



## DIRECTOR'S WELCOME

Dear Colleagues

Welcome to our second newsletter for 2007. I would like to take this opportunity to update you on our activities for the year and announce some of our plans for 2008.

Research activity continues to be a major priority and focus of the Centre. Staff members have again been successful in obtaining funds to support a wide variety of projects from the NH&MRC, ADRF and industry. Staff and students are continuing to produce a number of high quality publications.

The Continuing Education activities of the Centre continue to be an important part of our activities. We are still the principal provider of continuing professional education courses for dentists and allied oral health professionals in South Australia.

In keeping with our commitment to providing resources for postgraduate students in clinical training programs, the Centre provides the services of its staff and facilities for periodontics and prosthodontics postgraduate students to undertake implant treatment. This provides an essential part of their specialty training.

Provision of clinical services provides the bulk of our revenue. These activities also provide the added benefit of access to patients for several of our clinical trials, equipment and product testing. This year has seen continued growth in this area.

I am pleased to be able to acknowledge the dedication and hard work of our staff. We are fortunate to have an excellent group of individuals with a broad spectrum of talents and abilities. Their professionalism and commitment are paramount to the ongoing success of the Centre. I would like to record my thanks and appreciation to all of the staff for their ongoing support.

Last, but by no means least, I am very excited to report that a new agreement for continuing funding of the Centre

by Colgate for the years 2008 - 2012 has been completed and signed. The level of funding has been increased from our last round and this will be very important to our ongoing development of the Centre. I would like to formally recognise and thank Colgate for this support and the confidence they have in the Centre to continue this very significant partnership.

Mark Bartold

Director

December 2007

## CENTRE GRANT SUCCESS

The Centre has recently been advised of success in the application for funding from the Australia Dental Research Foundation. The following grants were awarded:

An assessment of osseointegrated dental implants following 12 years of service.

PM Bartold, J Abbott

Expression of tumor necrosis factor like weak inducer of apoptosis (TWEAK) and its receptor Fn14 in normal and inflamed periodontal tissues.

PM Bartold, N Kataria, D Haynes

Influence of smoking on molecules associated with bone resorption in human gingival crevicular fluid.

PM Bartold, T Tang, T McNamara

Proteomic assessment of mesenchymal stem cells within ovine periodontal ligament and dental pulp.

PM Bartold, K Mrozik, P Zilm, S Gronthos

## RESEARCH ACTIVITIES

Work continues in the following research projects:

*National Health & Medical Research Council*

- Allostatic mediators of socioeconomic inequalities in periodontitis among Australian adults
- Periodontal ligament stem cells
- Regulation of osteoclasts in bone pathologies

#### *Australian Dental Research Foundation*

- Proteomic assessment of mesenchymal stem cells within ovine periodontal ligament and dental pulp
- The investigation of proteins in gingival crevicular fluid as a basis for disease diagnosis
- The effect of omega-3 polyunsaturated fatty acids on experimental periodontitis
- Measurement of fluoride content in infant formula powders
- The effect of simulated dentine tubule fluid on remineralisation of demineralised dentine

#### *Nobel Biocare*

- Importance of surface roughness and shape on microdamage of the osseous surface adjacent to osseointegrated implants

#### *Straumann*

- Attachment of stem cells to Emdogain treated bone ceramic material

#### *ITI Foundation, Switzerland*

- Histological and metallurgical analysis of dental implants following 12 years of service

#### *Faculty of Health Sciences Research Infrastructure Block Grants*

- The enamel ultrastructure and adhesive bonding of single step self-etching dental adhesives
- Development of an early in vivo warning system for enamel demineralization-feasibility study
- The development of molecular biology and nucleic acid techniques to identify pathogenic oral micro-organisms
- DNA extraction from buccal cells - A pilot study to examine the feasibility of using current school facilities
- Proteomic identification of novel membrane proteins on mesenchymal stem cells within ovine periodontal ligament and dental pulp tissue
- Effect of *Porphyromonas gingivalis* inflammation on development of rheumatoid arthritis
- Diabetes and periodontal health

### **CLINICAL RESEARCH FACILITY USE**

Clinical research continues to be an integral part of the Centre's daily activities. Our facilities provide an excellent purpose built venue for a range of clinical trials and research projects. Our facilities are currently being used for the following projects:

- Halitosis assessment using the OralChroma
- Straumann Osstell Clinical Trial  
Professor Bartold

- Mechanisms of bone resorption in periodontal disease
- Periodontal stem cells for periodontal regeneration  
Professor Bartold and colleagues
- Oral epidemiology of 45 and 54 years olds  
Professor Spencer and ARCPOH colleagues
- 3M/ESPE Filtek Supreme Clinical Trial  
Dr Koutsikas, Dr Lipapis
- Understanding the mechanisms of periodontal bone loss  
Dr Kataria
- Influence of smoking on bone resorbing molecules in human gingival crevicular fluid  
Dr Tang
- The investigation of proteins in gingival crevicular fluid as a basis for disease diagnosis  
Dr McNamara

### **CONTINUING EDUCATION 2008**

Courses for 2008 have now been finalised. We have another exciting program to present, of which highlights will include:

#### *The Dental Board's Big Day Out - Friday 16 May*

The theme for the 2008 Dental Board's Big Day Out is "Four Quadrants of Dentistry".

Four concurrent streams for Hygienists/Therapists, Dentists, Dental Technicians/Prosthetists and Dental Assistants will cover a very broad range of topics - all relevant to every day practice. 20 speakers will present an array of topics, covering some of the most important aspects of practice.

We already have 25 dental industry companies committed to attending which will make the trade display one of the most valuable opportunities this year.

#### *Graham Mount Oration - Friday 16 May*

Following the Dental Board's Big Day Out, Dr Tom Wilkinson will deliver the 2008 Graham Mount Oration. Tom is well known to all South Australian dentists and I am sure you will agree with me that Tom is certainly an excellent choice for this very prestigious oration.

#### *Colgate Eminent Lecturer Series - Wednesday 17 September*

Our speaker for the Colgate Eminent Lecturer Series for 2008 will be Professor Ray Williams from the University of North Carolina. Professor Williams is a very highly regarded periodontist who has lectured extensively around the world. He is a very entertaining and erudite speaker and I recommend him highly.

In addition to our regular clinical courses we will also be running three extended implant courses in which

attendees have the opportunity to participate in the placement and restoration of an implant in patients. Each course will focus on a different implant system; Nobel Biocare, Straumann and Biomet 3i.

Day courses will be presented on topics including:

Orofacial pain management - Dr Alex Moule  
Aesthetic dentistry: Practical, predictable and profitable - Dr Michael Mandikos

Endodontics: Recent developments in preparation, obturation and re-treatment - Associate Professor Peter Cathro

New directions in implantology - Dr Gerry Clausen, Dr Michael Danesh-Meyer, Professor Saso Ivanovski, Dr Peter Russell

### VISITORS TO THE CENTRE

The Centre continues to attract a large range of visitors. Some of the visitors since last Newsletter are listed below:

14 May	Ms Alison Boylen Neoss Australia
13 June	Mrs Christina Bickerstaff Nobel Biocare
20 June	Ms Joanne Stokes Biomet 3i
14 August	Ms Renee Lampreia Mr Hyll Coraj Nobel Biocare
10 September	Ms Jo Nayda Straumann Australia
10 September	Professor Alfred Polous Mr Andrew Tucker Diabetes Therapeutics Limited
13 September	Howard Pogorelsky Henry Schein Halas
11 October	Mr Mark DeNichilo Dr Tim Rayner Dr Paul Wabnitz TGR Biosciences
16 October	Mr Andy Hartzell G. Hartzell & Son, United States

22 October	Ms Julie Butcher Dentsply
26 October	Professor Alfred Polous Diabetes Therapeutics Limited
26 October	Professor Grant Sutherland Department of Paediatrics, University of Adelaide
7 November	Mr Brenton Woore Henry Schein Halas
7 November	Mrs Judy Goode Hu-Freidy

### SEMINARS HELD IN THE CACDRC IN 2007

Fortnightly seminars are held at the Centre on a wide range of clinical and research topics by researchers, clinicians and students. All are welcome to attend. The following seminars were held in 2007:

2 April	Mr Kostas Kapellas (BOH Honours Student) Diabetes and periodontal disease – The collaboration between CACDRC, ARCPOH and QEH.
16 April	Dr Sharon Liberali (DClinDent Special Needs Student) The use of implant retained mandibular prostheses in the oral rehabilitation of head and neck cancer patients.
30 April	Dr Yuh Hasegawa (Visiting Scholar, Nippon Dental University, Japan) Dental education in Japan.
14 May	Dr Ni-Hung Lin (BDS Honours Student) Identification of putative stem cells in regenerating human periodontal tissues and cadaver tissues.
28 May	Dr My Anh Vu Thanh (PhD Student) Changed calcium profiles in demineralized dentine following indirect pulp capping.
27 August	Ms Jacty Chew (PhD Student). The effects of environmental pH on <i>Fusobacterium nucleatum</i> biofilms.

3 September  
Professor Lindsay Richards (School of Dentistry).  
100 years of tooth wear research in Adelaide.

8 October  
Associate Professor Peter Cathro (School of Dentistry).  
Pitfalls in research on obturation techniques.

22 October  
Professor Peter Howe (Nutritional Physiology Research  
Centre, University of South Australia).  
Circulatory mechanisms mediating health benefits of  
bioactive nutrients.

## STAFF

### CACDRC Academic and Research Personnel

Prof Mark Bartold	Director
Assoc Prof John Abbott	Student Supervision and Materials Research
Dr John McIntyre	Student Supervision and Materials Research
Dr Naohisa Wada	Postdoctoral Researcher
Mr Krzysztof Mrozik	Research Assistant
Dr Tracy McNamara	Research Assistant

### CACDRC Associate Research Staff

Dr Graham Mount	Materials Research (Honorary)
Dr Neville Gully	School of Dentistry
Mr Victor Marino	School of Dentistry
Mr Peter Zilm	School of Dentistry

Dr David Haynes	Department of Pathology
Professor Nick Fazzalari	Institute of Medical & Veterinary Science
Dr Stan Gronthos	Institute of Medical & Veterinary Science

### CACDRC Visiting Clinical Staff

Dr Peter Koutsikas	General Practitioner
Dr Desi Lipapis	General Practitioner
Dr Teck Tang	General Practitioner
Assoc Prof John Abbott	Restorative Dentistry/Implants
Dr Sam Chen	Periodontics
Dr Robert Hirsch	Periodontics/Implants
Dr Manuv Suri	Prosthodontics/Implants
Dr Khashayar Nassery	Endodontics
Dr Lukas Tsakalos	Radiology
Mrs Denice Hunt	Hygienist

### CACDRC Support Staff

Catherine Ofler	Director's Assistant
Jane Burns	Senior Dental Assistant
Julie Rossi	Senior Dental Assistant
Dee Rapaic	PGCD/CUSP Administration
Laszlo Perger	IT Services Consultant
Janet Haar	Dental Assistant
Debbie Hanney	Dental Assistant
Valentina Knezevic	Dental Assistant
Lydia Nguyen	Dental Assistant
Ina Peluso	Dental Assistant
Hannah Richards	Dental Assistant



The CACDRC Stem Cell Research Group. L to R; Mr Peter Zilm, Ms Danijela Menicanin, Mr Krzysztof Mrozik, Dr Stan Gronthos, Professor Mark Bartold, Mr Victor Marino, Dr Naohisa Wada