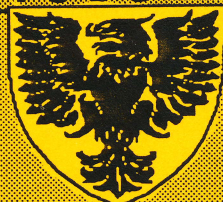


25th 1993 225th

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Stimulus & Challenge

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Our 225th abstract and 25th Anniversary

Who will be the lucky person to have the honour of presenting the 225th abstract for the Faculty of Dentistry, Dalhousie University. In fact our 18th paper as sequenced in the IADR/CADR 1993 programme will be our 225th paper to be presented in the whole history of our faculty. Interestingly this event will also coincide with the 25th anniversary of the first Dalhousie Abstract presented in 1968. Who will be the lucky person to present this paper? We now know who the lucky person is who is scheduled to present this paper by looking at the programme of the meeting for Chicago. You can satisfy your curiosity and find out by looking on page 3 for the answer to this intriguing question. The 1993 IADR represents an historic landmark for our Faculty of Dentistry, it also represents an important event in the history of the Canadian Association for Dental Research. Starting with the 1993 IADR Chicago meeting, CADR has cosponsorship with AADR and IADR for all North American meetings. It is thus very important that we in Canada play a vigorous and active role in all future annual meetings held in North America. At the 1993 meeting many of our colleagues will be able to claim for the first time that they have presented a paper at a Canadian sponsored Dental Research meeting. The number of research papers

presented from Canadian institutions at the AADR/IADR meetings in 1992 was 168, the total for the 1993 meeting has yet to be determined. We can justifiably claim that Dalhousie University is playing a significant role in the Canadian presence at international Dental research meetings.

Chicago Meeting

A total of 2,539 abstracts have been programmed for the IADR meeting in Chicago. Thirty six percent of them are Oral presentations and 59% are Posters, 2% are in the form of a Poster Discussion and 4% are Symposia papers.

Of the 35 abstracts which carried the name of Dalhousie University at the IADR meeting in Chicago a total of seven (20%) involved clinical research projects. This is by far the highest number of clinical research projects to be conducted at one time within our faculty. This is excellent news since clinical research is the one area which needs to be expanded. There were six microbiology laboratory studies. A total of nine studies involving synthesis or characterization of biomaterials. Six studies involving animal and or *in vitro* biocompatibility studies. A further four studies involved laboratory techniques and three were laboratory studies of natural tissues. The most important, pleasing and significant aspect however, is that the overall quality of the research

being conducted in our faculty has risen with obliquity in harmony with the expanded research activity. It is often the case that expansion of any human activity is accompanied by a decline in the general quality. This is definitely not the case for our expanded research activity. A further important aspect of our research programmes is the we are conducting collaborative research with a large number of colleagues in other faculties and institutions. Collaborative research is underway which involves, the Departments of Physics, Chemistry, Earth Sciences, Microbiology and Immunology, Surgery, Community health and Epidemiology, Biology, Psychiatry and the Collage of Pharmacy. In addition collaborative projects are also being conducted with the following external institutions, University of California-San Francisco, Laval University, University of London U.K., University of Gothenburg Sweden, in addition we hope to continue collaborative research with Ken Zakariasen at Marquette University.

**The 1993 IADR
25th Anniversary
of the presentation
of our first Abstract.
We also present our
225th abstract.**

Eighty five years of Faculty Milestones

- 1908** Maritime Dental College Founded.
- 1959** New Dental Building Officially Opened.
- 1959** First NRC Research grant award.
- 1968** First IADR Abstract presented.
- 1969** First Health & Welfare (NHRDP) grant.
- 1976** First MRC Major Equipment Grant.
- 1979** New Division of Dental Biomaterials Science established.
- 1979** 25th IADR Abstract presented.
- 1986** 50th IADR Abstract presented.
- 1987** Dental Research Development Office established.
- 1988** First MRC Programme Grant.
- 1988** Total of federal research funding passes \$ 1 million.
- 1988** First IADR Distinguished Scientist Award for Dalhousie University.
- 1988** Appointment of first professional epidemiologist in the faculty.
- 1989** 100th IADR Abstract presented.
- 1990** First Canadian award of the David B. Scott IADR Student Scholarship.
- 1991** Total of federal research funding passes \$ 2 million.
- 1991** 150th IADR Abstract presented.
- 1991** First MRC Development Grant

- 1991** Establishment of First Microbiology Research Lab.
- 1992** Total of federal research funding passes \$ 3 million.
- 1992** First Dalhousie President of CADR.
- 1992** 200th IADR Abstract presented.
- 1992** First MRC University/- Industry Grant
- 1992** Record submission of 35 abstracts to single meeting of IADR.
- 1993** First University/Industry Chair in Biomaterials.
- 1993** First joint research meeting of CADR & IADR to be held.
- 1993** 225th IADR Abstract to be presented.

An Abstract Analysis

Nine of our abstracts presented at the IADR meeting did not mention using any statistical methods. Eleven of the 35 abstracts mentioned using the following eleven statistical methods:- t, test, ANOVA, Duncan's Multiple Range, Regression Analysis, Pearson's Correlation, Z test, RIDIT, Sheffé F test, Student-Newman-Keuls Rank order, Wilcoxon two sample test, and Cohen's Kappa. Twenty-two of the 35 gave P values, twenty-one gave n values, six gave mean and standard deviation. It is clear that not all of our research easily lends itself to statistical analysis. However, we should make sure that if the data is capable of being statistically analyzed we should conduct an analysis. However, we should not as Andrew Lang once put it, "use statistics as a drunken man uses a lamp posts for support rather than for illumination." If analysis has been conducted but not reported in the abstract we are doing a disservice to the quality

of the reported data. If at all possible we should aim to mention the type of statistical method used, the number of observations (n value), the mean and standard deviation and if nothing else at least the P value should be given. It is of course very important that the correct type of statistical methods be used for the analysis of your data. It may be that your study can only use descriptive statistics, or it is possible that you can use inductive or inferential statistical methods to test a hypothesis. Should you use parametric statistical tests in which your data must conform to a normal probability curve? Perhaps you should use the less powerful nonparametric tests which make no assumptions concerning the shape of the distribution curve. The use of statistics are an essential and vital tool to the scientist who is dedicated to the establishment of truth. H. G. Wells, once remarked that, "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write." An evaluation of 62 papers published in the well-respected British Medical Journal in 1977¹ found that 32 papers had statistical errors, of which 18 were rated as 'serious'. Five papers made claims which were unsupported on re-examination of the data. The errors were not errors of statistical technique, but rather errors in the selection and use of statistical techniques, and in the interpretation placed upon the results obtained.

Reference:

- 1) Gore S. M., Jones I. G. and Rytter E. C. "Misuse of Statistical Methods: Critical Assessment of Articles in BMJ from January to March 1976. Br. Med. J. 1977; 85-87.

Positive Result ?

"If your experiment needs statistics, you ought to have done a better experiment."

Lord Rutherford.

Research Driven by Excitement

At the MRC National Strategic Planning Conference held last May in Ottawa it was surprising to find that only 86% of the participants agreed or strongly agreed that funding of universities in Canada has reached the level of a national disgrace. It has to be agreed that research has suffered significantly because of lack of funding. However, competition for diminishing funds can be a stimulus to collaborate with colleagues or industrial partners in joint ventures. Collaboration has benefits which derive from the sharing of expertise, facilities and equipment. It was suggested at the MRC conference that "there seems to be a tension between the priority of investigator-initiated research, and the need to respond to the needs of the provincial governments and industry, and the team orientation." It should be remembered that you cannot direct people to move in a specific direction in terms of research. Funding is important, having sufficient time is also important, however, Dalhousie, History Professor Peter Waite, said it all when he stated that "Researchers are driven; they are driven not just by a sense of duty, or by being paid to do what they do; they are driven by excitement." However, it is also true that our ability as teachers will be enhanced by knowledge gained through research and intellectual inquiry. Insights gained from research can lead to improved teaching and clinical treatments. We should also note the statement of Professor Donald Betts another of our Dalhousie colleagues who said "Teaching on the frontiers of knowledge, where most of Dalhousie's teaching occurs, can be done well by only those who are contributing to the advancement of that knowledge." It has been said in this publication

very many times, the major cost of conducting research is time. The willingness of faculty members to devote time to the building of their research career. This is often difficult when a balance has to be struck between family commitments and spending additional time away from the home. As Norman Mohl wrote in a recent edition of the JDR "most universities require faculty to engage in some aspect of research or scholarly activity in order to create new knowledge, new methods, or new insights. Dental faculty are not exempt from this expectation." The implementation of our new curriculum might on the one hand seem to put a restriction on the time and opportunity for research activity. However, once this new curriculum is underway it will undoubtedly provide us all with stimulation, motivation and ideas for research projects. Look on the bright side, life is not that bad after all. With the right approach to this stimulation and a more effective and efficient use of our time, we can perhaps undertake even more research and scholarly activity than previously. Our new science driven curriculum is going to provide a significant opportunity to conduct research to satisfy many questions relating to clinical and educational problems.

The Driving Force

"Creativity is also a driving force in research. The desire to be at the front. The desire to be competitive. To create and to make. And that inborn characteristic, a desire to leave behind some memorial to ourselves." Bob Fournier.

Knowledge

"Knowledge is change and accelerating knowledge-acquisition, fueling the great engine of technology, means accelerating change." Alvin Toffler.

25 Years Dalhousie IADR/AADR Abstracts

1968.....1	1981....3
1969.....1	1982....5
1970.....1	1983....3
1971.....2	1984....2
1972.....3	1985....1
1973....4	1986....8
1974....0	1987....9
1975....1	1988....28
1976....2	1989....27
1977....2	1990....32
1978....1	1991....17
1979....7	1992....42
1980....5	1993....35
TOTAL (1968-93) 242	

Two Plus Two = ?

"Two must be two of something, and the proposition "2 and 2 are 4" is useless unless it can be applied. Two dogs and two dogs are certainly four dogs, but cases may arise in which you are doubtful whether two of them are dogs. "Well, at any rate there are four animals," you may say. But there are microorganisms concerning which is doubtful whether they are animals or plants. "Well then, living organisms," you say. But there are things of which it is doubtful whether they are living organisms or not. You will be driven into saying: "Two entities and two entities are four entities." When you have told me what you mean by "entity," we will resume the argument."

Bertrand Russell.

25th Abstract Presenter?

Derek Jones is scheduled to present abstract # 1274 which is the 225th Dalhousie Abstract to be presented in the past 25 years. However, Ian Bennett who was to have presented abstract # 1011 may not be able to present his paper due to ill health. Thus the 225th abstract (#1468) will most probably be presented by Scott Green a 4th year student.