



Dental Research News

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Dalhousie Papers to be Presented

The following list of 17 researchers are going to be presenting papers at the International Association for Dental Research meeting in April.

J. R. BARRON
C. Bain
T. L. BORAN
L. M. DE LOREY
G. DOYLE
W. C. FOONG
G. C. HALL
B. B. HARSANYI
C. JOHNSON
D. W. JONES
W. K. LOBB
S. M. MACLEAN
D. A. PINK
N. L. POWER
A. S. RIZKALLA
F. SKULSKY
E. J. SUTOW

The total of papers accepted from our Dalhousie University Faculty of Dentistry is quite astonishing for our small size. Unquestionably we have an

established climate which is conducive to research and academic pursuits. If we also consider that a further 8 papers are also being given at the British Dental Research meeting by Haroun Shah and his group, and a further two papers at the Society for Biomaterials meeting in May, the future is indeed bright for Dalhousie University. Haroun Shah will be joining our faculty in July 1991. The abstracts being presented by Haroun's group were featured in last months Dental Research News.

Mercury and Teeth?

A recent media report dealt with a controversial problem of mercury and teeth. A hypothesis was put forward that the enigmatic smile of the Mona Lisa is an attempt to conceal teeth which had become blackened by mercury. It is suggested that the lady may have taken mercury to treat the problem of syphilis. However, no scientific data is available to support this claim.

Giving Science A Bad Name

In the June 1990 edition of the Dental Research News (Vol. IV, #6), under the heading "Aims and Objectives" comments were made about the warnings being put out by Bruce Ames to the effect that man-made chemicals are less harmful than natural compounds. It seems that the field of toxicology attracts comments from individuals which feed media sensationalism. This is as we are well aware also true in the case of the use of mercury and fluoride in dentistry.

We could perhaps gain some satisfaction from the reports which have been fueled by the comments in disciplines other than dentistry, which suggest that it could well be the fault of the media combined with the appetite of the public for sensationalism. The recent MITV news item dealing with dentistry on the 17th December demonstrated that the media cannot even be relied upon to spell your name correctly let alone get the important facts straight. The recent television program (CBS Sixty Minutes December 16th 1990) which had a segment dealing with dental amalgam was a clear example of media sensationalism. The clear message that there is no documented scientific evidence to show the

adverse effects from mercury in dental amalgam restorations, except in very rare cases of mercury hypersensitivity does not make exciting news for the media. The "60 Minutes" programme presented a very one-sided view in which only the two abstracts of research from Dr. Vimy and colleagues were highlighted, completely ignoring the research from Sweden which had studied the effects of amalgam fillings on the health status of 1000 and 1200 patients. The conclusions from the Swedish study were completely opposite to the thrust of the arguments put forward by the CBS TV programme. Pronouncements from Dr's. Ames and Vimy serve only to confuse the public and tend to give science a bad name. The following letter to the Editor was published in the **Globe and Mail** on November 8th:

Toxins in Food

"Bruce Ames, director of the Environmental Health Sciences Centre at Berkeley, Calif., claims among other things that there are natural pesticides and carcinogens occurring in a list of foods including apples, brussels sprouts, cabbage, carrots, cauliflower, celery and potatoes, according to a quote from the Financial Times of London (Social Studies Oct. 19).

If these naturally occurring toxins present such a threat to health it seems strange that the U. S. and Canadian Cancer Societies and a majority of health professionals, including dieticians and
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nutritionists, are urging Americans and Canadians to eat generous quantities of these foods, which are rich sources of the vitamin A precursor beta carotene, vitamin C and water-soluble fibre.

These nutrients are believed to protect against cancer. There are other nutrients that are naturally present in many of these foods, such as selenium and the sulphur-containing amino acids that are known to neutralize carcinogens. Furthermore, the human body has enzyme systems that also have a protective effect.

Even if such concerns regarding the presence of these naturally occurring toxins were to be taken seriously there is still no justification to add to the total burden of cancer-causing compounds by further contaminating the food supply with cancer-causing synthetic chemicals in the form of pesticides and their metabolites.

Dr. Ames' alarmist and ill-founded statements may give solace to the pesticide industry. However, they are not supported by many scientists inside and outside prestigious research centres such as the U. S. National Cancer Institute. Dr. Ames' contradictions serve only to confuse the consumer and give science a bad name.

*Croft Woodruff, Vancouver
Letter to the Editor,
Globe & Mail. Nov. 8th 1990.*

It is clear from the above letter that the controversy in dentistry related to mercury and to fluoride have similar problems to that of toxins in food. The answer has to be well controlled research programmes to address the areas of concern. The results from such research should be presented at scientific meetings in front of peers. Following this

the work should be published in a peer reviewed scientific journal in such detail which will permit other scientists to repeat the study in other institutions. The experiments need to be successfully confirmed by other investigators. Then, and only then, can a strong public education programme be put in place to correct the misinformation and anecdotal trivia which the media feeds upon. Science clearly has a responsibility to the public to keep them informed and to correct any errors of fact. Science should learn from the media episode involving "Cold Fusion," the simple conclusion is that science has to progress in a logical manner by peer review. This calls for a mature and responsible approach from the scientific community, science is self correcting, however, we must allow it to proceed in an appropriate and responsible manner. Dr. Vimy published papers in the J. Dent. Res. in 1985. In these papers he reported values of mercury given off from dental amalgam fillings as 19.85 $\mu\text{g}/\text{day}$, subsequent research by three other groups of investigators have shown these values to be significantly over estimated, they obtained values as low as 1.24 $\mu\text{g}/\text{day}$.

No linkage to ill health has ever been shown by any research.

Dalhousie Dental Researchers in Demand

Dalhousie University Dental Faculty researchers are in demand as speakers and resource people.

Wai-Choong Foong was an invited lecturer to the National University of Singapore during November 1990. Choong gave lectures entitled "Biocompatibility Testing of Dental Materials" and "Polymeric and Liposomal Drug Delivery Systems."

The massive media reaction to the CBS "60 Minutes" programme dealing with mercury provided Derek Jones with a hectic period in December. To-date Derek has responded to 25 interview requests, 6 television interviews, 10 radio interviews and 9 newspaper interviews, 22 of which were within a two day period.

Derek Jones has been invited to be MRC visiting Professor at the University of Alberta during February 1991.

Derek Jones is also a keynote speaker at the "10th International Symposium on Ceramics" in New Orleans May 31st - June 2nd 1991. Derek will lecture on the physical Properties of Ceramic and Composite Inlay Materials.

Dr. Robin Howell has been appointed to serve on the MRC Dental Sciences Committee.

Dr. M. Michael Cohen Jr. gave the prestigious 6th Sarnat Lectureship in bone biology at UCLA in November 1990. Michael also gave lectures on Craniosynostosis to Harold Slavkin's group at the University of Southern California, as well as lectures on sutural biology to the Oral and Maxillofacial Surgery and Orthodontic Departments.

In October Michael gave lectures on "Giant Cell Lesion Syndrome" and the "Elephant Man Revisited," at the Royal Dental College of Copenhagen and at the Rigshospitalet, and was a keynote speaker at the Danish Orthodontic Society. Michael Cohen was also a keynote speaker and Moderator at the 'Estudio Collaborative Espanola De Malformaciones Congenitas, held in Toledo Spain. Prior to the meeting Michael was a visiting Professor at the Facultad De Medicina, Universidad Complutense, Madrid.



SMILE

**Research Statistical
Definition:**

Alpha-coefficient: Equivalent
of an Italian sports car.

Literature Review

One of the most important aspects of conducting research is reviewing the related literature. Although the importance of this is constantly stressed many researchers fail to acquaint themselves with the literature related to the proposed area of study. It is common to find statements in research publications indicating that "no studies dealing directly with the subject under investigation have been published." However, what is usually deciphered from such statements is that the literature search was not comprehensive and it is likely that readers may then question the thoroughness of the research study itself.

The literature review in the case of a research grant application is particularly important. The review of previous research can be most beneficial to the investigator as well as to the research proposal, and to the progress of the research project. The literature review is intended to provide some very important functions which are critical to the quality of the research

Let us focus our efforts

Success in our overall Dental Faculty research programme ultimately rests with our ability to focus on specific

problems. We should identify specific goals and target our research to cover these areas. The more we are able to focus our efforts, the sooner we will develop a body of expertise for given topics. When the question -- 'Who knows the most about a particular dental problem?' -- is asked in Canada we want the answer to be "Dalhousie."

Imaginative

"If the generative act in science is imaginative in character, only a failure of the imagination a total inability to conceive what the solution of a problem might be could bring scientific inquiry to a standstill." Peter Medawar



SMILE

Research Statistical Definitions:

Anova: One egg.

Type I error: Making one mistake.

Type II error: Making two mistakez.

Raw scores: Data before being cooked by statisticians.

Biserial correlation:
Relationship between Wheaties and Rice Crispies.
