



Dental

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Stimulus & Challenge

Research Development Office, Phone: (902) 494-1675

FAX (902) 494-1634

E-Mail DWJONES@AC.DAL.CA

MRC Research Scholarships

Three students have been appointed as recipients of MRC Farquharson Summer Research Scholarships for 1995.

The three students will be working on the following designated projects approved by the Research Development Committee.

Joel Powell, "Isolation and Identification of Environmental Sensor Genes From *Streptococcus Mutans*." Faculty Supervisor Dr. S. Lee, Department of Oral Biology.

Paul McLaughlin, "Measuring Base Metal Alloy Percent Porcelain Retention by the Pulse Potentiostatic Method." Primary Faculty Supervisor, Dr. E. J. Sutow, Div. Biomaterials.

Darryl Smith, "Outcome Assessment of Orthodontic Treatment and Education Within an Undergraduate Orthodontic Teaching Programme." Primary Faculty Supervisor, Dr. K. Russell, Div. of Orthodontics.

MRC stipulates that the awards are only open to students in the top 20% of their DDS class. The purpose of the MRC Farquharson Summer Undergraduate Research Scholarships is to provide a sound research educational experience for the students and encourage our undergraduates as future clinicians to consider careers in medical or dental

research. Priority is given in selecting students with a proven academic ability as well as a perceived aptitude for research. The future applied scientists who will make up the profession of dentistry must seek out new knowledge in order to better serve mankind and contribute further to the body of our general knowledge.

This years 1995 MRC Farquharson Summer Undergraduate Research Scholarships are perhaps even more important and valuable, since the Faculty of Dentistry at Dalhousie has been able to persuade MRC not to reduce our quota of funding to support this programme. MRC will be keen to ensure that we have done a good job during the summer in using this valuable resource.

A Further Nine Projects Approved for Summer Research

1) TM Joint Loading as a Result of Occlusal Force. and

Spheno-Occipital Flexure and its Relation to Malocclusion in Cleft Lip/Palate and non-Cleft Patients. Drs. Precious, Gooday and Morrison.

2) Antibody-Targeted Liposomes Against Oral Pathogens. Dr. W. C. Foong.

3) Survey of Dental Community on How Non-Carious Cervical Lesions are Identified, Classified and Treated. and

Retrospective Study of Patients Treated in the Dalhousie Dental Clinic to provide Insight into Epidemiological Factors Associated with Non-Carious Cervical Lesions. Drs. Lyttle and Smith.

4) Chemical and Physical Properties of Experimental Bioactive Glasses Synthesized by Spray-Drying. Drs. Rizkalla and Jones.

5) The Effect of Low Level CO₂ Laser Radiation of Smooth Surface Enamel Surrounding Amalgam and Glass Ionomer Restorations. Drs. Boran, MacDonald and Price.

6) Establish the Relative Inhibition Activity of Chlorhexidine and Tetracycline on Selected Bacteria Commonly Found in HIV-Periodontitis Infections. Drs. Cunningham, Foong, Lee and Lyttle.

7) Development of Improved Posterior (SiO₂-Al₂O₃)/ (SiO₂-ZrO₂-Y₂O₃)/Resin Composite Materials. Drs. Jones and Rizkalla

8) Validation of a Laser Aiming Device for Radiographic Central Ray Realignment. Drs. Chaytor, K. Russell and L. Russell.

9) Oral Health Survey—Residents of Mount St. Vincent Motherhouse, Outcomes Assessment. Drs. MacDonald, MacInnis, Ismail and Foong.

CLINICAL RESEARCH
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SUCCESSFUL CLINIC RESEARCH DAY

A Clinical Research Day was held in the Faculty of Dentistry on 12th April 1995. The Clinical Research Day, commenced with a short introduction by Derek Jones who said it was pleasing to see that a total of 29 individuals had registered for the event. Dean MacInnis was thanked for his support of the programme. It was pointed out that the purpose of the Clinical Research Day was aimed at stimulating clinical research in the Faculty of Dentistry. It was emphasized that in order to conduct research we need four key elements:

1) **Enthusiasm and interest;** by attending the Clinical Research Day 29 individuals demonstrated their enthusiasm and interest.

2) **Skills— which can be applied to a research topic—** we all possess some skills as a result of our professional training and education as either clinicians or basic scientists.

3) **Time to conduct the research;** which is perhaps the most important, and finally -

4) **Funding—** surprisingly this is not as important as the other three. Nevertheless some funding is often necessary. Derek Jones pointed out that the Faculty currently have over \$6,000 in MRC Discretionary funds (the last of this funding available due to cancellation of the programme) and a further amount of Alumni funding which together provides faculty members with over \$34,000 in research support for the ideas which may be stimulated by the Clinical Research Day programme.

Derek Jones mentioned that the Faculty of Dentistry were honored to have two very distinguished guests participating in the Clinical Research Day, Dr. Richard Goldbloom and Dr. Norman Mohl.

Clinical Trials Atlantic Corporation

Derek Jones pointed out that for the past two years the Faculties of Medicine and Dentistry together with colleagues in the hospital sector have discussed the prospect of developing a clinical trials umbrella unit. A unit which could interface with the commercial sector. This was partly stimulated by the legislation dealing with extending the patent protection for certain drugs. In return drug companies were to provide funding to Canadian research groups in projects aimed at evaluating and developing new drugs. Derek Jones in his introduction of Peter Thompson, Chief Executive Officer of the "Clinical Trials Atlantic Corporation." said that he was very pleased that Mr. Peter Thompson of the "Clinical Trials Atlantic Corporation could find time to visit and say a few words about the CTAC. It was pointed out that Peter only came to his position from industry one month ago. Derek also reminded the group that the Faculty of Dentistry had made application to join the new Corporation. Peter Thompson was invited to say a few words to provide an idea of what the "Clinical Trials Atlantic Corporation was all about. Peter Thompson explained that a focused approach to contacting the corporate sector of the drug industry provides a one stop shopping concept for the industry in dealing with the necessary expertise in the biomedical research sector in Atlantic Canada. It was emphasized that the new corporation would provide a valuable resource for the Faculty of Dentistry. Derek Jones thanked Peter and said that the Faculty of Dentistry looked forward to working closely with him in developing dental clinical trials during the next few years.

Richard Goldbloom

Dr. Amid Ismail was called upon to introduce Dr. Goldbloom. Dr. Goldbloom's many accomplishments were emphasized. Particularly his work involving the development of National Guidelines for Clinical Trials. Richard Goldbloom provided an excellent start to the research day with a presentation which contributed a strong and unassailable argument in favour of the need to conduct clinical research. Numerous examples were presented which illustrated that dogma and the status quo have been found by research to not be valid. Another aspect of Richard Goldbloom's presentation was the financial aspect in some segments of health care. He questioned the economics of conducting expensive mass screening tests for various health problems in which only a very small percentage of the individuals may be detected with problems. Many examples were provided illustrating the fact that certain surgical procedures have traditionally been routinely conducted in spite of the fact that they do not have any beneficial effect or advantage. It was pointed out that while it is clearly unacceptable for clinical procedures to be routinely conducted in the absence of research verification of the advantages of the procedure, it is unethical and unacceptable for procedures to be routinely used when the research data has clearly shown that the procedure has no advantage to the health of the patient. While the examples given by Dr. Goldbloom dealt with various medical problems such as cholesterol, rather than dental problems, the message however, was very clear, we must question the clinical dogma by conducting well controlled scientific studies.

Examples of Clinical Research

Following a brief break for lunch. Three examples of clinical research were presented:

- 1) Reg Goodday, "Incidence of Mandibular Fracture in 1256 SSO: with and without impacted third molar teeth.
- 2) "Barry Pass "Radiotherapy Doses for Treatment of Intraoral Tumors Retrospectively Measured by Electron Spin Resonance in Dental Enamel."
- 3) David Precious. "Bone Stock after Primary Alveolar Grafting in Cleft Lip/Palate Patients."

Dr. John Lovas kindly volunteered to present his paper "Oral Sign of Lung Disease" on another occasion due to the fact that the programme was running slightly late. John's paper will be presented for faculty during a special lunch time research session.

Position Viewpoints

Amid Ismail presented a controversial position viewpoint to promote discussion. "Should All Clinicians Be Involved in Research?" Richard Price also presented a further viewpoint to stimulate discussion. "How Can Clinicians Participate in Clinical Research?"

Dr. Norman Mohl was introduced by Derek Jones. Norman Mohl earned his DDS at the School of Medicine University of Buffalo and MA and PhD degrees in the Department of Anatomy at the same institution. It was pointed out that in addition Norman also served in the U. S. Navy Dental Corps, following which he spent a short time in private practice. He served for 11 years as Associate Dean for Academic Affairs in the School of Dental Medicine at SUNY Buffalo.

Dr. Mohl is currently Professor and Chairman of the Department of Oral Diagnostic Sciences at SUNY Buffalo. Dr. Mohl is also Programme Director of an NIH funded post doctoral research training programme entitled "Multidisciplinary Research in Orofacial Pain and Sensory-Motor Dysfunctions." He is a consultant to the NIH, FDA and ADA. He is also past president of the Neurosciences Group of the IADR. He was co-Chair and moderator of the first and second Educational conferences TMJ Disorders and Orofacial Pain. Dr. Mohl is senior editor of a Textbook of Occlusion.

Derek Jones pointed out that Norman Mohl has strong Canadian connections since he is also co-editor with George Zarb, Gunnar Carlsson and Barry Sessle of TMJ and Masticatory Muscle Disorders which has recently been published.

Dr. Norman Mohl is author of a significant number of research publications and has lectured and presented many papers throughout the world. Derek Jones made the point that with this excellent background we are indeed fortunate to have Dr. Mohl visit us at Dalhousie to present a Workshop on Clinical Research. Norman Mohl was said to be eminently suited to the task.

Dr. Mohl's opening presentation set the scene for the workshop. Norman Mohl made the strong point that Dental Faculty members as part of the University sector have an obligation to conduct some form of scholarship in order to either create new knowledge or to understand, orchestrate and utilize the knowledge created by others in the teaching of the subjects in dentistry. Some discussion took place following Dr. Mohl's presentation. The new mandate of MRC encompassing clinical outcomes

was mentioned. The old conflict between classical basic research and applied research in the university setting was alluded to. The question was raised where do the new concepts and innovations come from if we have no basic research? Clinical trials are required to evaluate new ideas and materials which have been developed from basic research areas.

Workshop

The participants were divided up into three groups for discussion of topics presented to them by Norman Mohl. These gave an opportunity for many to get pet peeves off their chest. A full report of the deliberations of the workshop is being transcribed to be circulated to the Faculty. Just prior to the final wrap-up discussion session a light supper was enjoyed by the participants. This provided a further opportunity for additional informal and friendly discussions.

One point made during discussion was that the dental profession often do not see the advantage of research conducted, they can only identify with the research which has immediate effect and application in their daily practice. In the final review of the workshop Norman Mohl made the point that the most important requirement for any faculty members who claim that they wish to conduct research was MOTIVATION. The relationship between scholarship and tenure and promotion guidelines was also reviewed by Norman Mohl. Dr. Mohl held up a mirror to let us see ourselves. The consensus was that it had been a very successful day.

Insight

"Whoever profoundly understands a superficial part of life necessarily gains metaphysical insight along with it."

Keyserling