

**“VICTOR BABEȘ” UNIVERSITY OF MEDICINE
AND PHARMACY TIMIȘOARA
FACULTY OF DENTAL MEDICINE**



HABILITATION THESIS

NEW BIOMATERIALS, DIGITIZATION AND INTERDISCIPLINARITY OF CONTEMPORARY DENTAL MEDICINE

ABSTRACT OF THE HABILITATION THESIS

ALEXANDRU SIMION OGODESCU

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ABSTRACT

Graduate of the Faculty of Dental Medicine from "Victor Babeş" University of Medicine and Pharmacy, Timișoara, in 1999, MD in Paediatric Dentistry, MD in Orthodontics and Dento-Facial Orthopaedics, specialist in General Dentistry, I have received the PhD degree in Dental Medicine, confirmed by the law nr. 632 from 21.03.2007, following the presentation of my thesis on „Interdisciplinarity of Modern Orthodontics” from 2006 at UMFVBT, done under coordination of Prof. Dr. Elisabeta Bratu.

The Habilitation thesis, a synthesis of my didactic, research and medical activity is structured in 3 parts, prefaced by an abstract: **the first part** is dedicated to academic, scientific and professional accomplishments dating from the following period of time after finalizing my PhD research, **the second part** comprises the perspectives on research and university career development strategies, and **the third part** is dedicated to bibliographical titles from my scientific and professional activity.

Starting from the year of 2006, I have published, in the field of Dental Medicine, 42 in extenso articles published by journals included in International Databases, 19 in extenso articles published in reviews of international conferences, and 124 communications in the numerous congresses that I attended. Out of these, 31 are ISI indexed, Web of Science (IF=11,57, h-index=4), 38 are Scopus indexed (h-index=5), and 144 Google Scholar citations (h-index=8).

I have been activating in interdisciplinary teams of researchers from Università Politecnica delle Marche, Ancona, Italia, Klinik für Kieferorthopädie und Kinderzahnmedizin, Zentrum für Zahn-, Mund- und Kieferheilkunde, Universität Zürich, Zürich, Elveția, Iași, Tg. Mureș, Arad, Timișoara.

Following 2006, I have been implicated in 12 national and international research grants, financed by competition and I have been grant director in 2 of them (Synchrotron radiation phase contrast micro-CT investigation of chemo-mechanical and laser root canal debridement of pathologic teeth, COD 20145482, 2014. Sincrotrone Trieste, Elettra and FERMI Lightsources, Italia , COST Action: MP1005 Short Time Scientific Mission (STSM) Title: Analysis of a new biomaterial for infiltration of white spot lesions by synchrotron radiation Reference: ECOST-STSM-MP1005-220313-028854, 2013, Location: Università Politecnica delle Marche, Ancona, Italia) and member of the research team in 10.

I have been titular of the following courses in the University: Paediatric Dentistry” (2012-present) for the Vth year of the Faculty of Dental Medicine, the optional course - „Behavioural

Management in Paediatric Dentistry” (2008-2012), the optional course – „Principles of Interdisciplinary Orthodontic Treatment” for the IVth year of the Faculty of Dental Medicine (2008-present) and postgraduate Paediatric Dentistry and Orthodontics courses.

I am first-author in 4 books in my speciality field (The Orthodontic Treatment in Adult Patients, Space Management in Primary and Mixed Dentition, Principles of Interdisciplinary Orthodontic Treatment, German-Romanian Dental Lexicon) and co-author in 8 books.

The main research themes were: new biomaterials and biotechnologies in paediatric dentistry and orthodontics, digitization and interdisciplinarity in contemporary dental medicine, studies about the growth and development of the stomatognathic system.

Throughout this period I was awarded with 13 national and international nominations, out of which, 5 were offered by UEFISCDI (Executive Unit for Higher Education, Research, Development and Innovation Financing).

The perspectives referring to the evolution and development of the academic, scientific and professional career target as a main goal the foundation of a prestigious Paediatric Dentistry and Interdisciplinary Orthodontic School, as well as a Research Center for Child Growth and Development of the Stomatognathic System. The development directions regard: organising and designing a Paediatric Dentistry Department that corresponds with the present behavioural management concepts in Paediatric Dentistry, research and further implementation of the new biomaterials, non-invasive and digital technologies, and continuous development of interdisciplinary collaboration.