

CURRICULUM VITAE

PROFESSOR FJELDA ELIZABETH MARTIN
BDS (Hons), MDS, PhD, FRACDS, FPFA, FADI, FICD

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Tertiary education: Bachelor of Dental Surgery, Class II Honours, 1976, University of Sydney
Master of Dental Surgery, 1981. University of Sydney.
Fellow of the Royal Australasian College of Dental Surgeons, 1981.
Doctor of Philosophy, 2002

PROFESSIONAL EXPERIENCE

1976 - 86 One day per week general private practice.
1987 -2016 One day per week general practice for the Australian Defence Force.

APPOINTMENTS since 2002

2002- Examiner of Overseas Trained Dentists, Australian Dental Council
2006-12 Tenured full-time Associate Professor
2009- Accreditation Committee Chair /Member and Independent Review Committee member,
 Australian Dental Council
2009- Chair, Tooth Conservation
2009-18 Registrar, General Dental Practice, Royal Australasian College of Dental Surgeons
2010 & 2015 External examiner and Curriculum review for BDS program, Year 5. University of Malaya.
2011 Postgraduate curriculum review Universiti Sans Malaysia
2011-Jan 2019 Associate Dean Learning and Teaching; School Academic Leader (Education)
2013-15 Associate Professor, appointment at 0.8
2016- Professor, appointment at 0.8
2017 Academic Lead, Faculty of Dentistry ADC Accreditation of the DMD program
2019 Member of Council, Royal Australasian College of Dental Surgeons
2019 Executive Committee, Dental Alumni Society of the University of Sydney

RESEARCH ACTIVITY

Areas of research activity undertaken have included studies of the physical properties and microleakage of composite resins, bonding to enamel and dentine, efficiency of halogen light curing units, the physical properties and antibacterial potential of glass-ionomer cements, analyses of microbial populations associated with carious pulpitis, surveys of frequency of longevity and replacement of restorations provided at WCOH by staff and dental students. More recently the oral health quality of life of children with cerebral palsy in a low resource setting and antibiotic

resistance of oral microbiota in children through PhD research supervision.

PUBLICATIONS

Books

- FE Martin** Marginal leakage and adaptation of composite resin restorations. Master of Dental Surgery thesis. University of Sydney, 1981.
- FE Martin** Analyses of microbial populations associated with carious pulpitis. Doctor of Philosophy thesis. University of Sydney, 2002.

Chapter in book

- FE Martin** Environmental risks to dental staff and dental patients. In: Restoration of the single tooth. Editors: G. Mount and R W Hume. 1998; Mosby International Ltd.
- R Akhter, NMM Hassan, M Nadkarni, **FE Martin**, G Khandaker.
Oral Health in Children with Cerebral Palsy, 2019, Intech Open Access.

Patent

- 2007 Australian Patent Application No. 2001276180 titled "A method of detecting microorganisms" As of 2012, now registered in 20 countries.

Refereed publications

1. **FE Martin**, RW Bryant. Acid etching of enamel cavity walls. Aust Dent J 1984; 29 (5): 308-14.
2. **FE Martin**, RW Bryant. Adaptation and microleakage of composite resin restorations. Aust Dent J 1984; 29 (6): 362-70.
3. N Andrews, **FE Martin**. Marginal seal of cervical tooth - coloured restorations. Aust Dent J 1989; 34: 363-364.
4. ED Kingsford Smith, **FE Martin**. Acid etching of a glass ionomer cement base: SEM study. Aust Dent J 1990; 35: 236-240.
5. **FE Martin**. The potential for microleakage of restorative materials. Aust Dent J 1990; 35: 370-371.
6. **FE Martin**. Composite resin inlays - chairside or laboratory fabrication. Aust Prosthodont J 1990; 4: 13-18.
7. **FE Martin**. The composite resin inlay as an alternative to amalgam. NZ Dent J 1991; 87: 43-45.
8. **FE Martin**, M O'Rourke. Marginal seal of cervical tooth-coloured restorations. Investigation of placement techniques. Aust Dent J 1991; 36: 320.
9. **FE Martin**. Recognition and prevention of failures in clinical dentistry. Aesthetic dental materials-posterior. Royal Australasian College of Dental Surgeons Annals. 1991; 11: 178-88.
10. ED Kingsford Smith, **FE Martin**. Microleakage of glass ionomer / composite resin restorations: a laboratory study. Part 1: The influence of glass ionomer cement. Aust Dent J. 1992; 37: 23-30.
11. **FE Martin**, ED Kingsford Smith, N Andrews. Microleakage of glass-ionomer / composite resin restorations: a laboratory study. Part 2: The influence of bonding systems. Aust Dent J. 1992; 37: 172-77.
12. **FE Martin**, M O'Rourke. Marginal seal of cervical tooth-coloured restorations. Investigation of placement techniques. Aust Dent J. 1993; 38: 102-7.
13. **FE Martin**. A survey of the efficiency of visible light curing units. J Dent 1998; 26: 239-43.
14. MA Nadkarni, **FE Martin**, NA Jacques, N Hunter. Determination of bacterial load by real-time PCR using a broad-range (universal) probe and primers set. Microbiology 2002; 148: 257-266.

15. **FE Martin**, MA Nadkarni, NA Jacques, N Hunter. A quantitative microbiological study of human carious dentine by culture and real-time PCR: Association of anaerobes with histopathological changes in chronic pulpitis. *J Clin Microbiol* 2002; 40: 1698-1704.
16. **FE Martin**. Carious pulpitis: Microbiological and histopathological considerations. *Aust J Endo* 2003; 29: 1-4.
17. Byun R, Nadkarni MA, Chhour K-L, **Martin FE**, Jacques NA, Hunter N. Quantitative analysis of diverse *Lactobacillus* species present in advanced dental caries. *J Clin Microbiol* 2004; 42: 3128-36.
18. Nadkarni MA, Cauldon CE, Chhour K-L, Fisher I, **Martin FE**, Jacques NA, Hunter N. Carious dentine provides a habitat for a complex array of novel *Prevotella*-like bacteria. *J Clin Microbiol* 2004; 42: 5238-5244.
19. R Byun, MA Nadkarni, KL Chhour, **FE Martin**, NA Jacques, N Hunter. Quantitative analysis of diverse *Lactobacillus* species present in advanced dental caries. *J Clin Microbiol* 2004; 42: 3128-36.
20. Chhour K-L, Nadkarni MA, **Martin FE**, Jacques NA, Hunter N. Molecular analysis of microbial diversity in advanced caries. *J Clin Microbiol* 2005; 43: 843-49.
21. **Martin FE**. Adhesive bonding – some clinical considerations. *Annals Royal Australas Coll Dent Surg*. 2006; 18: 30-5.
22. Nadkarni MA, **Martin FE**, Hunter N, Jacques NA. Caries, In *Encyclopedia of Molecular Mechanisms of Disease* 2009; 279-80. Editors: Springer-Verlag, Heidelberg.
23. Nadkarni MA, **Martin FE**, Hunter N, Jacques NA. Methods for optimizing DNA extraction before quantifying oral bacterial numbers by real-time PCR. *FEMS Microbiol Lett* 2009; 296: 45-51.
24. Naoum S, Ellakwa A, Morgan L, White K, **Martin FE**, Lee IB. Polymerization profile analysis of resin composite dental restorative materials in real time. *J Dent* 2011; 36: 241-52.
25. Naoum S, Ellakwa A, **Martin F**, Swain M. Fluoride release, recharge and mechanical property stability of various fluoride containing resin composites. *Oper Dent* 2011; 36: 422-32.
26. Ellakwa A, McNamara K, Sandhu J, James K, Arora A, Klineberg I El Sheikh AE, **Martin FE**. Quantifying the selection of maxillary anterior teeth using intraoral and extraoral anatomical landmarks. *J Contemp Dent Prac* 2011; 12: 414-21.
27. Ellakwa A, Raj T, Deeb S, Ronaghi G, **Martin FE**, Klineberg I. Influence of implant abutment angulations on the fracture resistance of overlaying CAM-milled zirconia crowns. *Aus Dent J* 2011; 56: 1232-40.
28. Dalby R, Ellakwa A, Millar B, **Martin FE**. Influence of immediate dentin sealing on the shear bond strength of pressed ceramic luted to dentin with self-etch resin cement. *Int J Dent* 2012; 2012: 29-35.
29. Naoum S, O'Regan J, Ellakwa A, Benkhart R, Swain M, **Martin E**. The effect of repeated fluoride recharge and storage media on bond durability of fluoride rechargeable Giomer bonding agent. *Aus Dent J* 2012; 57: 1-6.
30. Naoum S, Ellakwa A, Morgan L, White K, **Martin FE**, Lee IB. Polymerization profile analysis of resin composite dental restorative materials in real time. *J Dent* 2012; 40: 64-70.
31. Ellakwa A, **Martin FE**, Klineberg I. Influence of implant abutment angulations and two types of fibres on the fracture resistance of Ceramge Single crowns. *J Prosthodont* 2012; 21: 378-84.
32. Naoum S, Ellakwa A, **Martin FE**. Long term fluoride exchanges at restoration surfaces and effects on surface mechanical properties. *ISRN Dent*. 2013; 2013: 579039.

33. Al-Bakri IA, Swain MV, Naoum SJ, Al-Omari WM, **Martin E**, Ellakwa A. Fluoride release, recharge and flexural properties of polymethylmethacrylate containing glass fillers. *J Dent. Aus Dent J* 2014; 59: 208-14.
34. Naoum S, Mutzelburg PR, Shumack TG, Thode DJG, **Martin FE**, Ellakwa A. Reducing composite restoration polymerization shrinkage stress through glass-ionomer based adhesives. *Aus Dent J* 2015, 60; 490-6.
35. Naoum S, Lenard A, **Martin F**, Ellakwa A. Enhancing fluoride mediated dentine sensitivity relief through functionalised tri-calcium phosphate activity. *Int Sch Res Notices*. 2015; Apr ID 905019.
36. Sukumar S, Roberts AP, **Martin FE**, Adler CJ. Metagenomic insights into transferable antibiotic resistance in oral bacteria. *J Dent Res* 2016; 95: 969-76.
37. Akhter R, Hassan NM, **Martin FE**, Muhit M, Haque MR, Smithers-Sheedy H, Jones C, Badawi N, Khandaker G. Risk factors for dental caries among children with cerebral palsy in a low resource setting. *Dev Med Child Neurol*. 2017; 59: 538-43.
38. Akhter R, Hassan NM, **Martin FE**, Mohit M, Smithers-Sheedy H, Badawi N, Khandaker G. Caries experience and oral health-related quality of life (OHRQoL) of children and adolescents with cerebral palsy in a low-resource setting. *BMC Oral Health* 2019; 19:15.
39. Cui SY, Akhter R, Yao D, Peng J, Feghali M, Chen W, Blackburn E, Nadkarni M, **Martin E**. Literature review: Risk factors affecting the prevalence of dental caries in children with cerebral palsy. *BMC Oral Health* – submitted.
40. Akhter R, Hassan NM, **Martin FE**, Mohit M, Smithers-Sheedy H, Badawi N, Khandaker G. Dental caries, motor activity and oral health-related quality of life (OHRQoL) of children with cerebral palsy in a low resource setting. *Res in Developmental Disabilities* – submitted.

Non-refereed publications

1. **FE Martin**. Practical Guide for Successful Dentistry, 5th Edition, ADA Inc., 1996; 85-9.
2. FW Hasim, **FE Martin**. Antibacterial potential of glass ionomer cements. *Aust Dent J*. 2001; 46: S16.
3. Integrated Clinical Care Handbook. For distribution to Year 2, 3 and 4 students. First produced in 2002 and revised yearly.
4. Clinical Teaching Reference Guide. For distribution to all staff teaching in the clinical teaching environment. First produced in 2002 and revised yearly.
5. Tooth Conservation: A statement of some current teaching policies. First produced in 1993, and updated each 2 years. Most recent edition is 2017; 11th Edition. Editor: RW Bryant.
6. **FE Martin**, CE Caldon, MA Nadkarni, N Hunter, J Gibbons. Molecular analysis of putative pathogens in deep carious lesions. *Aust Dent J* 2002; 47: S10-11.
7. **FE Martin**, MA Nadkarni, DA Harty, N Hunter. Microbial predictors for the clinical treatment of deep carious lesions. *Aust Dent J* 2002; 47: S11-12.
8. **FE Martin**, MA Nadkarni, NA Jacques, N Hunter. Anaerobes linked to pulpal pathology identified in carious dentine. *Dental Abstr* 2003; 48: 36-7.

RESEARCH SUPERVISION

Since 1986 supervised 15 Honours student projects involving 29 students, 7 Masters, 2 MSc and 1 MPhil

degrees as primary supervisor 1 PhD as auxiliary supervisor, currently auxiliary supervisor for 2 PhD candidates in progress.

THESES EXAMINED

Since 1992 examined 1 Bachelor of Dental Science, 12 Masters/M Phil /DClinDent and 9 PhD theses. Ten as an internal examiner, 12 as an external examiner for the University of Melbourne and Western Australia.

GRANTS

Since 1992 awarded funding of over \$2.5 million in combination with other researchers. The larger grants of \$1.235 million, \$412k and \$345k were awarded by NIH, NHMRC and Dental Board of NSW respectively.

GRANTS REVIEWED

1992-11 Reviewer of between 5-12 grant applications for the Federal Australian Prosthodontic Society each year

2003- Reviewed approximately 10 grants for Australian Dental Foundation Inc.

2013 Reviewed 19 applications for the Vice Chancellors Excellence in Teaching Awards and 11 OLT applications

TEACHING AND RELATED RESPONSIBILITIES

Areas of teaching include all stages of the graduate course in Restorative Dentistry, including the areas of Treatment Planning, Diagnosis and Management of Dental Caries, Restorative Dental Materials, Minimum Intervention Dentistry and Restorative Techniques. Teaching includes different delivery formats including lectures, PBLs and clinical teaching and supervision of students in patient treatment clinics.

Specific organisational responsibilities in relation to student clinical teaching since the introduction of the BDent program in 2003, followed by the DMD program in 2014 include:

2003 Theme Head of Total Patient Care. Coordinator of the Integrated Clinics for BDent 3.

2003-2010 Designed and introduced the BDent 3 Mentor program which receives continuing positive comments from students and a commendation from the Australian Dental Council accreditation in 2017.

2003- Chair of the Year 3 and 4 Assessment and Progression Committee

2004-16 Theme Head of Total Patient Care; Sub Dean for Clinical Affairs at Westmead Centre for Oral Health, involving the coordination of the Integrated Clinics for BDent 3 and 4; Sub Dean for BDent 4.

2009- Chair, Tooth Conservation.

2014- Coordinator of all Integrated and Specialist clinics for DMD2, 3 and 4 across 3 metropolitan LHD clinics (WCOH, SDH and Nepean) as well as all rural placements (4-6 per year of 4/5 weeks per rotation).

2016- Coordinator of the DMD3 Mentor Program

LECTURES PRESENTED

Lectures presented to dental students number approximately 20 per year and cover a broad range of subjects within the field of restorative dentistry and oral microbiology. Over 230 invited lectures presented

nationally and internationally (Malaysia, Vanuatu, New Zealand and the USA [Texas, Omaha, Maryland, Los Angeles, Connecticut and Minneapolis]), plus 15 days of hand-on training courses delivered to the profession since 1996 covering a broad range of topics within restorative dentistry.

MENTORING

- Weekly meetings with 8 Year 3 Mentors (Clinical Educators) supporting the DMD3 Mentor Program.
- Organised, ran and presented in the Clinical Educators Training Day in February each year to assist in mentoring part time clinical educators from 2008-16, and 2019.
- Six staff within the Tooth Conservation department to develop their academic potential and achieve promotion – 1 has achieved promotion, 2 have applied for promotion and 2 were awarded placements in the Women's Mentoring Program and the Culturally and Linguistically Diverse Women's Leadership Program in 2018. Others have achieved continuing or full-time appointments.
- Eight academic staff from other disciplines and the Bachelor of Oral Health Program – from this group 2 have achieved promotion, 1 has become a Fellow of the Higher Education Academy.
- AP&D academic supervisor for 10 staff and Advisor for 2 staff in 2018.
- Ongoing mentoring of recent graduates as they move into practice and apply for placements in postgraduate programs.

EXPERT MEETINGS

Invited to attend approximately 25 focus group meetings, both in Australia and overseas, held by different dental manufacturers (Southern Dental Industries, Kerr, 3MESPE, Nulite Industries, Dentsply, 3M) to discuss developments and research into new materials and techniques in restorative dentistry.

AWARDS AND HONOURS

1991	Fellow, Pierre Fauchard Academy
1993	Fellow, Academy of Dentistry International
1997-2000	NHMRC Dental Postgraduate Scholarship
1996	Meritorious Service Award, Royal Australasian College of Dental Surgeons
2004	Faculty of Dentistry Excellence in Teaching Award
2005	Twenty-five year service Award, University of Sydney
2005	Faculty of Dentistry Excellence in Teaching Award, awarded by final year students.
2007	Certificate of Merit, Sydney University Dental Alumni Society
2010	Professor Roland Bryant Award for Innovation and Excellence in Teaching
2011	Fellow, International College of Dentists
2016	Member, NSW Graduate Chapter of Delta Sigma Delta
2018	Australian Dental Association NSW Branch Service Medallion for outstanding contribution to the profession as a clinician and academic.

MEMBERSHIP OF PROFESSIONAL SOCIETIES:

1976-	Australian Dental Association
1986-	Australian Society of Endodontology
1987-	International Association of Dental Research

1990-98 Australian Society of Periodontology
1988-14 Australian Prosthodontic Society
1991- Dental Alumni Society
1991- Pierre Fauchard Academy
1993- Academy of Dentistry International
2011- International College of Dentists
2016- NSW Graduate Chapter of Delta Sigma Delta