

“CAROL DAVILA” University of Medicine and Pharmacy, Bucharest

Doctoral School

Medicine



“Exploring Clinical and Therapeutic Challenges in Surgery During  
and Beyond the COVID-19 Pandemic”

## **SUMMARY OF THE HABILITATION THESIS**

**CANDIDATE:**

Associate Professor Dumitru-Cristinel Badiu, PhD.

„Carol Davila” University of Medicine and Pharmacy, Bucharest

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## Summary

The habilitation thesis titled “Exploring Clinical and Therapeutic Challenges in Surgery During and Beyond the COVID-19 Pandemic” is structured by CNATDCU requirements and reflects my professional, scientific, and academic development. This work brings together my contributions in the field of general surgery, emphasizing interdisciplinarity, technological innovation, and adaptability in response to major health crises, notably the COVID-19 pandemic.

I conducted a detailed analysis of the impact of this unprecedented crisis on general surgery, while also addressing the clinical and therapeutic challenges associated with malignant tumor pathology and the optimization of surgical practice. The activities described highlight my commitment to research excellence, academic training, and healthcare management.

My professional activity has been predominantly focused on general surgery, with emphasis on minimally invasive, oncologic, and emergency surgery. I graduated from the Military Medical Institute and “Carol Davila” University of Medicine and Pharmacy in Bucharest in 1999. From the beginning of my career, I was actively involved in both emergency and elective surgical activities, training within the General Surgery Clinic of the Bagdasar-Arseni Emergency Clinical Hospital. I became a specialist in general surgery in 2007, a senior consultant in 2012, and later, a specialist in urology in 2016.

Throughout my career, I have performed a wide range of surgical interventions, from acute pathologies to complex oncological cases. I enhanced my training through numerous postgraduate courses and obtained certified competencies in oncologic surgery, advanced laparoscopy, and general ultrasound. I have always been driven to share my knowledge and experience with future doctoral students.

In parallel, I have been involved in healthcare management, contributing to the coordination of the hospital network under the Bucharest City Hall and playing an active role in reorganizing surgical services during and after the pandemic period.

I currently serve as an Associate Professor at “Carol Davila” University of Medicine and Pharmacy in Bucharest, the largest medical university in Romania. For over two decades, I have contributed to the education of numerous generations of students and medical residents through courses, clinical rotations, thesis supervision, and mentoring young physicians in modern surgical principles.

I defended my PhD thesis titled “Systemic Inflammatory Response Syndrome in Acute Diffuse Peritonitis Caused by Perforation” in 2011. Since then, I have expanded my research activity, publishing over 170 scientific articles, 107 of which are indexed in ISI journals, with an H-index of 11 according to Web of Science.

I conducted research in intraoperative imaging, focusing on the use of near-infrared fluorescence with indocyanine green (ICG) to prevent bile duct injuries during laparoscopic cholecystectomy. I also pursued studies in tissue regeneration, molecular oncology, and immunotherapy for solid tumors. My work included investigations of PD-1/PD-L1 marker expression, NTRK gene fusions, and tumor genetic profiling to support the development of personalized medicine.

I was a member of research teams for various multicenter clinical trials and national and international projects. My future goals include expanding research in image-guided surgery, surgical bioengineering, and minimally invasive techniques. I also aim to advance medical education through simulation centers, digital projects, and international collaboration.

I plan to strengthen interdisciplinary partnerships to support doctoral and postdoctoral programs focused on clinical innovation and translational medicine. I will continue to engage in national and international collaborations to address future challenges in surgical oncology, enhance the healthcare system's resilience in the face of epidemiological crises, and promote the implementation of predictive models in surgery.

Through the scope and quality of my research, my involvement in medical training, and the contributions made in general surgery and healthcare management, I believe I meet all the necessary criteria to obtain the title of PhD supervisor. This thesis demonstrates my ability to guide and support the academic and scientific endeavors of young physicians, as well as contribute to the development and modernization of Romania's university medical system.