

UNIVERSITATEA DE MEDICINĂ ȘI FARMACIE

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ȘCOALA DOCTORALĂ

DOMENIUL MEDICINĂ

**Stage IV colo-rectal cancer metastatic to the liver.
Modern surgical and minimally invasive therapies**

ABILITION THESIS SUMMARY

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1. Abstract

The present thesis has a clear objective: to demonstrate that the professional and academic activity carried out so far represents not only proof of competence, but also a solid foundation for the next stage of my career – namely, supervising doctoral theses and contributing to the training of a new generation of specialists. The effort of synthesizing more than a decade of scientific, clinical, and publishing experience into a coherent and logically structured thesis of approximately one hundred pages is condensed in this summary.

This work is not merely a review of progress in oncologic surgery, but also the expression of a professional path built step by step, with perseverance and rigor. Each stage – from experimental research to clinical practice and publications – has contributed to consolidating an integrated vision of modern oncology, in which surgery, minimally invasive techniques, and multimodal therapies converge toward a common goal: improving prognosis and quality of life for cancer patients.

Through this thesis, I aim not only to provide a synthesis of my activity, but also a point of reference for the future, affirming my commitment to continue research, to stimulate interdisciplinary collaboration, and to support the academic training of young researchers. In this respect, the work represents not only the conclusion of a professional journey, but also the beginning of a new stage, marked by the responsibility to pass on the accumulated experience and to contribute, together with future generations, to building a strong and competitive academic school.

The first and most extensive chapter is devoted to scientific achievements, accumulated throughout my career, with a focus on the period following the doctoral thesis. Its purpose is to highlight the main concerns related to colorectal and hepatic oncologic surgery, and to demonstrate the manner in which clinical practice has been constantly integrated with research and, subsequently, with academic publishing .

A first subchapter is dedicated to the major project that triggered this professional and research trajectory: “Bio-evolutionary and molecular characteristics of hepatic metastases secondary to colorectal cancer.” This project combined surgical practice in liver metastases with the introduction of radiofrequency ablation (RFA) in oncology, alongside fundamental molecular-genetic research in metastatic colorectal cancer. The main objective was to establish correlations between clinical-evolutionary aspects and tumor characteristics, including general notions regarding hepatic metastasis, therapeutic response, and multidisciplinary research into malignant

processes, complemented by molecular-genetic, immunological, and proteomic studies.

Subsequent subchapters outline the spectrum of modern therapeutic options for hepatic metastases, including classical resections, modern parenchymal-sparing procedures, staged resections, and associations between resections and local ablative techniques. Another section focuses on the use of RFA via open surgical approach, which represented the subject of my doctoral thesis, followed by the laparoscopic approach studied during the postdoctoral project (POSDRU/159/1.5/S/138907 EXCELIS). Results were disseminated through publications such as “Radiofrequency ablation for liver metastases – minimally invasive therapeutic option for patients with unresectable tumors” and “Immediate and Long-term Results of Radiofrequency Ablation for Colorectal Liver Metastases.”

The chapter concludes with the analysis of the simultaneous approach of colorectal cancer with synchronous liver metastases (SCLM), presenting therapeutic strategies (staged, simultaneous, or reverse staged) and clinical outcomes, exemplified by the article “Simultaneous Approach of Colorectal and Hepatic Lesions in Colorectal Cancers with Liver Metastasis – A Single Oncological Center Overview.”

The second chapter is devoted to professional and academic achievements. The initial subchapters review the evolution of my career in a synthetic manner, highlighting key stages of professional development, followed by a brief description of my doctoral thesis, which serves as a reference point for evaluating the subsequent activity that constitutes the subject of this habilitation thesis.

Also presented are the competencies acquired during my professional trajectory – in oncologic surgery, laparoscopic surgery, and health care management. These represent not only supplementary stages of training, but also the starting point for subsequent activities in the field of quality in health care. The competencies acquired contributed to expanding academic interests and integrating modern concepts of management and quality into both medical practice and scientific activity.

A third subchapter summarizes three major research projects undertaken after completing the doctoral thesis:

1. Postdoctoral research contract POSDRU/159/1.5/S/138907 (EXCELIS, 2014–2016), with the individual project “Immediate and long-term monitoring of liver metastases destroyed by radiofrequency ablation.”
2. Project manager of “Improving services in pediatric hematology and oncology in Romania through the acquisition of specialized equipment and services” (RO19 – Public Health

Initiatives, Norwegian Financial Mechanism 2009–2014), with a non-refundable grant of approximately €5.6 million

3. Member of the management team of “OncoNet RO – Resource Center for Translational Oncology Research,” funded through the Operational Program “Increase of Economic Competitiveness.”

The chapter concludes with a subchapter dedicated to consolidating teaching activity, including my role as lecturer within the national training program for complementary studies in oncologic surgery.

The final chapter outlines the development of my career across its three dimensions – professional, scientific, and academic – establishing both short- and long-term goals. These plans are articulated in two components: scientific activity, with its dissemination in publications, and professional/academic activity, as a projection for the future.

I hope that all I have accumulated in more than a quarter of a century of activity will support me in promoting authentic values of teamwork, in strengthening trust and collaboration with colleagues, and in encouraging their professional development within a motivating and harmonious environment.

It is my aspiration to pass on to students, residents, trainees, and future doctoral candidates not only theoretical and practical knowledge, but also the professional lessons learned throughout my career – through open communication, mutual respect, cooperation, and constant support. The success of this endeavor would represent, for me, a profound satisfaction, comparable to the joy I have always felt in the operating room as a surgeon.

I am deeply convinced that achieving these objectives is the noblest way of honoring my mentors – exceptional teachers who, with generosity, entrusted me with the torch of knowledge, which I now have both the duty and the privilege to pass on to future generations of physicians and academics.