

## **Habilitation thesis**

# **Transforming Diagnosis and Intervention in Rheumatology: New Paradigms and Disruptive Technologies**

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### **Abstract**

The habilitation thesis titled "Transforming Diagnosis and Intervention in Rheumatology: New Paradigms and Disruptive Technologies" encompasses professional, academic, and scientific achievements, structured according to current legal regulations into four parts, with an added summary of the thesis.

#### **1. Scientific Activity/Scientific Achievements**

Regarding my scientific and research activity, I would like to emphasize that it has been an important component since the early years of my academic career. This can be highlighted by the fact that I had my first oral presentation of a Romanian research work at the most important European rheumatology congress, EULAR, even during my residency years. In 2002, together with colleagues from the department, I developed the Research Center in Rheumatic Diseases (RCRD), a center with which we had the joy of winning a large number of national and international projects with a total funding of approximately 2 million euros to date. From 2002 until now, I have held the position of Research Manager at RCRD, leading studies aimed at improving the treatment of systemic rheumatic diseases, thus contributing to progress in this field. In 2020, this center was accredited at the European level by the relevant scientific association (EULAR) for training in musculoskeletal ultrasound and capillaroscopy. In this regard, I have organized postgraduate courses in musculoskeletal ultrasound and capillaroscopy with international participation.

In 2003, I was nominated for the first time as an expert evaluator for research projects funded by the European Commission under the 6th Framework Program. Since then, my presence in the evaluation committees of European research projects has been almost annual, whether we are talking about research projects and their feasibility evaluations, ethical evaluations in research, or monitoring the implementation of European funding in projects already declared winners.

Since 2014, I have developed a unit for the evaluation of medical technologies (HTA) together with colleagues from the National School of Political and Administrative Studies, a unit that I currently lead. My contribution to the scientific community is highlighted by the publication of over 130 articles in ISI-indexed journals and conferences, as well as by achieving a Hirsch index of 9 (or 12 if publications with authors in working groups are included), reflecting the significant impact of my research.

My research and review activity in the area of interactions between patients and the medical environment has been focused in a book: "Socio-economic Evaluation in Rheumatic Diseases - Applied Elements of Medical Economics" (Ed. Gr. T. Popa, UMF Iasi 2013). Additionally, I am the author of eight book chapters in the field of rheumatology and musculoskeletal ultrasound.

Throughout my career, I have participated in numerous research projects in international teams, either as a participant or as a coordinator for Romania or a program package coordinator. I have coordinated or been a project team member in three research projects with international funding.

As a director, I have led two national grants and have been a project team member in another 12 grants with national funding. I am an active member of the Romanian Society of Rheumatology, where I had the honor of serving as Secretary-General for 8 years and Chairman of the Ethics Committee for 5 years. I am one of the five Romanian rheumatologists who are members of OMERACT (the international organization for the evaluation of therapeutic outcome measures in Rheumatology), contributing to the Working Groups for Productivity and Musculoskeletal Ultrasound. Within ISPOR (the international organization for health economics and outcomes research), I have been involved both in the regional chapter in Romania and in the international organization, emphasizing my commitment to pharmacoeconomics and health outcomes research.

Regarding the Romanian Society of Pediatric Rheumatology, where I am a founding member, I have been involved in the development and promotion of pediatric rheumatology in Romania, emphasizing the need for special attention to this subset of patients.

### **1.2. Academic Activity/Academic Achievements**

1998-2002: în 1998, I joined the faculty at Carol Davila University of Medicine and Pharmacy, Bucharest, passing the examination for the position of university teaching assistant at the Department of Internal Medicine and Rheumatology, Grivița Hospital, then led by Professor Eugen Popescu. The role of University Teaching Assistant at UMF Carol Davila allowed me to develop my teaching skills, contributing to the education of students în internal medicine and rheumatology.

2002-2013: în 2002, I advanced to the position of university assistant professor în the same department, enjoying the trust of my colleagues. As a University Assistant Professor at UMF Carol Davila, I combined teaching with research, playing a significant role în the education of future medical professionals.

2013-2017: After consistent activity în the department, I was promoted to the academic position of senior lecturer în 2013 at UMF Carol Davila, a period during which I directly influenced the educational curriculum and supervised student research.

Since 2017, through competitive examination, I have become an associate professor, which has allowed me to more fully express my vision regarding the theoretical and practical education of future doctors. Throughout this period, I participated în all specific educational activities, starting with admission to UMF Carol Davila, teaching and examining student cohorts în Rheumatology, developing educational materials (both traditional and online), overseeing bachelor's exams, coordinating bachelor's theses, supervising the medical residency examination, and serving as a member (reserve) of the committee for developing residency exam topics. I have also participated în the evaluation of exams and dissertations associated with doctoral theses supervised by Prof. Dr. Ruxandra Ionescu.

I have been a member of examination committees for granting the title of medical specialist and for certifying competence în musculoskeletal ultrasound.

### **1.3. Professional Activity/Professional Achievements**

I began my medical career in 1997 at Grivița Clinical Hospital in the Rheumatology Department, where I have worked for over 27 years until 2024. During this period, I worked with both inpatients (initially providing medical care, and later, as my skills developed, additional capillaroscopic assessments, musculoskeletal ultrasound evaluations, and subsequently musculoskeletal ultrasound interventions) and outpatients as the ambulatory structure emerged and evolved at Saint Maria Hospital. I note that I became a consultant rheumatologist in 2009. Throughout my professional development, I have understood that I can become a better educator, a more efficient researcher, and a fulfilled physician only by maintaining a continuous personal education activity at the highest level. I have participated in over 30 postgraduate courses, especially international ones, in my areas of interest.

#### **1.4. Plans for Academic Career Evolution and Development**

Professionally, I plan to enhance my expertise in rheumatology (generally) with applications in diagnostic and interventional musculoskeletal ultrasound and in managing associated pain syndromes. Academically, I aim to continue collaborating with colleagues from other national and international academic organizations. I will also continue my activities within national and international organizations such as OMERACT, the European Commission Research Directorate, and EULAR, with the desire to more strongly anchor both the Carol Davila University of Medicine and Pharmacy and the entire Romanian academic community to the European academic system. In research, I aspire to advance in understanding and developing applications based on Artificial Intelligence in both the medical field and university education.