



PETER McGAURAN MP
Australian Government Minister for Science

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AUSTRALIAN SCIENTISTS TAKE ON THE WORLD

13 February 2004

Sixty-four Australian scientists will collaborate with international partners from Europe, Asia and North America on projects to improve our health, increase our exports and protect the environment.

In announcing the \$327,000 grants, Australian Government Science Minister Peter McGauran gave as an example the project between the University of Sydney and North American researchers to develop an improved understanding of asthma.

"Asthma is a widespread chronic health problem and although medication can manage it, we need to understand how to control airway inflammation to be able to improve treatments for asthma," Mr McGauran said.

Increasing our export trade is the aim of another venture linking researchers in Korea and Australia.

"A joint Korean - Australian project will allow researchers to learn techniques to make pine plantations more cost-effective, giving Australia an export advantage," Mr McGauran said.

"Korean researchers have devised a way of multiplying a single plant embryo into millions of embryos which can be stored until they are needed for planting or exporting, creating a virtually limitless pine forest."

Australian scientists will also study Japanese construction technologies, specifically in refurbishing and demolishing buildings.

"By studying Japanese techniques Australians will be able to improve our demolition methods and reduce the country's solid waste stream, while at the same time easing pressure on landfills," Mr McGauran said.

"The collaborative projects funded under this program will stimulate Australia's involvement in leading edge science and research and increase our access to global research and innovation," Mr McGauran concluded.

The list of selected grantees and their projects is attached.

North America	ISTN - 2004-05
Applicant	Title of Proposal
Dr Alaina Ammit, University of Sydney	Regulation of pro-inflammatory cytokines in asthma by A + U- rich element-directed mRNA turnover.
Dr Roberto ANITORI, Macquarie University	Assessing the radiation resistance levels of microbes from a radon-rich Australian.
Dr Mark BAIRD, University of New South Wales	Measurement and prediction of nutrient uptake on wave-dominated coral reef.
Dr Amy BERNTSON	Calcium signalling in central.
Dr Tim LYNCH	Project management and analysis of estimates of fish and Fisheries Service.
Dr Madeleine BEEKMAN, University of Sydney	On the move: how do scout honey bees guide a swarm of ignorant bees?
Professor Mark BRADFORD, University of New South Wales	Local buckling of thin-walled tubes with an elastic infill.
Dr Anita HILL, CSIRO Manufacturing and Infrastructure	Superior membranes by design.
Dr Clive JONES, Queensland Department of Primary Industries	Development of redclaw crayfish aquaculture technology for the mutual benefit of Mexico and Australia.
Dr Izabela KONCZAK-ISLAM, Food Science Australia	Bioavailability of natural food colorant produced in sweet potato cell suspension culture.
Dr Chun LI, RMIT University	Study on role of nitroxyl anion in nitrergic transmission.
Dr Jack LIN, University of Technology Sydney	Investigation of collective phenomena in nanostructured magnetic thin films using magneto-optical imaging.
Dr Dragomir NESHEV, Australian National University	Nonlinear propagation of light in two-dimensional photonic lattices.

Applicant	Title of Proposal
China	ISTN - 2004-05
Dr Philip CHARLESWORTH, CSIRO Land and Water	Investigation of irrigation management to protect groundwater resources from sea water intrusion and nutrient leaching.
Dr Bin GONG, University of New South Wales	Electron spectroscopy investigation of novel nanometer magnetic thin film materials.
Professor John MORRISON, University of Wollongong	Absorption processes in the mitigation of coastal algal blooms.
Dr Shaobin WANG, Curtin University of Technology	Utilisation of carbon dioxide for selective oxidation of methane and lower Chinese Academy of Sciences hydrocarbons to olefins.
Dr Weijin WANG, Queensland Department of Natural Resources	Automatic systems for measuring greenhouse gas fluxes in terrestrial ecosystems.

Dr Simon WILDE, Curtin University of Technology	Resolving catastrophic events beneath NE China during the late Mesozoic.
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Applicant	Title of Proposal
JSPS Bilateral	ISTN – 2004- 05
Dr Graeme ALLINSON, Deakin University	Measurement of chemical contamination of North-South migratory sea birds.
Dr Dennis ARNOLD, Queensland University of Technology	Surface imaging of organometallic porphyrin arrays.
Professor Bruce AULD, Orange Agricultural Institute	Resisting invasive plant species.
Dr Alecia BELLGROVE, Deakin University	Using FTIR microspectroscopy to differentiate marine algal dispersal potential.
Dr John DONALD, Deakin University	Osmoregulation in an Australian desert rodent.
Dr Nazrul ISLAM, CSIRO Entomology	Risk of transgenic organisms: quantification by proteomic approaches.
Dr Chunlu LIU, Deakin University	Technological development for post-construction management.
Dr Marian RADNY, University of Newcastle	Theoretical (computational) studies of silicon-based nanostructures.
Dr Andrey SUKHORUKOV' Australian National University	Self-induced optical waveguides.
Taiwan	ISTN – 2004- 05
Dr Hung-Yao HSU, University of South Australia	Design-for-assembly of a precision probe for nano-coordinate measurement machines.
Dr Prabhu MANYEM, University of South Australia	Modelling manufacturing networks with generalised network flows.
Dr Mary SHE, University of South Australia	Characterisation of filtration membrane morphology with image analysis.
Korea Exchange	ISTN – 2004- 05
Dr Rafael CALVO, University of Sydney	Cluster computing for multilingual document classification.
Dr Evan CHRISTEN, CSIRO Land and Water	Modelling drainage water quality from irrigated areas.
Dr Stephen KWOK, University of New South Wales	Role of amyloid precursors in age-related cataractogenesis.
Dr Phillip PENDLETON, University of South Australia	Controlled-growth of inorganic oxide nanoparticles in porous networks.
Professor Bruce STONE, La Trobe University	Enhanced curdlan production by mutant strains of <i>Agrobacterium</i> .
Dr Stephen TRUEMAN, Queensland Forestry Research Institute	Uptake of somatic embryo biotechnology for producing elite forestry pines.
Dr Calum WILSON, Tasmanian Institute of Agricultural Research	Molecular basis of thaxtomin toxicity in plant cells, and strain differentiation of the common scab pathogen.

Dr Chao ZHANG, University of Wollongong	Magnetoresistance in semiconductor nanostructures under intense electromagnetic radiation.
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Europe	ISTN – 2004- 05
Applicant	Title of Proposal
Dr Gabrielle BELZ, Walter and Eliza Hall Institute of Medical Research	Mechanisms of α -herpesvirus lymphoid colonisation and immune control <i>in vivo</i> .
Dr Iver CAIRNS, University of Sydney	Confronting theory with Cluster II Spacecraft observations of plasma waves in earth's France foreshock.
Dr Margaret FAEDO, Prince of Wales Hospital	The prevalence of Mouse Mammary Tumour Virus (MMTV) like DNA sequences in France hormone dependant cancers
Dr Kosmas GALATSIS, RMIT University	Room temperature ozone monitoring with metal oxide gas sensors
Professor Eugene GAMALY, Australian National University	Ultra-short laser-matter interaction: controlling over the phase changes and ablation.
Associate Professor Robin GASSER, University of Melbourne	Caenorhabditis elegans - a unique platform for testing the functions of gene homologues from parasitic nematodes of socio-economic importance.
Professor Philip KUCHEL, University of Sydney	NMR of quadrupolar nuclei in cellular environments.
Dr Zdenka KUNCIC, University of Sydney	Supermassive Black Holes in galaxies: new clues active from X-ray observations.
Dr Serdar KUYUCAK, Australian National University	Computational studies of ion channels.
Dr Geraint LEWIS, University of Sydney	The Andromeda Stream.
Dr Zhongyi LI, CSIRO Plant Industry	Targeted gene silencing in Chlamydomonas to alter starch quality.
Dr Qian MA, University of Queensland	Understanding the solidification of a new generation of automotive magnesium engine block.
Dr Stephen MCLOUGHLIN, Queensland University of Technology	Sedimentology and plant microfossil assemblages across the Cretaceous-Tertiary mass-extinction event in Belize.
Associate Professor Ross MCMURTRIE, University of New South Wales	Environmental sustainability of intensively managed, short-rotation forestry.
Dr Shahar MENDELSON, Australian National University	On the supremum of gaussian and empirical processes.
Associate Professor Sandra REES, University of Melbourne	A primate model of premature birth: Pattern of cerebral development and injury in the infant baboon.

Dr Samantha RICHARDSON, University of Melbourne	Uptake and distribution of thyroid hormones in chicken brain.
Dr Suzanne SMITH, Australian Nuclear Science and Technology	Molecular imaging with Copper-64.
Dr Kerrie SWADLING, University of Tasmania	Local and regional patterns of Antarctic planktonic fauna factors influencing their distribution in the coastal sea ice zone
Dr Russell VARLEY, CSIRO Molecular Science	Understanding the improved performance of nanostructured polymer matrices in advanced composite materials.

Further information:

Jodie Naismith (Minister McGauran's office) 03 9639 3199 or 0419 622 915

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