

**THE „CAROL DAVILA” UNIVERSITY OF MEDICINE AND  
PHARMACY, BUCHAREST  
DOCTORAL SCHOOL  
FIELD OF MEDICINE**



**SURGICAL TECHNIQUES AND MULTIDISCIPLINARY  
COLLABORATION IN THE SURGICAL FIELD OF SCIENTIFIC  
RESEARCH**

**ABSTRACT OF THE HABILITATION THESIS**

**CANDIDATE:**

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**2024**

The habilitation thesis with the topic “Surgical techniques and multidisciplinary collaboration in the field of surgery and scientific research” is a representative of my scientific research, academic work, and professional clinical achievements I have obtained after completing my Ph.D. studies in the field of orthopaedics and traumatology.

My professional activity started in the year 2012 as I started my residency in orthopaedics and traumatology in Orthopaedics, Traumatology, and Osteoarticular TB “Foişor” Hospital, which I currently run as a manager. After becoming a specialist doctor I graduated with my Ph.D. in 2016, and since 2017 began my academic activity as I obtained the position of assistant professor in orthopaedics and traumatology. Since 2022 I have been an orthopaedics and traumatology senior physician.

The habilitation thesis follows the provisions of the order issued by The Ministry of Education and Scientific Research. It is structured into four chapters: the first three describe the scientific, academic, and professional achievements, and the fourth describes the further academic development proposals.

The first chapter of my thesis describes my scientific achievements, most of the research activities are focused on the field of orthopaedics and traumatology, and the themes addressed refer especially to hip and knee arthroplasties. I have also addressed other related fields such as musculoskeletal tumors or traumatology. All scientific results are structured by field, with emphasis on those that appeared in ISI or IDB-indexed journals, and are grouped as follows:

- Surgical techniques in total knee and hip arthroplasties – my major goal in the field of knee and hip arthroplasties is to improve the surgical results and reduce any possible complications that may appear. I have studied new surgical mini-invasive techniques that can be used for knee and hip arthroplasties, and their advantages and possible complications that may arise, a preoperative radiological assessment that can help any physician choose the best implant for the patient, the complex management of some patients that are exposed to higher complication rate before, during or after surgery, new technologies available such as robotic-assisted arthroplasties with their learning curve.

- Surgical solutions in musculoskeletal tumors – my main objectives are to find better surgical solutions for patients with benign or malignant tumors, results using different bony substitutes in benign lesions regarding bone morphology and functional outcomes, and a complex approach to rare and difficult malignant tumors.
- Traumatology and challenges encountered in osteosynthesis – I have focused on particular types of fracture and the difficulty encountered during osteosynthesis.

As the field of orthopaedics is in continuous change, I have tried to engage in more modern techniques of operation, mini-invasive surgical approaches, improving surgical time and patient comfort, as well as using robotic technology for assistance in the operating room. Medical information is in continuous change and the use of online platforms to learn and improve medical and surgical skills is important while maintaining a balance between research and didactic activity. I have been part of some international scientific projects and published 29 articles in ISI-indexed journals with impact factors and 13 articles in international database journals. My Hirsch index in Web of Science Core Collection (Clarivate Analytics) is 6 with 94 citations during all time periods. My Hirsch index in Google Scholar is 9, with over 200 citations.

The second chapter of this habilitation thesis consists of the evolutionary description of my academic achievements, from my Ph.D. graduation to obtaining the position of assistant professor in orthopaedics and traumatology in 2017. Throughout my career, I have trained generations of students and residents in the field of orthopaedics and traumatology, fulfilling their need of knowledge and curiosity in the surgical field. In this part of the thesis I have also gathered my managerial and administrative activities with duties and responsibilities since I have been the manager of Foişor Hospital since 2022 and a member in the Orthopaedics and Traumatology Committee for The Ministry of Health since 2023.

The third chapter of my thesis describes my professional development from graduation from Carol Davila University of Medicine and Pharmacy, Bucharest in 2011 through my residency training in orthopaedics and traumatology and obtaining my degrees as specialist and then senior physician. I have listed a number of observer fellowships I attended and also different specialized training I did during my residency and specialty, such as the anterior

mini-invasive approach of the hip, arthroscopic skills in the knee, hip, ankle, and shoulder, and robotic-assisted surgery of the knee.

The fourth chapter of my thesis consists of my plans for the advancement and development of my scientific research activity. The main directions of development I focus on, and some of the most important are: to develop a research department in the structure of Foişor Hospital and to prepare a well-trained research team, to guide young doctors in developing research topics and coordinate them into further doctoral studies, to develop an excellency center in total hip and knee arthroplasties, to elevate the scientific-based information available for our students and residents that have contact with our clinic and continue my research in orthopaedics and traumatology.

This paper is accompanied by a list of more than 70 relevant bibliographic references, and contains relevant iconography from our publications.