

**Dr Owen Addison** BDS, MFDS RCS(Eng), PhD, PGCert (Academic Practice), FHEA

Senior Lecturer and Honorary Consultant in Restorative Dentistry

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

## Contact details

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## About

Owen Addison is a Senior Lecturer and Honorary Consultant in Restorative Dentistry

His research background is in Biomedical Materials Science with a particular interest in the behaviour of materials in physiological environments. He has published regularly in the fields of dentistry and materials science and has received major external funding (in excess of £1.4 million in the last three years) from the Engineering and Physical Sciences Research Council, National Institute for Health Research, Implant charities and from industry.

In late 2010 he was awarded a prestigious five year National Institute for Health Research Clinician Scientist fellowship and in 2013 was awarded the Academy of Osseointegration / International Association of Dental Research Prize for innovation in implant research.

## Qualifications

FDS (Restorative Dentistry) Royal College of Surgeons of England 2012

PGCert in Academic Practice, 2011 (Open University)

PhD in Dentistry 2007 (University of Birmingham)

MFDS Royal College of Surgeons of England 2003

BDS (Clinical Distinction) 2001 (University of Birmingham)

## Biography

Owen Addison qualified as a dentist from the University of Birmingham in 2001. Following a year in general practice he commenced work in hospital posts and gained his membership of the faculty of dental surgeons in 2003. He then combined a series of part time clinical positions whilst studying for his PhD which was awarded in 2007. At this time he took up a Lectureship at the School of Dentistry. In 2012 he was appointed as a Senior Lecturer and honorary Consultant in Restorative Dentistry.

His postgraduate research focussed on enhancing the clinical performance of ceramic-based dental restorations by improving the mechanistic understanding of how these materials fail. As a post-doctoral researcher he has continued with this theme supervising undergraduate, PhD students and post-doctoral researchers. Students under his supervision have gone on to win prestigious research awards including the Academy of Dental Materials Paffenbarger prize (2008) and the International Association of Dental Research EH Hatton award for international undergraduate research (2010).

In 2009 with collaborators he began employing techniques using synchrotron light to characterise dental hard tissues and to map the distribution of certain elements derived from biomedical implants in human tissue. He has been awarded a five year National Institute for Health Research Clinician Scientist fellowship which will provide him with further biological training to complement his materials science expertise.

As a clinician he completed specialist training in Restorative Dentistry (Feb 2012) and has been awarded an honorary Consultant contract to provide specialist clinical care.

## Teaching

- BDS.
- BMedSci (Biomaterials).

## Postgraduate supervision

Owen Addison is interested in research in the following areas:

- mechanical characterization and lifetime prediction modeling of dental and biomedical materials.
- modification of inflammatory responses in peri-implant environments by release ions and debris.
- use of synchrotron X-rays to map elements in human tissues.

If you are interesting in studying any of these subject areas please contact using the contact details above.

## Research

Modification of inflammatory responses in peri-implant soft tissue environments.

Mechanical characterization and lifetime prediction modeling of dental and biomedical materials.

## Other activities

Consultant Restorative Dentistry

President of the Dental Materials group of BSODR

Member of the Academy of Operative Dentistry.

Technical Consultant for local dental alloys manufacturer.

Former treasurer BSPD Midlands Branch (2007-2010).

## Publications

Mittal S, Revell M, Barone F, Hardie DL, Matharu GS, Davenport AJ, Martin RA, Grant M, Mosselmans F, Pynsent P, Sumathi VP, Addison O, Revell PA, Buckley CD. (2013). Lymphoid aggregates that resemble tertiary lymphoid organs define a specific pathological subset in metal-on-metal hip replacements. PLoS ONE. 28: 8(5):e63470

Hooi P, Addison O, Fleming GJP. (2013). Can a soda-lime glass be used to demonstrate how patterns of strength dependence are influenced by pre-cementation and resin-cementation variables? JOURNAL OF DENTISTRY. 41(6):514-20

Shortall A, El-Mahy W, Stewardson D, Addison O, Palin W. Initial fracture resistance and curing temperature rise of ten contemporary resin-based composites with increasing radiant exposure. (2013) JOURNAL OF DENTISTRY, 41(5):455-63.

Al-Jawad M, Addison O, Khan MA, James A, Hendriksz CJ.(2012). Disruption of enamel crystal formation quantified by synchrotron microdiffraction. JOURNAL OF DENTISTRY. 40(12) 1074-1080.

Addison O, Davenport AJ, Newport RJ, Kalra S, Monir M, Mosselmans JF, Proops D, Martin RA (2012). Do 'passive' medical titanium surfaces deteriorate in service in the absence of wear? JOURNAL OF THE ROYAL SOCIETY INTERFACE. 9, 3161–3164

Lakhkar NJ, Park JH, Mordan NJ, Salih V, Wall IB, Kim HW, King SP, Hanna JV, Martin RA, Addison O, Mosselmans JF, Knowles JC (2012). Titanium phosphate glass microspheres for bone tissue engineering. ACTA BIOMATERIALIA. 8, 4181–4190

Addison O, Cao X, Sunnar P, Fleming GJ (2012). Machining induced variability of the strength of chair-side CAD-CAM ceramics. DENTAL MATERIALS. 28: 880-7

Fleming GJP, Hooi P Addison O (2012). The influence of resin flexural modulus on the magnitude of ceramic strengthening. DENTAL MATERIALS. 28:769-776

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