



European Society of Endodontology

### Annual Research Grant 2017

The European Society of Endodontology (ESE) awards an annual research grant to support a pilot research project or to purchase equipment for research in the field of Endodontology.

**Award 20,000 Euros** to Christos Boutsoukis



**Project:**

**Title:** Irrigation in minimally-shaped root canals.

**Summary:** Minimally Invasive Endodontics is an emerging concept that promotes the preservation of as much healthy hard dental tissue as possible. This recommendation is frequently translated into minimal shaping of the root canal during treatment, despite the fact that irrigant penetration and exchange could be severely compromised. The aim of this research project is to investigate the flow and exchange of irrigants inside minimally-shaped root canals during syringe irrigation, a method widely used by both general dentists and specialists. In order to obtain this information, a Computational Fluid Dynamics model will be employed to study irrigant penetration inside molar root canals prepared to various apical sizes.

**Christos Boutsoukis**, Assistant Professor, Department of Endodontology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrije Universiteit Amsterdam, Gustav Mahlerlaan 3004, 1081 LA, Amsterdam, The Netherlands.

Dr. Christos Boutsoukis received his DDS degree in 2003 and his postgraduate certificate in Endodontics in 2006 from the University of Thessaloniki in Greece. From 2007-2010 he divided his time between the University of Thessaloniki, the Academic Centre for Dentistry Amsterdam (ACTA) and the Physics of Fluids group at the University of Twente in the Netherlands, towards completion of a PhD degree. In 2011 he became postdoctoral researcher in the Physics of Fluids group, University of Twente and in 2013 he joined ACTA, where he is currently Assistant Professor in the Department of Endodontology.

## Award 20,000 Euros to Phil Tomson



### **Project:**

**Title:** High quality obturation simplified – is it possible? An investigation of the single cone technique with hydraulic calcium silicate-based materials

### **Summary**

The use of a hydraulic calcium silicate-based sealers has tremendous potential to be used in conjunction with gutta-percha to obturate root canals with a simple user friendly technique in order to improve the overall technical quality of root canal treatment by dentists and therefore improve patient outcome at a population level. Using a hydraulic calcium silicate based-sealer as part of the obturation system utilizes three particular requirements required of a modern obturation system, namely: an excellent seal, antibacterial activity and excellent biocompatibility if extruded beyond the confines of the root canal. The proposed research project will be divided into two parts. *In vitro* studies will be carried out in order to make a robust assessment of a single cone obturation technique with hydraulic calcium silicate-based cements compared to conventional obturation techniques. Results from the *in vitro* part of the study will inform clinical protocols to be used in a prospective randomized controlled trial to determine if such a technique will provide a predictable outcome for the management of periradicular disease.

**Phil Tomson** Senior Clinical Lecturer and Honorary Consultant in Restorative Dentistry and Head of Conservative Dentistry and Endodontics, School of Dentistry, University of Birmingham, Birmingham, UK

Phil has had a keen interest in Endodontology since his graduation from Birmingham Dental School in 2000. Early in his career he won several regional and national clinical and research prizes in the field of Endodontology whilst carrying out a broad range of junior hospital jobs in the UK. He then embarked upon full academic and clinical training. In 2011, he completed his higher clinical speciality training and holds specialist registration with the GDC in Restorative Dentistry and Endodontics. He completed a PhD in 2013 with research focused on regeneration of the dentine-pulp complex. He has won the Wladimir Adlivankine ESE research prize and was one of the first recipients of the FDS research fellowships from RCS Eng. His current research interests lie in developing and assessing novel treatment interventions to improve outcomes in the treatment of pulpal and periradicular disease and tissue regeneration and engineering of the dental pulp. He is heavily involved in postgraduate and undergraduate teaching programmes at Birmingham School of Dentistry and lectures regularly on subjects related to the management of pulpal and periradicular disease and his research.