

HABILITATION THESIS

RESEARCH IN PEDIATRIC CARDIAC DISEASES

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ABSTRACT

This habilitation thesis represents a corollary of the professional and academic activity, and also the scientific work that I carried out after obtaining the title of Doctor of Medicine in 2002, confirmed by the Order of the M.E.C. no. 4198/29.07.2002 (Diploma series C, no. 0004316).

Previous professional achievements. My professional achievements are based on the university studies I completed between 1990-1996, being completed by graduating from the Faculty of Medicine of the University of Medicine and Pharmacy (UMF) in Tg. Mures. Post-graduate studies and achievements: A) In 1997 I took the national Residency exam (Bucharest) - the score I obtained allowed me to choose the first position of pediatric specialist in the country and I opted for the training center Tg. Mureş. In the period 1997-2002 I worked as a resident doctor in the different departments of the Pediatrics I, Pediatrics II and Pediatric Cardiology Clinics, familiarizing myself with the various superspecialty branches within pediatrics; B) In 2002 I graduated the pediatric specialist exam at UMF Tg. Mureş; C) 2008 I graduated the exam to become senior pediatrician, at the Sfânta Maria Hospital in Iasi (University of Medicine and Pharmacy "Grigore T. Popa" in Iasi); D) In 2016, I graduated the cardiology specialist exam (the second specialty); E) 2018 confirmed as Pediatric Cardiology Primary Physician by order of the Minister of Health; F) I participated in more than 20 national training courses and 6 international courses; G) I carried out five internships abroad: 2 in pediatric nephrology (Hungary) and three in pediatric cardiology (Hungary, Germany); H) I am responsible for the follow-up of children with heart transplants within the National Center for Pediatric Cardiac Transplant Tg. Mureş; I) I am a member of national committees - the National Pediatric Cardiology Committee from 2019 and international ones - National Delegate of Romania to the Association of European Pediatric and Congenital Cardiology (2023-2025);

Previous academic achievements. My academic activity extends over a period of 25 years, currently reaching the position of university associate profesor, a title obtained through a competition in 2019 (score obtained 1438,714). My academic career within the University of Medicine and Pharmacy Tg. Mureş, later named the University of Medicine, Pharmacy, Sciences and Technology "George Emil Palade" from Tg. Mureş, was marked by the following stages: A) 1998-2001 university teacher; B) 2001-2009 university assistant; C) 2009-2019 university lecturer; D) 2019-present associate profesor in the IIIrd Pediatrics Discipline, M3 Department; E) 1998-2002 doctoral studies, 2002 title of Doctor of Medicine, confirmed by the Order of the M.E.C. no. 4198/29.07.2002 (Diploma series C, no. 0004316); F) I attended two university pedagogy courses: 1). In 2000 - intensive pedagogy course: "Department for the training of teaching staff", UMF Tg. Mures; 2). 2019-2020 "New training and evaluation techniques in medical-pharmaceutical disciplines" - UMFST "George Emil Palade" Tg.Mures; G) I am a course holder for 3 university courses and internship supervisor for students from various specializations of the Faculty of Medicine within UMFST Tg. Mures; H) I have directly supervised

more than 10 diploma (licensure) theses; I) I was a member of the central license commission within UMFST Tg. Mureș, committee responsible for developing the subjects for over 10 years; J) I was a member of numerous examination boards for the acquisition of the title of pediatric cardiologist specialist, for the position of pediatric specialist or pediatric cardiologist, as well as in the boards for teaching positions within UMFST Tg. Mureș; K) I am a member of the PhD student guidance committee for 5 PhD students; L) I am a member in the organization of 9 international/national scientific events; M) I participated as an invited lecturer in 15 postgraduate courses and 25 congresses/conferences, with national and international participation; N) I am an active member in a number of international scientific societies: The Association for European Pediatric Cardiology - AEPC (from 2006-present); European Society of Cardiology ESC (from 2003 – present) - Fellow of the European Society of Cardiology – FESC from 2021; Pediatric Heart Transplant Society PHTS (from 2022 - present) and national scientific societies: Romanian Society of Cardiology SRC - Pediatric Cardiology working group (from 2003 - present) - Secretary of the Pediatric Cardiology Working Group of SRC during 2011-2014; Romanian Society of Pediatrics - SRP (from 2011 - present).

Previous scientific achievements. My scientific and research activity is proven by a series of publications: A) Main author of 7 specialized books published in CNCS-UEFISCDI recognized publishing houses; B) Main author of 6 chapters of treatises or collective volumes published in publishing houses recognized by CNCS-UEFISCDI; C) Main author/co-author of 86 scientific publications after the PhD title, of which 20 full-length publications in ISI journals with IF (13 as main author), 5 full-length publications in ISI journals without IF and 17 full-length publications in BDI listed journals; D) Active participant in a number of more than 40 international and national Congresses/Conferences/Scientific Courses; E) The cumulative Hirsch index is 7; F) The published scientific works have a cumulative impact factor as principal author (FCiAP) of 31,19.

I carried out the research activity within a series of research projects, as follows: A) 2 grants submitted and won for funding as project director; B) Member in 1 National Research Grant (PN II, program 4); C) Training expert within a POSDRU project; D) Member in a collaborative project to improve pediatric cardiology care.

The research directions I addressed were in the field of pediatric cardiology: A) Pediatric pulmonary arterial hypertension, especially echocardiographic and genetic aspects (topic addressed in 3 research grants, 5 articles published in extenso in ISI journals with impact factor, as main author/co-author, 4 articles published in full in BDI journals as main author/co-author, 6 papers presented at international/national events and published as ISI/BDI abstracts); B) Congenital heart anomalies in newborns and children, with focus on imaging and genetic evaluation (theme addressed in 2 research grants, training expert in 1 POSDRU project, 4 monographs - author in the CIP box, 5 chapters in 3 books/treatises, 4 articles published in full in ISI journals with impact factor, as main author/co-author, one ISI article without impact factor published in full as main author, 7 articles published in full in BDI journals as main author/co-author, 7 articles published in books with ISBN/magazines B+, as main author/co-author, 5 papers presented at international/national events and published as ISI/BDI abstracts); C) Fetal cardiology (topic addressed in 1 research grant, 2 monographs, 8 articles published in full in ISI journals with impact factor, as main author/co-author; 3 articles published in full in BDI journals as main author/co-author; 2 articles published in books with ISBN/B+ journals as main author/co-author; 12 papers presented at international/national events and published as ISI/BDI abstracts); D) Heart failure and pediatric heart transplantation (topic addressed in 2 research grants, 3 articles published in extenso in ISI journals with impact factor, as main author/co-author; 4 articles published in extenso in BDI journals as main author/co-author; 1 article published in books with ISBN/B+ journals as main author/co-author; 2 papers presented at national events and published as ISI/BDI abstracts); E) Other subfields: pediatric systemic arterial hypertension, arrhythmias (1 chapter in the treatise, 1 article published in extenso in ISI journal without impact factor, as co-author; 1 article published in extenso in BDI journal as co-author; 4 papers presented at national events and published as BDI abstracts).

Regarding **the evolution and development plans**, I propose: A) The development of a center of excellence for myocardial diseases in children, from the diagnosis of the genetic substrate, the detection of new biomarkers to track the evolution of heart failure, innovative treatments, up to mechanical circulatory support

of the heart with LVAD/Berlin Heart devices, culminating in heart transplantation. B) Improvement/modernization of imaging techniques applied in the management of congenital heart anomalies; C) Improvement of the quality of life of our small patients; D) Increase of the visibility of the discipline/university through various projects/studies completed through specialist publications with the greatest possible international impact.