

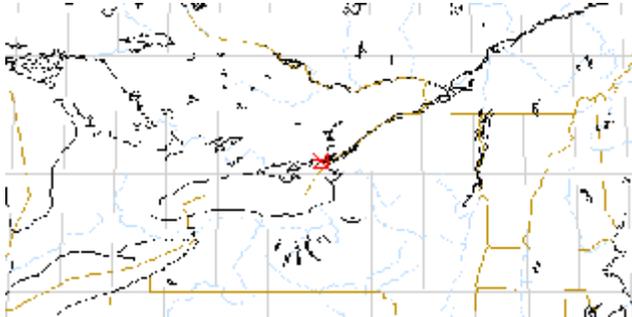
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# Pathology News

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Vol. 8#02

February 2001



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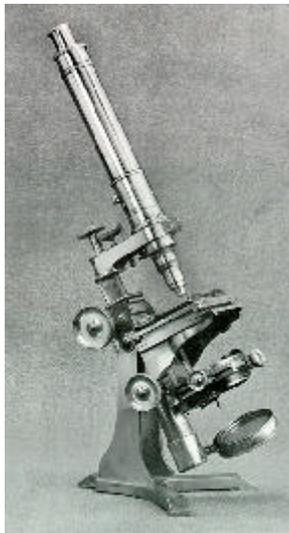
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We publish only that which is submitted! (There are no expense accounts and no reporters) If there is no news about your area that means we haven't received any!



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## From the Head

### Welcome Harriet Feilotter

Many of you read about the new Microchip facility installed on Richardson 4 in our November newsletter. This facility will allow a variety of academic and industrial users to analyse the expression profiles of thousands of genes in a single experiment. The operator of the facility is a new faculty member Dr. Harriet Feilotter who I'd like to welcome, somewhat belatedly, in this newsletter.

Harriet has a PhD in Biology from Queen's with extensive subsequent experience as a postdoctoral fellow in Cold Spring Harbor for three years and then a Senior Research Associate with Lois Mulligan for a further three years. She has just successfully completed her CCMG Fellowship and this year ranked first amongst all Canadians in molecular diagnostics. Harriet's research has ranged from the control of cell cycle in yeast to the analysis of PTEN in human cancers.

Harriet's major role will be research and development in the microarray or gene chip laboratory on Richardson 4 funded through Cancer Care Ontario. In addition, she has a 0.1 FTE appointment within the KGH DNA Diagnostics Laboratory as an Associate Director with a focus on the newly funded predictive hereditary

breast/ovarian cancer program. She is also an Adjunct Assistant Professor and will participate in the medical genetics teaching. We wish Harriet a happy and productive time within the department.

Paul Manley, MD

### **Blake Gubbins Retirement**



Last week Blake Gubbins retired after 34 years in our department and we had a wonderful party to celebrate his career and many contributions to the department.

Blake emigrated to Kingston from Great Britain to accept a position as the Chief Technologist of the KGH Histology Lab. He introduced immunofluorescent staining techniques and bone sectioning in his first few years and then moved to Richardson Laboratory to concentrate on research. He quickly became an expert in the research techniques of the day including electron microscopy, sophisticated tissue staining and histochemistry, and microsurgery while he worked with both Dr. Bencosme's endocrine group and researchers in neuropathology.

In the late 1980s as the research activity in Richardson was in a temporary lull due to the retirement of several faculty, Blake commenced three new projects all of which he managed superbly. One involved special techniques with a new bone milling

instrument used for the study of metabolic bone disease and research within the biomechanics unit. The second was single handedly running the NCIC Clinical Trials Group tissue acquisition with subsequent production of microscopic slides and dispersal to a variety of clinical trials designated pathologists across Canada. This work had previously been done by several individuals in Ottawa and requires operational expertise, diplomacy in dealing with multiple other Canadian medical centres and their personnel, and the technical ability to turn out high quality histopathology in a timely fashion. At the same time Blake constructed Canada's first plastination laboratory in Richardson Laboratory with a minimum of funds and a maximum of ingenuity and then helped set up a joint university facility in Botterell. We now have 1,000 plastinated tissue specimens in Pathology which are an extraordinarily valuable teaching resource. He became deeply involved with the International Society of Plastination and was the host of their extraordinarily successful conference at Queen's in 1992. For his achievements he was designated a "Distinguished Member" of the ISP and granted the Special Recognition Award for Queen's Staff in 1993.

The most touching time for me was when Blake thanked the department for giving him the responsibility to work on his own initiative in areas that drew on his strengths and interests and also the support to enable his success. We've both been fortunate.

We are now about to make an offer to another who we hope can recapitulate several of Blake's successes. Our Committee has recognized that the focus of Blake's replacement over the next ten years will be indefinable. In our search we are looking for a bright, self-reliant, technically oriented person who can work independently and help provide the necessary infrastructure for our academic success in research and in education. We'd be delighted with another Blake Gubbins!

Paul Manley, MD

# F or Your Info

## Richardson Labs Closure Monday April 16<sup>th</sup>

The building will be closed from 06:30 until AT LEAST 12:00 on Monday April 16<sup>th</sup> due to the work on the power grid in Botterell Hall. Queen's Physical Plant/Security will be on hand to ensure that no one is in the building during the closure (security/fire and personal safety issues)

All electrical equipment must be turned off prior to 06:30 (? There may be surges/brownouts?) So at first look this will require some people in early Monday to look after some of the critical equipment (-80 freezers come to mind), whereas most other equipment (lights, workstations, etc) can be turned off earlier.

The state of our network at this time is in doubt. It may not be available at all. Luckily that Monday is a KGH holiday (Easter Monday).

More information will be forthcoming from Dave Piper's Office.

### VISA Procurement Card News

The Queens 'Firstview' software that has been used to manage our procurement card system (VISA) since 1998 is being replaced with a World Wide Web version. This version maintains the functionality of the previous version of 'Firstview' and adds the convenience of access via the internet. In addition, purchases are posted to [www.firstviewnet.com](http://www.firstviewnet.com) as logged items\*\* on a daily basis. We will continue to update the general ledger based on the logged transactions on a monthly basis.

\*\* this means that users will be able to verify transactions and amend GL codes on a daily basis.

Denise Webster will contact current 'FirstView' Users during the month of February 2001 to fill cardholders and administrators with the details (including the URL, 'company number', your userid and password) and arrange any training that might be required.

### Another note from Queens Financial Services

All AudioVideo equipment must be purchased using a Purchase Order and not the Procurement card (VISA). Contact Fran Lanovaz at Purchasing Services (Q-32209) for more info.

### Annual Reports

It's that time of year again!! Annual Reports for the 2000 calendar year are once again due in the Faculty Office. If you are a basic scientist (QUFA faculty) then your report will already have been completed and forwarded to the Faculty Office on the February 1<sup>st</sup> deadline.

If you are a clinician then your report is due in the Faculty Office March 15<sup>th</sup>, 2001. **Hold off completing your form as we are not yet sure if the report form will be changed from last year.** As soon as the Faculty Office lets us know we will pass this on to all faculty. As the Head of the Department is required to prepared an appraisal form for each faculty member and include it with the Annual Report, you must submit both the report and your curriculum vitae **in duplicate** to Dr. Manley at least **one day** prior to your scheduled appointment with him. Also, please put an updated copy of your CV on the net under: `G:/sec/cvs/2000/lastname`.

<http://meds.queensu.ca/instructions.html>

### TIPS

TIPS for Faculty will be held March 22nd and 23rd this year. At this workshop we explore various aspects of teaching and learning, including:

- teaching is not telling or speaking to people, but speaking with people in order to facilitate their learning.
- how to write effective learning objectives that not only tell the learner what new skill or knowledge they should be able to do following the session, but also facilitate the lesson planning for the teacher.
- how to organize a session to optimize learning using the "set, body, closure" system.
- what makes visual aids effective or ineffective.
- how to use questioning to encourage active and interactive learning.
- how to give and receive feedback effectively.

All this, and we still have time for microteach practice groups each day! For more information, see <http://meds.queensu.ca/ce/tips.html>

## CIHR

On 12 February 2001, at 1300 hours, at the University Club Conference Room, Dr. Alan Bernstein, President, CIHR will give an overview of CIHR accomplishments and where it's going, followed by a short presentation on how CIHR and researchers can work together to promote the research conducted at Queen's.

## Milestones

### KGH

Cheryl Walker, 20 years

## Publications

*Systemic Delivery of an Adenoviral Vector Encoding Canine Factor VIII Results in Short-Term Phenotypic Correction, Inhibitor Development and Biphasic Liver Toxicity in Hemophilia A Dogs*

Angela Gallo-Penn, Pamela Shirley, Julie Andrews, Shawn Tinlin, Sandy Webster, Cherie Cameron, Christine Hough, Colleen Notley, **David Lillicrap**, Michael Kaleko and Sheila Connelly.

BLOOD, Vol. 97(1), pp. 107-113, 2001.

*Extensive Troponin I and T Modification Detected in Serum from Patients with Acute Myocardial Infarction*

Ralf Labugger, Lenny Organ, **Christine Collier**, Dan Atar, Jennifer E. VanEyck

Circulation pp. 1221-1226, 2000.

*DNA Binding and Transcription Activation by Chicken Interferon Regulatory Factor-3 (chIRF-3)*

Caroline Grant, Donna May and **Roger G. Deeley**

Nucleic Acids Research, Vol. 28(23), pp. 4790-4799.

*Analysis of Protein Kinase Subcellular Localization by Visualization of GFP Fusion Proteins*

Ralph Zimigibl and **Peter Greer**

Methods in Molecular Biology, 124, pp. 195-208, 2000.

*Disruption of the Murine Calpain Small Subunit Gene, Capn4: Calpain is Essential for Embryonic Development but not for Cell Growth and Division*

J. Simon Arthur, John Elce, Carol Hegadorn, Karen Williams and **Peter Greer**

Molecular and Cellular Biology, 20, pp. 4474-4481, 2000.

# D r. Dexter's Corner

## TROUBLE WITH NUMBERS

$$f(x) = \sum_{n=0}^{\infty} \frac{e^{-\lambda} \lambda^n}{n!} = \frac{e^{-\lambda} \lambda^0}{0!} + \frac{e^{-\lambda} \lambda^1}{1!} + \frac{e^{-\lambda} \lambda^2}{2!} + \dots$$

[e: base of natural logarithms; for a see (779)] (776)

One of the challenges of Journal Club is the increasingly specialized and complex nature of the articles. It reflects on the proliferation of knowledge and the need for a forum to publish. Indeed, there is a similarity between knowledge which might be broken out into antigens (or bytes in computerese), and the proliferation of antibodies against them. Many of the journals exhibit strong Ki-67 positivity (a proliferative marker). Others show CD30 positive (an activation marker) often exhibiting reams of tables, complex graphs, and evermore obscure statistical methods. These papers are challenging to read and often conclude with subtle, barely significant variations in study analyses that leave one puzzled as to practical and useful application. Articles marking strongly for CD45RO (helper cells), on the other hand, are most useful for these articles will be well thumbed and ready to hand near one's microscope. It would be helpful to have such screening tools to isolate "the really useful information".

The prediction of outcome is another area where evolutionary change has ruled rampant. This is well illustrated in many malignancies where clinical findings, radiologic, biochemical, genetic, and molecular factors each contribute in varying degrees to outcome prediction. It is like cooking where a little too much spice, or a lack of enough ingredient, mar the result. Like Goldilocks, it has to be just right, but the process of getting there may be prolonged. It is here that skills in the dark arts of mathematics, multivariate analyses, and statistics flourish.

A recent paper (British Journal of Haematology 2000, 111:587-595) modified a complex prognostic scoring system for the survival of patients with CML which added the impact of the newer treatment by alpha-interferon. The original system had been developed in 1984 by Sokal, and included the variable contributions of age, platelet, and myeloblast count and spleen size. Compare with the new system (the Euro)!

<i>SOKAL</i>		<i>EURO</i>	
Age (years)	0.116	0.666	when age $\geq$ 50 years
Spleen (cms)	0.0345	0.042	
Platelets ( $\times 10^9/L$ )	0.188	1.0956	when $\leq$ 1500 $\times 10^9/L$
Myeloblasts %	0.0887	0.0584	
Eosinophils	-	0.0413	
Basophils	-	0.20399	when basophils $\geq$ 3%
<b>Relative Risk</b>	<b>Exponential of the Total</b>	<b>Total x 1000</b>	

Several things strike me as discordant and disturbing. Firstly, there has been a re-weighting of the contributions of each of the variables and, *mirabile dictu*, this will change the results. One marvels at the five post-decimal figures for basophil adjustment and the inferred sensitivity.

But of its applicability, my clinical colleagues noted that no matter how predictive it was, it was useless at the bedside or the nursing desk for two major reasons. Firstly, they could not remember the formula and, secondly, no one had a calculator. Recent information suggests access to the Web may redress the issue.

Personally, I think it is missing the key ingredient, a factor so obscure and yet so critical - it is the Eureka factor first described by Dr. Fred Fudge in 1957 at MIT (reciprocal  $3 \text{ II} \times 0.1742 \times \text{shoe size} + 0.4 \times \text{H.R. in kilopond metres}$ ).



### FINGERPRINTS "AB OVO AD BELUGA"

A recent Pathology Grand Round was entitled, "DNA Fingerprinting in Forensic and Clinical Pathology." Needless to say, the title stimulated a little research.

Following a fierce altercation of dwelling and dredging with the dust-bunnies of history, a short summary of findings is presented to offer a perspective of tantalizing trivia.

The first documented evidence is from the Royal Society proceedings of 1684 which records a presentation on fingerprints by Grew. Bidloo makes reference to fingerprints in his opus, "Anatomy Humani Corporis" in 1685. Malpighius is also on record in "De externo tactus organo" published in 1686. It was not until 1823 that Joannes Evangelista Purkinje attempted to categorize systematically fingerprint patterns, initially into nine categories. In 1880, the suggestion was made by Henry Faulds and W.J. Herschel in a paper in Nature that fingerprints could be used for identification.

Gradually, there developed a parallel analytical system. The first, which flourished with both geographic and historic variation, dealt with the arts of dactylomancy <sup>(1)</sup> and its close cousin of cheirology <sup>(2)</sup>. Still, in practise today, it is a source of mystic fortune telling and determination of the human condition.

### WHORLS

<i>PATTERN</i>	<i>CHINESE</i>	<i>HINDU</i>
1 whorl	Poverty	Happiness
2 whorls	Riches	Unfavourable
3-4 whorls	Open a pawn shop	Bad sign
9 whorls	No need to work	Super rich

The second system evolved into the systematic scientific base of our current fingerprinting system used by police forces across the world.

Switching time frames from Purkinje in 1823 to the last decade, there has been an evolution from the physical or gross fingerprint as an identifier to the subcellular DNA analysis and discrimination. DNA fingerprinting has been applied widely to many areas, some expected and some not.



Its application to the food industry allows us to be sure that the hotdogs we buy advertised as 100 percent beef are not contaminated with pork or chicken.

For the fortunate few who are truly able to enjoy the luxuries of life, its application to the Caviar industry is significant. As the faithful reader may already know, there are only 25 species of sturgeon and that the major source of caviar (> 75 percent) comes from the Caspian Sea. Caviar is traded in only three major categories: beluga, sevruga, and osetra or Russian. These are reasonably distinguishable by egg size, but not taste. The Fish and Wildlife Service, using DNA fingerprinting, was able to show the unscrupulous mixing-in of inferior caviars in up to 25 percent of random tins of caviar purchased in New York City. Since tins of caviar can be sold for upwards of \$90 a tin, the drive for mixing cheaper caviars is tempting and was difficult, if not impossible, to prove prior to the enhanced testing capabilities. In the January 26<sup>th</sup> National Post is a smaller clipping noting that some five tonnes of caviar had been fed to pigs in Russia's Far Eastern region having been confiscated from smugglers, perhaps reflecting tighter controls on the caviar industry.

The forensic application is powerful. Wherever we go, whatever we touch, we leave DNA traces. Whoever we meet, whoever we touch, so do we gather DNA. The process and interpretation of transference is complex. A neat feature is the ability to revisit and re-analyze old evidence. This has demonstrated the fallibility of systems past, and serves to reinforce the careful, impartial analysis and generation of the medicolegal autopsy - our portion of the complicated jig-saw puzzle of the justice system.

I will look at my fingers with renewed interest and respect, but as for tasting caviar, I think that I can guarantee no transfer of DNA. It is too rich for my blood.

*"Ab ovo usque ad mala via beluga"*

\*adapted from Horace

(A typical Roman meal began with eggs and ended with apples)

- (1) dactylomancy : prediction of the human condition and the future in accordance with the number of whorls and loops on the fingers
- (2) cheirolgy: palmistry fortune telling

## Grants and Such

Grants have grown to such a huge page of the newsletter that we have split them off into a separate supplement to the newsletter. All researchers & faculty will receive the supplement as well as any one else who wants it. Otherwise the rest of the subscribers get everything but.

There are 12 pages for February.

These are available on our web site:

<http://www.path.queensu.ca/pathnews/grants.htm>

## Richardson Research Seminars

2001

Tuesdays at 4:00 pm, Richardson Amphitheatre, Richardson Laboratory

Date	Speaker
February 13	Deborah Greer, PhD Student
<b>February 20</b>	<b>Reading Week - NO SEMINAR</b>
February 27	Lee O'Brien, PhD Student
March 6	Diana Naumovski, MSc Student Sarah Kinkley, MSc Student
March 13	Suzie Abu-Abed, PhD Student
March 20	Adina Vultur, PhD Student
March 27	Dr. G. Lukacs, Hospital for Sick Children, Toronto

## Clinical News

The **Outreach Program** of the KGH Clinical Laboratories is pleased to announce that in January, Perth and Smiths Falls District Hospital renewed their ties with KGH Clinical Laboratories and Queen's Pathology Department, by signing a new five-year contract for referral laboratory services and Pathologist's services, including laboratory directorship. This link is a long-standing one. As far back as 1987, then Smiths Falls Community Hospital sought a reference laboratory and pathologist in Kingston. In 1995, the hospitals in Perth and Smiths Falls merged their operations into a single corporation. KGH Clinical Labs, in partnership with the Queen's Pathology Department, bid successfully in open competition to become the provider for the new unified hospital laboratory. It is very gratifying that this important client values our services so highly. It is estimated that the value of this contract over five years will be in excess of one million dollars.

Submitted by Dave More, Manager AP Services

### Visit to the Hospital and Research Laboratories.

On 2001 January, 10, Linda Ann Daly, Chair of the Patient Care & Service Quality Committee at Kingston General, toured the facilities of both Douglas Laboratories at Kingston General and Richardson Laboratories at Queen's. In an effusive "Thank You" card received from Linda Ann, she stated:

"Thank you so much for the excellent tour of the Clinical Labs ? I so enjoyed learning about the work, research, the plans and most of all I enjoyed the enthusiasm that you and others shared with me!

In every case, integrity, professionalism and a very real commitment to the excellence of the work was conveyed.

Please thank Paul (Manley) and each of the others who took time to meet with me!"

I personally want to thank all faculty, clinical and research staff who made Linda Ann's visit so instructive and enjoyable. I especially want to thank the departmental managers who took time from their busy schedules.

Submitted by Dave Piper 2001 January, 17

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### **Digital Imaging Systems Now in Place**

The two digital cameras now in operation in the AP suite have been generating a number of images of gross autopsy and a smaller number of micro images.

We have started working on methods of accessing this stored image library and the first one we've developed is in the secure section of our web site.

All faculty/docs and KGH managers have access to the area known as "**Photomic Archives**".

At the moment you can either access a text based master index of all of the images (much faster, but only if you know the case number) or a single web page of thumbnail images (can take some time to load, but lets you visually browse).

Another enhancement is the ability to view the images at different sizes, when using the text based master image list. Some of the images are up to 4 years old, scanned at the limit of the technology-of-the-day (640x480 pixels), and the newer ones are at 4000x3000 pixels! Quite a difference. Since most people run their displays today at 800x600, you would not be able to see the whole new images on your screen all at once. So what we've done is to generate custom web pages for each image that allows you to

switch between four different display sizes (640x480, 800x600, 1024x768 and full size).

There is also a project underway to allow easy access to images from a particular case via a link from the LIS into our new image library server "**LISIMAGE**".

## **J**obs Available

### **Associate Dean, Research (Faculty of Health Sciences, Queen's University) and Vice-President, Research Development (KGH/Providence Continuing Care Centre)**

The Queen's University, Faculty of Health Sciences and associated hospitals - KGH and Providence Continuing Care Centre - are seeking a research leader for this unique position.

Reporting to the CEOs of KGH/Providence Continuing Care Centre and to the Dean, Faculty of Health Sciences at Queen's University, and supported by a team that reports to the Associate Dean/Vice-President, the successful candidate will be responsible for further developing and leading a coherent, collaborative research organization for the Academic Health Sciences Centre. In addition to having achieved international recognition in research and scholarship, he or she will have a relevant PhD or MD, will be an excellent communicator, enjoy creating a constructive dynamic environment in which to pursue new directions and opportunities, and have experience in exploiting basic and clinical research with the vision of 'molecule to population'. The incumbent will explore, promote and facilitate research in established and emerging foci together with other evolving opportunities, including the private sector and innovative sources of funding.

Nominations and letters of application, in the latter case accompanied by a curriculum vitae and names of three referees, should be directed by February 21,

2001 to the Selection Committee Co-Chairs: Mr. J.A. de Mora and D.M.C. Walker, c/o Staffing Office, Faculty of Health Sciences, 2<sup>nd</sup> Floor, Botterell Hall, Queen's University.

#### **Associate Dean, Life Sciences**

Dr. Madan Joneja will step down as Associate Dean, Life Sciences in the School of Medicine of the Faculty of Health Sciences effective August 31, 2001.

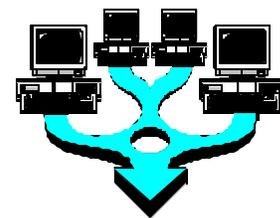
Nominations and letters of application from individuals interested in being considered for this position are currently being accepted. Applications, which must be accompanied by a curriculum vitae and the names of three referees, should be directed by no later than Friday, March 9, 2001 to Dean David Walker, c/o Gail Knutson, Staffing Officer, Faculty of Health Sciences, 2<sup>nd</sup> Floor, Botterell Hall. The terms of reference for this position are available on the Faculty of Health Sciences home page at <http://meds.queensu.ca/>

#### **McGill University**

The Department of Pathology, McGill University and McGill University Health Centre (MUHC) invite applications for three full time staff positions in AP. The positions are open to new graduates and experienced pathologists. The successful candidates will participate in general diagnostic work and the teaching of medical students and residents. Established expertise or willingness to develop expertise in one or more specialty areas (e.g., cardiovascular, transplant, genitourinary, dermatopathology, soft tissue/bone and head and neck pathology) is desired. Opportunity for collaborative or independent research is available. Candidates should be certified in Anatomic Pathology by the RCPSC and/or the College des Medecins du Quebec.

Send letter of application, recent curriculum vitae and names and coordinates of at least 3 referees to: Dr. Carolyn Compton, Professor and Chair, Department of Pathology, McGill University 3775 University St., Room B15, Montreal, QC H3A 2B4. Tel: 514-398-7192, ext. 7194; Fax: 514-398-7446; e-mail: [<compton@med.mcgill.ca>](mailto:compton@med.mcgill.ca)

## **N**etwork News



#### **Server Upgrades**

None to speak of this past month.

#### **Web Server News:**

We have started to publish electronically, all available presentations from the Thursday afternoon Pathology Rounds. If you are giving a presentation and it is already in electronic format, please notify Kevin and he will convert and put it online.

#### **Lighting (and security):**

You may have noticed new signs up in Rich101, 102, 107, The Library and the Lounge.

The ones in 102 and 107 ask you to turn off the lights and close the door, if you are the last one out. I arrive at work at 07:00 daily and have found that the doors to the conference rooms are often wide open at that time, having been left that way all night (it's not the janitorial staff... I've asked). Luckily our audio-video equipment has been still there.

The other signs just ask to turn off the lights when you are the last one leaving. Again, early in the morning I see the library and lounge lights especially left on. Research Labs and other safety oriented areas I can understand (eg the richardson stairwell and hallway lights can't be turned off at all) but for other facilities why not turn them off while not in use? Ontario may not be far away from the troubles California is having with electrical power shortages.

#### **Laptop1:**

The laptop again has been suffering from random lockups, so on Feb 7<sup>th</sup> it was reformatted and rebuilt from the ground up, back again to using Windows NT4, as the temporary 3 month experiment with windows 98 showed no stability improvement.

#### **Presentations#1:**

This presentation workstation normally stored in Rich102 now has a cdrom drive to complement the zip

drive, to allow for a wider range of data access for presentations. We are now committing to CDROM a significant number of raw images and finished presentations, especially as some of them have outgrown the storage capacity of a 100 Mb ZIP disk.

### **Presentations#2:**

You may have noticed a new workstation and television now located in Rich107. The demand for computers for electronic presentation continues to grow (especially with the flakiness of the laptop).

Present2 is a close copy of Present1 located in Rich102 on the microscope cart. Present2 is intended for electronic displays via zip disk or cdrom on the 27" television on the stand.

Hopefully in the future I would like to see a smaller (and cheaper) data projector permanently installed in this room, along with the workstation.

### **Library #1-6:**

The 6 Library workstations have been upgraded over the last couple of months.

### **Server stability:**

Web Server 11:57am up 28 days

CD Server 11:50am up 29 days

KGHGate 11:50am up 16 days

### **Email Traffic:**

Remember when I used to post the amount of email in and out of the department for the last month?



January 1996: 3169

January 1997: 3912

January 1998: 6157

January 1999: 10518

January 2000: 21461

January 2001: 24806

pieces of email in and out, and in general, they are getting bigger as more and more people send more and larger attachments.

### **Queen's ITS Upgrades Free Dial-In Lines -- Now 56k/V.90 Capable.**

All dial-in users can now use the Qlink modem pool (for students) or the Telnet modem pool (for staff/faculty) to connect free of charge to

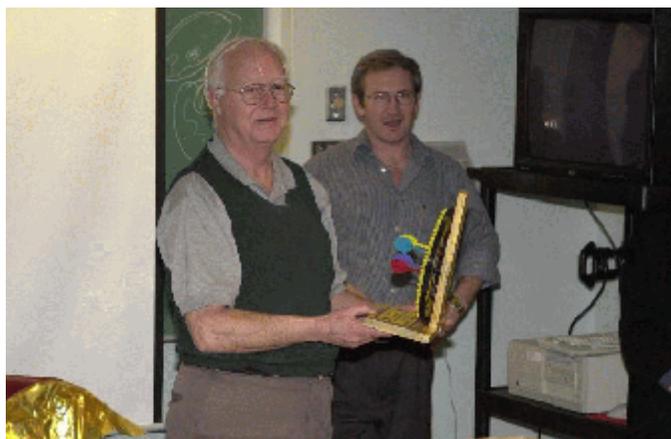
Queen's even with a 56K modem. Previously, you were not able to connect to the free lines unless you used a modem initialization string to disable V.90. (Note: If you have disabled V.90 you will continue to connect at 28.8 until you remove the string.)

Now, PC users can use Packman and Mac users can use the Macintosh Software Manager to set up configurations for the free lines no matter which speed of modem they're using.

Because the Qlink and Telnet lines are free, they're usually busy. The Toll lines are still the option for users who need to connect without waiting through many re-dials.



More Retirement Proceedings



Even More Retirement Proceedings