

IT&T RESEARCH AND INNOVATION IN SOUTH AUSTRALIA

DATA LINKAGE

Data linkage brings together two or more sets of population information so connections between the information can be examined and relationships determined. It enables researchers to look at large volumes of data from various sources and make links and study variables between that data.

The SA Population Health and Data Linkage System was established in early 2006 in a collaboration between the Department of Health, the Department of Education, the Department for Families and Communities, three South Australian universities, and several non-government agencies.

www.santdatalink.org.au

DEFENCE SYSTEMS INNOVATION CENTRE (DSIC)

Systems integration means getting electronic systems to talk to each other. Because defence involves so many different electronic systems, this is a huge task for defence and related industries in Australia and worldwide.

The Defence Systems Innovation Centre was established in 2008 by the University of South Australia and the University of Adelaide. Its primary role is to provide leading-edge advanced engineering and research expertise, advice, and services of direct relevance to the defence community.

www.dsic.com.au

ERESEARCHSA

eResearch is a broad term for activities that harness the power of advanced information and communication technologies and apply it to research. eResearch activities are characterised by collaboration and held together by fast and high capacity networks and applications in all research disciplines.

eResearch SA is a collaborative joint venture between Flinders University, the University of Adelaide, and the University of South Australia. eResearch was established in 2007 to provide research collaboration, data management, high performance computing, visualisation and haptics facilities, services, expertise, and training to researchers from all disciplines.

www.eresearchsa.edu.au

SABRENET

The South Australian Broadband Research & Education Network (SABRENet) is a fibre-optic broadband network linking major research and education sites in metropolitan Adelaide, from Flinders in the south to Roseworthy in the north. SABRENet is a collaborative project between Flinders University, the University of Adelaide, the University of South Australia, the South Australian Government, and DSTO

SABRENet provides researchers with very high-speed broadband connectivity and the ability to handle large volumes of data. It comprises over 100km of optical fibre cable running in underground conduit. Each cable contains between 72 and 354 optical fibres, which are generally used in pairs. Each pair of fibres can transmit hundreds of gigabits per second (Gbps).

www.sabrenet.edu.au

FURTHER INFORMATION

SACITT Steering Committee

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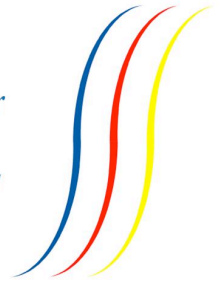
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*South Australian Consortium for
Information Technology and
Telecommunications*



The South Australian Consortium for Information Technology and Telecommunications (SACITT) brings together the three South Australian universities to develop collaborative information technology and telecommunications opportunities for research and industry. SACITT coordinates a post-graduate education programme for the Department of Defence and has close ties with the defence industry in South Australia. SACITT aims to:

- create an international reputation for South Australia as a centre of IT&T research and academic excellence
- provide a single focal point for the State in pursuing and winning major research funding
- provide a forum for the key IT&T stakeholders (industry, universities and government) to collaborate and share information
- encourage joint planning of IT&T education and student recruitment by South Australia's universities.

SACITT is managed by a Steering Committee of senior academic staff from the University of Adelaide, Flinders University, and the University of South Australia. Through SACITT, these universities act cooperatively to:

- enhance resources
- encourage joint planning of IT&T education
- engage with industry and government in developing South Australia's IT&T capability.

THE UNIVERSITY OF ADELAIDE



ICT research at the University of Adelaide is concentrated in several research centres associated with the School of Computer Science, School of Electrical and Electronic Engineering, School of Mathematical Sciences and the Faculty of Engineering, Computing and Mathematical Sciences.

School of Computer Science

- Advanced Computing and Communication Research on Systems and Services (ACROSS)
- Australian Centre for Visual Technologies
- Computer Vision
- Distributed High-Performance Computing
- Evolutionary Computing, Genetic Algorithms, Heuristics, and Adaptive Business Intelligence
- Software Architecture and Distributed Algorithms (The Jacaranda Group)
- Software Engineering and Formal Methods

School of Electrical and Electronic Engineering

- Adelaide Auto-ID Lab
- Centre for Biomedical Engineering (CBME)
- Centre of Expertise in Phased Array and Microwave Radar (CEPAMiR)
- Centre for High Performance Integrated Technologies and Systems (CHIPTec)
- Signal and Information Processing

School of Mathematical Sciences

- Teletraffic Research Centre for Mathematical Modelling (TRC)

Faculty of Engineering, Computing and Mathematical Sciences

- Centre for Defence Communications and Information Networking (CDCIN)
- Networks, Parallel and Distributed Systems

University Research Clusters

- Computational Neuroscience Research Cluster (CNRC)

Find out more at:

School of Computer Science

<http://www.cs.adelaide.edu.au>

School of Electrical and Electronic Engineering

<http://www.eleceng.adelaide.edu.au>

School of Mathematical Sciences

<http://www.maths.adelaide.edu.au>

FLINDERS UNIVERSITY



ICT research at Flinders University is focussed on two primary application areas:

- Defence and National Security, and
- Medical Devices and Health Informatics

and is organised around seven overlapping research strengths and a number of long-term strategic research programs.

Artificial Intelligence and Knowledge Discovery

- Artificial Intelligence and Language Technology
- Conceptual Modelling
- Data Mining and Knowledge Discovery
- Software Patterns
- The Thinking Head Project.

Biomedical Engineering

- Biomechanics and Implants
- Instrumentation and Devices
- Medical Simulation and Modelling
- Robotics
- The Teaching Head Project.

Computational Genomics

Enterprise Information Technology

- E-Business Strategies and Security
- E-Governance for Developing Countries
- Enterprise Security
- Mobile Enterprise Initiatives.

Human Computer Interaction

- Brain-Computer Interface
- Computer Graphics and Visualisation
- Computer Supported Cooperative Work

Intelligent Systems Engineering

- Autonomous Underwater Vehicles
- Control of Complex Dynamic Systems
- Video and Image Processing.

Mathematical Modelling and Pattern Recognition

- Dynamics of Artificial Neural Networks and Applications
- Computer-Aided Screening Mammography

Find out more at:

School of Computer Science, Engineering and Mathematics

<http://csem.flinders.edu.au>

University of South Australia



ICT is a major research domain for the University of South Australia.

Advanced Computing Research Centre, School of Computer and Information Science

- Data and Web Engineering Laboratory
- Health Informatics Laboratory
- Information Systems Laboratory
- Knowledge and Software Engineering Laboratory
- Security Laboratory
- Strategic Information Management Laboratory
- Systems Architecture and Security Laboratory
- UniSA LiveSpace Facility
- Wearable Computers Laboratory.

Defence Systems Institute (DASI)

- Complex Systems Engineering
- Enabling, Growing and Transforming Defence and Industry
- Safeguarding Australia
- Systems and Project Management.
- Systems Integration
- Systems Science and Technology.

Institute for Telecommunications Research

- Applied Signal Processing
- ARC Communications Research network (ACoRN)
- Coding and Information Theory
- Communications Signal Processing
- Cooperative Research Centre for Satellite Systems (CRCSS)
- Telecommunication Networks and Services.

School of Electrical and Information Engineering

- Centre for Microsystems Technology (CMST)
- Computer Systems Engineering Centre (CSEC)
- Knowledge-Based Intelligent Engineering Systems Centre (KES)
- Laser Light Scattering and Materials Science Group (LLSMS).

Find out more at:

Research at University of South Australia

<http://unisa.edu.au/research/default.asp>