This week, Micro-News welcomes and profiles new staff members, Karen Daly and Jane Sykes, and also Peter Nettleton, visiting from Edinburgh. We have two reports of some of the activities at the recent Queenstown Molecular Biology Meeting. Did You Know’ takes a look at the workshop and offers advice on procedures to follow if equipment breaks down.

As a suggestion for contributions to Micro-News, how about sharing some of your “Magical Microbiological Moments”? These could relate to technical faux pas, examination paper howlers, freak accidents and so on…. Don’t be shy! I hope we can also include some items of historical interest. Frank Austin and I are currently endeavouring to compile a History of Microbiology in New Zealand and we are anxious to collect memories and memorabilia of Microbiological interest. Can you help?

* South Cal Open Day
The Computer Resource Room (in the old locker rooms, behind Lindo Ferguson Building) will be having an open day on Wednesday August 31, 10am-3pm.

* December Graduation
No further applications for the December Graduation will be accepted, but it is still possible (until October 1) to apply to graduate in absentia.

If Government grants to Universities amount to peanuts, what sort of graduates can be produced?

* Introduction to Computing Services
Special Seminar on Friday 9 September 2pm -3.30pm, to explain the services that the centre can provide and how to access these services. To enrol phone Jacqueline Fraser (ext. 8219).

* The department now owns a Macintosh QuickTake 100 digital camera that can be used to capture images for direct downloading into a computer. Some of the photos of new staff and visitors in this issue of Micro-News were taken using this camera. The quality of the reproductions will improve with further experience!!

QuickTake 100 camera
Magical Microbiological Moments

I still remember well one dismaying moment about 10 years ago when one of our 3rd year students, appreciating that the method of sterilising wire inoculation loops was to flame them in a bunsen flame, then (quite seriously) applied the same principle to ‘decontaminate’ of a bundle of used cotton swabs. The memory still lingers of this student purposefully striding like an Olympic torch-bearer across the laboratory towards a discard bin.

- John Tagg

Recent Publications


Streptococcus gordonii DLI (Challis) colonized the oral activities of Balb/c mice that lacked streptococci, enterococci, and lactobacilli (LF mice) as members of a complex digestive tract microflora. Mice that harbored lactobacilli but were free of streptococci and enterococci (EF mice) had a lower incidence of colonization by S. gordonii than LF animals. The LF mouse system should be useful in the study of the molecular mechanisms that enable S. gordonii to inhabit the oral cavity.

-Diane Loach

Visitor - Peter Nettleton

Peter Nettleton is a visiting research worker in the HRC virus research unit for 2 months. He is here as part of the collaborative research programme on orf virus between Andy Mercer's group and the Moredun Research Institute, Edinburgh where Peter is based.

Peter qualified as a vet from Glasgow University in 1970, worked in Swaziland for 3 years, then did a Masters degree in General Virology at Birmingham University. After 4 years in industry involved in the production of foot-and-mouth disease virus vaccines in 9 countries he moved to Moredun in 1979 to run the diagnostic virology laboratory. He developed a research interest in pestiviruses and in 1985 completed a PhD on comparative aspects of bovine virus diarrhea virus and border disease virus. The development of new monoclonal antibody (mab)-based diagnostic tests for the detection of pestiviruses in the blood of persistently infected cattle and sheep occupied him until 1992 when he moved into orf virus research. The major approach to orf research at Moredun uses immunological methods to study the response of sheep to infection with a view to developing more effective vaccines. As part of this study the use of orf virus/vaccinia virus recombinants constructed here in Dunedin has been crucial in identifying important orf virus proteins.

Peter is 47, married with three children and has an active interest in the developing world through the charity VetAid. He plays squash and cricket and is a junior coach in both sports. He would welcome opportunities to participate in either game during his stay.

News Hounds
8th Floor - Racheal Carnahan
7th Floor - Terry Maguire and Els Maas
6th Floor - Rachel Elliot
5th Floor - John Tagg
4th Floor - Glenn Buchan and Barbara Clark
3rd Floor - Megan Spencer
3rd year class reps - Matt Bismark and Kristyn Mitchell
Ground Floor - Judith Bateup
Quote of the Week

Aspro Smith on Medical Teaching

Last year, Sandy was awarded the student's own accolade as 'Teacher of the Year', which is probably a lot more meaningful than the official assessments.

"Secret? - No secret. Nah - nah - nah - Listen! You keep is short, you keep it simple and you don't confuse them with facts. (spreading arms wide) Tell you boy, just do that and you can't go wrong!"

Stage 4 Research Project Write-ups

Experimental work should be completed by 5th September. The final date for submission of the research project is 3rd October and marks will be deducted for each week over the deadline. Three type written copies of the project must be submitted to your supervisor. The project should be written up in the form of a paper and excluding the literature review (included as an Appendix), should not exceed 25 pages in length. It can be submitted in a simple binding if the student so wishes. Honours and DipSc projects are assigned the value of two papers. During the third term each student will be required to give a short research presentation (10 minutes) on the results of the research project.

Staff profile - Karen Daly

My childhood in Invercargill was very normal. I left school to work in a private medical laboratory, but only stayed 18 months, as they wouldn't let me do NZCS. Went to Makarewa freezing works as technician for 4 years - got my NZCS at the Central Institute of Technology in Wellington, then went to Southland Dairy Co-op as Senior Technician, but only stayed one year before deciding to travel. I flew to Africa and spent 6 months travelling through the Congo and up through the Sahara to Europe, then got a job in London doing micro for a meat and smallgoods processing butcher. But a few months later I met a man! Left my job and went round Europe in a Combi with Mark and two other friends. Worked again in London to finance a 6-month trip around India and Nepal with Mark, then back to London to work in a pub for another 6 months before travelling through America and Mexico on the way home to NZ. Landed a job at Invermay when I came home, but only a temporary position, so kept looking around for other possibilities and here I am! In my spare time I love being outdoors - tramping, mountain biking, skiing, kayaking etc etc.

FOR SALE

Lincoln University have a ELISA microplate reader for sale. Offers around $5000. See Bruce for details if interested.
Staff profile - Jane M. Sykes

Jane has just joined the Virus Research Group as a technician working as a member of the orf team and working with Dave Lyttle and Andy Mercer. Her project involves the development of a vector virus vaccine to *Taenia ovis*. Jane was born on 6th December 1970 and was educated at Christchurch Girl’s High School (1984-88) and the University of Otago (1989-94). She has one brother. Jane supplied us with the following personal details: height, 171 cm; weight, yes. The main influence on her career has been her Dad. She likes having a few beers with her friends, 'Shortland Street' and weekends. She dislikes writing up her MSc thesis. Her favourite foods are cheese, fillet steak and ginger crunch.

Her favourite music comes from 'UB40', 'The Wonderstuff' and 'U2'. Her sports include running, swimming, tennis and skiing. Her main personal ambition is to finish writing up her MSc thesis.

Sixth Floor News

The Grant Autogene Thermocycler currently located in Lab 607 is surplus to our requirements. If anyone would like it in their lab please let Clive know. Otherwise it will be placed in the instrument room.

SOME IMPORTANT REMINDERS FROM JULIE

* Air Travel
The approved University agents for booking domestic travel are:

Brooker Travel Holidaymakers
369 George St
Dunedin
Ph: 477 3383
Fax: 477 1813

Winston Darling Campus Travel
Student Union Building
480 Cumberland St
Dunedin
Ph: 477 5911
Fax: 477 5914

VIP International Travel
53 Hanover St
Dunedin
Ph: 477 0443
Fax: 477 0179

Vincent George House of Travel
353 George St
Dunedin
Ph: 477 3464
Fax: 477 3806

When booking air travel you MUST take a University Purchase Order and on this order should be the appropriate account code.

* Couriers
Packages sent by courier MUST have a University Purchase order with them.

* The Store
If you take the last of an item from the Store could you please let me know

A Cartoon for Sandy

"You wouldn’t believe how hard I had to scrub to get all the mould off all those little dishes of yours!"
Did you Know?

MICRO/BIOCHEM WORKSHOP

Microbiology and Biochemistry operate a joint workshop which is based in the Biochemistry departments ground floor, rooms G27.

Jack La Rooy, James Galbraith, Murray Cockerill and Greg Lewis are the workshop technicians with Greg being our (Micro) contact person. If you have a faulty piece of equipment this is what to do.

(i) Write the Job in the request book in Greg’s Pigeon hole on the 8th floor. Include a brief description of the problem, its location, who to contact and the date. Greg will advise you as soon as he has looked at the job on the course of action and the time involved.

(ii) If it is small piece of equipment you are requested to take it directly to the workshop. If it is large or not movable you will need to discuss the arrangements for removal/repairs with Greg.

Note that the workshop handle a diversity of jobs and the priority is;

a) Jobs affecting safety issues
b) Jobs which immediately affect the functioning of the Dept. (building)
c) Jobs which have importance to teaching
d) All others

At times, situations may arise which could affect valuable samples or experiments. In these cases common sense will prevail and you will have to discuss the merits of your case with the workshop staff.

Greg can be contacted at 7848 or if you need to contact him urgently contact me (Bruce) in the first instance or Julie or Maria. We will then page Greg if the situation is urgent.

If you have an emergency situation and can’t contact any of the above; WORKS AND SERVICES BUILDING FAULTS AND EMERGENCIES INCLUDING AFTER HOURS (479) 8003.

Note that the -70 degree freezers are equipped with a high pitched audible alarm - if you hear one it means the temperature has dropped and immediate action is required. Please let Greg or someone know.

Turning it off is not a solution, (although it does stop the noise).

- Bruce Todd

MOLECULAR BIOLOGY REPORTS

The fourth molecular biology meeting was a huge success. Interest in this meeting was phenomenal, with the numbers of people applying to attend the meeting exceeding the capacity of the facilities. As a consequence a number of people who applied late had to be refused registration.

The meeting was officially opened by the Minister of Research Science and Technology Simon Upton, who gave a particularly entertaining speech, although he had a serious message concerning the public perception of genetically modified organisms. He feels that this is likely to become a particularly controversial area of science in the future and it is therefore important for scientist involved in genetic engineering to make an effort to educate the public and to be open and honest about their research.

The scientific programme included 19 oral presentations from invited keynote speakers (16 from overseas and 3 from NZ). There were a further 15 shorter talks selected from submitted poster abstracts and a 140 poster presentations. The meeting covered a range of topics which included cellular signalling, fungal molecular biology, animal molecular biology, plant development, molecular medicine, molecular biotechnology, sex, plant genetics and breeding molecular biology and DNA analysis.

Interestingly, a minority of the presentations (38%) came from university labs with 43% coming from CRIs and the remainder from mixed address. Maybe this mirrors where New Zealand's research dollars are being invested.

Two areas of research which are relevant to this Department and which were under-represented at the meeting are microbial pathogenicity and molecular immunology. This might be a reflection of the strengths of the NZMS, but it would be good to see a greater number of microbiologists at the Queenstown meetings.
Last year this Department was enthusiastically represented on the social calendar. This year, in the absence of some of those party animals (my lips are sealed), our flag was waved by 2 expats (Dick Wilkins and Dave Musgrave) who took it as their mission to be at Chico's every night when closed at 4 am.

The quality and diversity of presentations make this an excellent meeting for postgraduate students (not to mention the skiing, the nightlife, the golf, ...., and it's only 3 hours drive away), so get your registrations in early for next year!

-Steve Fleming & Andy Mercer

The Fourth Annual Queenstown Molecular Biology Meeting was held on August 14-19 at the Lakeland Hotel. As a venue the Lakeland Hotel has a large seminar room which was acoustically dead and required microphones which did not always work. On Sunday evening the Meeting was officially opened by Simon Upton, the Minister of Research Science and Technology. He gave the usual pep talk about how things were improving in science and research. He himself had just come off the ski slopes and left shortly after his talk for a dinner engagement -- it must be a hard life for MP's.

The Meeting was then addressed by Bruce Ponder from the University of Cambridge who talked about the familial cancers and how with probes and a family pedigree it is easy to establish the inheritance of common cancers such as breast and colon cancer. The problem is what do you do with this information, do you tell the person? The application of genetic tests raises many social and ethical questions.

Other highlights from the next five days included the following:

- Zena Werb from the University of California San Francisco talked about extracellular matrix (ECM) and how it regulates tissue-specific gene expression. The story is that cells grown in cell culture do not express their tissue-specific genes but if grown on the right extracellular matrix you get the proper expression. In their system this was the expression of lactation genes in mammary gland cells -- milk genes. ECM regulates morphogenesis, gene expression and programmed cell death.

- Reg Storm from Concordia University Montreal spoke about the yeast genome. It would appear that the yeast (S. cerevisiae) will be the first eukaryotic genome to be completely sequenced. It is about 14 Mbp and he was involved in chromosome I (230 kbp) sequencing. This is part of a huge collaborative effort where several labs around the world were given their own chromosome to sequence. They looked for possible genes by looking for ORF and comparing known sequences for proteins in the database. There were large sections at the ends of the chromosome (80 kbp) that did not appear to code for any known proteins and may be non-essential.

- There were a large number of papers on plant genetics, flowering, apple colour, wood hardness. The main approach was make some probes and go FISHing for gene expression. FISH being fluorescence in situ hybridisation.

- There several papers on animal genetics and the most interesting one was presented by Bill Colledge from the Wellcome/CRC Institute at Cambridge who spoke about the mouse model for cystic fibrosis -- from gene targeting to gene therapy. It was news to me how easy it was to culture embryonic stem (ES) cells from preimplantation mouse embryos and to be able to selectively mutate by homologous recombination any gene in the ES cells. The cystic fibrosis gene was inactivated by introducing a selectable marker (HPRT) and this was reintroduced into the early mouse embryos. This resulted in chimeric mice some of which had these alterations in the germ cells (ie sperm) from which you could get mouse lines expressing the disease, cystic fibrosis. They were then able to evaluate gene therapy strategies -- they started with liposomal mediated gene therapy -- blowing plasmids containing the correct gene into their lungs. It works and they are beginning human trials.

- Given today's emphasis on making money from your discovery, there was an interesting talk by Peter Thrush, a hot-shot patent lawyer who made the point that going for a patent had to be part of an overall business plan. In order to get a patent you had to delay disclosure and essentially a patent was a tool for making money. In reality probably all you could hope for was to license someone else to
produce, market and sell it. Getting a patent for something was often used as a publicity and marketing ploy by big companies to prevent someone else from using the discovery and often the development of the patent never happened.

- Another highlight was a paper by Chris Higgins from the University of Oxford who talked about DNA supercoiling and gene expression. The basic message was that if you stress bacterial environmentally they begin to supercoil their DNA and alter their gene expression. One of the advantages is that supercoiling allows differential gene expression in genetically identical cells rather than having genes turned off or on by repressors and the like. He illustrated some of these concepts more clear by taking the belt off his pants and twisting (his belt) in various ways. He showed that when proteins bound to one part of the DNA they can cause supercoiling in another part of the DNA. They used the banding of a plasmid on AGE as an assay for DNA topology.

- For the immunologists there was a talk presented by John Fraser from the University of Auckland on superantigens. He gave the story of how superantigens such as staphylococcal enterotoxin A could link MHC class II and T-cell receptors and how the zinc atom was required. There were plenty of molecular models and computer generated graphics showing the orientations of the binding sites, all in blazing colours.

- There were plenty of posters, but overall there was relatively little on microbes. It seems that the tools formerly applied to microbes are now being used to look at other systems and for those fascinated by technology, the conference was a PCR-heaven.

- I enjoyed the break from the HOD duties and on Wednesday, which was a 'free' day, we went to Arrowtown and Coronet peak -- No, I did not go skiing!!

   -James Kalmakoff

"Our earth can be described as a globe coated with a veneer of feces, the difference between one place and another being the thickness of the veneer.""
"IRISH" MEDICAL DICTIONARY

ARTERY
BACTERIA
BARIUM
BOWEL
CAESAREAN SECTION
CAT SCAN
CAUTERISE
COMA
D & C
DILATE
ENEMA
FESTER
FIBULA
GENITAL
G.I. SERIES
HANGNAIL
IMPOTENT
LABOUR PAIN
MEDICAL STAFF
MORBID
NITRATES
NODE
OUTPATIENT
PAP SMEAR
PELVIS
RECOVERY ROOM
RECTUM
SECRETION
SEIZURE
TABLET
TERMINAL ILLNESS
TUMOUR
URINE
VARICOSE
VEIN

The study of paintings
Back door of a Cafeteria
What doctors do when patients die
A letter like A.E.I.O.U.
A neighbourhood in Rome
Searching for kitty
Made eye contact with her
A punctuation mark
Where Washington is
To live longer
Not a friend
Quicker
A small lie
Not a jew
A soldier ballgame
Coat hook
Distinguished, well known
Getting hurt at work
Doctor's cane
A higher offer
Cheaper than day rates
Was aware of
A person who has fainted
A fatherhood test
A cousin of Elvis
Place to do upholstery
Dang near killed 'em
Hiding something
Roman emperor
A small table
Getting sick at the airport
More than one
Opposite to "you're out"
Nearby
Conceited