

# Opportunities and Challenges for Academia and the Profession: The Role of the Canadian Association for Dental Research

Canada has a rich tradition as an international leader in oral health research, which historically has concentrated in 6 areas: biomaterials, connective tissue biology, epidemiology, growth and development, microbiology and neuroscience.<sup>1,2</sup> The Canadian Association for Dental Research (CADR) is a non-profit organization that promotes research for the improvement of oral health in Canada, and is a division of the International Association for Dental Research (IADR). With over 200 full-time members and an additional 60 student members, CADR is the only organization to represent the dental research community in Canada. CADR works with all 10 Canadian faculties of dentistry, CDA, the Canadian Institutes of Health Research (CIHR), IADR and other partners to support the Canadian oral health research community and facilitate the communication and application of their research findings.

## What Does CADR Do?

CADR is involved in a wide-range of activities. Here are a few highlights of CADR's activities in 2006–2007:

- CADR sponsored a well-attended meeting and reception during its 31st annual meeting in New Orleans, Louisiana, held March 21 to 24, 2007, in conjunction with meetings of IADR and the American Association for Dental Research (AADR). The joint IADR/AADR/CADR scientific meeting was also a great success.
- At the New Orleans meeting, CADR conducted a planning session to develop a 5-year strategic plan. The workshop engaged partners from academia, government, professional organizations and the private sector. The goal of the plan is to position CADR to respond more effectively to the needs of its members and partners. CADR identified the following 6 priority areas in its strategic plan: 1) establishing collaborations and partnerships; 2) representing membership nationally and internationally; 3) building capacity in academic dentistry and oral health research; 4) serving CADR's members and partners more effectively; 5) communicating internally and externally; and 6) updating CADR's structure and management.
- CADR launched its official website: [www.cadr-acrd.ca](http://www.cadr-acrd.ca)
- 6 Canadian trainees were awarded CADR-Institute of Musculoskeletal Health and Arthritis (IMHA) student research awards, allowing them to present their findings to the international dental research community in New Orleans. Recipients of the awards in 2006–2007 were Maryam Fathimani and Limor Avivi-Arber (University of Toronto), Corey Felix (Dalhousie University), Andrew Guzi (University of Western Ontario) and Maryam Amin and Mario Brondani (University of British Columbia).
- CADR selected Mr. Amer Muhammad Hussain (University of Alberta) to receive the IADR David B. Scott Fellowship.
- A local organizing committee was established for the joint meeting of the IADR/CADR in Toronto, Ontario, from July 2 to 5, 2008. This committee operates under the dy-



Dr. Jeff Dixon, president of the Canadian Association for Dental Research

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## Successes in Canadian Oral Health Research

Oral health researchers in Canada are making tremendous advances. The following are a few highlights of the many outstanding oral health research projects currently being conducted in Canada. Prospects for the future are exciting, as these and other discoveries are translated into clinical practice to benefit both the Canadian public and the dental profession.

Dr. Simon Tran is a Canada Research Chair in Craniofacial Stem Cells and Tissue Engineering in the faculty of dentistry at McGill University. Patients with xerostomia produce inadequate levels of saliva, leading to chronic dry mouth, difficulty swallowing, severe tooth decay, oropharyngeal infections and mucositis. Dr. Tran's research is aimed at providing effective treatments for patients with salivary gland dysfunction by using stem cells that are obtained from the patients' own tissues.

Dr. Michael Glogauer, a CIHR New Investigator from the faculty of dentistry at the University of Toronto, has developed an oral rinse assay that enables non-invasive monitoring of a patient's innate immune system. This novel approach enables physicians to monitor engraftment and susceptibility to infection in patients undergoing bone marrow transplants. A second version of this oral rinse test also shows promise as a diagnostic tool for identifying patients at risk of periodontal disease.

Dr. Joy Richman, a Michael Smith Distinguished Scholar in the faculty of dentistry at the University of British Columbia, investigates the causes of cleft lip and other facial deformities. Cleft lip, with or without cleft palate, is a common birth defect thought to be caused by an interaction of genetic and environmental influences. Dr. Richman uses animal models, particularly chicken embryos, to obtain unique insights into the molecular regulation of the craniofacial complex. Such knowledge is essential to devise strategies for the prevention of cleft lip and other developmental anomalies.

namic leadership of Dr. Chris McCulloch from the faculty of dentistry at the University of Toronto (see announcement on page 776).

- CADR facilitated a successful application to the IADR Regional Development Program. The goal of this program is to promote oral

health research worldwide, especially in regions with less developed research capacity. An international team, led by Dr. Jocelyne Feine of McGill University, received funding for its proposal entitled "Workshop on Oral Health Assessment in India: An Initiative for Planning."

- CADR continued to promote the importance of oral health research to CIHR. CIHR is the primary funding agency for dental research in Canada and provided \$5.7 million for oral health research in 2005–2006.

Even more activities are planned for the future, as additional elements of CADR's strategic plan are implemented.

## Opportunities and Challenges for Oral Health Researchers and the Dental Profession

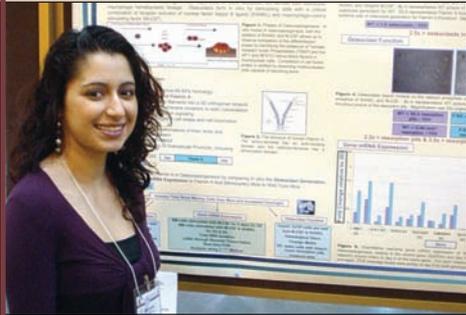
Many patients today expect to retain their teeth for a lifetime. This expectation, together with a longer lifespan and greater numbers of medically compromised patients, represent both a challenge and an opportunity for the dental profession and oral health researchers. Similarly, there is growing recognition of links between oral infections, particularly periodontitis, and systemic conditions such as cardiovascular disease and poor birth outcomes. Understanding these links and appropriate clinical responses are urgent issues for dental research.

Recent scientific and technological breakthroughs now permit us to address complex diseases including oral infections, oral cancer, craniofacial malformations, temporomandibular disorders and neurological diseases in ways not previously possible. To effectively meet these challenges, we need to develop transdisciplinary research teams with expertise in social, behavioral, clinical and biological sciences. Particularly important are the effective transfer and exchange of knowledge among dental researchers, educators, practitioners and the public.

Perhaps the most critical challenge we face today is the shortage of academic dentists.<sup>3,4</sup> Because of this shortage, the future of oral health research is in jeopardy, a particularly ironic situation given that we have never before been so well positioned to make such rapid progress in dental research. It is time for the dental professions to work together with the Canadian faculties of dentistry, CIHR, governments and CADR to address the critical shortage of dental academics and researchers.



Members of the CADR executive with the scientific director of the CIHR Institute of Musculoskeletal Health and Arthritis (IMHA) at the opening ceremonies of the 2007 IADR/AADR/CADR meeting in New Orleans. From left: Dr. Jeff Dixon, CADR president; Dr. Jane Aubin, scientific director, IMHA; Dr. Harvey Goldberg, CADR secretary-treasurer; Dr. Don Brunette, CADR past-president; Dr. Gilles Lavigne, CADR president-elect; and Dr. Ed Putnins, CADR vice-president.



Maryam Fathimani, a dental student at the University of Toronto, was awarded first place in the junior category of the 2006–2007 CADR–IMHA Student Research Awards. Ms. Fathimani presented her research at the 2007 IADR/AADR/CADR meeting in New Orleans, where she represented Canada in the IADR/Unilever Hatton Awards Competition.

## Why Should Dental Professionals Join CADR?

The CADR executive invites all Canadian dental professionals to join CADR and IADR. By joining, you will be part of the 11,000 IADR members worldwide working actively to promote oral health research. You will be able to take advantage of the many benefits that CADR/IADR membership offers, including:

- discounts on registration fees for the 2008 IADR/CADR meeting in Toronto
- a discounted subscription rate for the *Journal of Dental Research*, the highest ranked among all peer-reviewed dental journals worldwide

- Global Research Update, a monthly members-only email update
- access to the IADR Online Career Centre
- membership in IADR scientific groups
- volunteer and leadership opportunities
- networking opportunities with the best oral health researchers in Canada and the world.

We hope to see tremendous participation by Canadian dental professionals in the July 2008 IADR/CADR meeting in Toronto. The IADR meeting is hosted by Canada only once every decade. Canadian dentists are invited to take advantage of this opportunity to broaden their horizons and interact with the best dental researchers in the world.

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