

## RESEARCH GRANTS

Research grants are listed below firstly by the funding provider then alphabetically by primary investigator (underlined) followed by all other investigators (external #). The amount is the total amount awarded to ANU over the life of the fund and is current as of 2009. External collaboration is indicated # in 29% percent (32 of 109) of the grants listed.

#external collaborators

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
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### *Australian National Fabrication Facility Limited*

<u>Jagadish Williams</u> Faraone#	Grant	Australian National Nanofabrication Facility	31/08/07	30/06/11	11000000
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### *Australian Nuclear Science & Technology Organisation (ANSTO)*

<u>Ridgway Araujo</u> Goosens#	Access to Major Research Facilities Program	Clustering in Chalcogenide glasses	20/09/09	26/09/09	11100
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### *Australian Synchrotron Company Limited*

<u>Araujo</u> Ridgway Sprouster	Grants Program	Structural and vibrational of Ni antiparticles and phase transformations due to ion irradiation	14/05/09	23/05/09	8322
<u>Kluth</u>	Grants Program	Small angle x-ray scattering measurements of swift heavy ion tracks	22/07/09	24/07/09	3000
<u>Kluth</u> Araujo Giulian	Grants Program	Density fluctuations in swift heavy ion irradiated amorphous SiO <sub>2</sub> studied using small angled x-ray scattering	20/05/09	17/08/09	1415
<u>Kluth</u> Giulian Ridgway	Grants Program	Swift Heavy Ion irradiation induced porosity of GaSb: correlation between local atomic environment and micro-structural evolution	2/07/09	4/07/09	1415
<u>Kluth</u> Sprouster Boshra	Grants Program	The Structure of Ion Tracks in Mineral Materials	27/11/09	29/11/09	1415
<u>Lewis</u> Heays	Grants Program	Photoabsorption cross section of rydberg transitions in CO for astrophysical purposes	16/10/09	25/10/09	2631
<u>Ridgway</u> Araujo Giulian	Grants Program	Anisotropic vibrational properties in semiconductors Part II	20/11/09	23/11/09	1415

### *Australian Research Council*

<u>Akhmediev</u>	2009 Discovery Project Grant	Dissipative soliton resonances and their applications	1/01/09	31/12/11	360000
<u>Arns</u> Adler# Callaghan#	2008 Discovery Project Grant	Reactive flow through porous media by micro-imaging	1/01/08	31/12/12	613000
<u>Ashrafi</u>	2007 Discovery: Project Grant	Pulsed Laser Deposition of ZnO-based Materials for Optoelectronic Device Applications	23/03/07	31/12/09	446981
<u>Bazhanov</u> Baxter Perk Au-Yang	2009 Linkage International Fellowships: Australian Fellows to Collaborate Overseas	New frontiers in statistical mechanics	1/01/09	31/12/09	82090
<u>Boswell</u> Carman	2008 Linkage: Projects	Aperture and power scaling of Remote Plasma Sources for GaN film growth and	1/01/09	31/12/11	357884

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
		development of a real-time diagnostic tool for activated Nitrogen species (externally led by Macquarie University)			
<u>Boswell</u> Charles Laine	2008 Linkage: Projects	Space development of the HDLT Australian Plasma Thruster	1/01/09	31/12/11	332000
<u>Bouwknegt</u> Varhese# Wu#	2008 Discovery Project Grant	Dualities in String Theory and Conformal Field Theory in the context of the Geometric Langlands Program	1/01/08	31/12/10	391617
<u>Bradby</u> Gibson	2009 Discovery Project Grant	Understanding structure-property relations in amorphous silicon	1/01/09	31/12/13	735000
<u>Buckman</u> Bartschat# Bastow# Bray# Brunger# Burrow# Fursa# Hill# Koller# Lohmann# Lower Marler# Mason# McCurdy# McEachran Nagai# Orel# Pas# Rescigno# Samarin# Smith# Stelbovics# Sullivan Surko# Teubner# Vance# Williams#	Centre of Excellence	ARC Centre of Excellence for Antimatter-Matter Studies	1/07/05	2010	17192645
<u>Byrne</u>	Non-research funding	Participation in the Excellence in Research for Australia initiative as a member of the Physical Chemical and Earth Sciences Research Evaluation Committee	24/07/09	31/12/09	15522
<u>Chen</u>	2007 Linkage: International Award	Boron nitride nanotubes for tunable conductivity	1/01/07	31/12/09	157500
<u>Choi</u> Yoon Kim	2009 Discovery Project Grant	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	1/06/09	31/12/12	360000
<u>Craig</u> Fogden Senden Thomson	2008 Linkage: Projects	Innovative platforms for further enhancing security and durability of the Australian Polymer Banknote and other security documents	30/09/09	21/12/11	504948
<u>Craig</u>	2009 Future Fellowships	Specific Ion effects in non-aqueous solvents. A test for Hofmeister	26/11/09	25/11/13	788800
<u>Desyatnikov</u> Kivshar Krolikowski	2007 Discovery: Project Grant	Singular photonics: twisted light and optical vortices	1/01/07	31/12/09	878492
<u>Desyatnikov</u>	2008 Discovery Project Grant	Engineering phase and the flow of light in nanophotonics	1/01/08	31/12/12	558000
<u>Dewar</u> Abbass# Batten# Bernhardt# Bossomaier#	Research Networks	Complex Open Systems Network	2009	2009	1500000

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
Cairns# Chong# Denier# Finnigan# Frederiksen# Gottwald# Grebogi# Green# Guttman# Hamer# Henry# Liley# Lindsay# Little# Mackay# Metcalf# Milne# Morriss# Owczarek# Pattison# Prokopenko# Quispel# Raupach# Roberts# Robinson# Sloan# Soria# Standish# Vincent# Vladimirov# Walker# Wiles# Williams#					
<u>Dracoulis</u> Lane Byrne Kondev Xu	2009 Discovery Project Grant	Quantum-number purity and limits to the formation of nuclear K-isomers	1/01/09	31/12/11	530000
<u>Elliman</u> Choi# Valenta #	2007 Discovery: Project Grant	Self-assembled semiconductor nanocrystals as functional materials for microelectronics optoelectronics and photonics	1/01/07	31/12/09	1076752
<u>Elliman</u> Fletcher Choi#	2008 Discovery Project Grant	Charge transport and trapping in high-k dielectric films containing self-assembled nanocrystals	1/01/08	31/12/10	398000
<u>Elliman</u> Krause Wang	2009 Linkage: Projects (Round 1)	Switching mechanisms in nonvolatile resistive memory using high-k dielectrics	1/01/09	31/12/12	608708
<u>Fifield</u> Honda Chappell	2007 Discovery: Project Grant	Exposure dating with manganese-53 neon-21 and beryllium-10: a new toolkit for studying long-term landscape evolution	1/01/07	31/12/09	378000
<u>Fifield</u> Tims Wasson Parry	2009 Discovery Project Grant	Assessing soil formation and erosion balances in the Top End with an expanded toolkit	1/01/09	31/12/11	290000
<u>Fu</u> Johnston#	2006 Discovery: Project Grant	Development of High Performance III-V Semiconductor Photoconductive Antennas for Terahertz Applications	1/03/06	28/02/11	480629
<u>Garanovich</u> Sukhorukov Pertsch	2009 Discovery Project Grant	Tunable shaping and switching of polychromatic light for integrated photonics	14/05/09	31/12/11	285000
<u>Gibson</u> Lewis	2008 Discovery Project Grant	Sulfuric acid formation from atmospheric sulfur trioxide and disulfur oxide: is one	1/01/08	31/12/10	390000

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
		water molecule enough?			
<u>Hinde</u> Dasgupta Freer # Tostevin# Hagino#	2008 Discovery Project Grant	Developing and exploiting a beam of exotic neutron halo nuclei: probing quantum coherence and decoherence at the femtoscale	1/01/08	31/12/12	1063000
<u>Hole</u>	2009 Future Fellowships	Fusion Energy and the Physics of Burning Plasmas	15/02/10	06/01/14	686400
<u>Hyde</u>	Federation Fellowships	Self-assembly and complexity: networks and patterns from materials to markets	2004	2009	1519710
<u>Jagadish</u>	Federation Fellowships	Ordered Semiconductor Nanostructures for Electronics and Photonics Applications	25/11/04	25/11/09	1519710
<u>Jagadish</u> Cameron# Clark# Cortie# Dastoor# Dell# Dimitrijevic# Dzurak# Eggleton# Faraone# Gal# Grant# Gu# Hamilton# Hariz# Horn# Jamieson# Jesson# Kane# Lewis# Lu# Majewski# McCallum# Meredith# Micolich# Mulvaney# Nicolau# Parish# Parkinson# Phillips# Raston# Riley# Ringer# Rubinsztein- Dunlop# Saunders# Savvides# Shapter# Simmons# Singh# Sood# Stampfl# Turney# Usher# Voelcker# Withford# Zou#	2004 Research Networks	Australian Nanotechnology Network			1900000
<u>Jagadish</u>	2007 Discovery: Project Grant	Epitaxial Nanowires for Optoelectronic Device Applications	1/01/07	31/12/11	2000000
<u>Jagadish</u> De La Rue#	2007 Discovery: Project Grant	Photonic Crystal Quantum Dot Lasers	1/01/07	31/12/09	2267339

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
<u>Jagadish</u>	2009 Australian Laureate Fellowships	Nanowire Quantum Structures for Next Generation Optoelectronic	25/11/09	24/11/14	2753840
<u>Kheifets</u> Ullrich# Cherepkov#	2007 Discovery: Project Grant	Multiple ionization of atoms and molecules in strong laser fields	1/01/07	31/12/09	933556
<u>Kheifets</u> Ulrich Bray	2009 Discovery: Project Grant	Atomic Ionization on the Attosecond Time Scale	1/01/09	31/12/11	485000
<u>Kivshar</u>	2005 Discovery: Project Grant	Left-handed Metamaterials and Negative Refraction	1/01/05	31/12/09	1036308
<u>Kivshar</u>	Federation Fellowships	All-optical Technologies Nanophotonics and Metamaterials	1/11/07	31/10/12	1606210
<u>Kluth</u> Toulemonde Tratumann	2009 Discovery Project Grant	Swift Heavy Ion Tracks in Semiconductors and Insulators: New Insights using Synchrotron Scattering Experiments	1/01/09	31/12/11	275000
<u>Knackstedt</u> Arns# Saadatfar Garboczi#	2008 Discovery Project Grant	Rock Physics: A study of micromechanics of rocks and granulated materials	1/01/08	31/12/10	265000
<u>Knackstedt</u> Fogden Morrow#	2008 Discovery Project Grant	Pore scale characterisation of the wettability of petroleum reservoir core material: Towards optimised recovery of hydrocarbon reserves	1/01/08	31/12/10	264000
<u>Krolkowski</u> Rode Gamaly	2006 Discovery: Project Grant	Ultra-High Density Permanent and/or Erasable Optical Memory in Photorefractive Media Formed by Ultrafast Laser Pulses	1/01/06	31/12/10	695000
<u>Krolkowski</u> Bang	2008 Linkage International: International Awards	Nonlocal nonlinear waves	1/01/08	31/12/10	29600
<u>Lei</u>	2007 Discovery: Project Grant	InAsSb Quantum Dots for Mid-Infrared Lasers	4/06/07	3/06/10	533981
<u>Lewis</u> Mills Shemansky# Ubachs# Young# Yung#	2008 Linkage International: International Awards	Understanding the chemistry and evolution of planets and their atmospheres: Integrating experiments observations and quantum mechanical models	1/01/08	31/12/10	49799
<u>Li</u>	2007 Discovery: Project Grant	Many-body quantum effects in the physics of ultracold atoms	1/01/07	31/12/09	234860
<u>Luther-Davies</u> Haglund#	2007 Discovery: Project Grant	A Novel Optical Source for the Vaporization and Deposition of Polymers	1/01/07	31/12/09	758074
<u>Madden</u>	2007 Discovery: Project Grant	Next Generation Planar Tellurite Waveguides	1/01/07	31/12/09	1082154
<u>Makochekanwa</u>	2008 Discovery Project Grant	Positronic Atoms – A Search for Positron Bound States	1/01/08	31/12/10	235944
<u>Manson</u>	2007 Discovery: Project Grant	Optical-spin coupling in the nitrogen-vacancy centre in diamond	1/01/07	31/12/09	519949
<u>Matuszewski</u>	2009 Discovery Project Grant	Nonlinear optics of soft matter	1/01/09	31/12/11	255000
<u>Mills</u>	2005 Discovery: Project Grant	Photochemistry of the Middle Atmospheres of Venus and the Earth	1/01/05	31/12/07	260000
<u>Mills</u> Lewis Gladstone# Yung#	2007 Discovery: Project Grant	Isotopic fractionation in planetary atmospheres	1/01/07	31/12/09	1331606
<u>Ninham</u>	2008 Discovery Project Grant	Molecular forces: in colloid science complex fluids and living matter	1/01/08	31/12/10	338000
<u>Ostrovskaya</u>	2007 Discovery: Project Grant	Controlled manipulation of matter-waves in atomic waveguiding structures	8/02/07	31/12/11	489863
<u>Ridgway</u> Kluth Nordlund#	2008 Discovery Project Grant	Tailoring the Shape Size and Orientation of Metal Nanocrystals via Swift Heavy Ion Irradiation	1/06/08	31/12/12	980000

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
<u>Ridgway</u> Byrne Wesch	2009 Discovery Project Grant	Probing the properties of amorphous semiconductors with swift heavy ion irradiation and synchrotron radiation	1/01/09	31/12/11	435000
<u>Ridgway</u> De Marco Dillon Harris Waite Creagh Lay Collins Low Bhargava Gentle Gerson	2009 Linkage: Infrastructure Equipment Facilities	Australian Access to and Operation of Advanced Synchrotron Radiation Facilities at the Photon Factory	1/01/09	31/12/10	360000
<u>Rode</u> Baldwin Barr# Laidler# Land# Moore# Wain#	2006 Linkage: Projects	Short-pulse laser cleaning for Australian heritage conservation	2006	2009	401453
<u>Rode</u> Misawa Juodkazis	2009 Discovery Project Grant	Ultrafast photonic hammer: A new strategy to synthesise super-dense super- hard nanomaterials	1/01/09	31/12/11	320000
<u>Rode</u> Gramotnev Fredericks Otieno-alego Kirkbride	2008 Linkage: Projects	A new nano-sensor technology for the detection and identification of residual vapours of explosives drugs and chemicals in the air (externally led by Queensland University of Technology)	12/08/08	31/12/11	20000
<u>Ruffell</u>	2008 Discovery Project Grant	A novel maskless process for patterning and doping of silicon	1/01/08	31/12/10	308000
<u>Sellars</u> Rabeau	2007 Discovery: Project Grant	Diamond based single spin detector (externally led by Macquarie University )	1/08/08	31/12/09	15000
<u>Sellars</u>	2009 Discovery Project Grant	Development of a quantum repeater	1/01/09	31/12/11	310000
<u>Shadrivov</u>	2007 Discovery: Project Grant	Engineering and control of metamaterials with negative refraction	8/02/07	31/12/09	254554
<u>Shats</u> Punzmann Falkovich	2008 Discovery Project Grant	Structural transitions in turbulent fluids and plasma through self-organization	1/01/08	31/12/10	360000
<u>Shats</u> Punzmann Nazarenko	2008 Discovery Project Grant	New method of remote characterization of hydrocarbon films on the ocean surface through studies of wave turbulence	1/01/08	31/12/10	246000
<u>Stuchbery</u> Koller#	2007 Discovery: Project Grant	Magnetic moments of radioactive beams - an incisive probe of novel structures in neutron-rich nuclei	2007	2010	3426349
<u>Sukhorukov</u> Lavrinenko	2009 Linkage International Fellowships: Australian Fellows to Collaborate Overseas	Slow-light photonics	1/03/09	31/12/10	49000
<u>Williams D</u> Ninham	2009 Discovery Project Grant	Polymer Globules: Beyond the Homopolymer Model	1/01/09	31/12/11	385000
<u>Williams J</u> Williams Bilek# Brown# Cheng# Collins# Faraone# Ferry# Gal#	2004 Research Networks	Australian Research Network for Advanced Materials	2004	2009	1500000

INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
Halley# Hodgson# Horn# Jamieson# Jiang# Lamb# Lu# McKenzie# Munroe# Murch# Nie# Nowotny# Raston# Ringer# Scala # Simmons# Sood# Spinks# Swain# Turney# Wang# Wang# Ye# Zou#					
<u>Williams J</u> Bradby	2008 Discovery Project Grant	Engineering nanoscale material properties by controlled-temperature indentation	1/01/08	31/12/10	445000
<u>Williams J</u> Wong-Leung Capasso Aziz McCallum	2009 Discovery Project Grant	Defect-induced luminescence from ion-implanted silicon: Towards silicon photonics applications	1/01/09	31/12/11	570000
<u>Williams J</u> <u>Ruffell</u> <u>Bradby</u>	2009 Linkage: Projects (Round 1)	A novel approach to direct nanopatterning of silicon for advanced phase-changed devices	31/12/09	30/12/12	761300
<u>Wong-Leung</u> Svensson Cockayne	2008 Discovery Project Grant	Dopants defects and related issues in Zinc Oxide	1/01/08	31/12/10	308000
<u>Xu</u>	2009 Discovery Project Grant	Nonlinear Surface Modes in Photonic and Plasmonic Metamaterials	1/01/09	31/12/11	255000
<u>Yuan</u>	2008 Discovery Project Grant	Formation of nanocrystals (or nanocrystals with core/shell structure) and applications for photonics floating gate and magnetic memory	1/01/08	31/12/10	308000

*BP America Production Company*

<u>Knackstedt</u>	Industry contribution	Licence Agreement between the Australian National University and BP America Production Company	15/12/08	30/06/10	69462
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*BP Exploration Operating Company Limited*

<u>Knackstedt</u>	Research Contract	Micro CT System Customer Agreement	22/02/09	30/06/10	467710
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*Commonwealth Scientific and Industrial Research Organisation (CSIRO)*

<u>Boswell</u> Dicks#	National Research Flagship Collaboration Fund	Development of Materials for Advanced Hydrogen Fuel Cells (externally led by University of Queensland)	1/09/06	30/09/09	441533
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*Department of Education Science and Training (DEST)*

<u>Jagadish</u> Tan Ashrafi	Australia-India Strategic Research Fund	Multifunctional Zinc Oxide Films for Acoustic and Optoelectronic Sensing Device applications	25/05/07	10/07/10	120000
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INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
Sreenivas# Gupta#					
<u>White</u> Senden	Major National Research Facility Program	Australian Microscopy and Microanalysis Research Facility (externally led by University of Sydney)	1/09/07	30/09/12	1004000

*Department of Foreign Affairs and Trade (DFAT)*

<u>Dewar</u>	Grants Program	Feasibility study of Australian-Korean research in fusion science centered on the KSTAR superconducting tokamak	1/02/10	31/05/10	19558
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*Department of Innovation Industry Science and Research (DIISR)*

<u>Buckman</u>	International Science Linkages Program (pre 2008)	Positron and Electron Induced Processes	13/04/07	31/07/10	620500
<u>Hole Appel#</u> <u>Blackwell</u> <u>De Bock#</u> <u>Dewar</u> <u>Howard</u> <u>Martin#</u> <u>Michael#</u> <u>Nuehrenberg#</u> <u>Scannell#</u> <u>Svensson#</u> <u>Wisse#</u>	International Science Linkages Competitive Grant	Model/data fusion: using Bayesian inversion to constrain equilibrium and stability theory of advanced magnetic confinement experiments ahead of the International Thermonuclear Experimental Reactor	27/10/08	31/03/12	395051
<u>Howard</u> <u>Boivin#</u> <u>Jaspers#</u> <u>Chung#</u>	International Science Linkages Program (pre 2008)	Using advanced optical technologies to help control and optimize performance of fusion reactors	19/08/07	31/10/11	505279
<u>Jagadish</u>	International Science Linkages Program (pre 2008)	Optical Studies of Single Quantum Dots and Quantum Dot Molecules for Quantum Information Technology	8/05/06	31/07/09	164560
<u>Jagadish</u>	Non-research funding	Attending Round Three of the Australia-India Strategic Research Fund (AISRF) in India	18/02/09	06/04/09	10662
<u>Jagadish</u> <u>Williams</u>	International Science Linkages program - Australia-Europe Research Collaboration Fund	Emerging Materials Processes and Nanotechnologies for ICT Manufacturing Health Environment and Energy Applications	27/07/09	14/05/10	50000
<u>Jagadish</u>	Non-research funding	Nanotechnology Roundtable Meeting 07/09/2009	7/09/09	30/10/09	20000

*Digital Core Laboratories Pty Ltd*

<u>Senden</u>	Micro CT Systems Sale	Micro CT Systems sale to Digital Core Laboratories	29/12/09	31/12/10	1490000
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*Electro-Optic Systems Pty Ltd*

<u>Luther-Davies</u>	Funding for non-research purposes	Electro Optic Systems (EOS) Service Contract	1/07/08	30/06/11	4800
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*Group of Eight Australia and Deutscher Akademischer Austausch Dienst*

<u>Arns</u> <u>Robins</u> <u>Madadi</u> <u>Knackstedt</u> <u>Mecke#</u> <u>Schroder-Turk#</u>	Australia-Germany Joint Research Co-operation Scheme	Dependency of elastic and transport properties of soft or porous materials on morphological properties	1/01/08	31/03/10	19400
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INVESTIGATORS	SCHEME	GRANT TITLE	START	FINISH	AMOUNT
<u>Byrne</u> Vianden#	Australia-Germany Joint Research Co- operation Scheme	Magnetic semiconductors: transition metals in wide band gap semiconductors	1/03/08	31/03/10	23200
<u>Kluth</u> Giulian Klein# Neumann# Schuster# Trautmann#	Australia-Germany Joint Research Co- operation Scheme	Ion Tracks in Semiconductors and Insulators	1/01/09	31/12/10	19200
<u>Ridgway</u> Araujo Schnohr Wendler# Wesch# Werner Steinbach#	Australia-Germany Joint Research Co- operation Scheme	Structural modification of semiconductors induced by swift heavy- ion irradiation	1/01/08	31/03/10	22000

*Japan Oil Gas and Metals National Corporation*

<u>Knackstedt</u> Arns Pinczewski# Senden Sheppard	Sponsored Research Agreement	Digital Core Research Consortium	13/07/06	30/06/09	2609262
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*National Health and Medical Research Council (NHMRC)*

<u>Rode</u> Desyatnikov Krolkowski	2009 Project Grant	Optical Vortices for Trapping and Guiding Nanoparticles in Air	1/01/09	31/12/11	481825
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*Research Laboratories of Australia*

<u>Craig</u> Fogden Notley	Sponsored Research	Study of interfaces stabilized by nonionic dispersing agents in organic solvents - fundamentals of liquid toners	12/06/09	12/06/10	60000
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*University of New South Wales*

<u>Knackstedt</u> Pinczewski#	Research Consortium	High Resolution X-Ray CT Scanner	1/04/05	31/10/11	1092500
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extracted from ARIES 03/05/10