

Curriculum Vitae Mariano Simón PEDANO DE PIERO

Research Statement: a narrative on your scientific career in past, present and future

After obtaining my degree as general dentist in 2011, I chose to continue my education with a postgraduate training in Endodontology, led by my passion for helping patients suffering from pain and for the research field in Pulp Biology. After some years of experience as a clinician, I decided to pave my path to an academic and research career by pursuing a PhD in BIOMAT (KU Leuven) focused on the vital pulp therapies which I finished in 2020. Immediately after, I had the chance to initiate a new research line on this topic and since then, I have continuously worked to build expertise in this field. I combine research with clinical work (40%), but research remains an important focus for me. I strongly believe that preserving the vitality of the pulp tissue is the key for a preserving a long-life natural dentition.



Short CV

2009: Bachelor of Dental Science (BDS) (Rey Juan Carlos University, Madrid, Spain)

2011: MSc in Dentistry (Rey Juan Carlos University, Madrid, Spain)

2011: Winner of the Colgate National Prize for the best undergraduate research among Spanish dental students. Title of the research project: "Enamel sealing ability of a new self-adhesive resin composite".

2012: MSc in Comprehensive Dentistry (Rey Juan Carlos University, Madrid, Spain)

2012-2016: Master-after-Master (MSc) in Specialized Oral Health Care, option Endodontology (clinical specialization) (Pontifical University of Salamanca, Salamanca, Spain)

2015-2020: Doctor in Biomedical Sciences (**PhD**), KU Leuven, Leuven, Belgium. Promotor: Prof. Bart Van Meerbeek; Copromotor: Prof. Kirsten Van Landuyt. Title thesis: Towards an improved dental pulp-capping therapy.

2015: Research stay abroad at prof. Zhi Chen's lab from Wuhan University School of Stomatology (Wuhan, China) under the supervision of prof. Zhi Chen.

2016: Research stay abroad at the laboratory of professor Imad About (Director of IMEB Research Laboratory at the Faculty of Dentistry, Aix-Marseille University, Marseille, France. Prof. About is the Past President of the Pulp Biology and Regeneration group of the International Association for Dental Research (IADR).

2016: Winner of the Robert Frank Award (Basic Research category) from the CED-IADR

2017-2020: Appointment as PhD research fellow FWO

2020-present: Board member of the Continental European Division of the IADR (CED-IADR)

2020-present: Vast Tandheelkundige Stafid (100% VTS) at UZ Leuven, Leuven, Belgium.

2022-present: Assistant professor (80% UZ Leuven, 20% KU Leuven) at KU Leuven, Leuven, Belgium.

Career path

I have always tried to combine research with clinical practice, as being clinically active improves research insights and vice versa, and I wish to continue to do this in the future. My expertise is thus twofold: research and clinical expertise (all relevant for this research project):

- **Research expertise:** Pulp tissue interactions with dental biomaterials
 - Biological characterization of resin-free and resin-based calcium-silicate cements
 - Biocompatibility of dental materials: cell culture, toxicology, release of components from dental materials
 - Characterization and culturing of stem cells from the dental pulp
 - Histology of hard dental tissues

- **Clinical expertise:** Endodontology and pulp biology

Supervisor: I am currently supervising 1 PhD student as **promoter** and I am also supervising 1 PhD student as **co-promoter**.

Publications:

- h-index: 10, h-index google scholar: 10
- 24 publications in peer-reviewed international journals.
- First or last author of 9 papers in peer-reviewed international journals, 8 of which have been published in Q1 journals (≈90%).

Awards:

- 2011** First prize: ‘Colgate National Prize for undergraduate dental students’ (Spain) (€1000)
- 2012** Finalist Spanish Society of Conservative Dentistry (SEOC) 2012 (Spain)
- 2016** CED-IADR Travel Grant for participation at a congress abroad (PER-IADR Jerusalem, Israel)
- 2016** **First prize Senior Robert Frank Award.** CED-IADR Jerusalem (Israel) (€1000)
- 2016** CED-IADR Hutton Award (participation at IADR session) – 2017 San Francisco, California, USA)
- 2017** CED-IADR Travel Grant for participation at a congress abroad (CED-IADR, Vienna, Austria)
- 2019** FWO Travel Grant for participation at a congress abroad (IADR PBRG, Portland, Oregon, USA)

Five main publications and/or achievements

1- Highest “Impact Factor” as first author:

PEDANO MS, Yoshihara K, Li X, Camargo B, Van Landuyt K, Van Meerbeek B. Experimental resin-modified calcium-silicate cement containing N-(2-hydroxyethyl) acrylamide monomer for pulp tissue engineering. *Materials Science and Engineering C* 2021 Jul;126:112105. **IF2022: 8.457**

2- Second highest “Impact Factor” as first author:

PEDANO MS, Li X, Camargo B, Hauben E, De Vleschauwer S, Yoshihara K, Van Landuyt K, Yoshida Y, Van Meerbeek B. Injectable phosphopullulan-functionalized calcium-silicate cement for pulp-tissue engineering: An in-vivo and ex-vivo study. *Dental Materials* 2020 Apr;36(4):512-526. **IF2022: 5.687**

3- Highest “Impact Factor” as first shared-authorship:

Li X*, **PEDANO MS***, Li S, Sun Z, Jeanneau C, About I, Hauben E, Chen Z, Van Landuyt K, Van Meerbeek B. Preclinical effectiveness of an experimental tricalcium silicate cement on pulpal repair. *Materials Science and Engineering C* 2020 Nov;116:111167. **IF2022: 8.457 *equal first-author**

4- Highest citations first author:

PEDANO MS, Li X, Yoshihara K, Van Landuyt K, Van Meerbeek B. Cytotoxicity and Bioactivity of Dental Pulp-Capping Agents towards Human Tooth-Pulp Cells: A Systematic Review of In-Vitro Studies and Meta-Analysis of Randomized and Controlled Clinical Trials. *Materials (Basel)* 2020 June; 12;13(12):2670. **IF2022: 3.748**; Citations Web of Science: 41; Scopus: 31

5- Second highest citations first author:

PEDANO MS, Li X, Li S, Sun Z, Cokic SM, Putzeys E, Yoshihara K, Yoshida Y, Chen Z, Van Landuyt K, Van Meerbeek B. Freshly-mixed and setting calcium-silicate cements stimulate human dental pulp cells. *Dental Materials* 2018 May;34(5):797-808. **IF2022: 5.687**; Citations Web of Science: 38; Scopus: 34

Other scientific output and impact

- 2020: Initiator of the research line on materials for vital pulp therapy in BIOMAT
- Head of the Endodontology department at KU / UZ Leuven
- Keynote speaker at several national and international meetings

Grants received in the past 5 years:

- **2020** KOOR start-up credit (UZ Leuven). Antimicrobial capacity of calcium-silicate cements for vital pulp therapy. Promoter: Mariano Simón Pedano. € 50.000
- **2019 FWO 11B4320N:** PhD fellowship renewal.
- **2017 FWO 11B4318N:** PhD fellowship.