-optical reconfigurable interconnects in nematic liquid crystals*

1/04/2011 - 31/03/2014

\$355,000.00

Shaddock Daniel Dr - Miller John Mr - Adhikari Rana - Hild Stefan

*Enhancing the science reach of second generation interferometric gravitational wave detectors through innovative mirror design and control*

1/01/2011 - 31/12/2012

\$295,000.00

Powell David Dr - Shadrivov Ilya Dr - Engheta Nader

*Functional metamaterials based on chiral structures*

1/01/2011 - 31/12/2013

\$475,000.00

Baldwin Kenneth Prof - Orr Brian J - Warrington Richard B - Eyler Edward

*Using high-resolution lasers to test quantum electrodynamics*

1/01/2011 - 31/12/2013

\$240,000.00

Robins Nicholas Dr - Close John Prof - Rasel Ernst - Ertmer Wolfgang

*Precision inertial sensing with cold atoms*

1/01/2011 - 31/12/2013

\$340,000.00

Shats Michael Dr - Punzmann Horst Dr - Falkovich Gregory

*Extreme wave events on the water surface*

1/01/2011 - 31/12/2013

\$330,000.00

Craig Vincent Prof - Senden Timothy Prof - Notley Shannon Dr

*Using light to move molecules – a novel approach to exploring intermolecular forces*

1/01/2011 - 31/12/2013

\$365,000.00

Tan Hoe Hark Prof

*III-V semiconductor nanowire solar cells*

1/01/2011 - 31/12/2013

\$556,000.00

Hinde David Prof - Schmidt Karl-Heinz - Liang Junjien Felix

*Researching the super heavy elements: a quantitative understanding through integrating new reaction time measurements with theoretical models*

1/01/2011 - 31/12/2013

\$490,000.00

Parsons Drew Dr - Ninham Barry Prof

*Hofmeister at Work. Implementation of a paradigm shift in Physical Chemistry*

1/01/2011 - 31/12/2013

\$378,000.00

Wang Rongping Dr - Russo Salvy P - Jain Himanshu - Ngai Kia

*Understanding and optimizing the microstructure of Ge-As-Se glasses for superior device performance*

1/01/2011 - 31/12/2013

\$210,000.00

Hole Matthew Dr

*Emergence and control of self-organized fusion plasmas: through ITER and beyond*

1/01/2011 - 31/12/2013

\$255,000.00

Robins Vanessa Dr - Sheppard Adrian Dr

*Foundations and advanced algorithms for topological image processing*

1/01/2011 - 31/12/2013

\$255,000.00

Kingston Andrew Dr - Varslot Trond Dr - Sheppard Adrian Dr

*Dynamic tomography: high resolution 4 dimensional process tomography*

1/01/2011 - 31/12/2013

\$246,000.00

Hyde Stephen Prof - Mortensen Kell

*Theory and synthesis of self-assembled polyfunctional supramolecular fibres and associated soft materials*

1/01/2011 - 31/12/2013

\$445,000.00

Akhmediev Nail Prof - Ankiewicz Adrian Dr - Taki Majid

*Rogue waves in oceans and optical fibers*

1/01/2011 - 31/12/2013

\$390,000.00

Rode Andrei V Prof - Krolikowski Wieslaw Prof - Padgett Miles

*Nanometrology of laser-trapped airborne particles*

1/01/2011 - 31/12/2013

\$510,000.00

Ruffell Simon Dr - Williams James Prof - Cohen M - Louie Steven - Zettl Alex

*Narrow band gap silicon: understanding and exploiting this new silicon phase*

1/01/2011 - 31/12/2013

\$420,000.00

2011 Discovery: Project Grant - externally led

Bouwknegt Pier (Peter) Prof - Varghese Mathai

*Supersymmetric Quantum Field Theory Topology and Duality (externally led by University of Adelaide)*

1/01/2011 - 31/12/2013

\$185,000.00



2009 Future Fellowships

Craig Vincent Prof

*Specific Ion effects in non-aqueous solvents. A test for Hofmeister*

26/11/2009 - 25/11/2013

\$887,400.00

Lam Ping Koy Prof

*Quantum Opto-Mechatronics*

1/01/2010 - 31/12/2013

\$891,200.00

Hole Matthew Dr

*Fusion Energy and the Physics of Burning Plasmas*

15/02/2010 - 6/01/2014

\$600,600.00

2010 Future Fellowships

Notley Shannon Dr

*Tuning adhesion through polymer chain entanglement*

1/08/2011 - 31/07/2015

\$783,126.00

Buchler Benjamin Dr

*Memory and light for integrated quantum systems*

7/03/2011 - 6/03/2014

\$577,884.00

Shaddock Daniel Dr

*Laser Interferometry for Space Science*

20/01/2011 - 19/01/2015

\$706,552.00

Truscott Andrew Dr

*Observing Einstein-Podolsky-Rosen entanglement with ultracold atomic gases*

6/01/2011 - 5/01/2015

\$692,552.00

Lane Gregory Dr

*New directions for nuclear structure research in Australia*

26/05/2011 - 25/05/2015

\$706,552.00

Sukhorukov Andrey Dr

*Functional nonlinear nanophotonics*

31/05/2011 - 30/05/2015

\$580,429.00

Corr Cormac Dr

*The plasma boundary: A major challenge for fusion science and material technology for ITER and beyond*

1/01/2011 - 31/12/2013

\$680,552.00

Sheppard Adrian Dr

*Testing theories of two-phase flow in porous media through experiment imaging and modelling*

1/01/2011 - 31/12/2014

\$773,072.00

#### 2011 Future Fellowships

Choi Duk-Yong Dr

*A silicon-compatible light source on a silicon-on-insulator platform*

16/12/2011 - 15/12/2015

\$714,528.00

#### Federation Fellowship

Kivshar Yuri Prof

*All-optical Technologies Nanophotonics and Metamaterials*

1/11/2007 - 31/10/2012

\$1,606,210.00

#### 2009 Linkage: Projects

Williams James Prof - Ruffell Simon Dr - Bradby Jodie A/Prof

*A novel approach to direct nanopatterning of silicon for advanced phase-changed devices*

31/12/2009 - 30/12/2012

\$380,000.00

Elliman Robert Prof - Krause Norbert - Wang Hai Ping

*Switching mechanisms in nonvolatile resistive memory using high-k dielectrics*

1/01/2009 - 31/12/2012

\$200,000.00

#### 2009 Linkage: Infrastructure Equipment Facilities

McClelland David Prof - Slagmolen Bram Dr - Shaddock Daniel Dr - Shoemaker D - Marx Jay - Munch Jesper - Veitch Peter John - Whitcomb Stanley Ernest - Lazzarini A

*Australian Partnership in Advanced LIGO*

1/01/2009 - 31/12/2012

\$1,800,000.00

2009 Linkage: Projects led by an External Institution

Knackstedt Mark Prof - Hutmacher Dietmar W - Schuetz Michael Andreas - Epari Devakara Rao - Saifzadeh Siamak - Duda Georg

*Development and characterization of a technology platform to study the mechanisms of scaffold/BMP augmented large segmental bone healing (externally led by Queensland University of Technology)*

1/07/2009 - 30/06/2012

\$36,000.00

2010 Linkage: Projects

Chow Jong Dr - McClelland David Prof - Shaddock Daniel Dr - Collins Michael - Roberts Edward - Gray Malcolm B - Warrington Richard B

*Quantum noise limited molecular spectrometry*

14/12/2010 - 13/12/2013

\$375,000.00

2011 Linkage: Infrastructure Equipment Facilities

Jagadish Chennupati Prof - Elliman Robert Prof - Wong-Leung Yin-Yin (Jennifer) Dr - MacDonald Daniel Dr - Williams James Prof

*State-of-the-art Hall effect system for detailed electrical characterisation in semiconductors*

1/02/2011 - 31/01/2012

\$250,000.00

2011 Linkage: Projects led by an External Institution

Baldwin Kenneth Prof - McClelland David Prof - Luiten Andre Nicholas

*Creating a National Time and Frequency Network for Australia (externally led by Uni of Western Australia)*

24/06/2011 - 24/06/2014

\$30,000.00

Super Science Fellowship

Fifield L Keith Prof - De Deckker Patrick Prof - Ellwood Michael Dr - Fallon Stewart Dr

*Novel Dating Methods for Marine Sediments of Relevance to Determining Past Climate Changes*

4/04/2011 - 31/12/2013

\$556,800.00

Jagadish Chennupati Prof - Kivshar Yuri Prof

*Nanofabrication of Metamaterials for Next Generation Optical Devices*

1/07/2011 - 30/06/2014

\$835,200.00

**BP Exploration Operating Company Ltd**

Consultancy

Senden Timothy Prof

*Combined Micro CT System - BP Instrument Sale*

6/12/2011 - 5/12/2013

\$350,000.00

## **Commonwealth Department of Defence Defence Science and Technology Organisation (DSTO)**

### Research Agreement

Close John Prof - Robins Nicholas Dr - Altin Paul Dr

*State of the Art Gravimeter: Thermal Atom Source \*\*CONFIDENTIAL PROJECT\*\**

30/05/2011 - 30/06/2012

\$992,520.00

## **Dept of Industry Innovation Climate Change Science Research and Tertiary Education (DIICCS RTE)**

### Australian Space Research Program Stream B: Space Science & Innovation Project Grants

Charles Christine Prof - Butcher Harvey Prof - Boswell Roderick Prof - Perren M - Lappas Vias - Clark Andrew

*The Australian Plasma Thruster Project (Round 4) HDLT*

1/08/2011 - 30/06/2013

\$3,402,413.00

Shaddock Daniel Dr - McClelland David Prof - Tregoning Paul Dr

*The GRACE Follow-on mission*

1/08/2010 - 30/06/2013

\$4,673,001.00

### Education Investment Fund

Jagadish Chennupati Prof

*Australian National Fabrication Facility EIF -ACT Node Project (externally led by ANFFL)*

8/06/2011 - 30/06/2013

\$5,230,000.00

Elliman Robert Prof - Hinde David Prof - Fifield L Keith Prof

*Heavy Ion Accelerator Education Investment Fund Project*

24/12/2009 - 31/03/2014

\$10,000,000.00

Punzmann Horst Dr - Howard John Prof - Blackwell Boyd Prof

*Plasma Fusion Education Investment Fund Project*

24/12/2009 - 31/03/2014

\$4,000,000.00

### National Enabling Technologies Strategy

Jagadish Chennupati Prof

*ANU Australian Research Council Nanotechnology Network (ARCNN) - 2010-2013*

1/04/2011 - 31/07/20

\$600,000.00

**French-Australian Science and Technology Program**

Boswell Roderick Prof - Charles Christine Prof - Corr Cormac Dr - Hudspeth Jessica Dr - Brault Pascal - Caillard A.

*Plasma Processing Techniques and Nanotechnology for Proton Exchange Membrane Fuel Cells*

1/04/2010 - 1/07/2012

\$20,000.00

**International Science Linkages Competitive Grant**

Craig Vincent Prof - Zhang Guangzhao

*Design Synthesis and Characterization of New Polymeric Antifouling Materials*

28/01/2010 - 30/05/2012

\$42,136.00

Howard John Prof - Hole Matthew Dr - Dewar Robert Prof - Blackwell Boyd Prof - Nuehrenberg C. - Martin Richard - Wisse Marco - Svensson Jakob - Appel Lynton C - Scannell Rory - Michael Clive - De Bock Maarten

*Model/data fusion: using Bayesian inversion to constrain equilibrium and stability theory of advanced magnetic confinement experiments ahead of the International Thermonuclear Experimental Reactor*

27/10/2008 - 31/03/2012

\$395,051.00

**NCRIS grant led by External Institution**

Senden Timothy Prof - White Timothy Prof

*Australian Microscopy and Microanalysis Research Facility (externally led by University of Sydney)*

1/09/2007 - 30/09/2012

\$1,004,000.00

**Digital Core Research Consortium**

**Research Grant**

Senden Timothy Prof - Fogden Andrew Dr - Sheppard Adrian Dr

*Digital Core Research Consortium*

2/07/2006 - 31/12/2015

\$2,701,188.00

**Hysitron Inc**

**Linkage Project Partner**

Williams James Prof - Ruffell Simon Dr - Bradby Jodie A/Prof

*A novel approach to direct nanopatterning of silicon for advanced phase-changed devices*

31/12/2009 - 30/12/2012

\$76,500.00

**LAM Research Corporation**

Grant

Charles Christine Prof - Boswell Roderick Prof

*Development of a new plasma source for next generation plasma etch processing equipment*

1/11/2010 - 20/01/2012

\$438,748.00

**National Measurement Institute**

Linkage Project partner

Chow Jong Dr - McClelland David Prof - Shaddock Daniel Dr - Collins Michael - Roberts Edward - Gray Malcolm B - Warrington Richard B

*Quantum noise limited molecular spectrometry*

14/12/2010 - 13/12/2013

\$105,000.00

**Silanna Pty Ltd**

Linkage Project Partner

Elliman Robert Prof - Krause Norbert - Wang Hai Ping

*Switching mechanisms in nonvolatile resistive memory using high-k dielectrics*

1/01/2009 - 31/12/2012

\$50,000.00

**Sirtex Technology Pty Ltd**

Consultancy

Senden Timothy Prof

*Research and Development Consultancy Agreement (Sirtex Technology Pty Ltd)*

1/04/2010 - 1/04/2012

\$1,466,643.00

**University of Adelaide**

LIEF Contribution

McClelland David Prof - Slagmolen Bram Dr - Shaddock Daniel Dr - Shoemaker D - Marx Jay - Munch Jesper - Veitch Peter John - Whitcomb Stanley Ernest - Lazzarini A

*Australian Partnership in Advanced LIGO*

1/01/2009 - 31/12/201

\$291,000.00

**Volkswagen Stiftung**

Grant

Akhmediev Nail Prof - Hoffman Norbert - Pelinovsky E - Peinke Joachim

*Extreme Ocean Gravity waves: Analysis and prediction on the basis of breather solutions of nonlinear evolution equations*

1/02/2011 - 3/02/2014

\$316,514.03