Dalhousie University, Faculty of Dentistry

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Dental Research News

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BIOSAFETY GUIDELINES

Genetic research, bio-technology and infertility research are making dramatic advances as scientists learn more every week about manipulating the basic building blocks of human life. However, there is a growing ethical and religious backlash not only in Canada but throughout the world. Governments are under pressure to impose tighter rules and define the limits of what is permissible. In Canada a "Public Discussion Draft" of Laboratory Biosafety Guidelines has just been produced jointly by MRC, the Laboratory Centre for Disease Control, the Health Protection Branch and the Department of National Health and Welfare.

The Guidelines were produced by a joint working group and are a revision and expansion of the 1980 edition of the MRC Guidelines for the handling of Recombinant DNA Molecules and Animal Viruses and cells.

The document is offered as a recommended code of practice for laboratories working with infectious agents. The guidelines include a comprehensive description of four biosafety levels, laboratory practices, safety equipment and facility design. A copy of the Guidelines is available for consultation in the Dental Research Development Office.

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RESEARCH NEWS ON FILE

A complete collection of all previous copies of the Dental Research News published since September 1987, is now on file in the Faculty Lounge in a green file folder.

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Research Trend: On our Way to a Second Hundred?

The number of abstracts presented at the IADR/AADR meetings by Dalhousie faculty, staff and students continues to hold the excellent improvement which commenced in 1986. The table shows the number of papers presented each year by Dalhousie at either IADR or AADR meetings. It should be noted that we have not failed to present at least one paper at a meeting since 1975. In the February 1988 issue of Dental Research News it was said that if only we could present at least 15 papers at the IADR/AADR meetings in 1989, we would bring our total of papers presented at these international meetings during a period of 19 years to 100. We have far exceeded the target bringing our total to 112 for the 1972- 1989 period at an average of just under six papers per year.

Dalhousie IADR/AADR Abstracts

1972....3	1981....3
1973....4	1982....5
1974....0	1983....3
1975....1	1984....2
1976....2	1985....1
1977....2	1986....8
1978....1	1987....10
1979...7	1988....28
1980....5	1989....27

TOTAL,1972-89....112

However, what is most encouraging is the fact that 73 (65%) of these papers have been given during the past four years.

Our average for the past four years is a remarkable 18.25 papers each year, a record which many Canadian Faculties of Dentistry would be proud of.

A further exciting aspect of the 1989 statistics is the record number of educational research papers which are also being presented at the 1989 AADS meeting. The year 1989 is a truly record year for our faculty with a total of 36 papers being presented at the three meetings. We should also not forget that other papers are also being given at other meetings.

A SAD NOTE

This months feature on women in science must however, have a rather a sad side to it. One of our female faculty members who is a very active and successful researcher will be leaving Dalhousie for UBC. Is it the noradrenaline which drives her on? who knows. Dalhousie's loss will be UBC's gain when Dr.Rosamund Harrison bids farewell to her many friends and colleagues at Dalhousie. We wish her well in the next phase of her academic career and hope that she keeps up with her excellent research.

The Prowess of Women in Science!

March 8th was recognized as International Women's Day. The Dental Research News recognizes and celebrates the major contributions which women have made and continue to make to dental science. P.B. Medawar. has written, "There is no scientific or methodological reason why women should be worse than men at science - and no evidence that they are".

The academic future looks good for our women faculty and students. Of the 36 papers being presented or submitted to the AADS, AADR, and IADR meetings for 1989, five women had their names as authors or co-authors on five of the papers. In addition seven female students have their names on AADR and IADR papers, two of these were female students from the University of Dundee who conducted a summer research project as part of an elective.

As reported in the March 1989 issue of Dental Research News (page 2) a female student (Kathy Russell) was selected as the recipient of the 1989 Warner-Lambert Student Science award.

With the higher proportion of females now entering the dental profession in Canada we shall see a continuing trend of increasing contributions being made by women to dental science. As pointed out in our Dental Research News of February 1988 Dr. Barbara Harsanyi has been presenting papers for Dalhousie at IADR/AADR meetings since 1972 and in spite of a serious hospitalization during the month of September 1988 she will be presenting a paper at the IADR meeting in Dublin.

Nigel Freestone writing in the Journal Chemistry in Britain describes a wonderful example of the prowess of Women in

On November 5th 1906, "men and women from all walks of life came to the great amphitheater of the Sorbonne in Paris to attend the inaugural lecture of Nobel laureate Marie Curie. Lord Kelvin, Ramsay and Lodge were among the audience. President and Mme Falliers of France had come and King Carlos and Queen Amelia of Portugal were also present to honour this woman.

On the stroke of three an insignificant little black-robed woman stepped in through a side door and the brilliant throng rose with the thrill of homage and respect. The next moment a roar of applause burst forth. The timid little figure was visibly distressed and raised a trembling hand in mute appeal. Then you could hear a pin drop. She continued her late husband Pierre's last

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The Prowess of Women in Science!

(Continued from page 3)

lecture on polonium almost at the exact point where had had left off.

Five years later, only six months before receiving her second Nobel prize, Marie Curie was rejected by the Paris Academy of Science because a woman cannot become a member".

Peter Medawar also wrote in the Limits of Science:
"Men and women who revere Marie Curie for the scientific prowess that led to her winning the Nobel Prize on two occasions are apt to forget what is the most remarkable thing about her - that in spite of the intent and single-minded concentration that such a feat as she accomplished calls for, she raised a daughter, Irene, who, instead of, in the modern fashion, denouncing her parents and all their works and becoming a fashion model or dashing off to India to seek enlightenment, became a Nobel Prize winner herself".

Women's achievements in the political sphere have also received much attention recently. Prime minister Margaret Thatcher reacted with mock indignation when she was called "the only man in her cabinet" by her hosts at the Indian High Commission in London when she unveiled a bust of Indira Gandhi , the assassinated prime minister of India. It was recalled at the ceremony that former prime minister Gandhi had also dominated her male colleagues in much the same way as Thatcher does. Prime minister Thatcher said that the very suggestion that males possessed greater mental strength was "outrageous".

In point of fact Thatcher may have a valid argument that women may be able to summon reserves of mental strength not available to men. British researchers have identified a hormone called noradrenaline as being the likely source of motivation in some politically ambitious women. Dr. Malcolm Carruthers who has conducted stress and trauma measurements in patients believes that the hormone is associated with kick, drive and ambition. Noradrenaline is said to be secreted by the adrenal glands and by nerve endings of the "sympathetic alarm fight and flight system". Carruthers believes that women politicians become addicted to this hormone.

EXPERIMENTATION

"Experimenters bring into being phenomena that do not naturally exist in a pure state. These phenomena are the touchstones of physics, the keys to nature, and the source of much modern technology".

Ian Haching.

MRC PROGRAMME GRANTS

In 1987-88 researchers at Dalhousie University received a total of $5,659,173 from MRC for various types of biomedical research. The Medical research Council is currently funding 33 Programme grants. Four of these are at Dalhousie University and have received a total funding of $5,465,087 from MRC between 1985 to 1989. A further eleven Universities also have Programme Grants. However, only two of the 33 grants are held in Faculties of Dentistry, these are at Dalhousie and at Toronto. Both of these Dental Grants are in the area of Biomaterials.

Programme grants are designed to provide support for research by teams of three or more investigators to undertake collaborative ventures, to facilitate scientific interaction using common facilities and services, and to promote multidisciplinary research in the health sciences in Canadian universities. The aim of such programmes is that teams of researchers, with various types of scientific expertise, are provided with the opportunity to collaborate, develop new techniques and

The total funding provided by MRC between 18985-1987 for Programme Grants was $30.4 million. For the period 1988-89 a total of $10.28 million will be provided for the 33 programmes at an average of $311,665:9 each.

The following 12 Universities currently have MRC Programme grants. Only two other Universities have more MRC Programme Grants than Dalhousie.

University	No of Grants
Calgary	1
Dalhousie	4
Laval	1
McGill	4
McMaster	1
Montreal	8
Ottawa	1
Queens	1
Saskatchewan	1
Toronto	5
UBC	4
Western Ontario	2
TOTAL	**33**

QUIET WISDOM

Wisdom is divided into two parts:

a) having a great deal to say, and
b) not saying it.

Seeing is Believing!

Fascination with seeing-with-the-naked-eye is part of the spectator theory of knowledge that has bedeviled philosophy from earliest times".

Ian Hacking.

HI-TECH SCRAP

A London UK high-tech trader who disposes of unwanted computers is reported to have made over $4.5 million profit in the past twelve months. A warehouse near Heathrow was said to contain 7,000 printers, 4,000 monitors, and 800 lap-top computers as well as significant numbers of a well-known word-processor. The market slump and a flood of cheap imports has caused problems for the personal-computer market in Britain. Many computers with floppy discs and 12 inch green screens are difficult to sell because the market wants hard discs and 14 inch amber or white monitors. Daisy-wheel printers have also been big business for the high -tech scrap merchants because low-cost laser printers have almost made them obsolescent.

According to the British high-tech scrap merchant there is always a market for computers somewhere in the world. Many old-fashioned machines can be used in schools in Africa and the Middle East. We should also realize that we can make use of old computers in our laboratories to control experiments and collect data, the surplus of out-of-date computers could be a boon to our research needs. It was interesting to note that some 80% of the job advertisements in a well known British Sunday Newspaper in February were related to the computer industry. The company which manufactures the BBC Micro Computer in the UK has just been taken over by a Welsh entrepreneur for $53 million. The computer market is indeed very active.

Keeping Abreast of the Implant Problem?

According to the Montreal Gazette five scientists at the federal Department of Health and Welfare have urged that a foam-coated, silicone-gel breast implant be withdrawn from the Canadian market due to serious health concerns. There is said to be evidence of the presence of cancer-causing chemicals in the foam-coated implant and concerns that the foam coating may break down in the body and promote infection. Senior officials in the Department of Health and Welfare have however, decided to wait for the distributor to voluntarily supply data within one month proving the product's safety and efficacy.

$114.8 Million for Drug Research

The passage of Bill C22, the Drug patent Act, has resulted in considerable research funding being made available for Canadian university researchers.

A total of $1 Million has been set aside in the Health Research Foundation of the Pharmaceutical Manufacturers Association of Canada for the funding of graduate and undergraduate research scholarships within the universities. Derek Jones in his capacity as Vice-President of the CADR has written requesting that $20,000 be made available to each faculty of dentistry in Canada for funding undergraduate and graduate students involved in drug related research.

Individual drug companies who are now required by law to spend a specific amount over a period of five years on funding research and development are in the news with announcements of a number of very large research projects.

The Nordic drug company have stated that they intend to spend $53 million over a five year period on research and development. The Squibb Company have also announced that they will spend $50.4 Million on research and development over the next five years. The Vice-President for Scientific Affairs for Squibb Dr.Jean-Gi Joly has appealed to all universities and research centres in Canada to avail themselves of the benefits being offered by the company. This should be good news for our clinical faculty members since private funding of this type is often less difficult to obtain than going through MRC or NHRDP. The research proposals for the Squibb company should define a coherent, highly integrated programme in the fields of molecular genetics, development biology, or immunology. If these subjects are not your field why not collaborate with someone who is in this area or just try another drug company?.

Merck Frosst have given a $150,000 grant to McGill University to establish the James E. Frosst Fellowship in Pharmacology and therapeutics.

The Purdue Frederick Company will spend $10 million over the next five years on research and development of new therapies in the respiratory, gastrointestinal, anti-inflammatory and bronchodilatory fields.

(Contnued on page 8)

(Drug Research Continued)

A one-year research grant has been set up by Rhone-Poulenc. This project will study a new approach to the development of pharmaceuticals for treating inflammation in disorders such as arthritis.

The availability of significant pharmaceutical research funding as a result of Bill C22 provides a wonderful opportunity for our clinical faculty members to conduct drug related research. Dentists across Canada are prescribers of drugs and represent some $30 to 40 million in drug sales each year. Why not start a research project now before time runs out!.

PROGRESS

"Progress is not made by taking pride in our present standards but by critically examining these standards, hypothetically setting higher standards and attempting to achieve them."

Dr.J.L. Rosenstein,
Marquette University.

PROMISING RESEARCH RESULTS FOR CANADIAN AIDS DRUGS

Two new anti-AIDS treatments developed in Canada show promise in early laboratory results. According to the researchers the drugs are similar but more effective and less toxic than AZT the drug showing the best results to date. The compounds are said not to attack bone marrow which is a problem with ATZ. Dr.Mark Wainberg, an independent researcher who has tested the compounds BCH-189 and BCH-203, cautioned against the drug being heralded as a major breakthrough. However, an associate science director of the company producing the drugs said that the drugs may allow people with AIDS to live normal, healthy lives by staving off destruction of the immune system indefinitely. However, it is clear that it would take several years to bring the drug onto the market if they pass strict testing. To-date only *in-vitro* data is available.

A HEALTHY PRICE

According to Mr. Jack Ingram executive director of the Nova Scotia Association of Health Organizations. Nova Scotia will spend about $1 Billion on hospital health care this year.

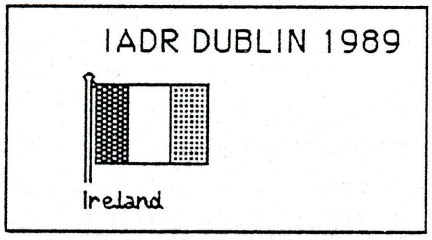
Believing is Seeing

"Who would magnify a newspaper photograph - composed, as it is, of millions of tiny little dots - in order to see more detail in it?"

Peter Medawar

17 DALHOUSIE PAPERS ACCEPTED FOR INTERNATIONAL MEETING

The "Irish Green" post cards of acceptance were very welcome indicating that our 17 papers would be part of the IADR programme for 1989.
The following 17 individuals will be presenting papers at the IADR meeting in Dublin in June 1989. C.A.Bain, A. Brown, G.Doyle, W.C. Foong, J..D. Gerrow, G.C. Hall, B.B. Harsanyi, C. Hawkins, D.W. Jones, K. Oscan, L.E.Peacocke, R.B. Price, J M.R. Roda, A.S. Rizkalla, J. Sterrett, O. Sykora and K.L. Zakariasen.



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CAN YOU REMEMBER?

Can you remember the distribution of all papers in the various subject areas submitted for the IADR meeting last March, how many in each category were rejected ?. If not why not look up the answer in the complete file of past copies of the Research News in the faculty lounge. **[Note: answer is in Vol II, No.1.]**

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AADR PAPERS BY SUBJECT

The distribution of papers for the 1989 AADR meeting in San Francisco by subject is shown in the table below. The largest sections are as usual Dental Materials and Periodontal Research with 18.5 and 14 % of the programme respectively. Microbiology/Immunology has 8.9%. Next largest are Craniofacial Biology and Behavioral Science with 7%.

SUBJECT	%
Behavioral Science.	7.0
Cariology	5.0
Craniofacial Biology	7.0
Dental Materials(Pol)	8.8
Dental Mat. (Non Pol)	9.7
(All Dent Materials)	18.5
Diagnostic Systems	2.7
Experimental Pathology	5.3
Geriatric Oral Research	1.7
Implantology Research	2.6
Micro/Immunology	8.9
Mineralized Tissue	4.9
Neuroscience/TMJ	4.2
Oral & Maxillofacial	3.3
Periodontal Research	14.1
Pharmacol.Therap. Tox.	4.3
Prosthodontics Research	3.9
Pulp Biology	2.8
Salivary Research	3.6