

wisdom

Cardiff School of Dentistry  
[www.cardiff.ac.uk/dentistry](http://www.cardiff.ac.uk/dentistry)



# Contents

## 04-06 Research

3D Facial Imaging  
Dental Pulp Stem Cells  
Research in Industry  
Research Awards 2014-15  
Designed to Smile Update

## 07 NHS

Faceup Cymru

## 08-09 Education

Postgraduate Courses  
ADEE  
Enriching Student Life Awards

## 10-11 BSODR

British Society For Dental Research  
Comes to Cardiff

## 12 Women in Careers

Development Workshop  
Athena SWAN Award

## 13-15 Staff Profiles

Barbara Chadwick  
Manon Pritchard  
Alastair Sloan  
Rachel Waddington  
Alan Gilmour  
Vera Knauper  
David Williams  
Sheila Oliver  
Staff Retirements

## 16-17 Students

Honduras Dental Brigade  
Student profile: Aisha Shabir  
Student profile: Emily Summers  
Supachai Chuenjitwongsa

## 18-19 Alumni Profiles

The Oliver Family  
Matthew Thomas

Editor Catherine Roberts  
Assistant Editor Rachel Waddington  
Find out more about the School at:  
[www.cardiff.ac.uk/dentistry](http://www.cardiff.ac.uk/dentistry)  
or email : [wisdom@cardiff.ac.uk](mailto:wisdom@cardiff.ac.uk)



Follow us on Twitter @CardiffDental



Wisdom is designed by the Dental  
Illustration Unit at Cardiff University



# Welcome

I am delighted to report that 2015 was another fantastic year for School of Dentistry. As I am writing this introduction, I have just been informed that the School has been rated Number 1 for Dentistry in the UK in The Times Good University Guide and it had already been rated top School in Great Britain in the Guardian University League table - so a double 1st for Cardiff! I am in no doubt that this is a reflection of the talented and dedicated team of clinical and non-clinical staff that deliver the educational experience within the School. Many examples of the wide variety of the successes and achievements of our team are presented in the subsequent pages of this issue of Wisdom.

Cardiff University achieved an outstanding rating in the Research Excellence Framework (REF) 2014 coming overall 5th University in the UK and equal 1st for research environment. With regard to Dentistry and research impact, Cardiff School of Dentistry was the top school in Britain. In September, the School hosted the Annual Scientific Meeting of the British Society for Oral & Dental Research. The meeting was held in the City Hall, which provided a spectacular setting for what was an incredibly successful meeting, with a record number of entries to the prize competitions.

Many readers will have fond memories of cutting their first cavity on either a plastic or real tooth in the Dental Phantom Head teaching laboratory on the 2nd Floor of the University Dental Hospital & School. I am pleased to announce that the School has been awarded £2.2 million from the University to replace this teaching area with a state-of-the-art phantom head facility. Work will start in May with a completion deadline of the beginning of the 2016 academic year.

The undergraduate clinical programmes delivered by the School are subject to an inspection by the General Dental Council (GDC) on a 5 yearly basis. The Bachelor of Dental Surgery (BDS) programme was inspected in 2014 and the report has confirmed that the Cardiff University BDS degree is “satisfactory” for registration with the GDC. The Diploma in Dental Hygiene and the BSc in Dental Therapy & Hygiene programmes have also been inspected this year and the School is awaiting the report for each of these qualifications.

The number of dentists trained in Wales and funding for training is determined annually by Welsh Government. The number of students admitted in October 2015 was 74, comprising 70 UK/EU students and 4 International. This is a reduction from the 80 students (76 UK/EU and 4 International) that have been admitted in each of the past five years. Although not confirmed by WG it is likely that the admission numbers for 2016 will remain at 70 UK/EU but there will be no support for International students. This reduction in funding will inevitably have a significant impact on the School of Dentistry. Welsh Government has requested that the School increase the number of students admitted to the Diploma in Dental Hygiene and BSc in Dental Therapy & Hygiene, which will hopefully offset some of the funding issues. These changes will also reflect the evolving way in which dental services will be provided to the population in the future. The School of Dentistry in Cardiff has to remain the centre for the training of the Dental Workforce for Wales by providing appropriate undergraduate programmes.

All but one of our Final Year students was offered a Foundation Training post in the first round, which was better than all but one of the other dental Schools in UK. All Cardiff BDS graduates gained a place following the Final Examinations. Well done again to our students!

As I have written on previous occasions, the School of Dentistry is the academic home of our graduates, so please keep in touch with the family! A perfect opportunity to meet up with friends and colleagues is the bi-annual Professor Brian Cooke Memorial Lecture Day, which is next scheduled for Spring 2016. See you there!

Professor Michael A. O. Lewis  
Dean and Head of School

## Dentistry



## Croeso

Mae'n bleser gennyf gyhoeddi y bu 2015 yn flwyddyn wych arall i'r Ysgol Ddeintyddiaeth. Wrth i mi ysgrifennu'r cyflwyniad hwn, rwyf newydd gael fy hysbysu fod yr Ysgol wedi cyflawni sgôr Rhif 1 am Ddeintyddiaeth yn y Deyrnas Unedig yng Nghannllaw Prifysgol The Times ac roedd eisoes wedi'i henwi'r Ysgol orau ym Mhrydain Fawr yn nhabl Cynghair Prifysgol y Guardian – Felly, dau 1af i Gaerdydd! Yr wyf yn gwbl sicr fod hyn yn adlewyrchiad o'n tîm medrus ac ymroddedig o staff clinigol a di-glinigol sy'n darparu'r profiad addysgol yn yr Ysgol. Mae enghreifftiau niferus o lwyddiannau a chyflawniadau helaeth amrywiol ein tîm wedi cael eu cyflwyno yn nhudalennau dilynol yn y rhifyn hwn o Wisdom.

Llwyddodd Prifysgol Caerdydd i gael sgôr rhagorol yn y Fframwaith Rhagoriaeth Ymchwil (REF) 2014 gan wthio'r Brifysgol i bump uchaf o brifysgolion yn y Deyrnas Unedig a chydodd 1af ar gyfer amgylchedd ymchwil. O ran Ddeintyddiaeth ac effaith ymchwil, Ysgol Ddeintyddiaeth Caerdydd oedd yr ysgol orau ym Mhrydain. Ym mis Medi, cynhaliodd yr Ysgol gyfarfod blynyddol y Gymdeithas Brydeinig ar gyfer Ymchwil Geneuol a Deintyddol. Cynhaliwyd y cyfarfod yn Neuadd y Ddinas, a ddarparodd leoliad ysblennydd ar gyfer yr hyn a fu'n gyfarfod llwyddiannus iawn, gyda mwy nag erioed o ymgeiswyr yn y cystadlaethau gwobr.

Bydd gan nifer o ddarllenwyr atgofion melys o dorri eu ceudod cyntaf ar naill ai ddant plastig neu ddant go

iawn yn labordy addysgu Deintyddol Phantom Head ar yr 2il lawr yn Ysbyty Deintyddol Ysgol y Brifysgol. Mae'n bleser gennyf gyhoeddi dyfarnwyd yr ysgol â £2.2 miliwn gan y Brifysgol i addasu'r man addysgu hwn gyda chyfleuster phantom head o'r radd flaenaf. Bydd y gwaith yn dechrau ym mis Mai gyda therfyn amser cwblhau ddechrau blwyddyn academaidd 2016.

Mae'r rhaglenni clinigol ar gyfer israddedigion a ddarperir gan yr Ysgol yn amodol ar arolygiad gan y Cyngor Deintyddol Cyffredinol (GDC) bob 5 mlynedd. Arolygwyd y rhaglen Baglor mewn Llawfeddygaeth Ddeintyddol (BDS) yn 2014 ac mae'r adroddiad wedi cadarnhau fod gradd BDS Prifysgol Caerdydd yn “fodhaol” i'w gofrestru gyda'r Cyngor Deintyddol Cyffredinol. Mae'r rhaglenni Diploma mewn Hylendid Deintyddol a BSc mewn Therapi Deintyddol a Hylendid Deintyddol wedi'u harolygu eleni hefyd ac mae'r Ysgol yn disgwyl am yr adroddiad ar gyfer pob un o'r cymwysterau hyn. Mae nifer y deintyddion a hyfforddir yng Nghymru a chyllid i ariannu'r hyfforddiant yn cael ei bennu'n flynyddol gan Lywodraeth Cymru, Nifer y myfyrwyr a dderbyniwyd ym mis Hydref 2015 oedd 74, yn cynnwys 70 o fyfyrwyr y Deyrnas Unedig/Undeb Ewropeaidd a 4 myfyriwr Rhyngwladol. Mae hyn yn ostyngiad o'r 80 o fyfyrwyr (76 DU/UE a 4 Rhyngwladol) sydd wedi'u derbyn dros y pum mlynedd ddiwethaf. Er nad yw Llywodraeth Cymru wedi cadarnhau, mae'n debygol y bydd y niferoedd derbyn ar gyfer 2016 yn parhau yn 70 DU/UE ond ni fydd unrhyw gefnogaeth

i fyfyrwyr Rhyngwladol. Yn anochel bydd y gostyngiad hwn mewn arian yn cael effaith sylweddol ar yr Ysgol Ddeintyddol. Mae Llywodraeth Cymru wedi gofyn i'r Ysgol gynyddu nifer y myfyrwyr a dderbynnir i'r Diploma mewn Hylendid Deintyddol a BSc mewn Therapi Deintyddol a Hylendid Deintyddol, a fydd gobeithio yn lleddfu ychydig ar y sefyllfa ariannol. Bydd y newidiadau hyn hefyd yn adlewyrchu'r ffordd ddatblygol y bydd y gwasanaethau deintyddol yn cael eu darparu i'r boblogaeth yn y dyfodol. Mae'n rhaid i'r Ysgol Ddeintyddol yng Nghaerdydd aros yn ganolbwynt i hyfforddi Gweithlu Deintyddol Cymru drwy ddarparu rhaglenni israddedig addas.

Cafodd pawb heblaw un o'n Myfyrwyr Blwyddyn Olaf gynnig swydd Hyfforddiant Sylfaenol yn y rownd gyntaf, a oedd yn well na'r holl ysgolion deintyddol eraill yn y Deyrnas Unedig ac eithrio un. Llwyddodd holl raddedigion BDS Caerdydd i sicrhau lle yn dilyn eu Harholiadau Terfynol. Da iawn eto i'n myfyrwyr!

Yn unol â'r hyn a ysgrifennais ar achlysuron blaenorol, yr Ysgol Ddeintyddol yw cartref academaidd ein graddedigion, felly cofiwch gadw mewn cysylltiad gyda'r teulu! Cyfle perffaith i gwrdd â ffrindiau a chydweithwyr yw Diwrnod Darlith Goffa'r Athro Brian Cooke a gynhelir bob dwy flynedd, sydd wedi'i drefnu ar gyfer Gwanwyn 2016! Fe'ch gwelaf yno!

Yr Athro Michael A O Lewis  
Deon a Phennaeth yr Ysgol



Professor Michael A. O. Lewis, Dean of the School





## 3D imaging research - Vice Chancellor visit to School of Dentistry

The Vice Chancellor Colin Riordan visited the 3D Research Group earlier this year. This successful collaborating group were the first to identify and replicate the role of the PAX3 gene and its effect on the nasal bridge in normal facial variation; first to determine association of normal lip traits to known cleft genes; first to develop a patient specific dynamic biomechanical model for facial surgery; first to develop a 3D dynamic outcome measure for facial surgery to discriminate between normal and abnormal lip movement.

Further information of the research undertaken by the 3D Group can be accessed through the iBook store "3D Imaging Group - Stephen Richmond".

From left to right: front row; Prof Stephen Richmond, Prof Colin Riordan, Prof David Marshall, Yin Shan Ho (ARUP), Hawraa Abbas, Dr Hashmat Papat, Dr Hanxing Zhu; Back row; Prof Paul Rosin, Dr Peter Claes, Prof John Middleton, Dr Greg Parker, Prof Derek Jones and Mr Nicholas Drage.

## Dental pulp stem cells: Cell banking and use in regenerative medicine

Stem cells are unspecialised cells which provide the body with its own repair mechanism. At time of tissue damage or disease they have the potential to transform or differentiate into the required specialised cell type to instigate repair.

The first reports of the isolation of stem cells from teeth were published some 15 years ago and these cells isolated from teeth have the ability to be differentiated into a number of specific cells types that are capable of synthesizing a variety of tissues including bone, cartilage, muscle and, more recently, nerves. If their potential and biological efficacy can be harnessed, then dental pulp stem cells may find clinical use in treatments for numerous conditions such as repair of damaged nerves, ophthalmic diseases, cardiac diseases, brain degenerative diseases, enhanced bone grafting and repair of musculoskeletal disorders, to name

just some of their potential uses. Recruitment of dental pulp stem cells as part of endodontic treatment has long since been recognized as a clinical benefit leading to dentine bridge formation, aiding longevity of the restoration. Advances in research should allow the use of dental pulp stem cells in the repair of pulp or in the regeneration of significant loss of the tooth structure. It has also been demonstrated that dental pulp stem cells can be used to engineer a whole "biotooth" in an animal model.

The relatively painless nature of cell collection with minimal invasion makes it a very exciting candidate for cell isolation, banking and expansion and use for stem cell treatments and patient specific therapies. Whilst clinical use is at a very early stage, and success limited to only a few patients, a significant body of research is focused on determining the potential clinical efficacy of stem cell treatments and there is still much we do not fully understand. Research in Cardiff is focused on determining how best to exploit dental pulp stem cells and how we may be able to isolate the ideal stem cell populations to aid the repair of bone, dentine and nerves, which could be used clinically. We also work with BioEden, a commercial stem cell bank that

collect MSCs from the pulpal tissue of naturally exfoliating teeth to provide an individual with a source of stem cells for an anticipated use in later life.

Banking of these cells, if undertaken ethically, can provide a possible source of stem cells for patient centered regenerative medicine but patients need to understand that we are still some years away from stem cell therapy being a routine biomedical treatment. Whilst biological and clinical studies suggest a huge potential for dental pulp stem cells in regenerative medicine, we must maintain an element of caution and realistic expectations. By cryopreserving their pulpal cells, patients are storing a potential, not a clear or definite solution – at least at the moment. Research is still focused on stem cell therapy and the stem cells isolated from teeth may well provide an easily accessible source of stem cells in regenerative medicine.

Professor Alastair J Sloan and Professor Rachel Waddington

## Renishaw partnering research projects in the School of Dentistry

During the last two years the global engineering company Renishaw plc has become more and more associated with the research at Cardiff School of Dentistry. Based in Gloucestershire, the company is a world leader in metrology, computer modelling, 3D printing and innovative technology for additive manufactured parts for medical applications. Winners of 18 Queen's awards, it is currently establishing a manufacturing base in Miskin in South Wales.

Renishaw's association with the School started in 2012 in our dental technology production labs where Cardiff were one of the first to use computerised design for the manufacture of partial denture frameworks using digital x rays and 3D printing in a fraction of the time and with greater precision. This technology has been further developed for the manufacture of crowns and dental implant bridges. Additionally, maxillofacial surgeons are being given the opportunity to use the technology to create skull plates, orbital floors and other prostheses through titanium powder 3D printing capabilities.



Paul Clarke and Roger Maggs inspecting their handywork

More recently, Renishaw funded research at Cardiff School of Dentistry investigating the establishment of bacterial biofilm on the surface of dental abutments. Through a PhD studentship funded between the School and Renishaw, we are now using our collaborative research in the development of surface additives and nano-patterned structures to design antimicrobial surfaces to help maintain healthier implants. This exciting partnership is anticipated to foster and support high quality research that will lead to improved treatment solutions for the dental team and their patients.



**RENISHAW**  
apply innovation™





## 2014/15 Research prizes for Cardiff

Congratulations to all staff and post-doc students who were successful in obtaining the following prizes in 2014 and 2015

### 2014

Well done to Wayne Ayre who won the mineralised tissue prize, **Kirsty Sands** who won the poster prize and **Emma Board Davies** who received a commendation for the Senior Colgate Prize at the Pan European Region meeting of the IADR in Dubrovnik 2014.

Well done to **Rachael Moses** for winning a poster prize at the European Tissue Repair Society meeting in Edinburgh, 2014.

A further congratulations to **Emma Board Davies** for winning the best Oral Presentation prize at the CITER annual scientific meeting, 2014.

### 2015

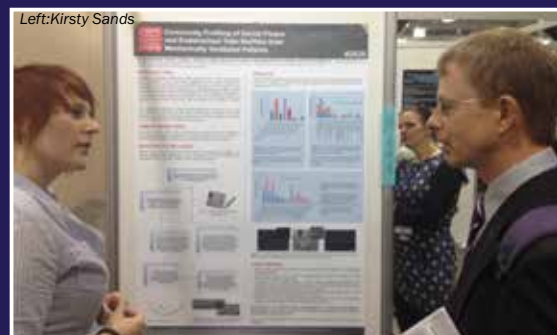
Congratulations to the following Cardiff Postgraduate students who won all the research prizes awarded during the 2015 3rd South West Regional Regenerative Medicine held in Bristol.

**Lorena Hidalgo** who won the best oral presentation.

**Daniel Morse** won a commendation for his oral presentation.

**Abeer Al Mouallad** won best poster presentation.

This is a real demonstration of their hard work and commitment and is an excellent reflection of the standard of research within the School.

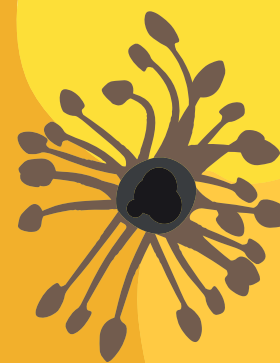


## Ground breaking dental clinical trial nears completion

The final dental clinical examinations of the 1,015 children who have taken part in one of the largest dental clinical trials ever undertaken in Wales were completed on 11th December 2015. The study, which is being conducted by the Dental Public Health Unit in the School of Dentistry and the Community Dental Service, Cardiff and Vale UHB, is designed to establish the relative clinical and cost effectiveness of fissure sealants and fluoride varnish in the prevention of dental caries on first permanent molars.

Study participants have been followed up for the past three years. The research team are currently analysing the data generated during the trial and the results will be available in mid-April 2016. The study is being funded by the National Institute for Health Research, the NHS body which funds research to answer questions of importance in developing the evidence base for NHS care in the United Kingdom.

Photo: Treatment underway in the Seal or Varnish trial.



# faceup cymru

The Head, Neck & Oral  
Cancer Foundation

## Head, Neck and Oral Cancer Foundation

### Our Mission Aims of Faceup Cymru

We wish to work with people whose needs and wants are diverse and many. We understand that cancer doesn't just affect the patient but their family and friends as well. Together we want to promote an environment that is progressive, innovative and responsive.

### Faceup Cymru's Objective:

Our objective is to help people in need with the support they need and make their lives more comfortable. We provide a range of support systems, including coping strategies, counselling, recreational and educational opportunities and we help those who require our support 100%.

### Highly Specialised Support:

We understand that patients who have head, neck or oral cancer require a great deal of support from friends and family but also from others who have experienced similar trauma. We have a team that specialise in making sure we are on hand to help wherever we can.

Faceup - the Head, Neck and Oral cancer foundation has been going for over 10 years and has funded :-

1. Head and Neck Nurse Specialist
2. Head and Neck Dietician
3. Head and Neck Speech and Language Therapist

We are now looking at funding :-

1. Head and Neck Physiotherapist
2. Head and Neck Wound nurse
3. Head and Neck Psychologist

### Help us to Face Up to Head and neck Cancer.

We have a monthly support group meeting where we have complimentary therapy input as well as informative talks.

If people are interested in helping in any way - talks, presentations, fund raising then please contact Michael Fardy or Alison James for further information :-  
Alison.James3@wales.nhs.uk or michael.fardy@wales.nhs.uk or

or visit the website-  
[www.faceupcymru.org.uk](http://www.faceupcymru.org.uk)

### Forthcoming Funding Events:

Mike Fardy will be walking to Kilimanjaro in December 2015 to raise money for our Head and Neck Cancer charity.

You can help him raise money for this great cause by donating directly to the fundraising page -  
[www.justgiving.com/MikeFardy](http://www.justgiving.com/MikeFardy)

JustGiving sends your donation straight to Faceup Cymru and automatically reclaims Gift Aid if you are a UK taxpayer, so your donation is worth even more.

Thank you for your support!





**CARDIFF**  
UNIVERSITY  
**PRIFYSGOL**  
**CAERDYDD**

Dental Education Clinic

## School of Dentistry Post Graduate Courses

As part of its exciting Academic and Clinical training Programme, Cardiff University School of Dentistry is pleased to offer in 2016 the following taught postgraduate, clinical and non-clinical programmes:

### Master of Clinical Dentistry

A three year full-time clinical training programme in Endodontology or Prosthodontics leading to eligibility to sit the Royal College of Surgeons Conjoint M Endodontology and M Prosthodontics Examinations. This programme is only open to non-EU students.

### MSc Implantology

A one year full-time, or two years part-time, academic and clinical Programme leading to the award of MSc or Diploma in Implantology. In this Programme, students treat patients provided for them under expert supervision. Students have the opportunity to participate in the full spectrum of contemporary implant practice where all forms of bone and soft-tissue grafting are undertaken.

### MScD Orthodontics

A three year full-time training Programme leading to the award of MScD in Orthodontics and eligibility to sit the Royal College of Surgeons Membership in Orthodontics.

### MSc Tissue Engineering

A one year full-time Programme. The CITER MSc Programme is currently in its 10th year. One of the few programmes which accepts students who are clinically qualified (BDS, MBBS) or non-clinically qualified (BSc), providing a unique teaching and learning environment. Students on the MSc Programme have the opportunity to attend many different clinical attachments and visit local companies developing stem cell and other relevant therapies for clinical use. To date, 95% of our graduates develop careers in areas highly relevant to the MSc Programme's remit in tissue engineering. These include graduates who undertake PhDs in the UK, EU and USA (63%), further clinical training (13%); and careers in industry and clinical laboratories (13%).

### MSc Oral Biology

This 1 year course (full-time) provides an in-depth academic understanding of the structure and biology of oral tissues, their interaction with oral microflora in leading to pathological destruction and the application of this knowledge in delivering diagnostic and therapeutic translational advancement, not only applicable for Clinical Dentistry but many other medical disciplines.

Further details of these, and the other programmes, are available at:

**[www.cardiff.ac.uk/dentistry/courses/postgraduate-taught](http://www.cardiff.ac.uk/dentistry/courses/postgraduate-taught)**

Informal enquiries are welcome and visits to the School/Programme Leads can be arranged via:

**[DentalPGAdmissions@cardiff.ac.uk](mailto:DentalPGAdmissions@cardiff.ac.uk)**



Entrance foyer to Mountain Ash Teaching Unit



Post Graduates' room



MSc Implantology Student



MSc Tissue Engineering Student

## Association for Dental Education in Europe 41st Annual Meeting

The Association for Dental Education in Europe (ADEE) 41st Annual Meeting – “Communication and Interaction in Dentistry” was held in Szeged, Hungary. A wide range of related aspects were discussed during the meeting, among them methods in teaching communication skills, communication between the dentist and co-workers, and ethical questions.

The following staff from the School of Dentistry were in attendance and making a

contribution to the conference - Jeff Wilson, Atif Hussain, Isabelle Cunningham and Paul Milward.

A new initiative at this year's meeting allowed academics to share their current education activities in a more relaxed and supportive environment. FREE stage is conceptualised as an informal and interactive short presentation followed by a questions and answer session to share (new) initiatives in education, sometimes

still in the process of development, and discuss the possibilities of these new initiatives with colleagues and peers. This format was well received by the membership.



## ENRICHING STUDENT LIFE AWARDS

**Cardiff University Students' Union**  
**Undeb Myfyrwyr Prifysgol Caerdydd**

Nominations from across the University were judged by a panel made up of students, Students' Union staff and University staff. The panel considered the level to which the student experience had been enhanced, the number of students benefiting and time put in enhancing the student experience.

The following staff from the Dental Hospital & School were successful in winning Awards.

### Miss Emma Stone – Most Uplifting Staff Member (NHS Staff)

Miss Emma Stone, Senior Dental Nurse, Dental Hospital won the most Uplifting Staff Member Award. Emma was nominated by the students for her work.

Miss Stone was delighted at winning this award.

### Dr Ilona Johnson – Most Innovative Staff Member

Dr Ilona Johnson won Cardiff University's most Innovative Staff Member Enriching Student life Award. She was nominated by the students for her work as Clinical Lecturer in Dental Public Health at the School of Dentistry.

Dr Johnson said “Being nominated and then chosen for this award was a real honour and such a surprise. I would really like to thank the students for nominating me and my colleagues for their support”

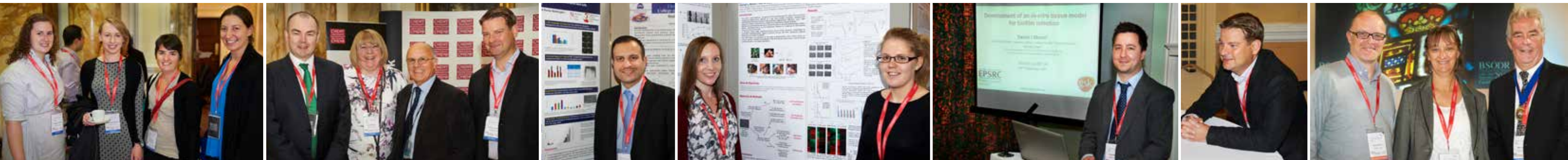


Left: Professor Elizabeth Treasure, Right: Dr Ilona Johnson



Left: Professor Elizabeth Treasure, Right: Emma Stone





## British Society of Oral and Dental Research comes to Cardiff

This year Cardiff School of Dentistry played host for the 2015 annual meeting of the British Society for Oral and Dental Research. The meeting attracted 300 delegates who presented 160 abstracts with oral and poster presentations given in eleven research areas: Health Services Research; Behavioural Science; Cariology, Diagnosis and Prosthodontics; Materials Science; Oral Cancer; Epidemiology; Periodontology; Pulp Biology and Stem Cells; Evaluation of Interventions; Microbiology; Oral Health Promotion. A strong focus of the meeting was to support the research development of PhD students and early career researchers and record numbers entering the various prestigious prizes offered by the society.

A great feature of the day were the workshops. Staff were divided into research or professional services according to their role within the School. They provided an opportunity to highlight either the support opportunities already available or propose new ideas to support people's career progression.

### General medical practitioners and dental problems: a case of inappropriate antibiotic prescribing: Anwen Cope

When suffering from toothache, rather than visiting a dentist, some patients will visit their general medical practitioner. In a large cohort study of 655 UK general medical practices, we found that dental consultations commonly result in the prescription of an antibiotic, which are unlikely to resolve the condition long-term. This raises concerns about possible patient morbidity from untreated dental disease and the potential contribution to antimicrobial resistance.

**Antibacterial Properties of Oral Progenitor Cells:** Emma Board Davies  
Oral progenitor cells derived from human gingiva, like other stem cells, have the capability to mature into several

different cell types. Additionally, they exhibit immunosuppressive properties to moderate inflammation. Many known immunosuppressive factors have a second function as antimicrobials. My study has demonstrated that these oral progenitor cells do indeed reduce the growth of bacteria through the secretion of several antibacterial factors.

### Potential for Direct Access In Care Homes In Wales: Maria Morgan

Our study has projected that a large proportion of care home residents' dental care could be delivered wholly by hygienists or therapists with special care experience. Data on treatment need, for 655 residents from the 2010 Welsh care home survey, was cross-referenced with the GDC Scope of Practice document. 22% and up to 27% of care home residents' treatment needs could be wholly addressed by a generalist hygienist or therapist respectively. Equivalent percentages for those with special care experience were 43% and up to 53%.

### Development of an In-Vitro Tissue Model for Biofilm Infection: Daniel Morse

Denture associated stomatitis arises as a result of a multi-species bacterial biofilm that develops on the denture acrylic, initiating a response from the host cells of the oral palatal tissues to try and combat the infection. In order to further our understanding of disease pathology we have developed a lab-based tissue model equivalent to palatal tissues that can be used to study mechanisms for bacterial biofilm infection and the response of the cells.

### Seeds of Hope for the Treatment of Impaired Wound Healing in Skin: Rachael Moses and Jordanna Dally

Skin cancer is a significant problem in Australia and the UK. An Australian company, QBiotics Ltd has identified that chemical compounds (EBC-46 and EBC-211), in seeds from certain trees found in Queensland's Tropical Rainforest,

have potent anti-cancer properties. These compounds also promote exceptional healing in treated skin, by accelerating wound healing. Our research is currently elucidating how these compounds modulate the cells of skin confirming their value as novel treatments for treating these conditions.

### Multilevel Principal Component Analysis (mPCA) for Shape Analysis: Initial Applications to Dental Research: Damien Farnell, Hashmat Popat, and Stephen Richmond

Multilevel PCA allows us to analyse co-ordinate points on images and create efficient models of shape and determine major types of variation between individuals. It allows generation of computer programs as a specialist resource to apply 3D imaging for better dental practice. Our research has applied this research to the measurement of facial expressions or to panoramic dental images to the benefit of orthognathic surgery.

### Salivary and microbial changes in dental plaque in mechanically ventilated patients: Kirsty Sands

Ventilator associated pneumonia (VAP) is an infection of critically ill patients associated with high morbidity and mortality. In this study of 105 mechanically ventilated patients we demonstrate that VAP is linked to colonisation of the dental plaque with respiratory pathogens. Associated salivary changes included a significant increase in pro-inflammatory cytokines. Significantly, reversion to a dental plaque associated with health was encountered following extubation. We now look to investigate if altering the cytokine profile to that found in healthy mouths may help to prevent the colonisation of respiratory pathogens and reduce VAP.

### Possible role for novel matrix proteins in stimulating early bone formation: Paul Batersby

Efficient bone repair requires the transformation of mesenchymal stem cells into bone synthesising cells, called osteoblasts, that is stimulated by a range of bioactive signalling proteins. This research has looked to identify the synthesis by these stem cells of a protein called biglycan, and its potential as a novel signalling factor capable of driving bone formation. These data will inform our research for the use of various combinations of signalling proteins in the development of new bioactive restorative dental materials that accelerate bone repair.

### The Influence of High Glucose Levels on Mesenchymal Stem Cells and Consequences for Diabetic Bone Repair: Ahmed A Al-Qarakhli

Diabetes Mellitus type 2 is a metabolic disease caused by resistant to insulin leading to a delay in bone healing. Mesenchymal stem cells are known as an important cell population of varied maturity responsible for bone regeneration. Our studies have suggested that high glucose has various influences on the biological behaviour and fate of these diverse cell populations which would have an effect to reduce their efficiency to synthesise bone when required.





Increase links with colleagues who are in similar roles to gather feedback, ideas and decrease isolation

Take up the benefits of mentoring schemes

Consider the challenges for managing expectation

Identify on-line professional development tool-kits such as the Vitae Researcher Developer Programme

Consider opportunities for secondment and job share

Take ownership for own career

## Promoting Women in Careers: Development workshop

A workshop was held in October 2014 to promote Women in Careers and highlight career development for all focusing on women who have been successful in their chosen career pathway. The day included lectures from Professor Elizabeth Treasure, Deputy Vice-Chancellor, Mrs Sally Worth, Interim Director of Organisational and Staff Development and Mrs Sam Clarke, College HR Business Partner who talked about their own experiences and hurdles overcome along the

way. The workshop was attended by 70 delegates both male and female from Schools within the College of Biomedical & Life Sciences.

Elizabeth Treasure quoted:

**“It’s really important both to take opportunities that come along but also to say ‘no’ to ones that don’t take you where you want to go.”**

## Athena SWAN award

Athena SWAN is a national scheme to promote women’s careers and gender equality in science, technology, engineering, maths and medicine. The School of Dentistry was awarded the Athena SWAN Bronze award in 2010 and has just re-submitted a renewal application for a Silver award.

These awards recognize our commitment to supporting career development of women at all stages, from undergraduate, professional services and academic staff through to professorial level. Merited comments in our application include the promotion of work-life policies, enabling a high retention and career progression of both male and female staff. Key features include the ability to adapt to flexible working hours at all grades to accommodate preferred working practice and a recognition of family friendly core working hours between 9.30am to 3.30pm to accommodate committee meetings and social gatherings.

The School also highlights our support to undergraduates with extensive training to better prepare them for the newly implemented UK-wide Dental Foundation interview process, achieving the 2nd highest BDS employability rate amongst UK Dental Schools.



## Professor Barbara Chadwick

Vice Dean, Education and Students

As Vice Dean my role is to ensure that the School educates our students to the very highest standards - as undergraduates supporting them to the transition to independent learning; as postgraduates providing opportunities to enhance their scientific knowledge and clinical skills.

We are fortunate in Cardiff that the University and NHS work closely together and the Clinical Board for Dentistry includes the School of Dentistry, hospital based dental specialist services and the Community Dental Service. Together we deliver over 100,000 patient contacts each year, 75% of them involve students at some stage, a huge contribution to the NHS in Wales and one that we are rightly proud of.

We have around 500 students on taught courses, the majority of them are undergraduates; the

transition from school leaver to dental professional requires students to acquire academic, clinical, organisational and personal skills, and the challenge we face as educators is to deliver a high quality consistent experience to all of our students. That is a hard thing to do when each patient is different.

Traditionally lecturers in dental schools were clinicians and researchers who did some teaching, but being a good teacher does not happen by accident, it takes time, training and effort. To support this professionalisation of educators in 2014/5, we introduced education staff development days and supported staff to attend assessment workshops for clinical disciplines. These were run by clinicians with international reputations as educators to upskill our next generation of clinical teachers. As I write we are in the middle of the exam season and this year, to improve the reliability of our examinations, we



have introduced videos of mock vivas to prepare students and calibrate our examiner teams. Small changes in themselves but cumulatively making the examination process fairer and clearer for each generation of students.

## Manon Pritchard

Since qualifying at Cardiff in 2009 I have had a broad range of clinical experience, from general practice to an SHO post working on the Paediatric clinic at Cardiff School of Dentistry during my DF2. I have also worked on a busy on-call rota in Maxillofacial Surgery at Prince Charles Hospital, in Merthyr Tydfil.

I was always keen to work in scientific research and in 2011 I obtained an EU-funded PhD at Cardiff School of Dentistry working with Professor David Thomas. My PhD has provided me with a broad range of research skills and allowed me to advance my interest in academia.

During this period I developed my career as a researcher and had several opportunities to present my work locally and internationally, gaining awards for both oral and poster presentations. Being a fluent Welsh-speaker I have had the privilege of also presenting my work to medical and dental Welsh societies.

My current role within the school entails researching novel alginate oligomers for anti-microbial therapy and the potentiation of antibiotics

against multi-drug resistant bacteria in chronic lung diseases, such as cystic fibrosis. In developing novel therapeutics I have gained an understanding of translational research leading to a series of successful publications. This work not only has dental implications (e.g. maxillofacial trauma, candidiasis, periodontitis, peri-implantitis), but also wide applications in a range of diseases including chronic skin wounds and burns.

I am looking forward to expanding the Advanced Therapies Group at Cardiff School of Dentistry and I am eager to develop my career in dental research and enhance collaboration to take developments in the laboratory to benefit patients. I also teach on the Masters in Implantology postgraduate course, and examine dental undergraduate students.



Being originally from the North Wales countryside, I have a great passion for the outdoors which I enjoy pursuing during my spare time. I am a keen runner and I have recently returned to my roots to achieve my goal of completing the Snowdonia marathon.



## Professor Alastair J Sloan

Vice-Dean, Research and International

As Vice-Dean for Research and International Engagement Professor Sloan is responsible for developing, implementing and delivering the research strategy for the School of Dentistry, working closely with the Heads of Theme. He is responsible for aligning the School's research activity with three of the College Research Themes and ensuring that the School has a diverse research portfolio that is both applied and multidisciplinary in nature. Our research and scholarship benefits from worldwide scientific collaborations and strategic relationships and Professor Sloan also oversees the School's International Engagement activity, supporting colleagues with their own research collaborations but also building strategic links between the School of Dentistry and International Schools/Partners to ensure that our students and staff have the best opportunities to learn from different centres and institutions across the globe and that we are able to recruit talented researchers and educators from all over the world.



## Professor David W Williams

Theme Lead-Oral and Biomedical Sciences

Professor Williams is highly enthusiastic about the new challenges and opportunities that accompany his new role as 'Theme Lead' for Oral and Biomedical Sciences (previously Tissue Engineering and Reparative Dentistry). His primary goal will be to further promote the Theme's research and teaching activities, whilst maximising development of its staff and students alike. The quality and diversity of the Theme's research activities is an undoubted strength, and Professor Williams aims to further encourage interdisciplinary research approaches to address clinical problems within oral and biomedical disciplines.



## Professor Rachel Waddington

Associate Dean for Engagement and Enterprise

This is a new position for the School's Senior Management Committee to help deliver on the University's Way Forward so that Cardiff University will be consistently recognised as an internationally connected University, to achieve a position of top 100 universities in the world. Engagement and Enterprise activities are now regarded as core activities of Research, Teaching and Scholarship, which will enable the School to achieve number one status for research and teaching. Through a diverse array of activities our aim is to provide opportunities for taking the knowledge base within the School and sharing with National and International Universities, Schools, Industry, Government departments, Non-Government Organisations and Alumni, with much mutual benefit for long-term success.



## Professor Sheila Oliver

Professor of Dental Education

Sheila is a consistently popular member of staff amongst colleagues, and current and former students. A graduate of the University College of Wales, Sheila has an international reputation in Dental Education. She is a recipient of the 'Excellence in Dental Education' Award from the Association for Dental Education in Europe (2011). Significantly Sheila was recognised with a National Teaching Fellowship from the Higher Education Academy in 2012 – as few as 50 such fellowships are awarded annually across all teaching subjects in Higher Education Institutes/Universities. This underlines Sheila's abilities and achievements as a University teacher.

Sheila will continue in her role as Director of Assessment within the School – a key role given the recent GDC inspections to the BDS and Dental Hygiene & Therapy programmes. Holding an FDS by assessment from RCS Edinburgh, and being recognised as a Specialist in Special Care Dentistry, Sheila will also provide leadership in leading teaching in Sedation and Special Care Dentistry to the undergraduate students.



## Professor Alan Gilmour

Associate Dean of Undergraduate Education

This new post brings undergraduate education into line with postgraduate education where Professor Ivor Chestnutt is the Associate Dean. As the current Director of the BDS programme the new post allows me oversight of the Dental Hygiene Diploma and the Dental Hygiene and Therapy BSc programmes. This will facilitate better integration between the programmes, and allow some processes to be standardised across all of the programmes of study. Integration is an important element of team working and is made easier through shared learning outcomes found in the GDC Outcomes for the Dental Team: Preparing for Patients, document aimed at Dental Schools. I look forward to continuing working with my colleagues Professor Chadwick and Professor Oliver, and with Dr Locke, the Director of DH&T education.



## Staff retirements 2015

Mrs Lesley Bennison retired after 36 years' service within the School of Dentistry on 9th March 2015. Lesley began her career working as Departmental Secretary in Oral Surgery and then went onto work as Human Resources Officer for the School and for the College of Biomedical & Life Sciences until she retired until March.

Ms Dina Chetcuti retired from her post as Tutor Hygienist on 30th March 2015.

Mrs Olwen Kemp worked in the School for over 15 years as a Library Assistant, Senior Library Assistant, and Assistant Library Operations Manager before retiring on 24 July 2015.

## Dr. Vera Knäuper

Postgraduate Director of Research

For those of us involved in Postgraduate Research the challenge over the next decade is to balance increasing Postgraduate Research Student numbers, whilst maintaining a supportive, internationally competitive and successful research environment. Our activities aim to train the current and next generation of scientists & medical professionals to the highest possible standard allowing them to reach their full potential for the wider good of society. As the newly appointed Director of Postgraduate Research at the School of Dentistry, I am looking forward to working with our principal investigators in the School and wider University, to ensure and enable our success. I will be operating an open door policy to facilitate efficient communication across our three Research Themes and look forward to the challenges lying ahead.



Mrs Lesley Bennison



Ms Dina Chetcuti & colleagues



Mrs Olwen Kemp



## Honduras Dental Brigade

In March of this year, twenty enthusiastic dental students from Cardiff University travelled to Honduras in Central America in cooperation with the Global Brigades charity. Our purpose: to run a dental clinic and provide free dental care to the people of Honduras, a people in dire need of healthcare and aid.

When we finally arrived in Honduras we were met with a warm welcome from our supporting charity workers at Global Brigades.

On arriving at the compound we were given a tour that could have featured in a tourist magazine. Needless to say we were pleasantly surprised even on our first day!

Day two arrived at 5 a.m. with the wakeup call to load our trucks with clinical equipment and provisions ready for our first taste of dentistry in Honduras!

To say conditions were basic by comparison with your local dental practice on a high street in Britain would be understating things somewhat. So began a morning to remember: temperatures rising and humidity stifling, we developed a routine of broken Spanish and rapid assessment. We managed to assess and plan treatments for 298 patients by 2 p.m.

Mornings and afternoons involved rotating students through extraction clinic, filling clinic and educational workshops for the children on oral and general health. The team worked efficiently but maintained compassion and care for every patient even when limited by a significant language barrier.

From a statistical point of view, in four days of treatment we saw a total of 322 patients, 376 extractions, 299 fillings and 361 children attending our education workshops and

receiving fluoride treatment. Every student managed to see a minimum of 10 patients for extractions and 5 patients for fillings. When faced with new equipment, a difficult working environment and an unknown patient, each of us was forced to adapt, to persevere and ultimately to provide good quality dental treatment to many individuals in great need of it. Needless to say, we all came away with greater confidence and skill that will be really valuable to our working careers as dentists; but not only that, we have seen the impact our vocation can have when put to good use in areas of lack across the world.

The patients we saw over these days will be remembered with happiness. We hope we made a positive impact in the lives of those we met and cared for, and equally in a country in serious need of positive input. We would like to take this opportunity to thank all our generous sponsors and donors who made this trip possible by contributing finance, dental supplies and good wishes, we are indebted to you.

If you are interested in establishing a similar brigade where you are, or if you would like to support the Global Brigades charity, then please contact me at:

joshuascaife@  
cardiffdentalbrigade.org.  
uk

by *Joshua Scaife, Year 5 Undergraduate BDS Student.*



## Student profiles

As we wish our 2015 year graduates all the best for their future careers, two graduating students review their undergraduate years in Cardiff.

### Aisha Shabir

Aisha was the student president during the fourth year on the dental course. She stood for the position because she “wanted to gain new experiences for developing her extracurricular skills, provide a student voice via School committees, with a view to improving life experience for other students.” She has enjoyed studying in Cardiff because “it is a small city with plenty of social opportunities. Cardiff has a strong student atmosphere. As a student and president I was aware of the strong student support within the Dental School and I was involved in innovative mentoring initiatives such as the Dental Family. Another strength of the course was that it prepared you for DF1 interviews and within my year all fellow students were successful in securing foundation training places.” Aisha looks forward to starting her foundation training in a dental practice in South Birmingham and then a placement within a Hospital setting. Her favourite subject area has been prosthodontics, especially the ability to practice her skills through the “Open Lab sessions.” For this reason she chose as her final year project to research the clinical effectiveness of fluoride on bone biology and potential applications in osseointegration.

### Emily Summers

Since her first year, Emily has always looked towards a Dental career in the Army. Her next destination is Bulford Army Camp, Salisbury Plain where she will be treating Army Personnel and then officer training at the Royal Military Academy, Sandhurst.

During her first three years of the course she was a member of the officer training corps, which aims to give University students an insight into military life. “I spent two weekends every term in the Brecon Beacons, sleeping without a tent and shooting a rifle. It was quite a contrast and sometimes surreal to return on a Monday to the Dental course and regular student life.” The Army corps has also allowed Emily to follow her sporting passion for equestrian competitions but she has also enjoyed the many sporting and music events on offer in Cardiff. She has balanced this with her dental studies and her favourite subject area has been restorative dentistry, “because it was introduced during the first years of the course. Delivered as building blocks throughout the course, it has developed my confidence in dentistry and transferable skills such as communication and developing leadership skills, which I see as useful for my Army career.”



Aisha Shabir



Emily Summers

### Thai student stresses benefits of learning Welsh

Supachai Chuenjitwongsa at the National Eisteddfod



The launch of the University's scheme to support students learning Welsh alongside their studies featured an inspirational student from Thailand who is now fluent in the language.

Supachai Chuenjitwongsa, who has just completed a PhD in Dental Education, learned Welsh at the University's Welsh for Adults Centre. He addressed the launch of Welsh for All in fluent Welsh as the scheme

was launched by First Minister Carwyn Jones at the University's pavilion at the Eisteddfod.

Supachai said he started learning Welsh in 2011 because he wanted to be able to say the Welsh words on street signs but soon realised there were so many other benefits.

“It's about understanding local culture, local language. It also helped me a lot to integrate into the local community,” said Supachai.”

“I made friends through the course. I know more people and I understand what happens in Wales in terms of the history and why people think or do something in a particular way.”

“It helped me understand that Wales is a separate country.”

His Welsh is now so good that he was invited to speak at the launch of Welsh for All in front of the First Minister. It was the first time he had addressed a public audience in Welsh but he said he enjoyed the experience.

“I was very nervous but I was very proud not only for myself and the language but I think the most successful thing I've done is given lots of messages about why learning Welsh is important,” he said.

Supachai has a very clear message to people thinking of learning Welsh, whether they are students at the University or anybody else.

“I believe that anybody can learn Welsh and enjoy doing it. Just go for it!” he said.





## Three quarters of a century and counting!

This is the number of years that the Oliver family have contributed to Cardiff University and Dental Hospital to date.

Richard has worked for the Welsh National School of Medicine, then University of Wales College of Medicine and finally Cardiff University – all without moving! He has worked in Cardiff for 39 years culminating as Professor of Dental Education and Consultant Orthodontist having moved from Newfoundland to commence Orthodontic training in Cardiff in 1976. He was born and bred in Lancashire but found his way to The London to study dentistry, qualifying in 1971. During his orthodontic training he met me while I was an undergraduate here (I qualified in 1978) and, although apart for a year whilst I undertook a resident oral surgery house job at the Eastman Dental Hospital in London, the rest is history. Married in 1981 we acquired a dog very soon after – the first of many!

In 1983 we started a new generation of contributors to the NHS with the birth of our daughter Katy (who is now close to completing Consultant Anaesthetic training) and then in 1988

our son Graham was born. Both children were immersed throughout their childhood in conversations around healthcare even helping support the development of PowerPoint presentations for me. It was either help with formatting or their turn on the family computer was delayed!

Regular visits to the Dental Hospital for care or social reasons meant that both children were familiar with the building. Graham became really interested in dentistry as a career while studying in the sixth form and announced close to the UCAS application time that that was what he wanted to do. He was successful in gaining a place at Bristol to study, far enough away to be independent, but close enough to come home for food and laundry facilities and also to the Bristol Channel for his dinghy sailing. Following his graduation and completion of his vocational training Graham returned to Cardiff for a year in a DFT2 post working with me one day a week on the Examination and Emergency Clinic. He has now moved on to London to commence specialist training in Orthodontics at his father's alma mater, although, since Richard left it has acquired an additional 'Royal' title.

Richard and I are apparently the first husband and wife professorial team in Cardiff University (both within Dental

Education). Teaching and education has been a real passion for us both and I am pleased to see both our children developing similar enthusiasm with both pursuing education courses at postgraduate level.

The Olivers look forward to continuing their contribution to life in Cardiff University. We have seen so many changes through the years (including more name changes to the NHS administration than our academic home) and have enjoyed supporting students on their journey through their undergraduate years, and subsequently in their postgraduate careers. We are proud to have been able to serve the profession and Cardiff University for so long.

Prof Sheila Oliver

Sheila's Graduation for her MSc in Medical & Dental Education, with Richard (left) and Graham and Katy (right)



## Mr Matthew Thomas

Matthew Thomas qualified in 2004 from the University of Wales College of Medicine. He undertook vocational training and general professional training in general practice, community services and Welsh hospitals. After further hospital jobs he undertook a 5 year Specialist Training Programme in Restorative Dentistry. Matthew is a Specialist in Restorative Dentistry, Prosthodontics, Endodontics and Periodontics. After working in London, he returned to Cardiff 3 years ago as a Consultant in Restorative Dentistry.

### Why dentistry?

I had always been keen on a medical or dental career. I was drawn to dentistry as it was such a practical and varied career.

### Why did you chose Cardiff?

Being a passionate Welshman, naturally I was attracted to the capital city. I started my studies at the same time as the Rugby World Cup was staged in Cardiff which was also a highlight. I was also impressed during my interview and reports given from my brother, who also studied dentistry at Cardiff before me.

### What is your favourite memory of Cardiff?

Naturally the social life rates highly. Cardiff has expanded and developed as a city over the last 15 years and

much of this happened during my time at university.

### What was your greatest achievement at Dental School?

I was fortunate enough to have success during my studies and was delighted to receive nine academic prizes which included anatomy, dental materials and oral surgery. My proudest achievement was receiving a Distinction in my final year and the award of "Excellence for Final Year Examinations"

### What challenges will dentistry face in the next 10 years?

There will certainly be changes in services although it is difficult to predict in what way. The population is ageing which means our patient base will have more co-morbidities to manage. The huge popularity of dental implants will lead to a cohort of patients that have complex restorations that will require long term maintenance. On a professional level, I believe that regulation mechanisms will continue to evolve and more time will be needed for continued professional development.

### What are you doing now?

I am a NHS Consultant in Restorative Dentistry and manage the care of patients referred from general dental practice and specific cohorts of patients with complex medical and dental problems. One of my special

interests is the rehabilitation of patients suffering from congenital defects with bridges and Dental Implants. I am an Honorary Senior Lecturer for the School of Dentistry where I train undergraduate and postgraduate Master's students in all aspects of Restorative Dentistry and Endodontics. I also work part time in referral practice.

### What advice would you give someone considering studying dentistry at Cardiff?

I would highly recommend they put Cardiff at the top of the list. The city is even better than when I was studying here so you are sure of a great time. The facilities in the Dental Hospital are excellent. The close link between the NHS service and University makes it a great environment for students to learn how to care for patients.

### What advice would you give to new dental graduates?

Keep it simple to start with and take your patient with you on their treatment journey. This approach will give your patient the best outcome and leave you with less stress! Professionally, keep your options open within dentistry by networking and participating in courses. You will be working for decades so make sure you can enjoy (most of) it!





For more information visit [cardiff.ac.uk/dentistry](https://cardiff.ac.uk/dentistry)