Research report 2012-2013

Measuring progress

The UoADS’s research strategy is informed by a range of both quantitative and qualitative indicators that allows us to follow progress to achieve our goals. International excellence is our primary indicator of progress. Specific measures are:

1. Research grants income  
2. Publications in peer reviewed journals  
3. Conference presentations by staff (oral and poster)  
4. Research awards to staff  
5. Impact of research (including press coverage)  
6. Interdisciplinary collaboration (international, local and national)  
7. Postgraduate research students (Masters and PhDs)  
8. Research visitors (staff and students) from other institutions  
9. Research awards to students  
10. Conference presentations by students  
11. Undergraduate summer research students

Summary

To summarise, in the past two years we were rewarded four grants totalling £627,000, published 23 papers in peer reviewed journals, presented 26 papers at local, national and international conferences and had two research awards to members of staff. We hosted four international students, supervised two MSc students and supervised four summer students. Two students received research awards and six presentations were made by students at research conferences.
1. Research grants income

2012

- Hijazi, K. “Microbicide Optimization Through Innovative Formulation for Vaginal and Rectal Delivery”. European Commission-funded collaborative project aimed at developing optimized formulations of anti-retroviral-based microbicides against HIV-1. Funding awarded €578,000.

- Hijazi, K. "Fragment-based Screening for Development of Inhibitors Preventing HIV-1 Entry". Project in collaboration with the Kosterlitz Centre for Therapeutics, University of Aberdeen and the Drug Discovery Unit, University of Aberdeen for development of novel HIV-1 entry inhibitors. Funding awarded: £19,000 (Scottish Universities Life Science Alliance), £9,890 (University of Aberdeen Knowledge Transfer Fund).

- Hijazi, K. Foley, J. “Oral Microbiota in Patients with Recurrent Aphthous Stomatitis”. Pilot study funded by Tenovus Scotland aimed at investigating the role of oral microbiota in triggering/modulating inflammation at ulceration sites in patients with Recurrent Aphthous Stomatitis. Funding awarded: £10,000.

- Macfarlane, T. “Role of human papillomavirus infection and other co-factors in the aetiology of head and neck cancer in Europe”. IARC €20,000.

2. Publication in peer reviewed journals

2012

Foley JI and Drummie J. Handpiece and bur skills evaluation during an introductory clinical skills programme in a graduate-entry dental school: a pilot study. *Eur Arch Paed* 2012; 13: 149-151


Foley JI. Use of material trioxide aggregate, MTA by postgraduates in restorative dentistry in the UK *Eur J Prosthodont Restor Dent* 2012; 19: 179-183


Wirth T, Macfarlane TV et al. Can Alcohol Intake from Mouthwash be Measured in Epidemiological Studies? Development and Validation of Mouthwash Use Questionnaire
with Particular Attention to Measuring Alcohol Intake from Mouthwash J Oral Maxillofac Res 2012 (Jul-Sep);3(3):e1


Barker D. Implant Assessment. Dental Update 2012; 39: 128-134

Hutchison C, Morrison R. Oral and Maxillofacial Trauma and the Use of Telemedicine in the Grampian Region of Scotland: a Retrospective Study. J Oral Maxillofac Res 2012 (Jul-Sep);3(3):e2


Foley JI. Dental students consistency in applying the ICDAS system within paediatric dentistry. Eur Arch Paediatr Dent. 2012 Dec;13(6):319-22. PMID: 23235133


2013

S Rollings, B Stevenson, D Ricketts. When It All Goes Wrong! Part 1: Case Assessment and Management Options. Dent Update 2013; 40: 82-91


3. Conference presentations by staff (oral and poster)

The Dental School and Hospital has been well represented at international and national conferences each year, with many members of staff taking part in oral or poster presentations and chairing sessions.

2012

38th Association for Dental Education in Europe Annual Meeting. “Evidence-based dentistry: from bench to clinic” Lyon, France

- Pilley A, Richardson GL, Hijazi K and Foley JI. Can admissions data predict subsequent academic and clinical performance in a graduate-entry dental school?
- Foley JI, Richardson GL and Hijazi K. An analysis of admissions data and subsequent OSCE performance in a graduate-entry dental school.
- Hijazi K, Abu Eid R and Foley JI. Can students predict their OSCE performance within a graduate-entry school?
- Hijazi K, Abu Eid R and Foley JI. Analysis of inter-examiner reliability of OSCE assessments.
- Foley JI, Hijazi K and Abu Eid R. Dental students consistency in applying the ICDAS system within paediatric dentistry.
- Richardson GL, Hijazi K and Foley JI. The paediatric dentistry experience of the first cohort of students to graduate from a Scottish graduate-entry programme: have we met the pre-requisites?
- Lopez RM, Richardson GL, Hijazi K, and Foley JI. The restorative dentistry experience of the first cohort of students to graduate from a Scottish graduate-entry programme: have we met the pre-requisites?

The British Association for Study of Community Dentistry, King’s College London
- Cunningham CM, Gallagher JE, Newton JP 'Graduate-entry dental students in Aberdeen, Scotland'.

International Association for Dental Research, General Session, Iguassu Falls, Brazil
- Zaric S, Taggart C, Coulter W. “TLR9 contributes to induction of chemokine paralysis- Implications in periodontitis”. Dr Zaric was also chairing a session on Immune Responses at this meeting.

American Association for Cancer Research Annual Meeting, Chicago, USA
- Macfarlane TV et al. High pain prevalence is reported by patients with head and neck cancer: systematic review.

NHS Grampian Endowments Annual Research Symposium, Aberdeen, UK
- Macfarlane TV et al. Feasibility study of cancer of the head and neck, genetics and environment in Grampian region of Scotland.

Memorial conference on Global problems in oncology, NN Blokhin Cancer Research Centre, Moscow, Russia
- Macfarlane TV “Epidemiology of cancer of the Upper Aerodigestive Tract (UADT).

59th ORCA Congress 2012, Cabo Frio, Brazil
- S. Rollings. "The effect of X-ray beam angulation on the accuracy of subtraction radiography for detecting occlusal demineralization"

PEF-IADR, Helsinki, Finland
- Richardson GL, Drummie J, Hijazi K and Foley JI. To determine the effect of a Clinical Skills Programme on the quality of a composite resin build-up used to restore tooth.
- Zaric S, Shelburne C, Coulter W. “Sialylation of Porphyromonas gingivalis LPS and immune system evasion”. Dr Zaric also chaired a session on Periodontal Research at this meeting.

Immunology Seminars, Institute of Medical Sciences, University of Aberdeen.
- Zaric S, “Tolerate your oral bugs or lose your teeth”

ARIADNE Training Network hosted by Neil Gow at the University of Aberdeen
- Hijazi K, “Ethical issues in patient recruitment for clinical trials and studies involving human participants”

1st MOTIF consortium meeting, Paris, France

2013

IADR General Session, Seattle, USA
- S. Zaric. “Interplay between monocytes and gingival fibroblasts in the pathogenesis of periodontal diseases”

8th Congress of the European Pain Federation EFIC®, Florence, Italy.
- Macfarlane TV. Self-reported facial pain in a nationwide study: UK Biobank

ADEE Conference, Birmingham 2013
- Richardson GL, Hijazi K, Craddock H, Foley JI. Applicant opinion of the information contained within the website of a graduate-entry dental school.
- Foley JI & Richardson GL. A novel on-line modular-based postgraduate masters programme in paediatric dentistry.
- Hijazi K, Richardson GL, Foley JI. A Pan-European Comparison Of Didactic- And Clinical Skills Teaching In Relation To The Management Of Dental Caries In Paediatric Dentistry.
- Foley JI, Richardson GL, Hijazi K. Self-, peer- and tutor-assessment of a clinical skills programme in paediatric dentistry.

BSPD Conference, Edinburgh 2013
- O'Donnell K, Richardson GL, Foley JI Evaluation of Referral Quality to a New Paediatric Dental Service in Scotland

4. Research awards to staff
Dr Sveta Zaric received the IADR/Lion Dental research Award for his achievements in the field of microbiology and immunology of periodontal diseases. The award, which is supported by the Lion Corporation of Tokyo, recognises outstanding and innovative research in basic dental science as well as research achievements for improvement and development of oral care products for the prevention of oral diseases.

Anna Maxwell, SHO in Restorative dentistry and Dean Barker, Consultant in Restorative Dentistry received the British Society of Periodontology's Audit Award for the project “Smoking and Periodontal Disease”.

5. Impact of research (including press coverage)
none

6. Interdisciplinary collaboration (international, local and national)

International
MOTIF is an SME-targeted collaborative project which obtained a contribution of 6 million euros by the European Union under the 7th Framework Programme (FP7) to develop
optimized formulations of microbicides against HIV-1. The project will run till September 2015 and it comprises 6 interrelated Work Packages. Dr Karolin Hijazi leads Work Package 1 aimed at investigating the role of drug transporter expression in mucosal disposition of anti-HIV-1 microbicides. [http://www.motifproject.eu/web](http://www.motifproject.eu/web)

Head and Neck Cancer Epidemiology Consortium (INHANCE) is an international collaboration of 65 Universities across four continents. Dr T Macfarlane is leading a project on aspirin and head and neck cancer.

National

Within Scottish Oral Health Research Collaboration Professor Helen Craddock has joined Dental Education research group, Dr Khaled Khalaf has joined the Craniofacial Research Group and Dr Tatiana Macfarlane has joined the Public Health/Health Services group.

Local

Aberdeen Fungal Group, University of Aberdeen (Dr K Hijazi)

7. Postgraduate research students

**PhD**

- Keiron Smith “Role of drug transporters in development of optimized microbicides against HIV-1” Supervised by Drs K. Hijazi, J. Foley and G. Hold (ongoing)

**MSc**

- Godwins Okagbo Echejoh “Genetic factors in the aetiology of head and neck cancer”. Supervised by Drs T Macfarlane and Z Miedzybrodzka. (2012)
- Ye Zhang “Immunomodulatory effects of viral TLR ligands on response to bacterial infections”, supervised by Dr S Zaric and Dr I Crane. (2012)

8. Research visitors (staff and students) from other institutions

Elena Voge, University of Bremen, Germany, *ERASMUS programme*, 6 months, 2012. Oral health epidemiology; supervised by Dr Tatiana Macfarlane.


Fatima Araujo Souza, Brazil, *Science without Borders Programme*, 2012. “Aesthetic appearance of orthodontic treatment outcome of severely mal-positioned upper canines using two extraction choices”; supervised by Dr. Khaled Khalaf

Tiara Ratz, University of Bremen, Germany, *ERASMUS programme*, 4 months, 2013. Oral health epidemiology; supervised by Dr Tatiana Macfarlane.

9. Research awards to students

John Miskelly, Carnegie Undergraduate Vacation Scholarship 2012, Research into prevalence, aetiology and associated dental anomalies of hypodontia in the Grampian region. Supervised by Dr K Khalaf and Dr T Macfarlane
Michal Kawecki and Matthew Doswell were awarded Aberdeen Summer Research Studentships 2013.

10. Conference presentations by students


Anusha Hennedige, European Association of Craniofacial-Maxillofacial Surgery Congress (Dubrovnik, Croatia) and JTG British Association Oral and Maxillofacial Surgery Meeting (Royal College of Surgeons, Edinburgh), 2012 “Long-medium term functional and clinical outcome for Temporomandibular Joint Total and Hemi-arthroplasties”, supervised by Mr Rory Morrison.

Michal Kawecki, BDA/ DENTSPLY Student Clinician Research Programme (BDA, London) 2013, " A decade of referrals to a restorative dentistry department"; supervised by Dr Tatiana Macfarlane, Mr Martin Donachie and Mr Dean Barker.


Michal Kawecki, Aberdeen Summer Research Studentships Evening Symposium, Aberdeen 2013, “Aesthetic assessment of orthodontic treatment outcome of severely mal-positioned upper canines using two extraction choices”. Supervised by Dr Khaled Khalaf, Mr Neil Clyne and Dr Tatiana Macfarlane.

Michal Kawecki. Launch of Scotland’s Health Research Register (SHARE), Aberdeen. “Grampian Dental Health survey”. Supervised by Dr Tatiana Macfarlane.

11. Undergraduate summer research students

Our Dental School has joined the Aberdeen Summer Research Studentship Programme (http://www.abdn.ac.uk/acat/ugrad-research/ASRS/ ).

Klaudia Sobczak, a pupil from Inverurie Academy in Grampian, has won Nuffield Research Placement at our Dental School (www.nuffieldfoundation.org/scb), 2013 “Assessment of tooth root length of hypodontia patients”, supervised by Dr Tatiana Macfarlane and Dr Khaled Khalaf.

Rowan Ah-See, 2nd year medical student from Edinburgh University, 2013, “Systematic Review of the Genetic Basis of Isolated Hypodontia”, supervised by Dr Tatiana Macfarlane and Dr Khaled Khalaf.

Matthew Doswell, 2013 “A pilot study of dietary intake and behaviour of adolescent patients undergoing fixed appliance therapy”, supervised by Dr Khaled Khalaf and Dr Tatiana Macfarlane.

Michal Kawecki, 2013, “Aesthetic assessment of orthodontic treatment outcome of severely mal-positioned upper canines using two extraction choices”. Supervised by Dr Khaled Khalaf, Mr Neil Clyne and Dr Tatiana Macfarlane.