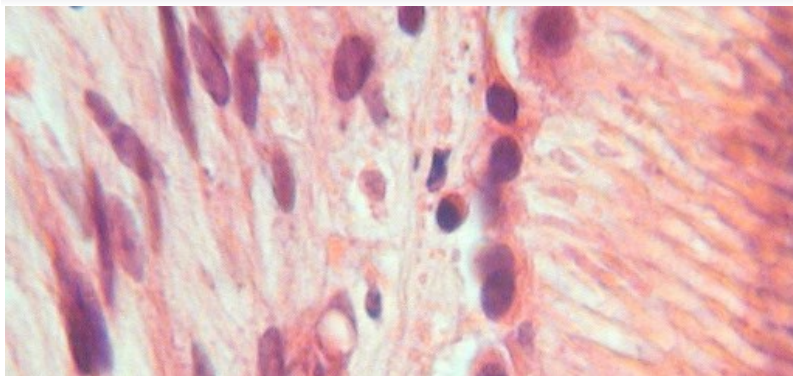


## Dentistry PhD/MSc by Research



Our research is broadly divided into three main areas: Biomaterials – biomaterials, restorative dentistry, and oral and maxillofacial surgery; Primary Dental Care – dental public health, behavioural sciences, primary care, and orthodontics; Tissue Injury and Repair – oral biology and pathology, restorative and children's dentistry, and periodontology. However, there is collaboration between these areas.

**[Study here and find out why the University of Birmingham was awarded The Times and The Sunday Times University of the Year 2013-14](http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)**  
 (<http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx>)

### Course fact file

**Type of Course:** Doctoral research

**Study Options:** Full time

**Duration:** PhD - 3-4 years full-time, 6 years part-time; MSc by Research - 1 year full-time, 2 years part-time

**Start date:** Research degrees may start at any time of the year, though for most this will be September

### Contact

Postgraduate doctoral research enquiries for Dentistry: [pgden@contacts.bham.ac.uk](mailto:pgden@contacts.bham.ac.uk) (<mailto:pgden@contacts.bham.ac.uk>)

You can contact us on +44 (0)121 414 5005

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

**[Follow us on Twitter](http://twitter.com/unibirm_MDS)** ([http://twitter.com/unibirm\\_MDS](http://twitter.com/unibirm_MDS))

### Details

Our research is broadly divided into three main areas listed below: however, there is collaboration between them.

- Biomaterials – biomaterials, restorative dentistry, and oral and maxillofacial surgery
- Primary Dental Care – dental public health, behavioural sciences, primary care, and orthodontics
- Tissue Injury and Repair – oral biology and pathology, restorative and children's dentistry, and periodontology

Our research has a strong translational focus, being driven by clinical questions, and aims to provide novel diagnostic and therapeutic solutions to the most common oral and general health problems. We employ cutting-edge technologies within state-of-the-art laboratories to explore disease mechanisms, improve our understanding of pathogenic processes, and formulate new healthcare solutions based upon this new knowledge.

Birmingham has world-class clinical dental expertise, particularly in areas of endodontic, periodontal and restorative treatments, providing a focus for international collaborations with visiting professors and researchers from leading institutions worldwide.

### Fees and funding

**[Standard fees](http://postgraduate/dr-fees/tuition.aspx)** ([/postgraduate/dr-fees/tuition.aspx](http://postgraduate/dr-fees/tuition.aspx)) apply, although in some projects a bench fee is also payable

Learn more about **[fees and funding](http://postgraduate/dr-fees/index.aspx)** ([/postgraduate/dr-fees/index.aspx](http://postgraduate/dr-fees/index.aspx))

### Scholarships and studentships

Any available are advertised on our website [www.dentistry.bham.ac.uk](http://www.dentistry.bham.ac.uk) (<http://www.dentistry.bham.ac.uk/>) or alternatively email [sfo@contacts.bham.ac.uk](mailto:sfo@contacts.bham.ac.uk) (<mailto:sfo@contacts.bham.ac.uk>). International students can often gain funding through overseas research scholarships, Commonwealth scholarships or their home government.

### Entry requirements

Learn more about **[entry requirements](http://postgraduate/requirements-dr/step1.aspx)** ([/postgraduate/requirements-dr/step1.aspx](http://postgraduate/requirements-dr/step1.aspx))

### International students

We accept a range of qualifications from different countries – learn more about **[international entry requirements](http://postgraduate/requirements-dr/step1.aspx)** ([/postgraduate/requirements-dr/step1.aspx](http://postgraduate/requirements-dr/step1.aspx))

**[Standard English language requirements](http://postgraduate/requirements-pgt/international/index.aspx)** ([/postgraduate/requirements-pgt/international/index.aspx](http://postgraduate/requirements-pgt/international/index.aspx)) apply

## How to apply

When clicking on the Apply Now button you will be directed to an application specifically designed for the programme you wish to apply for where you will create an account with the University application system and submit your application and supporting documents online. Further information regarding how to apply online can be found on the [How to apply pages \(http://www.birmingham.ac.uk/students/courses/postgraduate/apply-pg/index.aspx\)](http://www.birmingham.ac.uk/students/courses/postgraduate/apply-pg/index.aspx)

[Apply now \(https://pga.bham.ac.uk/lpages/MDS019.htm\)](https://pga.bham.ac.uk/lpages/MDS019.htm)

### Related links

[Research in the School of Dentistry \(/schools/dentistry/research/index.aspx\)](/schools/dentistry/research/index.aspx)

### Related news and events

[Work to start on £50m Birmingham Dental Hospital & School of Dentistry \(/news/latest/2013/08/Work-to-start-on-50m-Birmingham-Dental-Hospital--School-of-Dentistry.aspx\)](/news/latest/2013/08/Work-to-start-on-50m-Birmingham-Dental-Hospital--School-of-Dentistry.aspx)

[Fruit and vegetable compound offers hope in fight against gum disease \(/research/impact/our/news/items/fruit-gum.aspx\)](/research/impact/our/news/items/fruit-gum.aspx)

## Research interests of staff

### Research examples

Examples of our research include:

- Demonstrating the importance of growth factors and other bioactive molecules sequestered within dental tissues in driving tissue responses to disease and clinical outcomes for the tooth.
- The development of novel treatments for dental and oral tissue repair based on stem cell and biomaterial tissue regenerative technologies
- Leading research into the redox biology of oral diseases and how micronutritional strategies can regulate oral inflammation.
- Pioneering the development of assays for biomarkers of periodontitis, leading to the development of diagnostic technologies in routine clinical use.
- Epidemiological research on the links between chronic periodontitis and systemic disease, in particular rheumatoid arthritis and chronic kidney disease.
- Pioneering involvement in the National Dental Health Surveys (Office of National Statistics) for children and adults leading to the unravelling of major trends in oral disease patterns over 30 years. This is crucial to informing future oral health care policy and directing NHS resources to those in most need.
- The development of novel digital image processing/analysis techniques in oral pathology to provide accurate, evidence-based diagnostic decisions and reliable prognostic tools for oral cancer.
- The epigenetics of oral squamous cell carcinoma (OSCC) and the role of chronic inflammation in the origins of OSCC.
- Development of novel dental and orthopaedic materials to improve the longevity of dental restorations and the outcome of many orthopaedic procedures.
- Investigations into the vibration characteristics of dental ultrasonic instruments and powered toothbrushes, which aim to influence the design and development of ultrasound dental instruments and improve patient care.
- Prevalence studies in children and adolescents on dental erosion and tooth wear and their causes, underpinned by laboratory mechanistic studies on both erosion and toothpaste abrasivity.
- Research on the nature and role of education in dentistry, particularly the role and impact of e-learning.

### Related research

- [Research in the School of Dentistry \(/schools/dentistry/research/index.aspx\)](/schools/dentistry/research/index.aspx)

## Employability

[Find out more about where our postgraduate students go \(/Documents/college-mds/courses/postgraduate/employability-info/employabilityinfo-dent-jan2014.pdf\)](/Documents/college-mds/courses/postgraduate/employability-info/employabilityinfo-dent-jan2014.pdf)

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