

AV-CC

Australian Vice-Chancellors' Committee

(INCORPORATED IN THE A.C.T.)

AARNET/AVCC/89/91
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Case Studies of AARNet Usage

The following case studies are a random sample of individual case studies of AARNet use. They illustrate the way in which scholars and researchers are using AARNet, and the way in which AARNet is changing the means by which academics and researchers undertake their activities. The set of case studies reproduced below are illustrative of the wide diversity of usage of AARNet, and the role it plays within the academic and research environment.

It should be noted in these introductory remarks that the case studies presented here do not include larger institutional collaborative projects that use AARNet - the perspective offered here is that the tools and applications which make use of AARNet are relevant to individual users as well as institutional programs, and that networking is in every sense a "people" activity rather than exclusively a "machine" activity.

Name: Dr Stuart McLean, University of Tasmania

POSITION: Senior Lecturer
Centre for Pharmacology, Medicinal Chemistry and Toxicology
School of Pharmacy
University of Tasmania

ANCHODD (Australian National Clearinghouse on Drug Development)

A National Computer Network for the Exchange of Information between Pharmacologists and Medicinal Chemists. An electronic mail newsgroup has been established to enable the rapid exchange of information between pharmacologists, medicinal chemists and other drug researchers. ANCHODD (Australian National Clearinghouse on Drug Development) will receive electronic mail messages and automatically rebroadcast them to all other electronic mail addresses on ANCHODD's file. This enables users to request or offer services or information to all other participants rapidly and simultaneously. Naturally, information broadcast is in the public domain, as it would be if presented to a scientific meeting. Once in contact, researchers with common interests can pursue their negotiations bilaterally, for example by electronic mail. ANCHODD uses the recently-established Australian Academic and Research Network (AARNet), which provides a high-speed computer network linking desk-top terminals and computers in academic institutions, government research laboratories and, eventually, industrial research bodies. Feedback from prospective users has been positive, and it only requires a large number of participants to ensure that ANCHODD becomes a useful service to all those involved in drug research.

Name: Dr. Garry Willgoose, Newcastle University

POSITION: Australian Water Research Advisory Council (AWRAC) Research Fellow,
Dept. of Civil Engineering, Univ. of Newcastle.

RESEARCH INTERESTS: Soil erosion, flood hydrology, expert systems.

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CASE STUDY 1

Collaborators: Prof. RL Bras (MIT,Boston), Prof. I Rodriguez-Iturbe (U.Iowa)

Purpose: Writing of research monograph and papers on soil erosion

USE: AARnet has been used for mail and transfer of portions of word processor documents from Newcastle to MIT (by FTP). By doing this we are able to turn around modifications to the documents in a week or so instead of about 3 weeks (1 week to US, 1 week for mods, 1 week back to Aust). For the papers the speedy modification of the papers and of replies to comments is possible.

CASE STUDY 2

Collaborators: as above

Purpose: Preparation of computer video for visualisation of research results using graphics facilities at U. Iowa and Pittsburgh Supercomputer Center.

USE: Use of email to arrange operational details of the computing/graphics and accomodation with U. Iowa and Pittsburgh. Transfer of computer codes to both sites for preliminary processing before my arrival in Iowa.

CASE STUDY 3 (an example of many similar cases)

Collaborators: Prof. C Welty (Drexel University)

Purpose: Consultation on experimental methods for groundwater analysis

USE: Obtaining information on soil testing techniques (information not available at Newcastle)

There are many (too many to enumerate) CASE STUDIES as in 3 since I have recently returned to Aust from the US and most of my academic contacts that use email are in the US (most of my contacts on Aust are either not connected to email (CSIRO, Div. Water Resources) or do not use it routinely). In addition, other than mail and FAX (slow and expensive respectively) email is the only way of maintaining the invaluable contacts that I made in the US and Europe.

Name: Dr Peter Morgan, University of Canberra

I use AARNET extensively as part of a collaborative effort with MIT in NASA's crustal Dynamics program. I ship about 100 megs a week across the wires and have been asked to investigate the feasibility of setting up the Internet system for a global tracking in early 1992.

Name: Peter Rayner, University of Melbourne

I am using AARNet for collaboration with people at the US National Centre for Atmospheric Research on enhancing climate models. My node at this end is really CSIRO Division of Atmospheric Research. I don't remotely submit to the NCAR Cray, we have one of our own after all, but do exchange graphics files (better quality than Fax), code and drafts/comments with people there. This collaboration would have been too painful to be viable before connection. I hope to be able to write a paper with these people without visiting NCAR again.

Collaborators: Dr. David Pollard (NCAR), Dr. Starley Thompson (NCAR).

Purpose: including more detailed treatment of sea ice in global climate models,

Use: We have used the network to

- i) Submit jobs to NCAR's Cray (from NCAR itself)
- ii) exchange code and comments on the sea ice model
- iii) retrieve postprocessed graphics output for local display/analysis

Facilities: e-mail, rlogin, ftp and NCAR remote submission software

Name: Peter Jones, University of Western Australia

POSITION: Lecturer, Dept. Electrical and Electronic Engineering
The University of Western Australia

RESEARCH INTERESTS: Human Computer Interaction

Collaborators: Dr. Andy Downton et al, University of Essex, UK

Purpose: Writing of 2 chapters of a book edited by Dr. Downton. Without the use of e-mail the postal delays would have made interaction horribly slow and would have meant losing the thread of sharing the work. Further, there were some close deadlines to make that would have been impossible for me to have met but other contributors in the UK could easily meet.

Use: AARnet has been used for mail and transfer of portions of word processor documents from UWA to Essex.

Name: Arthur Brandwood, University of New South Wales

Address: Centre for Biomedical Engineering

Collaborator: Dr G Meijs, CSIRO Division of Chemicals and Polymers

We use AARNET to transfer wordprocessor documents between ourselves and our partners in Melbourne. We are working on a large (A\$ 3/4 million) DITAC funded grant and there's a lot of data and report documentation gets moved between the two sites. There are several advantages:

There are no transcription errors - data gathered by PC never has to be retyped.

Reports similarly don't have to be retyped. One partner writes their contribution and this is then mailed to the other who simply inserts their piece. The use of RTF files means that conversion between IBM/PC and Macintosh word processors is accomplished smoothly without loss of presentation and formatting.

Simple speed of transfer of information. Data can be sent and entered into a PC based spreadsheet for analysis by the recipient in minutes. The previous method of FAX followed by manual retyping or use of the pocket calculator was much less efficient.

Name: Noel Gough, Victoria College

Senior Lecturer

Curriculum and Teaching Department

Victoria College (Rusden Campus)

I've been using email networking since March 1988 for a number of interrelated purposes concerned with editing an international scholarly journal, research and writing, and teaching:

1. I am Editor (Australasia) of the Journal of Curriculum Studies (JCS) which is published by Taylor & Francis in London. The General Editor, Ian Westbury, is at the University of Illinois at Urbana-Champaign and there are regional editors in the US (U California Riverside), Canada (U Western Ontario), England (Liverpool U) as well as advisory editors elsewhere in North America, Europe and Australia. We communicate among each other regularly (it can be daily between the Gen Editor and myself) to discuss manuscripts, arrange referees, transfer files etc (with six issues a year we process a lot of material). Email is invaluable for fast turnaround of copy and comments.
2. I've collaborated on a number of research projects in curriculum leading to publications or conference presentations (particularly at American Educational Research Assoc annual conference). This has involved lots of email contact with, e.g., colleagues in Canada (U Victoria BC, Queen's U Kingston Ont, U Lethbridge, Alberta) and the US (George Mason U, Louisiana State U, U Minnesota, U Rhode Island). Again, email contact is invaluable for "fine tuning" symposium presentations.
3. I taught summer school courses in curriculum and ed admin at the Uni of Victoria BC Canada in July-August 1989 and will be returning to do same in '92. Virtually all arrangements were handled by email (transfer of course outlines, reference lists etc) in the months before teaching. I am currently advising a postgraduate student in the remote north of British Columbia who maintains contact with me and his supervisor in Victoria BC by email.

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4. I coordinate the Futures Studies Network of the Aust Curric Studs Assoc. Some network members communicate by email (esp out of Deakin U). Some of us are beginning to look at the phenomenon of networking (e.g. international computer conferencing with kids) as a research interest.

Name: Len Scicca, University of Newcastle

Dept Electrical Engineering and Computer Science
University of Newcastle.

I am a postgraduate student working on digital signal processing techniques for Crack Detection in Gas Pipelines. The nature of this work is such that I need to keep in contact with researchers in the states and the UK. I am also working on Antenna tracking systems and use the news facility regularly for satellite information and software.

I keep in regular contact with an academic on sabbatical in the UK from my department. He has to keep in touch with developments on the gas pipeline vehicle being developed by the department. The vehicle is being developed is in competition with other researchers in the US and the UK. Without EMAIL we would not be able to exchange ideas or ask help on problems we have in that development. We also carry out designs with the academic in the UK (Glasgow).

Email also helps the academic to keep in touch with the department and other projects being done here which requires his input.

Name: Dr Martyn Ray, Curtin University of Technology

Position: Senior Lecturer in Chemical Engineering

I am using the net as a communication medium with other chemical engineers worldwide. I have set up a vote for the establishment of a Chem Eng Newsgroup for use by academics, industry and students. It is intended to facilitate the transfer of information and an aid to problem solving and data acquisition.

At the same time I am establishing a mailing list of chemical engineers worldwid for direct distribution of important information via a monthly newsletter/digest under my editorship. So far I have about 1300 names on my list and I anticipate producing a newsletter at least once per month.

Name: Steven Christensen, CUrtin University of Technology

Position: Doctoral student / Research assistant - School of Psychology,
Research: Sport psychology - expert novice differences, knowledge structures, sports performance enhancement.

Electronic communications use:

Organisation: Sport Psychology Association of Australia and New Zealand (SPAANZ)

Purpose: Distribution of information to members.

Use: SPAANZ was formed in Aug. 1989 at the 7th World Congress of Sport Psychology, largely at the initiative of Prof. DJ. Glencross (Curtin) and Dr. CP. Davey (Victoria College). During the past twelve months information about the association and relevant news has been distributed via a quarterly newsletter prepared by Steven Christensen (Curtin). AARNet has been used both to receive from members information for inclusion in the newsletter, and to distribute the newsletter to members who are active in email. In addition, since SPAANZ is affiliated with two international organisations, the activities of the association have been communicated to members of the Management Council of the International

Society of Sport Psychology, and the Asian and South Pacific Association of Sport Psychology using email services.

More recently, the SPAANZ group has made contact with a sport psychology email network, 'sportpsy' coordinated by Michael Sachs (Temple Uni., Philadelphia). Email registers have been exchanged between SPAANZ and the largely North American based network, which includes over 100 members. The contact has enabled SPAANZ members immediate access to news of upcoming conferences, symposiums and workshops. The communication link has enabled the exchange of information between Australia, New Zealand, and North America, and encouraged scholars with similar research interests and expertise to collaborate on research projects and to discuss theoretical issues. A recent illustration is the dialogue between Prof. Glencross and Steven Christensen (Curtin), and Dr. Gershon Tenenbaum (Wingate Institute, Netanya, Israel) about the use of time series and related statistical procedures for examining mood state changes in athletes during training and competition.

