



OMFS IMPATH

Yearbook 2015





OMFS IMPATH

Yearbook 2015

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Clinical progress can only be made when treatment results and patient outcome are carefully evaluated and when new ideas emerge from basic science. As such, a University provides a unique setting where clinical departments are strengthened and heavily influenced by their research counterparts. The same applies to the Department of Oral and Maxillofacial Surgery at Leuven University Hospitals. At least 3 complementary units are feeding the clinic with essential input: the department of oral and maxillofacial imaging, the 3D-lab facility and the OMFS-IMPATH research unit. Whereas the imaging department and the 3D-lab facility are fully integrated in the workflow of the daily clinic, the research department remains a separate unit, albeit both functionally and architectonically closely related to the clinical department. While many countries are building walls and protective measures against the inflow of foreign instream, research units remain meeting places for scientific young capital from all over the world. OMFS-IMPATH houses no less than 17 different nationalities, who all share a common goal. The society should cherish the research facilities at Universities as these are the beacons of hope in dark times. The Omfsimpath Yearbook 2015 illustrates what can be achieved in a limited time frame when young scientific talents integrate and communicate with clinicians in a multicultural environment.







- A. STAFF
- B. RESEARCHERS
- C. ADMINISTRATIVE COORDINATOR

2 Team

The OMFS-IMPATH research group relates to development and validation of surgical tools and image-based solutions to advance in oromaxillofacial surgery, with an ultimate aim to obtain an optimized treatment outcome while minimizing the peri- and postsurgical risks, such as neurovascular trauma. In order to achieve this, a global integration of digital datasets will enable the creation of a virtual replica of the patient. This may allow full simulation of the surgery as well as of its expected outcome. While the latter may help to further modify and fine-tune the planned surgery, the former integrated virtual data may allow presurgical simulations, development of image-based surgical tools and navigation. Research will be focused on image-based development of surgical aids with a validation of their clinical applicability. Research lines will include: optimized image acquisition with the least radiation dose, especially when children are concerned; image-based development of individualized surgical tools, while striving for advanced applications of e.g. 3D printing; maximized visualization of the trigeminal nerve pathway to minimize the surgical risks for trigeminal nerve damage. Such visualization may also assist in creating new access routes and surgical strategies to modulate trigeminal neuropathic pain.

2 Team

A. STAFF

Constantinus POLITIS



Constantinus Politis is Oral and Maxillo-Facial Surgeon. He is currently Professor and Chairperson of the Department of Oral and Maxillofacial Surgery at Leuven University, KULeuven, Belgium. He is an invited Lecturer at the EHSAL in Brussels. He graduated at the Catholic University of Leuven in medicine (MD, summa cum laude), in dentistry (DDS, magna cum laude). He specialized in oral and maxillofacial surgery at the Catholic University of Leuven. Postgraduate training was additionally followed in Arnhem (Stoelinga), Aachen (Koberg), Copenhagen (Pindborg), Göteborg (Bränemark) and San Francisco (Marx). He also holds a master degree in management (MM) from the Applied Economic Scienes at the University of Hasselt and a master degree in Hospital

Management (MHM) from the Catholic University of Leuven. He became a recognition as medical specialist in management of health care data and is now member of the National Council of Hospital Facilities. He is Secretary General of the Professional Union of Belgian Oral and Maxillofacial Surgeons. He is acknowledged trainer of OMFS trainees. He defended his doctor's thesis on the subject of complications of orthognathic surgery (PhD).

His professional field of intrest is in orthognathic and orthodontic surgery and trigeminal nerve dysfunction. Clinical research projects include prevention and repair of iatrogenic trigeminal nerve injury, transplantation of teeth and orthognathic surgery.

Joseph SCHOENAERS



Joseph Schoenaers obtained his medical and dental degrees at the University of Leuven in 1977 and 1980 respectively. Subsequently he specialised in Stomatology (1982 in Arnhem, Nederland - KU Leuven Belgium) and Maxillo-Facial Surgery (1989 University of Texas, Health Science Center at Dallas USA) with an additional specialisation in plastic and reconstructive surgery (Erasmus University Rotterdam).

He was appointed professor in Stomatology and Maxillo-Facial Surgery at KU Leuven (University Hospital 1994). From 1997 to 2012, he was also Departmental Head of the Clinical Department of Maxillo-Facial Surgery at University Hospital Leuven.

Up till today his main focus lays with plastic and reconstructive surgery (oncology, congenital deformities).

Reinhilde JACOBS



Reinhilde Jacobs is dentist, Doctor in Dental Sciences (PhD University of Leuven), periodontologist (KU Leuven) and Master in Dental Radiology (University of London). She is full professor at the University of Leuven and visiting professor at the Dalian Medical University in China. R. Jacobs is coordinating the omfs impath research group of the KU Leuven, being responsible for research, education and clinical activities in the field of Dentomaxillofacial Radiology. She is European Director of the International Association of DentoMaxilloFacial Radiology, past president of the European Academy of DentoMaxilloFacial Radiology, programme director of the diagnostic science group of the International Association Dental Research and EAO board member. She is associate editor

of Clinical Oral Investigations, European Journal of Oral Implantology, and Oral Radiology, meanwhile being editorial board member of Clinical Oral Implant Research, Journal of Oral Rehabilitation, Imaging Science in Dentistry and Oral Surgery Oral Medicine Oral Pathology Oral Radiology. She has received the D Collen Research Travel Award (1994), the IADR Young Investigators Award (1998) and the Belgian Joachim Award in the Odontostomatology (1999). More recently, she received a Dr Honoris Causa at the "Iuliu Hatieganu" University of Medicine and Pharmacy in Cluj-Napoca. She is involved in many multidisciplinary and interuniversity research collaborations, with a specific focus on oral implant physiology and imaging research. She has been actively participating in European projects (ref. Minosquare, Osteodent, SedentexCT and Dimitra). She is (co) author of 5 books and more than 200 publications in peer-reviewed journals besides multiple invited lectures and publications in other journals or books.

Titiaan DORMAAR



Titiaan Dormaar is a Cranio-Maxillofacial and Cleft surgeon currently working in the department of oral and maxillofacial surgery at UZ Leuven. He obtained his MD from Maastricht University, where he was involved in a research project focusing on liquid ventilation in neonatal respiratory distress syndrome. He obtained his DDS from the Radboud University Nijmegen (the Netherlands). Before continuing his specialist training he spent 2 years in the UK, where he worked as a senior house officer in ENT and OMFS in Guildford and London. He completed his OMFS training at Utrecht University (the Netherlands). During his training in Utrecht he was the lead surgeon in an animal model research project on alveolar bone grafting with beta-TCP bone substitute in alveolar clefts. Following this he did a

3 year Fellowship in Cleft Surgery at Guy's and St Thomas' Hospital, London (UK), whilst he also provided regular on-call duties at King's College Hospital, a tertiary trauma centre.

B. RESEARCHERS

Michael M. BORNSTEIN



Michael Bornstein obtained his dental degree (1998) and thesis (Dr. med. dent., 2001) at the University of Basel. He continued with a specialisation in oral surgery and stomatology in Basel (1998-1999, Prof. Dr. Dr. J. Th. Lambrecht) and Bern (2000-2002, Prof. Dr. D. Buser). In 2004, he was visiting assistant professor at the Department of Periodontics (Prof. Dr. D. Cochran) at the University of Texas Health Science Center at San Antonio, USA, with a grant from the Swiss National Science Foundation. From 2007-2014 he was head of the Section of Dental Radiology and Stomatology, University of Bern. In 2009, he obtained the Habilitation (Privatdozent / PhD) and in 2014 he became Assocciate Professor in the field of "Oral Surgery and Stomatology". His fields of research include cone

beam computed tomography (CBCT) in clinical dental practice, stomatology/oral medicine, GBR procedures with bioresorbable membranes and dental implants.

Jimoh AGBAJE



Jimoh Olumide AGBAJE is a dentist with a specialization in Oral medicine and pathology from University College Hospital Ibadan Nigeria. He was awarded the DAAD (Deutscher Akademischer Austauschdienst) scholarship to study in Germany from where he obtained Doctor of Medical Dentistry (Magna cum Laude) from Christian-Albrecht-University, Kiel, Germany. He graduated from Postgraduate Study of Advanced Medical Imaging and defended a PhD thesis of Biomedical Sciences in March 2012, at the Catholic University of Leuven, Belgium. He worked at the department of Oral and Maxillofacial Surgery Ziekenhuis Oost Limburg Schiepse Bos 6 Genk, Belgium where he coordinated research works in Orthognatic surgery and implant surgery between March 2011 and September

2012. He started working in the OMFS-IMPATH research group from June 2012. His research is focused on Reduction of Inferior alveolar nerve injury in bilateral sagittal split osteotomy (BSSO). At present, he is a Post-doc researcher in an FWO-funded research project.

Ruxandra Gabriela COROPCIUC



Ruxandra Gabriela Coropciuc graduated as double qualified (MD, DDS) Oral and Maxillofacial Surgeon from the University of Medicine and Pharmacy Carol Davila, Bucharest in 2013. She was trained in the Clinical Hospital or Oral and Maxillo-Facial Surgery, Bucharest and at Leuven University Hospitals. She joined the Department of Maxillo – Facial Surgery at the UZ Leuven Belgium in 2013. Her PhD research is focused on bisphosphonate-related osteonecrosis of the jaw bone. Her clinical field of interest is in oral implantology, salivary gland pathology and head and neck oncology and reconstruction. Being multilingually talented with backgrounds in Canada, Romania and Belgium allow her to easily address patients in Dutch, English, French or Romanian.

Mostafa EZELDEEN



Mostafa EzEldeen was born on July 19th , 1984 in Mansoura, Egypt. He obtained his Bachelor of Dental Medicine and Surgery (2007) from Mansoura University, Egypt and Master in Dentistry (2013), Summa cum laude, at the KU Leuven, Belgium. Further, he obtained a specialization in Paediatric Dentistry and Special Dental care (2012), at the KU Leuven under the guidance of Prof. Dr. Frans Vinckier and Prof. Dr. Dominique Declerck. In 2013, he obtained the diploma of Postgraduate studies in Advanced Medical Imaging at the KU Leuven under the guidance of Prof. Dr. Reinhilde Jacobs. He works as a dentist in private practice and UZ Leuven (department of Paediatric Dentistry and Special Dental Care). Currently he is a

PhD candidate (OMFS-IMPATH, KU Leuven, Belgium) with Prof. Dr. Reinhilde Jacobs as his promoter. His research topics are; assessment of the patterns of healing in teeth and bone after regenerative processes using Cone Beam Computed Tomography, developing of reliable teeth segmentation methods, bio-3D printing and chemokine-mediated regeneration in the oral and maxillofacial region.

Dominique HEKNER



Dominique Hekner is a PhD Candidate at the OMFS-IMPATH Research Group (Department Imaging and Pathology, Faculty Medicine, Catholic University Leuven), where she studies third molar pathology. Alongside her research activities, she is also a student of Dentistry, following a short educational program for medical doctors (Faculty Medicine, Catholic University Leuven). She received her medical degree from the Utrecht University (the Netherlands), where she was an elective student in Oral- and Maxillofacial Surgery and Internal Medicine. Several times she was a speaker at the Dutch Society for Oral Pathology and Maxillofacial Surgery (NVMKA) conference and was awarded by the Dutch Head and Neck Oncology Cooperative Group (NWHHT) in 2014 for a poster presentation.

Yan HUANG



Yan Huang is a dentist, graduated from Postgraduate Study of Advanced Medical Imaging and defended his PhD thesis of Biomedical Sciences in May 2014, at the Catholic University of Leuven, Belgium. He has been working at the OMFS-IMPATH research group for over 5 years, focusing on the use of Cone Beam CT for bone structural measurements. He is one of the principal researchers in the collaborative project from National Natural Science Foundation of China. At the moment he is Post-doc researcher in a FWO-funded research project.

Wael KHALIL



Wael Khalil is a Lebanese dentist, graduated from Saint Joseph University-USJ-(1997), Oral surgery and Oral pathology diploma from Lebanese University-LU-(2001,2003), Certificate in Genetics, certificate in Biostatistics and Epidemiology USJ (2003,2004), Master in clinical psychology ,LU(2005), Master in Medical Biology USJ(2006), Teaching at the Lebanese University as Chief of Clinical services at Oral and Maxillofacial Surgery Department, He has been working at the OMFS-IMPATH research group , (KU Leuven, Belguim) since September 2014, focusing on the use of Cone Beam CT and 3D printing for tooth auto transplantation. At the moment he is in Postgraduate advanced Medical Imaging Studies.

Alessandro LAMIRA



Alessandro Lamira has qualified in Sao Paulo, Brazil 1998, awarded best student in Endodontics. He has trained in the Brazil, UK and Portugal. He is a Peridontist granted by University of Sao Paulo - Bauru. He was a clinical teacher at UNAERP University and King s College at Guys Hospital. he is currently a PhD student in endodontics at University of Sao Paulo - Ribeirao Preto doing part of his studies at Leuven University - Belgium.

Bassant ELMOWAFEY



Bassant ElMowafey studied Dentistry at Mansoura University, Egypt. She graduated as a Doctor of Dental Surgery in May 2004. In 2006 she started her academic position as clinical instructor of oral medicine and oral radiology, then senior teaching assistant of oral medicine and oral radiology in 2007. In 2010 she finished her Master of Science (MSc) in oral radiology. In 2013 she got a scholarship to get her PhD in Oral Radiology as a joint degree between Egypt and Belgium under promotorship of Professor Reinhilde Jacobs. Her research topics are characterization of jaw bones using Cone Beam Computed Tomography, assessment of bone quality using CBCT for implant placement, and using of the lingual canals in personal identification for forensic dentistry.

Laura NICOLIELO



Laura Nicolielo is a Dental Surgeon (University of São Paulo, Brazil) (2009), Postgraduate in Oral Surgery (University of São Paulo, Brazil) (2010), Master in Applied Dental Sciences with focus in Stomatology and Radiology (University of São Paulo, Brazil) (2013), Implantologist (Opem Institute, Bauru, Brazil) (2013) and Postgraduate in Advanced Medical Imaging (KU Leuven, Belgium) (2014). In October 2013, she was granted by the Brazilian Government to start the PhD in the OMFS-IMPATH Research Group under supervision of Prof. Dr. Reinhilde Jacobs. Her main research topic is validation of 3D imaging modalities in the assessment of 1) Neurovascular structures of the jaw bones 2) Bone quality and quantity and 3) Condylar resorption after orthognathic surgery.

Eman SHAHEEN



Eman (Emmy) Shaheen was born on July 12th, 1982 in Giza, Egypt. She graduated with honor from the faculty of Computer Sciences and Information Technology (2003), Cairo University, Egypt where she also worked as a teaching assistant from 2003 till 2007 with major in Image Processing. Meanwhile, she obtained her Master's Degree in Video Processing (2007) from Cairo University. In 2008, she joined the team of Medical Physics where she finished with distinction her pre-doctoral studies about mammography and breast cancer (2009) in Biomedical Sciences at the KU Leuven, Belgium. She was granted a PhD scholarship from the OPTIMAM project (UK) in 2010 to develop, simulate and validate 3D models of breast lesions and tools to optimize the performance of breast

tomosynthesis. She obtained her doctoral degree in 2014, KU Leuven, Belgium. In the same year, she started working in the department of Maxillo-facial surgery, University hospitals Leuven (Belgium) with Prof. Constantinus Politis as clinical engineer with focus on 3D planning of orthognathic surgeries. Next to the patient related work, she is part of the research group of the OMFSIMPATH (KU Leuven, Belgium) where she supervises students, supports different research projects related to 3D printing and 3D simulations. She is also collaborating with Materialise (Leuven, Belgium) as consultant to improve the CMF software for orthognathic surgeries next to other research related projects.

Deepti SINHA



Deepti Sinha is an oral and maxillofacial trainee at the University Hospital Leuven. She is a Guy's, King's and St Thomas' graduate and obtained her medical degree from the University of London. During her time as a dental student she illustrated 2 textbooks: 'Essentials of clinical periodontology and periodontics' by Prof. Shantipriya Reddy and 'Clinical operative dentistry principles and practice' by Prof. Ramya Raghu. She was awarded the 'best outgoing student' of her year in dental school and was recipient of the Joseph Lister surgical prize, London, during her medical studies. She has had several poster presentations both nationally (UK) and internationally on topics related to oral and maxillofacial surgery. Her current research topics include: Stricture formation in salivary glands,

autotransplantation in cleft patients, difficult airway management a multi-disciplinary approach and peri-implantitis in ultra short implants. She is a young fellow of the Royal Society of Medicine, London, UK and the Royal Society of Surgeons, Edinburgh, Scotland.

Ahmed Sobhy SALEM



Ahmed Sobhy Salem studied Dentistry at Mansoura University, Egypt (1996-2001). He graduated as a Doctor of Dental Surgery, 1st class excellent with honour. In 2003 he started his academic position as clinical instructor of oral and maxillofacial surgery, then senior teaching assistant of oral and maxillofacial surgery in 2007. In 2010 after he completed his Master degree and PhD and training programme in oral and maxillofacial surgery he started as assistant professor of oral and maxillofacial surgery in Mansoura University, Egypt. From 2013 till now he is a visiting post doctoral researcher in OMFS-IMPATH research group, Department of Imaging and Pathology, Faculty of Medicine, Catholic University of Leuven, Leuven, Belgium. His fields of research include inferior alveolar nerve injury after orthognathic surgery; incidence, protection, risk factors, and management.

2 Team

Andreas STRATIS



Andreas Stratis was born in February 1981 in Larissa, Greece. He obtained his BSc in Physics at the Aristotle University of Thessaloniki, Greece in 2004 and his MSc in Medical Physics at the University of Surrey, UK. Since 2008 he is officially licensed to practice Medical Physics in Radiology, nuclear medicine and radiotherapy by the Hellenic Health Ministry. From 2008 to 2013 he was offering medical physics services in several radiology and nuclear departments in national and private hospitals in Greece. On January 2013 he moved to Belgium working for the Medical Physics Quality Assurance team of the UZ Leuven. He has served the Hellenic Association of Medical physicist as a Public Relations director (2010-2012) and Secretary Assistant (2012-2014). Since January 2014 he is a PhD student at the KU Leuven with his research focused on patient specific dosimetry via Monte Carlo simulations in dental Cone Beam CT.

Yi SUN



Yi Sun obtained his PhD in Biomedical Science, Master of Medical imaging and Bachelor in electronic engineering. Since 2007, he worked in the field of computer assistant surgery planning, with focus on oral and maxillofacial surgery. His main professional interest is template-based and image-guided solution for dental implant placement, design of digital splint for orthognathic surgery, mandible reconstruction using fibular bone. Currently he is responsible for the 3D surgical simulation team in the department of oral and maxillofacial surgery (UZ Leuven) and involved in development of image-guided surgical system (navigation system).

Kostas SYRIOPOULOS



Kostas Syriopoulos graduated as dentist from Athens Dental School (Greece) and he specialised in Dentomaxillofacial radiology. He has a MSc degree (University of London) as well as a PhD degree (VU, Amsterdam) in Dental Radiology. He had an internship in the Dept. of Oral Radiology (Stellenbosch University, Cape Town). Further, he received the diploma in Health Physics level 3 (TU Delft). In the Netherlands Level 3 is a higher expert level of health physics, necessary for supervising in radionuclide laboratories or working in a medical profession with higher risk or responsibility, like clinical physics and nuclear medicine. He had been a staff- member in the department of Dentomaxillofacial Radiology, ACTA, Amsterdam. Since February 2015 he has been a staff member in the Oral

Imaging Centre of the KU Leuven. His main professional interests are Diagnostic Radiology, Radiography Education and Radiation Protection.

David LAS



David Las is a part-time researcher at the OMFS-IMPATH Research group (Department Imaging and Pathology, Faculty Medicine, Catholic University Leuven), where he studies the concept of "3D bio-printing". In parallel he pursues a master in dental science at the ULB (Université Libre de Bruxelles). In march 2014 he was promoted to Doctor of Medicine at the Erasmus University of Rotterdam (the Netherlands). He was an elective student in the field of Oral- and Maxillofacial surgery at the Amsterdam Medical Center (the Netherlands) and at the Université Libre de Bruxelles (Belgium). His research on the risk-factors for microsvascular free flap surgery (including over 1000 free flaps) has granted him the opportunity to be invited as a key-note speaker at the Rotterdam Assembly for

Plastic Surgeons (in Dutch) and the Oral-and Maxillofacial surgery department of the" La Pitié Salpêtrière" hospital in Paris (in French).

Jeroen VAN DESSEL



Jeroen Van Dessel has a MSc in Biomedical Sciences (KU Leuven) and Msc in Advanced Medical Imaging (KU Leuven). Currently, he is a PhD candidate at the Child- and Adolescent Psychiatry Research Centre, Catholic University Leuven, under promotorship of Prof. Dr. Marina Danckaerts. Where he studies the neural signature of delay aversion in ADHD using functional Magnetic Resonance Imaging. Besides his PhD in the psychiatry domain, he still remains active in dental radiology field as a researcher at the OMFS-IMPATH research group. He has achieved the second place in the European DentoMaxilloFacial Radiology Research Award (2012), the first place in the Odontológico Congresso de Universidade de São Paulo Research Award (2013) and the first place in the European

DentoMaxilloFacial Radiology Research Award (2014). His research topics are developing and validating tools for objective bone quality and quantity assessment on Cone-Beam Computed Tomography and Micro-CT images.

Martine VAN VLIERBERGHE



Martine Van Vlierberghe finished her dental studies in 1979 at the University of Ghent, Belgium. At the same university she received the Certificate of postgraduate training in Orthodontics in 1983. She specialized further in cranio-facial deformities at the University of Nijmegen and at the New York Medical University Center. She was founder of the cranio-facial deformity team at the University of Ghent in Belgium and was active there during 24 years. She was also actively involved in orthodontic training at undergraduate and postgraduate level at the University of Ghent. Meanwhile she started a private orthodontic practice from 1984 until now. In 2004 she finished with summa cum laude one year postgraduate training in civil and criminal law at the faculty of Law at the University of Ghent,

Belgium. Afterwards she followed one year postgraduate education on multidisciplinary forensic research: the legal and scientific aspects at the Catholic University of Leuven, Belgium. Subsequently she obtained with summa cum laude her master after master in Forensic Odontology at the Catholic University of Leuven, Belgium. Since 2014 she works as researcher at OMFS-IMPATH Research Group focusing on the iatrogenic damage of the trigeminal nerve.

2 Team

Guozhi ZHANG



Guozhi Zhang is PhD in Biomedical Sciences (KU Leuven) and Bachelor in Engineering (Huazhong University of Science and Technology, China). Previously he was a fellow at the Department of Radiology, Mayo Clinic (Rochester MN, USA). He is currently a physicist at the Department of Radiology, University Hospitals Leuven. His work includes quality insurance and optimization of x-ray imaging systems, with a focus on computed tomography. He is specialized in Monte Carlo simulation and medical image processing.

Ruben PAUWELS



Ruben Pauwels is a Master in Biomedical Sciences (2007), Master of Medical Imaging (2008) and PhD in Biomedical Sciences (2012). His research has focused on the use of CBCT in dentistry. His research topics include: 1. Radiation dosimetry 2. Technical image quality analysis 3. Optimization of exposures in CBCT 4. Applicability of Hounsfield Units in CBCT 5. Bone structure analysis in CBCT. As a Consortium member of the SEDENTEXCT project, he was a contributor to the European Guidelines on dental CBCT. He was a corresponding member of International Commission on Radiological Protection (ICRP) Task Group 88, and a co-author of ICRP Publication 129. He is currently acting as a consultant for the International Organization of Medical Physics (IOMP), the Thailand

National Electronics and Computer Technology Center (NECTEC) and the International Atomic Energy Agency (IAEA). He received the European Academy of Dentomaxillofacial Radiology (EADMFR) Research Award and Fellowship Grant in 2012. He is Associate Editor of the British Journal of Radiology.

Yaïr KLAZEN



Yaïr Klazen is a dental student at the Catholic University of Leuven, Belgium. He holds bachelor degrees in both medicine and dentistry, and is expected to graduate as a dentist in 2017. Since February 2015, he has been doing research at the OMFS-IMPATH group, focusing on the iatrogenic nerve damage due to several dental procedures.

Marina CODARI



Marina Codari obtained her Master an Bachelor of Science in Biomedical Engineering (Politecnico di Milano, Milano, Italy). Currently she is a PhD student in Integrated Biomedical Research (department of Biomedical Science for Health, faculty of Medicine and Surgery, Università degli studi di Milano). Since 2011, she worked in the field of medical imaging, with focus on oral and maxillofacial imaging using CBCT data. Her main professional interest are image segmentation and registration for automatic feature extraction in the maxillofacial region and metal artefact reduction in CBCT data. From October 2015 she will be part of the OMFS-IMPATH research group as visiting PhD student.

Karla DE FARIA VASCONCELOS



Karla de Faria Vasconcelos is dentist, Doctor in Dental Radiology (PhD at State University of Campinas– Brazil, with a period of external internship at KULeuven - Belgium), Master in Dentistry (Federal University of Goiás - Brazil) and Specialist in Oral Radiology (University of Campinas). She has worked, as Radiologist, in a private radiology clinic. She is a collaborator professor of graduate program at Federal University of Goiás, teaching in the diagnostic imaging discipline. She has been involved in interuniversity research collaborations, with a specific focus on imaging research (digital radiography, cone beam computed tomography and microcomputed tomography). At present, she is a Post-doc researcher in an FAPESP - founded research project.

Ruth DEJAEGHERE



Ruth Dejaeghere was born on February 18th, 1993 in Kortrijk. She obtained her Bachelor in Biomedical Sciences (2014) from KU Leuven University department Kortrijk. In her first master year (KU Leuven University), she did internships in the laboratory of experimental urology, general medical oncology and oral and maxillofacial surgery. Currently, she is a thesis student under promotorship of Professor Reinhilde Jacobs and Professor Constantinus Politis. Her research topic is the multicentric assessment of postoperative complications of wisdom tooth removal.

Marta DYSZKIEWICZ KONWIŃSKA



Marta Dyszkiewicz Konwińska is Poznan University of Medical Sciences graduate. She received her DDS diploma in 2004. In 2011, she has graduated from PhD program and she has started her University career as a research assistant and teacher instructor. Since 2013 she holds a position as an assistant professor in Section of Dental Radiology at PUMS. She is a specialist in endodontics and conservative dentistry. In 2015 she participated in post graduate program in Advanced Medical Imaging at KU Leuven.

Bieke GROMMEN



Bieke Grommen is born on September 17th, 1993 in Belgium. She obtained her bachelor of Biomedical Science (2014) at the Catholic University of Leuven, Belgium. She is doing her master Clinical Biomedical Science and writing her thesis at the OMFS-IMPATH Research Group (Department Imaging and Pathology, Faculty Medicine, Catholic University Leuven) with Prof. Dr. Reinhilde Jacobs as her promoter. She did internships at different departments in the hospital of Gasthuisberg, Belgium, like dermatology, nuclear medicine and otorhinolaryngology (2014).

Mariana Quirino SILVEIRA SOARES



Mariana Quirino Silveira Soares is a dentist, Master in Dentistry (Federal University of Goiás, Goiânia, Brazil). She is currently a Ph.D student in Apllied Dental Sciences (area of Stomatology and Oral Biology) at the University of São Paulo, Bauru, Brazil, doing parts of her studies at KU Leuven, Belgium. Her research topics are analysis of the influence of bisphosphonates in bone microarchitecture using Micro-CT and investigation of jaw bone grafts using Micro-CT.

Natalia SALVO VILLEGAS



Natalia Salvo Villegas was born in Houston, Texas, USA, 1988. She is a Chilean Doctor of Dental Surgery specialized in Oral and Maxillofacial Radiology at Universidad de Los Andes, Santiago, Chile in January 2015. She obtained the 3rd place in the "Original Research" category at the Latin American Congress of Maxillofacial Radiology held in Medellin, Colombia 2014. Besides her clinical work she is currently working on the assessment of the mandibular incisive canal by Cone Beam Computed Tomography. In 2015 she was coursing an internship in the Oral and Maxillofacial Radiology at The Catholic University of Leuven, Belgium.

C. ADMINISTRATIVE COORDINATOR

Dominique WEYERS



Dominique Weyers was working as administrative research coordinator for the OMFS-IMPATH research group at the Department of Imaging and Pathology, KULeuven. She graduated in June 1988 as Master in Law and in June 1989 as Master in Notary Public. Her work experience is essentially situated within the organizational, coordinating and administrative support of organizations and professional societies. Since 2007 she is working in the medical sector. She started as European projects and research coordinator for the European Society for Radiotherapy and Oncology, where she later worked as course coordinator for 3 years. Other organizations she worked for: the European Society for Gynaecological Endoscopy (ESGE), Eetexpert, HIVA-VORMING (KULeuven).

Gabriela Casteels - 2B ADMINISTRATIVE COORDINATOR



Gabriela Casteels is currently working as administrative research coordinator for the OMFS-IMPATH research group at the Department of Imaging and Pathology, KULeuven. Her work experience is essentially situated within the organizational, coordinating and administrative support of organizations and professional societies.



Research

- A. PROJECTS
- B. AWARDS
- C. PUBLICATIONS
 - International peer-reviewed publications
 - Book (chapter) publications
 - Abstracts of congress presentations
- D. CHAIRS
A. PROJECTS

National funding

M3-Observatorium

Epidemiological study on the surgical removal of third molars.

- Verbond der Belgische Beroepsverenigingen van Geneesheren-Specialisten MKA
- Koninklijke Belgische Vereniging Voor Stomatologie en Maxillo-Faciale Heelkunde (KBVSMFH).

In samenwerking met VlaamsZiekenhuisNetwerk KU Leuven

Innervation around implants

Regeneration and remodeling of sensory innervation around dental implants treated with platelet-rich plasma.

- FWO

Radiation dose simulations

Patient-specific approach of CBCT imaging: custom made Monte Carlo simulations.

- OT

Tooth autotransplantation

The development and clinical application of CBCT-based tooth auto transplantation.

- FWO

Trigeminal nerve injuries

Reduction of Inferior alveolar nerve injury in bilateral sagittal split osteotomy (BSSO).

- FWO

Computer-assisted maxillofacial surgery

The development and clinical application of a computer assisted oral and maxillofacial surgery system.

- in collaboration with Materialise

European funding

Dimitra

Dentomaxillofacial paediatric imaging: an investigation towards low dose radiation induced risks.

MITR











KU LEUVEN

Vlaams Ziekenhuisnetwerk







OPERA OPEN PROJECT FOR EUROPEAN RADIATION RESEARCH AREA

KU LEUVEN

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B. AWARDS

August 2015	First price oral presentation cob 2013 (São Paolo) Jeroen Van Dessel
March 2015	Ecr 2015 on site best scientific paper presentation (Vienna) Andreas Stratis
March 2015	2016 Journal of endodontics awards; the best article in the category of clinical research for the year 2015: 3-dimensional analysis of regenerative Endodontic treatment outcome (San Francisco) Mostafa EzEldeen, Geertje Van Gorp, Jeroen Van Dessel, Dirk Vandermeulen, Reinhilde Jacobs

INTERNATIONAL PEER-REVIEWED PUBLICATIONS

- Weckx, A., Agbaje, J., Sun, Y., Jacobs, R., Politis, C. (2016). Visualization techniques of the inferior alveolar nerve (IAN): a narrative review. *Surgical and Radiologic Anatomy, 38* (1), 55-63. (citations: 0) (most recent IF: 1.05).
- Khalil, W., Ezeldeen, M., Van de Casteele, E., Shaheen, E., Sun, Y., Shahbazian, M., Olszewski, R., Politis, C., Jacobs, R. (2016). Validation of cone beam computed tomography-based tooth printing using different three-dimensional printing technologies. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, 121* (3), art.nr. 10.1016/j.oooo.2015.10.028, 307-15. (citations: 0) (most recent IF: 1.26).
- Kaur, J., Jacobs, R. (2016). Salivary and serum leptin levels in patients with squamous cell carcinoma of the buccal mucosa. *Clinical Oral Investigations, 20* (1), art.nr. 10.1007/s00784-015-1472-x, 39-42. (citations: 0) (most recent IF: 2.35).
- Pauwels, R., Jacobs, R., Bogaerts, R., Bosmans, H., Panmekiate, S. (2016). Reduction of scatter-induced image noise in cone beam computed tomography: effect of field of view size and position. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, 121* (2), art.nr. 10.1016/j. 0000.2015.10.017, 188-95. (citations: 0) (most recent IF: 1.26).
- Alqerban, A., Jacobs, R., Fieuws, S., Willems, G. (2016). Predictors of root resorption associated with maxillary canine impaction in panoramic images. *European Journal of Orthodontics*, 38 (3), 292-299. (citations: 0) (most recent IF: 1.48).
- Suter, V., Jacobs, R., Brücker, M., Furher, A., Frank, J., von Arx, T., Michael M. Bornstein, M. (2016). Evaluation of a possible association between a history of dentoalveolar injury and the shape and size of the nasopalatine canal. *Clinical Oral Investigations*, 20 (3), 553-61. (citations: 0) (most recent IF: 2.35).
- Politis, C., Sun, Y., Agbaje, J., Lambrichts, I., Piagkou, M., Jacobs, R. (2016). Condylar Fracture in a Child with Entrapment of the Inferior Alveolar Nerve. *Craniomaxillofacial Trauma & Reconstruction*, 9 (2), art.nr. DOI: 10.1055/s-0035-1563391, 149-151. (citations: 0).
- Bornstein, M., Seiffert, C., Maestre-Ferrín, L., Fodich, I., Jacobs, R., Buser, D., von Arx, T. (2016). An Analysis of Frequency, Morphology, and Locations of Maxillary Sinus Septa Using Cone Beam Computed Tomography. *International Journal of Oral & Maxillofacial Implants, 31* (2), art.nr. 10.11607/jomi.4188, 280-287. (citations: 0) (most recent IF: 1.45).
- Vercruyssen, M., Naert, I., Coucke, W., Jacobs, R., Teughels, W., Quirynen, M. (2016). Accuracy and patient- centered outcome variables in guided implant surgery. An RCT comparing immediate with delayed loading. *Clinical Oral Implants Research*, 27 (4), art.nr. doi: 10.1111/clr.12583, 427-432. (most recent IF: 3.89).

INTERNATIONAL PEER-REVIEWED PUBLICATIONS

- Miclotte, A., Franco, A., Guerrero, M., Willems, G., Jacobs, R. (2015). The association between orthodontic treatment and third molar position, inferior alveolar nerve involvement, and prediction of wisdom tooth eruption. *Surgical and Radiologic Anatomy*, *37* (4), 333-9. (citations: 0) (most recent IF: 1.05).
- Agbaje, J., Salem, A., Lambrichts, I., Jacobs, R., Politis, C. (2015). Systematic review of the incidence of inferior alveolar nerve injury in bilateral sagittal split osteotomy and the assessment of neurosensory disturbances. *International Journal of Oral & Maxillofacial Surgery, 44* (4), art.nr. S0901-5027(14)00440-8, 447-451. (citations: 3) (most recent IF: 1.57).
- Nackaerts, O., Depypere, M., Zhang, G., Vandenberghe, B., Maes, F., Jacobs, R., SEDENTEXCT Consortium (2015). Segmentation of Trabecular Jaw Bone on Cone Beam CT Datasets. *Clinical Implant Dentistry and Related Research*, *17* (6), art.nr. 10.1111/cid.12217, 1082-1091. (citations: 2) (most recent IF: 3.59).
- Kaur, J., Politis, C., Jacobs, R. (2015). Salivary apoptotic cells in oral (pre-) cancer as a potential diagnostic means. *Journal of Clinical and Experimental Dentistry.*, 7 (3), art.nr. 10.4317/ jced.52212, e400-4.
- Pittayapat, P., Jacobs, R., A Odri, G., de Faria Vasconcelos, K., Willems, G., Olszewski, R. (2015). Reproducibility of the sella turcica landmark in three dimensions using a sella turcica-specific reference system. *Imaging Science in Dentistry*, 45 (1), 15-22.
- Alqerban, A., Jacobs, R., Fieuws, S., Willems, G. (2015). Radiographic predictors for maxillary canine impaction. *American Journal of Orthodontics and Dentofacial Orthopedics*, 147 (3), 345-54. (citations: 2) (most recent IF: 1.38).
- Kaur, J., Jacobs, R. (2015). Proinflammatory cytokine levels in oral lichen planus, oral leukoplakia, and oral submucous fibrosis. *Journal of the Korean Association of Oral and Maxillofacial Surgery.*, 41 (4), art.nr. 10.5125/jkaoms.2015.41.4.171, 171-5.
- Merheb, J., Graham, J., Coucke, W., Roberts, M., Quirynen, M., Jacobs, R., Devlin, H. (2015). Prediction of Implant Loss and Marginal Bone Loss by Analysis of Dental Panoramic Radiographs. *International Journal of Oral & Maxillofacial Implants, 30* (2), 372-377. (citations: 0) (most recent IF: 1.45).
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- Berkhout, W., Suomalainen, A., Brüllmann, D., Jacobs, R., Horner, K., Stamatakis, H. (2015). Justification and good practice in using handheld portable dental X-ray equipment: a position paper prepared by the European Academy of DentoMaxilloFacial Radiology (EADMFR). *Dentomaxillofacial Radiology*, 44 (6), art.nr. 10.1259/dmfr.20140343, 20140343. (citations: 0) (most recent IF: 1.39).
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- Bornstein, M., Brügger, O., Janner, S., Kuchler, U., Chappuis, V., Jacobs, R., Buser, D. (2015). Indications and Frequency for the Use of Cone Beam Computed Tomography for Implant Treatment Planning in a Specialty Clinic. *International Journal of Oral & Maxillofacial Implants, 30* (5), art.nr. 10.11607/ jomi.4081, 1076-83. (citations: 0) (most recent IF: 1.45).
- Hämmerle, C., Cordaro, L., van Assche, N., Benic, G., Bornstein, M., Gamper, F., Gotfredsen, K., Harris, D., Hürzeler, M., Jacobs, R., Kapos, T., Kohal, R., Patzelt, S., Sailer, I., Tahmaseb, A., Vercruyssen, M., Wismeijer, D. (2015). Digital technologies to support planning, treatment, and fabrication processes and outcome assessments in implant dentistry. Summary and consensus statements. The 4th EAO consensus conference 2015. *Clinical Oral Implants Research, 26 Suppl 11*, art.nr. 10.1111/ clr.12648, 97-101. (citations: 2) (most recent IF: 3.89).
- Vercruyssen, M., Coucke, W., Naert, I., Jacobs, R., Teughels, W., Quirynen, M. (2015). Depth and lateral deviations in guided implant surgery: an RCT comparing guided surgery with mental navigation or the use of a pilot-drill template. *Clinical Oral Implants Research*, 26 (11), art.nr. 10.1111/ clr.12460, 1315-1320. (citations: 2) (most recent IF: 3.89).
- Vercruyssen, M., Laleman, I., Jacobs, R., Quirynen, M. (2015). Computer-supported implant planning and guided surgery: a narrative review. *Clinical Oral Implants Research*, 26 Suppl 11, art.nr. 10.1111/clr.12638, 69-76. (citations: 2) (most recent IF: 3.89).
- Shahbazian, M., Vandewoude, C., Wyatt, J., Jacobs, R. (2015). Comparative assessment of periapical radiography and CBCT imaging for radiodiagnostics in the posterior maxilla. *Odontology*, *103* (1), 97-104. (citations: 2) (most recent IF: 1.52).
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- Torres Garcia, A., Jacobs, R., Lambrechts, P., Brizuela, C., Cabrera, C., Concha, G., Pedemonte, M. (2015). Characterization of mandibular molar root and canal morphology using cone beam computed tomography and its variability in Belgian and Chilean population samples. *Imagine Science in Dentistry.*, 45 (2), art.nr. 10.5624/isd.2015.45.2.95, 95-101.
- Durão, A., Morosolli, A., Pittayapat, P., Bolstad, N., Ferreira, A., Jacobs, R. (2015). Cephalometric landmark variability among orthodontists and dentomaxillofacial radiologists: a comparative study. *Cephalometric landmark variability among orthodontists and dentomaxillofacial radiologists: a comparative study.*, 45 (4), art.nr. 10.5624/isd.2015.45.4.213, 213-20.

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- Guerrero, M., Beltran, J., De Laat, A., Jacobs, R. (2015). Can pterygoid plate asymmetry be linked to temporomandibular joint disorders?. *Imaging Science in Dentistry*, 45 (2), art.nr. 10.5624/ isd.2015.45.2.89, 89-94.
- Mowafey, B., Van de Casteele, E., Youssef, J., Zaher, A., Omar, H., Politis, C., Jacobs, R. (2015). Can mandibular lingual canals be used as a forensic fingerprint?. *Journal of Forensic Odonto-Stomatology*, 2 (33), 26-35.
- Vasconcelos, K., Nicolielo, L., Nascimento, M., Haiter-Neto, F., Bóscolo, F., Van Dessel, J., Ezeldeen, M., Lambrichts, I., Jacobs, R. (2015). Artefact expression associated with several cone-beam computed tomographic machines when imaging root filled teeth. *International Endodontic Journal, 48* (10), art.nr. 10.1111/iej.12395, 994-1000. (citations: 2) (most recent IF: 2.97).
- Pittayapat, P., Bornstein, M., Imada, T., Coucke, W., Lambrichts, I., Jacobs, R. (2015). Accuracy of linear measurements using three imaging modalities: two lateral cephalograms and one 3D model from CBCT data. *European Journal of Orthodontics*, 37 (2), art.nr. cju036, 202-8. (citations: 3) (most recent IF: 1.48).
- Sun, Y., Agbaje, J., Daems, L., Legrand, P., Jacobs, R., Politis, C. (2015). Accuracy of a Dedicated Bone-Supported Surgical Template for Dental Implant Placement with Direct Visual Control. *Journal of Healthcare Engineering*, 6 (4), 779-790. (citations: 0) (most recent IF: 0.75).
- Huang, Y., Jacobs, R., Van Dessel, J., Bornstein, M., Lambrichts, I., Politis, C. (2015). A systematic review on the innervation of peri-implant tissues with special emphasis on the influence of implant placement and loading protocols. *Clinical Oral Implants Research*, 26 (7), art.nr. DOI: 10.1111/ clr.12344, 737-746. (citations: 0) (most recent IF: 3.89).
- Pittayapat, P., Jacobs, R., Bornstein, M., Odri, G., Kwon, M., Lambrichts, I., Willems, G., Politis, C., Olszewski, R. (2015). A new mandible-specific landmark reference system for three-dimensional cephalometry using cone-beam computed tomography. *European Journal of Orthodontics, Epub ahead of print* (most recent IF: 1.48).
- Ezeldeen, M., Van Gorp, G., Van Dessel, J., Vandermeulen, D., Jacobs, R. (2015). 3-dimensional Analysis of Regenerative Endodontic Treatment Outcome. *Journal of Endodontics, 41* (3), art.nr. S0099-2399(14)01042-5, 317-324. (citations: 0) (most recent IF: 3.38).

BOOK (CHAPTER) PUBLICATIONS

- Jacobs, R. (2015). From periodontal tactile function to peri-implant osseoperception. In: *Clinical Periodontology and Implant Dentistry, Sixth Edition*, Edited by Niklaus P. Lang and Jan Lindhe. Chapt. 6. John Wiley & Sons, Ltd. West Sussex Ltd. 112-122. ISBN: 978-0-470-67248-8
- Politis, C., Sun Y., (2015), Application of Navigation Systems in Bimaxillary Orthognathic Surgery. In: Computer-Assisted Surgery: New Developments, Applications and Potential Hazards, Nova Publishers, 27-42. ISBN: 978-1-63463-811-1
- Politis, C., (2015). Neuropathische pijn na ingrepen in de mond-, kaak- en aangezichtsregio. In: *Het Tandheelkundig Jaar 2015*, Chapt. 5 Bohn Stafleu van Loghum, 49-66. ISBN: 978-90-368-0688-6
- Ni, X., Vanderlinden, A., Collaert, B., Zink, I., Alqerban, A., Jacobs, R. (2015). De relatie tussen tandheelkunde en logopedie. In: *Het tandheelkundig jaar 2015*, Chapt. 12. Bohn Stafleu van Loghum, 139-150. ISBN: 978-90-368-0688-6
- Politis, C., Willems, G., Jacobs, R. (2015). Een vrijgelegde cuspidaat die niet wil bewegen, wat nu? In: *Het Tandheelkundig Jaar 2015*, Chapt. 16. Bohn Stafleu van Loghum, 199-210. ISBN: 978-90-368-0688-6

ABSTRACT OF CONGRESS PRESENTATIONS

- Huang, Y., Van Dessel, J., Nicolielo, L., Van de Casteele, E., Slagmolen, P., Jacobs, R. (2015). THE RELIABILITY OF CONE-BEAM COMPUTED TOMOGRAPHY TO ANALYZE TRABECULAR AND CORTICAL BONE STRUCTURES: AN IN-VITRO STUDY. Annual congress of the European Association for Osseointegration - EAO 2015. Stockholm, Sweden, September 24-26, 2015. Abstract No. P548
- Pauwels, R., Jacobs, R., Bosmans, H., Bogaerts, R., Panmekiate, S. (2015). OPTIMISATION OF EXPOSURE PARAMETERS BASED ON HEAD SIZE IN CONE-BEAM CT. FDI Annual World Dental Congress. Bangkok, Thailand, September 22-25, 2015.
- Nicolielo, L., Van Dessel, J., Kakar, A., De Mol, A., Jacobs, R. (2015). A NOVEL IMAGING APPROACH TO FOLLOW-UP OF CONDYLAR REMODELING FOLLOWING BIMAXILLARY SURGERY. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 0035
- Torres Garcia, A., Huybrechts, B., Lambrechts, P., Jacobs, R. (2015). 3-DIMENSIONAL VOLUMETRIC CHANGES OF APICAL RADIOLUCENCIES AFTER 1 VS 2 VISIT ENDODONTIC RETREATMENT: A PILOT STUDY. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 0009
- Lamira, A., Jacobs, R., Van de Casteele, E., de Sousa Neto, M. (2015). ROOT CANAL ANATOMY OF MANDIBULAR MOLARS ASSESSED BY MICROCT. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. P017
- Guerrero, M., Noriega, J., Jacobs, R. (2015). PREOPERATIVE IMPLANT PLANNING CONSIDERING ALVEOLAR BONE GRAFTING NEEDS AND COMLICATION PREDICTION USING PANORAMIC VERSUS CBCT IMAGES. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago, Chile, August 26-29, 2015. Abstract No. P046.
- Nascimento, T., do Nascimento, M., Almeida, S., Haiter-Neto, F., Jacobs, R. (2015). EVALUATION OF THE INFLUENCE OF THE UNIT AND SKULL ROTATION ON CORTICAL BONE THICKNESS MEASUREMENTS IN CONE BEAM COMPUTED TOMOGRAPHY IMAGES. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, 26-29,2015, Abstract No. P042
- Henriques, G., Massahud, J. C., Barchellos, B.R., Borges de Araujo, C., Jacobs, R. (2015). INTRAORAL RADIOGRAPHY EVALUATIONG THE PHALANGEAL CORTICAL INEX IN CHRONIC KIDNEY DISEASE PATIENTS. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 00019
- Stratis A., Zhang G., Jacobs R., Bogaerts R., Bosmans H. SHOULD DENTAL CBCT DEVICES BE EQUIPPED WITH CU-FILTERS? A MONTE CARLO ORGAN DOSE COMPARISON STUDY. Radiological Society of North America, RSNA, Chicago, USA, November 29- December 4, 2015. Abstract No. SSK15-08
- Stratis A., EzEldeen M., Zhang G., Jacobs R., Bogaerts R., Bosmans H. A MONTE CARLO DOSIMETRY COMPARISON STUDY OF TWO DIFFERENT PAEDIATRIC PROTOCOLS FOR TEETH AUTO TRANSPLANTATION PLANNING AND FOLLOW UP. Radiological Society of North America, RSNA, Chicago, USA, November 29- December 4, 2015. Abstract No. SSG15-08
- Stratis A., Zhang G., Jacobs R., Bogaerts R. Bosmans H. QUANTIFYING UNCERTAINTIES IN ABSORBED ORGAN DOSE CALCULATIONS IN MONTE CARLO SIMULATIONS. Radiological Society of North America, RSNA, Chicago, USA, November 29- December 4, 2015. Abstract No. SSG15-07

- Stratis A., Zhang G., Jacobs R., Bogaerts R., Bosmans H. PATIENT SPECIFIC PAEDIATRIC DOSE ASSESSMENT IN DENTAL CONE BEAM COMPUTED TOMOGRAPHY VIA MONTE CARLO CALCULATIONS. PiDRL, European Diagnostic Reference Levels for Paediatric Imaging, Lisbon, Portugal, October 15-17, 2015. Abstract No. 033
- Stratis A., Zhang G., Jacobs R., Bogaerts H., Bosmans H. CUSTOMIZATION OF A MONTE CARLO DOSIMETRY TOOL FOR DENTAL CONE BEAM CT SYSTEMS. Optimisation in X-ray and Molecular Imaging 2015, Fourth Malmö Conference on Medical Imaging, Gothenburg, Sweden, May 28-30, 2015. Abstract No. 07-5
- Stratis A., Zhang G., Jacobs R., Bogaerts R., Bosmans H. THE INFLUENCE OF THE ORBITAL BONE DENSITY ON THE EYE-LENS DOSE IN DENTAL CBCT. European Congress of Radiology, European Society of Radiology (ECR), Vienna, Austria March 4-8, 2015 (SS 713). B-0680 (Best on site scientific presentation, Physics in Radiology, Innovations in CT technology). Abstract No. B0680
- Bosmans H., Stratis A., Zhang G. CONE-BEAM CT: C. 3D DENTOMAXILLOFACIAL IMAGING. European Society of Radiology (ECR), Vienna, Austria, March 4-8, 2015. Abstract No. (RC 113): A-014
- Stratis A., Zhang G., Jacobs R., Bogaerts R., Bosmans H. PATIENT-SPECIFIC APPROACH OF CBCT IMAGING IN CHILDREN: CUSTOM-MADE MONTE CARLO SIMULATIONS. 2nd EADMFR junior meeting. Freiburg, Germany, February 8-11, 2015.
- Stratis A., Zhang G., Jacobs R., Bogaerts R., Bosmans H. A MONTE CARLO DENTAL CONE BEAM CT DOSIMETRY TOOL BASED ON MEASURED ENERGY SPECTRA AND FILTRATION. Belgian Hospital Physicist Association, Annual meeting, Antwerp, Belgium, February 6-7, 2015. Abstract No. RX-Abstr-06_BHPA2015
- Stratis A., Zhang G., Jacobs R., Bogaerts R. Bosmans H. A MONTE CARLO STUDY ON THE EFFECT OF THE ORBITAL BONE TO THE RADIATION DOSE DELIVERED TO THE EYE LENS. Spie Medical Imaging, Orlando, USA, February 21-26, 2015. Abstract No. Proc. SPIE 9412
- Pauwels R., Faruangsaeng T., Charoenkarn T., Ngonphloy N., Panmekiate S. EFFECT OF EXPOSURE PARAMETERS AND VOXEL SIZE ON BONE STRUCTURE ANALYSIS IN CONE-BEAM CT. 4th Tri-University Consortium on Oral Science and Education, Bangkok, Thailand, May 20-21, 2015. Abstract No. P029
- Van Dessel J., Temmerman A., Van de Casteele E., Castro AB., Quirynen M., Jacobs R. (2015). OBJECTIVE 3D QUANTIFICATION OF SOCKET PRESERVATION TREATMENT STRATEGIES USING L-PRF: A SPIT MOUTH RANDOMIZED CONTROL TRAIL. The European Association for Osseointegration congress, Stockholm, Sweden, September 24-26. Abstract No. PO613
- Van Dessel J., Van de Casteele E., Temmerman A., Quirynen M., Jacobs R. (2015). MICRO-CT EVALUATION OF PRF INDUCED BONE GROWTH. Micro-CT User Meeting, Brugge, Belgium, May 4-7, 2015. Abstract No. OP32
- Agbaje, J.O., Politis, C., Botero Ramírez, X., Sun, Y., Lambrichts, I., Heath, N., (2015). VISIBILITY OF MANDIBULAR CANAL ON PANORAMIC RADIOGRAPH AFTER BILATERAL SAGITTAL SPLIT OSTEOTOMY (BSSO). 3rd International Conference on Radiology and Imaging. Toronto, Canada Augustus 24-26, 2015.

3 Research

D. Chairs



GROUP

ALEAMED KLS MARTIN CHAIR FOR OMFS

Duration: 3 years (2013-2016) To support research in the field of trigeminal neuropathy in OMFS.



NOBEL BIOCARE CHAIR FOR ORAL AND MAXILLOFACIAL SURGERY

Duration: 3 years (2013-2016) To support the research concerning the damage of the inferior alveolar nerve during mandibular surgery.



BICON CHAIR FOR ORAL AND MAXILLOFACIAL SURGERY

Duration: 3 years (2013-2016) To help to cover the teaching and/or research expenses in oral rehabilitation after oncology therapy and treatment modalities after iatrogenic damage of the inferior alveolar nerve.



ROYAL BELGIUM SOCIETY OF STOMATOLOGY AND MAXILLOFACIAL SURGERY CHAIR FOR M3-OBSERVATORY

Duration: 3 years (2013-2016) Epidemiological study on the surgical removal of third molars.



A. SCIENTIFIC CONTRIBUTIONS AT CONGRESSES

- Oral presentations
- Poster presentations
- **B. INVITED LECTURES**

A. SCIENTIFIC CONTRIBUTIONS AT CONGRESSES

ORAL PRESENTATIONS

Van Dessel, J., Van de Casteele, E., Temmerman, A., Quirynen, M., Jacobs, R. (2015). MICRO-CT EVALUATION OF PRF INDUCED BONE GROWTH. Micro-CT User Meeting, Brugge, Belgium, May 4-7, 2015. Abstract No. OP32

Stratis, A., Zhang, G., Jacobs, R., Bogaerts, H., Bosmans, H. CUSTOMIZATION OF A MONTE CARLO DOSIMETRY TOOL FOR DENTAL CONE BEAM CT SYSTEMS. Optimisation in X-ray and Molecular Imaging 2015, Fourth Malmö Conference on Medical Imaging, Gothenburg, Sweden, May 28-30, 2015. Abstract No. 07-5

Agbaje, J.O., Politis, C., Botero Ramírez, X., Sun, Y., Lambrichts, I., Heath, N., (2015). VISIBILITY OF MANDIBULAR CANAL ON PANORAMIC RADIOGRAPH AFTER BILATERAL SAGITTAL SPLIT OSTEOTOMY (BSSO). 3rd International Conference on Radiology and Imaging. Toronto, Canada Augustus 24-26, 2015.

Torres Garcia, A., Huybrechts, B., Lambrechts, P., Jacobs, R. (2015). 3-DIMENSIONAL VOLUMETRIC CHANGES OF APICAL RADIOLUCENCIES AFTER 1 VS 2 VISIT ENDODONTIC RETREATMENT: A PILOT STUDY. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 0009

Henriques, G., Massahud, J.C., Barchellos, B.R., Borges de Araujo, C., Jacobs, R. (2015). INTRAORAL RADIOGRAPHY EVALUATIONG THE PHALANGEAL CORTICAL INEX IN CHRONIC KIDNEY DISEASE PATIENTS. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 00019

Nicolielo, L., Van Dessel, J., Kakar, A., De Mol, A., Jacobs, R. (2015). A NOVEL IMAGING APPROACH TO FOLLOW-UP OF CONDYLAR REMODELING FOLLOWING BIMAXILLARY SURGERY. The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. 0035

Pauwels, R., Jacobs, R., Bosmans, H., Bogaerts, R., Panmekiate, S. (2015). OPTIMISATION OF EXPOSURE PARAMETERS BASED ON HEAD SIZE IN CONE-BEAM CT. FDI Annual World Dental Congress. Bangkok, Thailand, September 22-25, 2015.

Stratis, A., Zhang, G., Jacobs, R., Bogaerts, R., Bosmans H. PATIENT SPECIFIC PAEDIATRIC DOSE ASSESSMENT IN DENTAL CONE BEAM COMPUTED TOMOGRAPHY VIA MONTE CARLO CALCULATIONS. PiDRL, European Diagnostic Reference Levels for Paediatric Imaging, Lisbon, Portugal, October 15-17, 2015. Abstract No. O33

Sinha, D., Dormaar, T., Nijst, V., Schoenaers, J., Politis, C. ARE SHORT IMPLANTS A SUBSTITUTE FOR BONE-GRAFTS OR BONE-AUGMENTATION SURGERY? KBVSMFH meeting Brussel, Belgium, March 21, 2015 Verquin, M., Libert, I., Browaeys, H., Abeloos, J., Declercq, C., Barbier, L., Schoenaers, J., Politis, C. RESORPTION PATTERN OF CRANIAL BONE VERSUS ILIAC CREST BONE: LONG TERM RESULTS. KBVSMFH meeting Brussel, Belgium, March 21, 2015

Coropciuc, R., De Bruyn, L., Spaey, Y., Legrand, P., Schoenaers, J., Politis, C. LPRF AS BONESUBSTITUTE: MYTH OR REALITY? KBVSMFH meeting Brussel, Belgium, March 21, 2015

Dubois, H., Dormaar, T., Nanekan, L., Naert, I, . Schoenaers, J., Politis, C. DENTAL IMPLANTS IN FREE VASCULARIZED FIBULAR GRAFTS. KBVSMFH meeting Brussel, Belgium, March 21, 2015

Veys, B. Adriaensens, S. Dubois H., Jacobs, R., Naert, I., Schoenaers, J., Politis, C. DENTAL MPLANTS IN NON-GRAFTED SITES OF IRRADIATED JAW BONE. KBVSMFH meeting Brussel, Belgium, March 21, 2015

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Grosjean, L., Coropciuc, R., Dormaar, T., De Laat, A., Politis, C., Schoenaers, J. FACIAL FASCICULATIONS AFTER ORO-MAXILLOFACIAL SURGERY. KBVSMFH meeting Brussel, Belgium, November 21, 2015

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Meeus, J., Coropciuc, R., Dormaar, T., Schoenaers, J., Politis, C. RETROBULAR HEMATOMA AND ACUTE COMPARTMENT SYNDROME. KBVSMFH meeting Brussel, Belgium, November 21, 2015

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Hoste, X., Dormaar, T., Coropciuc, R., Schoenaers, J., Politis, C. THE MANAGEMENT OF POSTTRAUMATIC MIOSIS OR MYDRIASIS. KBVSMFH meeting Brussel, Belgium, November 21, 2015



POSTER PRESENTATIONS

Spie Medical Imaging, Orlando, USA, February 21-26, 2015. Abstract No. Proc. SPIE 9412



A Monte Carlo study on the effect of the orbital bone to the radiation dose delivered to the eye lens

Andreas Stratisa, Guozhi Zhangb, Reinhilde Jacobsª, Ria Bogaerts⁶, Hilde Bosmans⁶

* Katholieke Universiteit Leuven, Department of Imaging and Pathology, OMFS-IMPATH Research Group, Campus St. Rafael, Kapucijnenvoer 33, Leuven 3000, Belgium, ^b University Hospitals of Leuven, Herestraat 49, Leuven 3000, Belgium

GOAL

CONCLUSIONS

- How complex should the eye lens model be to allow for accurate dosimetry? TASK to examine the impact of orbital bone and intraorbital fat on the absorbed dose in the eye lenses in dental CoBCD.
- The presence of bone results in a slight decrease (max. -1.9%) in the backscatter factors (BSFs) at the level of the eye lens, especially when the incident beam is perpendicular to the surface (table 1).
 The effect of bone on the percent depth dose (PDD) gets negligible at a distance greater than 10 mm from the tissue-bone interface (figure 4).
- Intraorbital fat contributes to an increase in the dose to the lens when the incident beam is perpendicular to the eye bulb (table 2).
- For a 360° rotation, the orbital bone absorption properties result in a 13,5% decrease in the dose to the eye lens when compared to non- bone simulation (table 3).

INTRODUCTION

Radiation dose to the eye lens and the associated induced risk to develop cataract are important scientific issues1. The anatomic position of the eye implies that part of the radiation dose during medical exposures is due to backscatter radiation from intraorbital fat and orbital bone. The relative lens dose contributions from surrounding tissues were determined for dental CBCT applications.

METHODS AND MATERIALS

Monte Carlo xray tube simulations were performed with BEAMnrc2 for Promax 3D Max scanner (Planmeca, Helsinki, Finland) and 5 energies (70, 75, 80, 85, 90, 96 kV)

Study 1

3 different phantoms, made from tissue, tissue-bone and tissue-air, were designed in DOSXYZnrc3 (fig. 1),

Each x-ray tube phase space was directed towards the phantoms in DOSIXYZnrc
 BSFs were obtained and PDD curves were designed for phantoms 1 and 2
 Study 2

. 3 versions of an eye voxel phantom were designed in DOSXYZnrc (fig. 2)

 phantom 4 simulates real anatomy; the eye bulb is surrounded only by air in phantom 5; bone is replaced by fat tissue in phantom 6

Lens dose comparison between phantoms 5 and 6 allows the calculation of the increase in dose due to backscatter from the intraorbital fat; phantom 4 enables the investigation of backscatter reduction when bone is present.

Study 3

An EGSnrc framework, developped in our group, was customised towards dosimetry by generating equivalent source models4,5

We simulated an offset-type protocol (skull, 230 x160 mm2, 96kV, 81 mAs) and we
employed

• 3 versions of the Zubal phantom for the lens dose measurements6 (fig.3)

Organ elemental compositions were received from ICRP 89 and Woodard et al7,8.
 We studied the impact of bone and intraorbital fat to lens dose as tube rotates around the patient.



RESULTS AND DISCUSSION

Study 1, Table 1. Higher beam energies are associated with larger BSFs. The presence of a bone layer underneath tissue results in the decrease of BSFs. Figure 4 shows that the decrease in PDDs close to tissue-bone interface, becomes negligibe at a distance greater than 10 mm.

Study 2, Table 2. Intraorbital fat increases the dose to the lenses (average increase 9,23%). The latter increase is subject to a slight reduction when bone is present (average -1.5%).

Study 3, Table 3. Orbital bone results in a 13,5 % lens dose reduction in Zubal phantom (compared to a model consisted only of soft tissues)







4 Lecturing

4th Tri-University Consortium on Oral Science and Education. Bangkok, Thailand, May 20-21, 2015. Abstract No. P029

จฬาลงกรณ์มหาวิทยาลัย Chulalongkorn University

P-29

Effect of Exposure Parameters and Voxel Size on Bone Structure Analysis in Cone-beam CT



Ruben Pauwels^{1,2}, Thira Faruangsaeng¹, Thanakom Charoenkarn¹, Noppawan Ngonphloy, ¹ Soontra Panmekiate¹ ¹Department of Radiology, Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand

²OMFS-IMPATH, Department of Imaging & Pathology, Biomedical Sciences Group, KU Leuven, Leuven, Belgium

Objective

Cone-beam computed tomography has become an invaluable tool in dentistry for the evaluation of bony structures. Due to the inability of CBCT to yield accurate bone density values, the application of structural bone parameters has been considered. However, the stability of these parameters in varying exposure conditions has not yet been demonstrated. The aim of this study was to evaluate the effect of exposure parameters and voxel size on bone structure analysis in dental cone-beam computed tomography (CBCT).

Materials and methods

Twenty cylindrical bone samples underwent CBCT scanning (3D Accuitomo 170, J. Morita, Kyoto, Japan) using three combinations of tube voltage and mAs, corresponding with a CT dose index of 3.4 mGy: 90 kV 62 mAs, 73 kV 108.5 mAs and 64 kV 155 mAs. Images were reconstructed with a voxel size of 0.080 mm. In addition, the 90 kV scan was reconstructed at voxel sizes of 0.125, 0.160, 0.200, 0.250 and 0.300 mm (Fig. 1). After thresholding, the following parameters were measured: bone surface (BS) and bone volume (BV) per total volume (TV), fractal dimension, connectivity density, anisotropy, trabecular thickness and spacing, structure model index (SMI), plateness, branches, junctions, branch length and triple points. Paired ttests, or Wilcoxon matched pairs tests in case of non-normally distributed data, were performed to compare the scan settings two by two. Using a Bonferroni correction (considering the fact that 28 pair-wise comparisons were made between the 8 scanning protocols), a significance level α of 0.05/28 = 0.0018 was set.



Fig. 1 Eight CBCT scanning protocols. Axial slice of original and thresholded scans. Images were enlarged for the purpose of visualization.



Results For most parameters, there was no significant effect of the kV value. For BV/TV, '90kV' differed significantly from the other kV settings; for SMI, '64kV vs. 73kV' was significant. For BS/TV, fractal dimension, connectivity density, branches, junctions and triple points, values incrementally decreased at larger voxel sizes, whereas an increase was seen for trabecular thickness, trabecular spacing, SMI and branch length. For anisotropy and plateness, no (or little) effect of voxel size was seen; for BV/TV, the effect was inconsistent (Fig. 2).

Conclusions

Most bone structure parameters are not affected by the kV if the radiation dose is constant. Parameters dealing with the trabecular structure are heavily affected by the voxel size., limiting their clinical applicability.

Acknowledgements

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Fig. 2 Distribution of bone structure parameter values for 8 CBCT scanning protocols.

4 Lecturing

The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago, Chile, August 26-29, 2015. Abstract No. P046.

Preoperative implant planning considering alveolar bone grafting needs and complication prediction using panoramic versus CBCT images

Maria Eugenia Guerrero^{1,2}, Jorge Noriega², Reinhilde Jacobs^{1,3,*}

¹OIC, OMFS IMPATH Research Group, Department of Imaging and Pathology, Faculty of Medicine, University of Leuven, Leuven, Belgium

²Master of Periodontology, Universidad San Martin de Porres, Lima, Peru

³Department of Oral and Maxillofacial Surgery, University Hospitals, Leuven, Belgium

ABSTRACT

Purpose: This study was performed to determine the efficacy of observers' prediction for the need of bone grafting and presence of perioperative complications on the basis of cone-beam computed tomography (CBCT) and panoramic radiographic (PAN) planning as compared to the surgical outcome.

Materials and Methods: One hundred and eight partially edentulous patients with a need for implant rehabilitation were referred for preoperative imaging. Imaging consisted of PAN and CBCT images. Four observers carried out implant planning using PAN image datasets, and at least one month later, using CBCT image datasets. Based on their own planning, the observers assessed the need for bone graft augmentation as well as complication prediction. The implant length and diameter, the need for bone graft augmentation, and the occurrence of anatomical complications during planning and implant placement were statistically compared.

Results: In the 108 patients, 365 implants were installed. Receiver operating characteristic analyses of both PAN and CBCT preoperative planning showed that CBCT performed better than PAN-based planning with respect to the need for bone graft augmentation and perioperative complications. The sensitivity and the specificity of CBCT for implant complications were 96.5% and 90.5%, respectively, and for bone graft augmentation, they were 95.2% and 96.3%, respectively. Significant differences were found between PAN-based planning and the surgery of posterior implant lengths.

Conclusion: Our findings indicated that CBCT-based preoperative implant planning enabled treatment planning with a higher degree of prediction and agreement as compared to the surgical standard. In PAN-based surgery, the prediction of implant length was poor. (*Imaging Sci Dent 2014; 44: 00-00*)

KEY WORDS: Dental Implants; Cone-Beam Computed Tomography; Alveolar Bone Grafting; Radiography, Panoramic



Fig. A and B. CBCT allowed the visualization of the posterior superior alveolar artery before creating a lateral window into

the maxillary sinus. The artery was seen during the sinus lift procedure located at 15 mm from the alveolar crest as diagnosed with CBCT.

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Imaging Science in Dentistry 2014; 44: 00-00 Imaging Science in Dentistry · pISSN 2233-7822 eISSN 2233-7830 http://dx.doi.org/10.5624/isd.2014.44.3.00



The 20th International Congress of Dento-Maxillo-Facial Radiology. Santiago Chile, August 26-29, 2015. Abstract No. P017







Root canal anatomy of mandibular molars assessed by MicroCT

Alessandro Lamina^{1,2}, Reinhilde Jacobs, Laura Nicollielo, Manoel D de Soussa Neto. Department of Restorative Dentistry, University of Sao, Ribeirao, Preto, Brazil OMFS-IMPATH research group, Katholieke Universiteit Leuven, Belgium



Introduction & Objectives The main goal of endodontic therapy is shaping and cleaning of root canals allowing three-dimensional obturation. Missed canals and isthmus areas are the most frequent cause of endodontic treatment failure. It is important to recognize the complexity of root canal systems and its potential interaction with therapy resistance. The objective of the present study is to evaluate the complexity of molar root canal anatomy, with a specific focus on identification of mandibular molars and their mesial root isthmus area. Once this problem is fully understood, a further focus can be put on the related diagnostic challenges and therapeutic outcome s & Metho N=29 Figure 1: Wet samples wrapped Figure 2: Batch scanning: 4 samples placed in the micro-CT in parafilm Figure 3: SkyScan 1173 - Bruker microCT Filter: brass 0.25 mm Pixel size - 12.5 um Voltage 130 kV Rotation 0.4 Frame averaging 4 Random movement 20 Rotation 360° Control Software Exposure 1100ms Smoothing Misalignment Compensation Ring Artifacts reduction Beam-hardening reduction NRecon Results Table 1: Number of teeth on different isthmus types (Hsu & Kim 1997).



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Туре в 💽	
Type II 主	
Type IV	
Type V	
Figure 4: Isthmus clas	sification
(Hsu & Kim 1997).	



Type IV pe IV Type V ial roots of mandibular molars (Hsu & Kim 1997) Figure 5: Isthmus types in me



All samples showed more than one classification type in a same root underlining the complexity of the root canals system and the attention for proper diagnoses and consequently, an optimised therapy.

There is a significant complexity and variability of mandibular molar root canal morphology. With regard to the isthmus in the mesial root, isthmus type V was found in most of samples, suggesting full connection between 2 canals. This ribbon type of root canal morphology (Torres et al. 2015) may call the need for proper diagnostic imaging. At the same time, it is essential to study complex root canal morphology in relation to endodontic therapy resistance. The latter may urge the need for revising diagnostic approaches and treatment strategies.

- HIGH GROGG HSU & KIM Dettal Clinics of North America (1997, p. 529-40) SCHLDEFI Dental Clinics of North America (2000, volume 11, p. 725-44) SIDUEFIA Journal of Endodontics (2008, volume 44, p. 58-101) TORHES Imaging Science in Dentistry (2015, volume 46, p. 58-101) VERIAM et al. Journal of Endodontics (2017, volume 33, p. 1080-40) VLLAS SOAS, M.H. et. al. Journal of Endodontics (2017, volume 33, p. 1080-40) VOL ARX, T. Imatentional Endodontics Journal 32, p. 1080-40)

The European Association for Osseointegration congress. Stockholm, Sweden, September 24-26. Abstract No. P0613



Objective 3D quantification of socket preservation treatment strategies using L-PRF: A split mouth randomized control trail

Van Dessel J¹, Temmerman A², Van de Casteele E¹, Castro AB², Quirynen M², Jacobs R¹

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KU LEUVEN





B. INVITED LECTURES

30/01/15	C. Politis	Extracties bij medisch gecompromitteerde patiënten	Vlaamse Vereining Tandartsen Antwerpen, Belgium
30/01/15	C. Politis	Premaligne letsels – Orale ulceraties	Vlaamse Vereining Tandartsen Antwerpen, Belgium
31/01/15	C. Politis	Uitdagingen van de hedendaagse specialistische geneeskunde	VV-MKA Brugge Brugge, Belgium
03/02/15	R. Jacobs	Beeldvorming anno 2015	VVT studieclub Zuid-West Vlaanderen Roeselare, Belgium
07/02/15	C. Politis	Extracties durven en doen	NiVVT Genk, Belgium
11/02/15 14/02/15	R. Jacobs	Computer supported diagnoses, fabrication and assessment processes	4th EAO consensus conference 2015 Pfäffikon, Switserland
26/02/15	R. Jacobs	Pathology of the jaw bone: vision of a different perspectice	Belgian Society Periodontology Brussels, Belgium
26/02/15	C. Politis	Plateau VS Screw Root Design Titanium Dental Implants	13th International Congress of Iranian Society of Oral and Maxillofacial Surgeons Teheran, Iran
26/02/15	C. Politis	Complications of orthognathic surgery	13th International Congress of Iranian Society of Oral and Maxillofacial Surgeons Teheran, Iran
10/03/15	C. Politis	MKA-toepassingen van 3D-printing	Materialize-UZLeuven Leuven, Belgium
21/03/15	C. Politis	Prevention and Management of Nerve Injuries in Dental Implantology	International Conference on Oral and Facial Rehabilitation 2015 Hong Kong
21/03/15	C. Politis	Neuropathic pain after dental implant treatment	Voorjaarsvergadering KBVSMFH Brussel, Belgium
28/03/15	C. Politis	Bloedverdunners in de tandheelkunde	PAV Mondgezondheidswetenschappen Leuven, Belgium
28/03/15	C. Politis	Nabloedingen in de MKA-praktijk	LUTV Leuven Leuven, Belgium
17/04/15	C. Politis	Ziekenhuisfinanciering	MKA-artsen in opleiding (VUB) Brussel, Belgium
17/04/15	C. Politis	Ziekenhuisfinanciering en RIZIV-structuren	MOPI-cursus Brussel, Belgium
25/04/15	C. Politis	Medische Wereld 2015: debat	VUB Brussel Brussel, Belgium
07/05/15	C. Politis	Short Implants	Kasteel van Braschaat, organisator Christophe Defoer Brasschaat, Belgium

19/05/15	R. Jacobs	Beeldvorming anno 2015	VVT studieclub Meetjesland Oudenaarde, Belgium
21/05/15 22/05/15	R. Jacobs	CBCT certification: interuniversity course CBCT anatomy and CBCT diagnostics	PAV Mondgezondheidswetenschappen Leuven, Belgium
28/05/15	R. Jacobs	Beeldvorming anno 2015	VVT studieclub Waasland (STW) Sint Niklaas, Belgium
28/05/15	C. Politis	Short Implants	AZ Turnhout, campus Sint Jozef Turnhout, Belgium
05/06/15	C. Politis	Pijn na de tand- en of mondheelkundige interventies	2e VVMKA congres voor tandartsen Gent, Belgium
06/06/15	C. Politis J. Schoenaers	Luchtweg en orthognatische heelkunde	PAV Mondgezondheidswetenschappen Leuven, Belgium
11/06/15	C. Politis	Kaakkysten	LOK-Leuven Leuven, Belgium
12/06/15	C. Politis	3D planning en printing in OMFS	Materialize-UZLeuven Leuven, Belgium
29/06/15	C. Politis	Complicaties na orthognathische heelkunde	Lobster-course Brugge, Belgium
02/07/15	R. Jacobs	CBCT workshop 1: CBCT basis	PAV Mondgezondheidswetenschappen Leuven, Belgium
03/07/15	R. Jacobs	CBCT workshop 2: radiodiagnostiek	PAV Mondgezondheidswetenschappen Leuven, Belgium
06/07/15	C. Politis	Differential diagnosis and management of limited mouth opening / trismus	Summer Course Orofacial Pain Leuven, Belgium
07/07/15	C. Politis	Arthroscopy and surgery in the management of TMJ-related pain and dysfunction	Summer Course Orofacial Pain Leuven, Belgium
07/07/15	R. Jacobs	What do I see on my X-ray? Use of CBCT, MRI and other techniques in diagnosis of TMJ	Summer Course Orofacial Pain Leuven, Belgium
09/07/15	R. Jacobs	Correct use of imaging in dental and TMJ diagnosis	Summer Course Orofacial Pain Leuven, Belgium
10/07/15	C. Politis	Post-traumatic neuropathy in the trigeminal system	Summer Course Orofacial Pain Leuven, Belgium
25/08/15	R. Jacobs	Seminario Imagenes 3D en Odontologia	Los Andes University Santiago Santiago, Chile
03/09/15	R. Jacobs	CBCT workshop 3: eigen casus bespreking	PAV Mondgezondheidswetenschappen Leuven, Belgium
04/09/15	C. Politis	Patients unsatisfied with the orthodontic result and seeking for a surgical solution	l'Association Internationale des Orthodontistes Francophones Oostende, Belgium

05/09/15	C. Politis	3D planning and 3D printing in maxillo-facial surgery	The XLII Congress of the European Society for Artificial Organs. Artificial Organs Tailor Made Leuven, Belgium
07/09/15 08/09/15	R. Jacobs	Radiation protection in dentistry. Interuniversity course for FANC certification	PAV Mondgezondheidswetenschappen Leuven, Belgium
10/09/15	R. Jacobs	Dignaose van pathologie in de kaak M. Bornstein	PAV Mondgezondheidswetenschappen Leuven, Belgium
12/09/15	C. Politis	Traumatologie van het gelaat. Tandheelkundige Kring Antwerpen	Algemeen Geneeskundige Dagen Antwerpen, Belgium
15/09/15	C. Politis	MKA heelkunde anno 2015	LOK Tienen Tienen, Belgium
16/09/15	C. Politis	Slechte wondheling in de mond	LOK Leuven Leuven, Belgium
18/09/15	C. Politis	latrogene zenuwschade na implantaatplaatsingen	ITI symposium Apeldoorn, Nederland
19/09/15	R. Jacobs	De keuze van een nieuw röntgentoestel: welke parameters zijn belangrijk?	Najaarssymposium NIVVT Hasselt, Belgium
24/09/15	C. Politis	Extractions des dents de Sagesse	ULB Avenue de Waterloo 38 Brussel, Belgium
26/09/15	R. Jacobs	Do we still need ti use Hounsfield scores in presurgical planning?	24th EAO congress Stockholm, Sweden
26/09/15	C. Politis	Extracties onder L.A. durven en doen	VVT Tandartsen Brussel, Belgium
29/09/15	R. Jacobs	Current evidence for low dose 3D imaging in children	8th International Orthodontic Congress London, UK
03/10/15	C. Politis	Short Implants	PAV Mondgezondheidswetenschappen Leuven, Belgium
03/10/15	C. Politis	Korte implantaten in de onder- en bovenkaak: Principes	LUTV Short Implants Leuven, Belgium
03/10/15	C. Politis	Patients unsatisfied with the orthodontic result seeking for a surgical solution	UCL Eméritat Prof. Reychler Brussel, Belgium
03/10/15	C. Politis	Complications of short implants	Leuven LUTV short implants Leuven, Belgium
15/10/15	R. Jacobs	Beeldvorming en röntgendiagnostiek anno 2015	VVT studieclub Kempen (KTC) Turnhout, Belgium
06/11/15	R. Jacobs	State of the art in CBCT	International Meeting Computer Aided Implantology Academy Florence, Italy
13/11/15	R. Jacobs	3-D imaging as ultimate keystone in the team approach	International Academy for digital dental medicine Zurich, Switserland

19/11/15	R. Jacobs	Beeldvorming en röntgendiagnostiek	Tandheelkundige Kring Land van Aalst Aalst, Belgium
28/11/15	C. Politis	Schisis en congenitale afwijkingen	PAV Mondgezondheidswetenschappen Leuven, Belgium
03/12/15	R. Jacobs	Cone beam Cts bekijken om een diagnose te stellen: hoe beginnen we eraan?	PAV Mondgezondheidswetenschappen Leuven, Belgium
05/12/15	C. Politis	Speekselklieren	PAV Mondgezondheidswetenschappen Leuven, Belgium
10/12/15	R. Jacobs	Radiologie Anno 2015	VVT studieclub Dendermonde Dendermonde, Belgium
11/12/15	R. Jacobs	Beeldvorming: is bruxisme op een röntgenbeeld te zien?	NVGPT jaarcongres 2015: kauwen op bruxisme Ermelo, The Nederlands
12/12/15	C. Politis J. Schoenaers	Kleine mondheelkunde: ingesloten hoektanden	PAV Mondgezondheidswetenschappen Leuven, Belgium



University of Leuven Department of Imaging & Pathology OMFS IMPATH Research Group Kapucijnenvoer 7 blok a - box 7001 3000 Leuven BELGIUM +32 16 33 24 52 +32 16 33 27 48 www.omfsimpath.be