

UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST

DOCTORAL SCHOOL

FIELD OF MEDICINE

**HISTOLOGY , CELULAR AND MOLECULAR BIOLOGY- BASIS OF CLINICAL AND
IMAGING INTERDISCIPLINARY COLABORATION**

ABSTRACT OF THE HABILITATION THESIS

CANDIDATE :

ȘERBOIU SORINA CRENGUȚA, Senior Lecturer.

Carol Davila University of Medicine and Pharmacy Bucharest

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This habilitation thesis describes the evolution and the achievements of my scientific, didactic, and professional activity after public defending of my Ph.D. thesis with the theme "Apoptosis in Liver" at the Carol Davila University of Medicine and Pharmacy (CDUMP) from Bucharest. After the thesis, I focused on the translation of the most recent research findings at molecular, cellular and histology level into clinical practice. I became part of a dynamic team that approaches cephalic extremity pathology and abdomino-pelvic pathology in a multidisciplinary emergency hospital. Moreover, I have applied this concept to the field of allergies where I have leveraged my experience in fundamental research from molecular biology. Practically, the "red line" of my research activity consisted of the translation of new cellular biology findings into multidisciplinary approach of the pathology, which I consider a way of progress in clinical research for the benefit of patients. Chapter 1 of the thesis presents the achievements of my scientific activity and the research topics I developed: a pioneer in the discoverement and study of telocytes at the level of skeletal muscle, translational medicine in ophthalmic pathology, translational medicine in otorhinolaryngology pathology, and translational medicine in abdominopelvic pathology. I am co-author at 4 national monographies. I am the lead author of 12 articles and co-author of 23 articles published in ISI journals indexed in Web of Science (WOS) Thomson Reuters, most of them with high impact factor. I have published more than 8 articles in journals indexed in international databases (IDB). The recognition of the impact of my scientific activity in the international research context is proven by a Hirsch index of 8, according to ISI WOS Thomson Reuters, for my entire academic career. I have accumulated 349 citations in impact factor journals with an average of 9 citations per paper. One of the articles I co-authored has been cited 170 times since publication. I was reviewer for 22 manuscripts published in high impact factor WOS indexed journals. I was member in 6 national and international research grants.

Chapter 2 presents the evolution of my academic career. Thus, I became Junior Assistant Professor (1996), and Assistant Professor (1999), by competition, in the Department of Cell biology, molecular biology and histology of the Faculty of Medicine of CDUMP Bucharest, working in a prestigious team and gaining experience in teaching activity, but also in basic research. I have adopted the student-centered form of education, and education based on clinical appliance. In 2023, I became Senior Lecturer by competition, within Department of Cell biology, molecular

biology and histology of the Faculty of Medicine of CDUMP Bucharest. This chapter briefly describes my teaching activity and main teaching responsibilities. I am responsible for managing 7 teaching courses for the students in the first and second year of med school. I developed written didactic materials, PPT, and video recordings, for lectures and practical labs. I have tutored radiology residents or from other specialties that have sonography and mamography internships in their curriculum. To maintain a high standard of my didactic activity, I participated in pedagogy and communication courses. I constantly participated in conferences, seminars, and congresses, and I was an invited speaker/chair at over 100 national conferences and international conferences. I valorized a professional experience of over three decades, organizing and coordinating a series of multidisciplinary working groups that included university assistants and residents.

In Chapter 3, I presented the evolution and achievements of my professional career. I started my specialty as an radiology resident, by competition (1998) in the Bucharest University Emergency Hospital (BUEH) and thoroughly trained especially in mamography, sonography, CT and MRI. Starting in 2004, I became specialist in radiology and medical imaging. Since 2008, I am consultant radiologist in BUEH. For a continuous improvement of the level of professional training, I participated in over 80 professional training courses, as well as in 120 national and international conferences, considering that a teacher/tutor must offer a comprehensive perspective to the one he instructs. In this position, I organize and coordinate the medical and surgical activities of Ultrasonography cabinet. I am a well-known imaging specialist and I have performed over 5000 imaging investigations annually and I treat complex pathologies, coordinating multidisciplinary teams and cultivating transversal skills in all my team members.

The last chapter of the habilitation thesis includes the proposals for the evolution and development of my academic career. In this sense, I made a synthesis and a SWOT analysis of the current status after almost three decades to consolidate plans for my career. Initiating and developing the activity of young doctoral students will constitute a new chapter of development in my academic career and I propose internationalization as a central element of my future work with doctoral students. I believe it is very important to attract young students, residents, and Ph.D. students to research projects in compliance with ethical and deontological norms.

I propose the diversification and development of activities in the Research Group of the BEUH with trimestral work meetings and developing transdisciplinary teaching modalities. I also believe

that it is necessary to cultivate in young doctoral students, the concept of translational clinical research with the translation of research results from the academic environment to the clinic. In conclusion, in my entire scientific, academic, and professional activity of which I am proud, I had as a central principle the multidisciplinary approach to pathology that I developed in several research themes.