

**UNIVERSITY OF MEDICINE AND PHARMACY  
"CAROL DAVILA", BUCHAREST**



**THE DEVELOPMENT OF MINIMALLY INVASIVE  
THERAPEUTIC TECHNIQUES IN PATHOLOGY OF  
COLON AND RECTUM CONDITIONS**

**ABSTRACT OF THE HABILITATION THESIS**

**CANDIDATE,**

**Grama Florin-Andrei**, Associate Professor,  
University of Medicine and Pharmacy "Carol Davila", Bucharest

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# THE DEVELOPMENT OF MINIMALLY INVASIVE THERAPEUTIC TECHNIQUES IN PATHOLOGY OF COLON AND RECTUM CONDITIONS

## *ABSTRACT*

This habilitation thesis represents a summary of my academic activity throughout my career, aimed at emphasizing my unwavering interest in self-improvement and the desire to contribute to the development of the field of colorectal surgery. The habilitation thesis not only provides a retrospective of my contributions to this field but also looks towards the future and the potential for further development. By analyzing current results and trends, we identify possibilities that can guide the evolution of minimally invasive therapies in the immediate and long-term future.

A crucial aspect is expanding the applicability of minimally invasive techniques to a wider range of colorectal conditions. Investigating and adapting these techniques to cover a variety of pathologies is an essential direction for improving treatment options available to patients. Additionally, integrating emerging technologies such as artificial intelligence and virtual reality into minimally invasive therapeutic practice can bring significant benefits, enhancing diagnostic accuracy, surgical planning, and postoperative monitoring.

The potential for development also includes ongoing efforts in researching and implementing new imaging technologies, as well as developing innovative medical devices specifically tailored for minimally invasive interventions. International collaborations and knowledge exchange will continue to play a vital role in this evolution.

In conclusion, the habilitation thesis not only highlights past contributions but also outlines the future horizons of minimally invasive therapies in colorectal pathology. By exploring these development potentials, new opportunities arise for improving surgical practices, bringing significant benefits to patients, and consolidating the continuously evolving field.

In the first part of the thesis, I present my academic and publishing activity, starting with the early articles and progressing to the most recent ones. The activity is divided into several chapters based on the area of colorectal surgery in which I practiced medicine, including books and articles where I was the author or co-author. The chapters cover topics such as From the Classic Approach to the Minimally Invasive One, Techniques of Minimally

Invasive Approach Used in Colorectal Surgery, International Scientific Collaborations in the Development of Colorectal Surgery, Scientific Contributions in International Collectives during the SARS-COV-2 Pandemic, and Interdisciplinary Scientific Collaborations in Various Medical Fields (ENT, urology, cardiology, medical oncology, laboratory medicine). We are talking about a total of over 40 published articles, most of which are ISI indexed, totaling over 500 citations according to Clarivate – Web of Science, and reaching a Hirsch Index of 12. Additionally, alongside the articles published in renowned international journals, this habilitation thesis contains details regarding my involvement as an author or co-author in the publication of books in the general surgery field. Whether we are talking about manuals for students and residents or complex monographs dedicated to experienced doctors, my publishing activity has been continuous.

In the second part of the habilitation thesis, I present future career development projects based on my most significant achievements to date. In addition to the mentioned 40 articles and Hirsch Index of 12, I had the opportunity to participate in research projects that resulted in obtaining invention patents registered nationally and internationally or in projects funded by national and international grants. My clinical activity culminated in obtaining the title of Fellow of the European Society of Coloproctology (FEBS Coloproctology), being the first and only Romanian surgeon to achieve this title. This diploma represents a crowning achievement of the work done over the years, the effort of self-improvement, and the development of the field of colorectal surgery. In a natural order, following this extraordinary success, I had the opportunity to take over the leadership of the Surgery Department of Colțea Hospital, coordinating the entire medical team coherently, with the main goal being the well-being of the patient. From the position of department head, I managed to obtain approval for the establishment of Centers of Excellence in colorectal and breast surgery.

From an academic point of view, immediately after defending my doctoral thesis, I coordinated multiple bachelor's degree projects for former students on various topics, including colorectal surgery. Evidence of the success of these coordinated projects lies in the outstanding grades obtained by students and the positive feedback obtained from the members of the examination boards. At the same time, I consider it important to mention academically and the successful coordination of multiple scientific articles published in the most successful medical journals, especially those in the field of colorectal surgery. As mentioned above, the acceptance for publication of my projects represented a validation method from international experts, thus providing confidence and assurance that what I

undertook over the years was successful, and practically, I received the reward for all the years of work done in this regard. These bachelor's theses were a good opportunity to improve the coordination skills of scientific papers, facilitating the guidance of my future PhD students.

As the secretary of the Bucharest subsidiary of the Romanian Society of Surgery, I managed to organize monthly meetings of the Society, bringing together experts in the field of General Surgery, both from Romania and abroad. These meetings also represent a suitable environment for young doctors, but not only, to present their clinical activity from the centers where they carry out their daily work.

Moreover, I would like to mention my personal involvement in organizing and conducting academic events such as the Congress of the Romanian Society of Coloproctology, where as the scientific secretary, I am responsible for coordinating the organizing teams of the event.

### **Future Development/Projects**

Beyond the desire for personal improvement and the development of the teams I coordinate, both at the department level and in the other projects I am involved in, for the future, I consider it appropriate to invest time and energy in the following projects:

- Proper development of the Center of Excellence in Colorectal Surgery within Colțea Clinical Hospital, taking this entity to a national and even international level.
- Continued development of resident doctors conducting their activity in the department I lead by participating in national and international scientific events.
- Establishing the first national registry for colorectal cancer with a dual purpose, analyzing the national situation and working methods from each participating center, as well as obtaining new publications aimed at consolidating the efforts made over the years.
- Coordinating and organizing scientific events such as conferences or masterclasses with the support of the European Society of Coloproctology (ESCP).

In the third and final part of this habilitation thesis, reside the bibliographic references utilised in the development of this document.