

Professor Damien Walmsley PhD, MSc, BDS, FDSRCPS

Professor of Restorative Dentistry

[School of Dentistry \(/schools/dentistry/index.aspx\)](/schools/dentistry/index.aspx)

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The School of Dentistry
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About

Positions of Responsibility

- Member of School Executive
- Graduate School Director for Dentistry
- Head of the teaching unit of Prosthetic Dentistry
- Member of International Engagement Committee
- College Champion for Universitas 21

External Appointments

- Scientific Advisor to British Dental Association
- Peer review council of EPSRC
- President of Association for Dental Education in Europe

Research

- Ultrasonics in Dentistry covering ultrasonic scalers, endosonics and ultrasonic bone surgery
- Co-author on Cochrane publications on Powered toothbrushes.
- Published over 280 papers
- Presented numerous keynote lectures at national and international level
- Steering committee of PSIBS (Physical Sciences of imaging in the Biological Sciences)
- Researching novel imaging techniques for biological applications.

Educational highlights

- Interest in all things IT, and at the cutting edge of teaching and learning in dentistry.
- Passion for uptake of social networking and eLearning
- Team member that won the Times Higher Education Supplement (THES) Outstanding ICT Initiative of the Year, sponsored by the Joint Information Systems Committee (JISC).

Other responsibilities

- Editor-in-Chief of the Journal of Dentistry 2002 -2011
- Emeritus Editor-in-Chief, Journal of Dentistry
- Editorial board of the British Dental Journal and European Journal of Dental Education.
- President of the British Society for the Study of Prosthetic Dentistry 2010-2011.
- Chairman of the PanDental Society organising committee 2010-2011.
- Regularly speaks on research and innovation
- Chair of the judges of the Medical Futures programme (Dental Section)

Qualifications

- B.D.S. Victoria University of Manchester 1981.
- M.Sc. Victoria University of Manchester 1983.
- Ph.D. Victoria University of Manchester 1985.
- F.D.S. Royal College of Physicians and Surgeons of Glasgow 1987.
- Certificate of Accreditation Royal College of Physicians and Surgeons of Glasgow 1992.

- Certificate of specialisation General Dental Council 1999.

Biography

- Lecturer 1985, Senior Lecturer 1991, Consultant 1993, Full Professor 2000 at School of Dentistry
- MSc and PhD on "The uses and potential biological effects of ultrasound in dentistry".
- Doctoral Research sponsored by MRC studentship.
- House Officer at Guys hospital and St Barts Hospital
- Undergraduate at Manchester Dental School of Dentistry

Teaching

- **[Dental Surgery BDS \(/undergraduate/courses/med/dental-surgery.aspx\)](#)**
- Head of Teaching Unit of Prosthetic Dentistry
- Contributes to teaching in Modules
- Year 1 (Healthcare Ethics and Law, Introduction to Clinical Dentistry)
- Year 2 (Practical Dental Skills, Clinical Skills, Introduction to Simulated Clinical Procedures,
- Year 3 (Simulated Clinical Procedures, Introduction to Clinical Practice and Speciality Teaching
- Year 4 (Advanced Simulated Clinical Procedures and Speciality Teaching)
- Year 5 (Preparation for General Dental Practice and Student Selected Module Clinical Studies)
- MSc in Advanced General Dental Practice.

Postgraduate supervision

Supervising doctoral research students in the following areas:

- The use of Ultrasound in Dentistry. Its role in treating periodontal disease, endodontics and oral surgery. This involves applied research on the use of ultrasound including knowledge of Physics and clinical application.
- Imaging of teeth and dental plaque with novel technologies.
- The effectiveness of elearning in dentistry.
- Supervised 16 postgraduate doctoral students (12 as lead supervisor) and 6 research masters
- All completed within time period and published on average 3.5 papers per thesis

If you are interested in studying any of these subject areas please contact Damien on the contact details above, or for any general doctoral research enquiries, please email: dr@contacts.bham.ac.uk (<mailto:dr@contacts.bham.ac.uk>) or call +44 (0)121 414 5005.

For a full list of available Doctoral Research opportunities, please visit our Doctoral Research programme listings.

Research

Research themes are Ultrasound in Dentistry,

Ultrasound in dentistry

- destructive effects of ultrasound at frequencies in the kilohertz range (20-45 kHz)
- ultrasonic scalers to remove attached deposits from the teeth.
- endodontics (endosonics) where an ultrasonic file is used to clean and prepare the root canals of teeth.
- Electric (powered) toothbrushes.
- Imaging of cavitation activity and acoustic microstreaming.
- Biological effects of the interaction of the dental ultrasound with both soft and hard dental tissues
- Grants from Engineering and Physical Sciences Research Council (EPSRC). Charitable funding has come from the Wellcome Trust Foundation for the purchase of a Micro CT. Funding streams have also been obtained from industry including Procter and Gamble, Oral B, Philips Sonicare, Colgate, Dentsply USA and EMS, Switzerland.

Nationally and international contacts

- Departments of Engineering, Cardiff University (Wolfson Unit),
- Chemistry, University of Bath
- Jewellery Industry Innovation Centre, Birmingham City
- Internationally links with Holland - Amsterdam, Twente, Hong Kong and USA

Clinical Research

- Use of implants in providing intra-bony implants into the jaws of patients attending the School of Dentistry at Birmingham Dental hospital. This work has led to several publications on the experiences of implants and prosthesis retained by magnets. International recognition and invited to present work at International Conference on Magnetic Applications in Dentistry. Links have been established with Aichi Steel, Nagoya, Japan and funding is under negotiation.

Gold Medal academic award

- In 2004 he was awarded the Gold Medal by the International Research Project on Magnetic Dentistry for work on dental magnets

E-learning and Use of the Internet

- Current educational research is focussed on the attitudes of staff and students to the use of mobile learning and social networking. The learning and teaching strategies to employ using elearning.

Other activities

- Trustee of St Mary's Hospice, Birmingham.
- Editor of <http://brumentists.com> (<http://brumentists.com/>)
- Photography <http://www.flickr.com/photos/damienwalmsley/> (<http://www.flickr.com/photos/damienwalmsley/>)

Publications

- Boutsoukis C, Robinson JP, Verhaagen B, Walmsley AD, Versluis M, Cooper PR, Van der Sluis LWM. A novel methodology providing new insights into the ultrasonic removal of a biofilm-mimicking hydrogel from lateral morphological features of the root canal. Internal Endodontic Journal (Accepted for Publication).
- Can we learn, teach and practise dentistry anywhere, anytime? Khatoon B, Hill KB, Walmsley AD. British Dental Journal 2013; 215: 345-347 DOI: 10.1038/sj.bdj.2013.957
- Biophysical characterization of low-frequency ultrasound interaction with dental pulp stem cells. Ghorayeb SR, Patel US, Walmsley AD, Scheven BA. Journal of Therapeutic Ultrasound 2013,1:12
- Radiologic evaluation of heat-induced shrinkage and shape preservation of human teeth using micro-CT. Sandholzer MA, Walmsley AD, Lumley PJ, Landini G. Journal of Forensic Radiology and Imaging 2013; 1(3), DOI 10.1016/j.jofri.2013.05.003
- Generated Vibration Modes in Ultrasonic Scaler Transducer Components. Bartlett PA, Lea SC, Meydan T, Williams PI, Landini G, Walmsley AD, and Moses AJ . Sensor Letters 2013, 11: 66-68
- Sandholzer MA, Walmsley AD, Lumley PJ, Landini G. X-ray scattering evaluation of ultrastructural changes of human dental tissues with thermal treatment. Journal of Forensic Sciences DOI 10.1111/1556-4029.12400 [in press].
- Kavadella A, Kossioni A, Tsiklakis K, Suomalainen K, Karaharju-Suvanto T, Bailey S, Bullock A, Cowpe J, Barnes E, Thomas H, Thomas R, , Kersten H, Povel E, Giles M, Walmsley AD, Soboleva U, Liepa A & Akota I. Recommendations for the development of e-modules for the continuing professional development (CPD) of European dentists. (Accepted for publication)
- Robinson JP, Lumley PJ, Cooper PR, Grover LM and Walmsley AD. Reciprocating Root Canal Technique Induces Greater Debris Accumulation than a Rotary Technique as Assessed by 3D Micro-computed Tomography. Journal of Endodontics 39:1067-70. DOI:10.1016/j.joen.2013.04.003

Further publications can be found at the link below:

<http://www.ncbi.nlm.nih.gov/pubmed/?term=walmsley+ad%5bauthor> (<http://www.ncbi.nlm.nih.gov/pubmed/?term=walmsley+ad%5bauthor>)

Expertise

The use of ultrasound and magnets in dentistry; new educational initiatives in e-learning

Alternative contact number available for this expert: [contact the press office](http://www.birmingham.ac.uk/news/contacts/index.aspx) (<http://www.birmingham.ac.uk/news/contacts/index.aspx>)

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