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$2.6 million invested in advanced networking capability

Research and Education Advanced Network New Zealand (REANNZ®) has awarded over $2.6 million to ten projects in the first round of its Working Group and Development Fund. This fund is aimed at developing capability around the use of KAREN® (the Kiwi Advanced Research and Education Network) and advanced networking techniques.

The ten successful projects are led by eight KAREN member organisations, including five universities and three Crown research institutes, and span the fields of e-research, microbiology, earthquake engineering, bioinformatics, grid computing and the social sciences.

“The high quality and relevance of the majority of applications received is an important positive sign of the uptake and application of KAREN to support the ongoing development of leading edge research and education techniques,” says Donald Clark, Chief Executive of REANNZ.

“The winning applications embody the elements key to the future of research – national and international collaboration, and the use e-research technologies and infrastructure to do this”, says Donald.

One example of a winning project is the *Integrated Genomics Resources for Health and Disease* project, led by Dr Chris Brown from the University of Otago. Funding will enable Dr Brown and his team to combine versions of a New Zealand generated human genomic sequence and related gene expression data with data from the US and Europe by using KAREN. This combined data will be valuable to international medical and biotechnology researchers. *(A short description of each successful project is attached.)*

Donald says “The success of the first round of the Capability Build Fund demonstrates that KAREN members are wasting no time in taking advantage of the huge increases in capacity and connectivity provided by this essential infrastructure. The vision and desire are there. KAREN now makes these a reality.”

About KAREN

KAREN (Kiwi Advanced Research and Education Network) provides high capacity, ultra high-speed connectivity between New Zealand’s tertiary institutions, research organisations, libraries, schools and museums, and the rest of the world.

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Capability Build Fund: Working Group and Development Fund Winners (March 2007)

Organisation	Project leaders	Project Name	Outline
Auckland University of Technology	Professor Sergei Gulyaev, PhD, DSc, FRAS	**KAREN: A New Window to the Universe. Real-time Trans-Tasman e-VLBI**	A collaboration radio astronomy multi-dish correlation project involving Venture Southland; AARNET; NZ Supercomputer Centre; Swinbourne University, Melbourne; CSIRO; University of Tasmania; University of Western Australia; Kashima Space Research Centre, Japan; AUT; and University of Canterbury.
University of Auckland	Professor Allen Rodrigo	**NZ BioGrid - integrated bioinformatics analysis**	A collaborative development with Biomatters Ltd (start-up) and University of Auckland that will provide desktop access to public and shared, private, bioscience databases by standardising workflows or pipelines for routine computational analysis.
HortResearch	Professor John Hine	**Who is KAREN and how can she enhance our research collaborations?**	Education and awareness raising of KAREN; identify opportunities among existing (funded) projects to exploit KAREN; determine barriers to uptake; promote to members and collaborative funding agents; and establish recommendations that achieve improved research outcomes through new forms of collaboration.
University of Canterbury	Mark Billinghurst / Nathan Gardiner / David Thorns	**High Quality Video Conferencing for Advancing Collaboration Capabilities in Access Grid Environments**	A centre of excellence in NZ will develop high quality video conferencing for the international research community to work with Mobile Surgical Services to develop better telemedicine approaches across the KAREN network, provide linkup with other international universities researching high definition streaming and solve technology/software issues. This research will also enable effective evaluation of a variety of teleconferencing interfaces and provide design guidelines for Access Grid systems. A user-friendly version of enhanced middleware will be developed to enable E-research project managers to evaluate the degree of collaboration occurring in their teams. This will extend our knowledge of effective E-research.
University of Waikato	Professor John Gibson	**Using High Resolution Satellite Imagery for Spatially Integrated Poverty Mapping**	Building social science capacity in new methods of measuring poverty using high resolution satellite imagery. Uses computational resources at Stanford University and the Centre for Chinese Agricultural Policy, and data from China (only country with sufficient imagery available).
University of Otago	Chris Brown	**Integrated genomics resources for health and disease**	Using KAREN's international reach to combine databases from the USA and Europe with NZ generated data. Using NZ developed interogation tools information will be provided to the international medical and biotechnology research and education community.
University of Auckland	Cameron Walker	**Storage Network Planning for KAREN / BeSTGRID**	Applying optimisation techniques for optimal Storage Area Network design to the DataGRID project. The project uses a KAREN-based computational GRID to conduct computer intensive simulation and optimisation research
University of Auckland	Jason Ingham	**Earthquake Engineering on KAREN**	Using KAREN to explore integrated structure-foundation design of bridges (NEES USA); self-centering structural systems (National Centre for Research on Earthquake Engineering, Taiwan); and distributed hybrid testing (with Oxford, Cambridge and Bristol Universities)
Institute of Environmental Science and Research Ltd	Dr Virginia Hope	**New Zealand microbiology research and education network.**	This project develops an NZ portal to PulseNet, an important international microbiological laboratory network. The parallel NZ Microbiological portal will have a focus on training and education of NZ researchers.
Landcare Research	Dr Jerry Cooper	**GeoSciences Network – New Zealand Establishment**	Deploy internationally recognised toolsets networked on KAREN will enable Landcare and GNS to share with others important environmental and geological timescale datasets.