

ABSTRACT

This habilitation thesis presents my research after doctoral thesis and confirmation with *Cum Laude*, by the Minister of Education, Research and Innovation no. 3658/10.04.2009.

Ph.D. thesis entitle "Pathology cardiac allograft. Histopathological and immunohistochemical grading injuries correlates clinical anatomical comparative study" under the coordination of Prof. dr. Anca Sin, covered research from 2005-2009 and continued research started as a student. Later, during the post-doctoral same theme was continued for the study of humoral rejection and study of intramyocardial microvascular network.

Scientific achievements:

- **Scholarships and research:** **Semmelweis University Budapest, Hungary** (2006, 2007, 2008, 2009); **Iowa University, Iowa City, Iowa, USA** (2011); **Lund University, Malmö, Sweden** (2012, 2013, 2014); **Clemson University, Clemson, South Carolina, USA** (2012).

- **Research Grants:** **8, of which 3 as project manager** (one international, two national), **5 as a member of the project** (three national and two internal competition UMF Targu Mures)

- **Publications:** **4 books** (two single and two senior author author), **38 articles in ISI journals with IF** (18 and 18 co-author), **FITC (total cumulative impact factor) of 47.39 points**, **15 articles in BDI journals** (6 senior author and 9 co), one article in the B journals (author) and **46 articles in summary** (9 first author and 37 co), **over 100 citations in Web of Sciences**, **three articles in the red zone** and **awarded UEFISCDI**

- Coordinator of numerous scientific papers at national and international congresses student, graduation papers, dissertation thesis master's graduate of Medicine and Pharmacy.

In order to be quantified more easily, the results of my scientific and research activities were grouped into three main sections:

1. Cardiovascular diseases
2. Dermatopathology
3. Interdisciplinary research.

In the first section - Cardiovascular diseases - are presented studies, articles and research which include the following major topics: cardiac transplantation (continuing education started as a student, a PhD student and post-doc), cardio-vascular diseases in human pathology, bioengineering heart valves and study of stem cells in cardiac valvular pathology.

The second section - Dermatopathology - presents my research articles covering the following topics: Immunohistochemical studies on various types of skin tumors and presentations of interesting cases or rare cases of skin pathology literature.

The third section - Interdisciplinary - has two subsections - *Interdisciplinary studies* and *human clinical studies* experienced interdisciplinary laboratory animals. By the nature of the specialty of pathology, all other clinical specialties can be connected with microscopic pathology and diagnosis of various injuries.

In this section there are two subcategories: interdisciplinary studies published on human casuistry and interdisciplinary studies published on case studies of laboratory animals.

Professional accomplishments:

- MD trainee (2002), resident physician pathologist (2002-2007), specialist pathologist (2008-2012), physician pathologist (2012-present), Dermatopathology coordinator for resident doctors pathologists and dermatologists, Head of Pathology Service, Mures County Hospital (02.01.2017-present)

Academic achievements:

- Associate teacher hourly paid (2001-2002), demonstrator (2002-2005), Assistant professor (2005-2009), Senior lecturer (2009-2014) at the Department of Cell and Molecular Biology UMF Targu Mures

- Associate Professor (2014-2015), professor (2015-present) Head of the Department of Pathophysiology of UMF Targu Mures (2014-present)

- M1 Department Member of the Board (2012-2014), Member of the Committees of the Faculty of Medicine (2012-present), Director University Press Tirgu Mures (2013-2016), member of the Board Department M2 (2016-present), member of the Senate UMF Tirgu Mures (2013-present), chairman of the Faculty of Medicine (2016-present), Dean of the Faculty of Medicine of UMF Targu Mures (2016-present).

Professional development will be focused on the future of Cardiovascular Diseases and Dermatopathology in the Service of Pathological Anatomy. These sectors will include specific activities for each area.

Residents of Pathology and Dermatology will be able to prepare for Dermatopathology in accordance with the training curricula established by the Ministry of Health.

In collaboration with colleagues in related specialties: dermatology, general surgery, plastic surgery, oncology, etc. I will organize postgraduate courses and conferences on these topics.

As short and medium term plans, I want the establishment of a professional database for malignant skin pathology: basal cell carcinomas, squamous cell carcinomas and melanomas, plus skin primary tumors with metastases. In this database will include all clinical and laboratory data of patients and follow-up for a period between 5 and 10 years. In long term, this database will be the origin of the cancer registry for skin pathology and will provide a perspective on groups of patients with this pathology.

In this way, it will carry out actions for screening precancerous lesions and I refer here especially in melanocytic lesions. Melanoma is the most aggressive tumor of the skin, the origin from melanocytes derived from neural crest in intrauterine life.

A program of health education of the general population and a more intense involvement of family doctors to promote the principles of prevention of melanoma, would, in theory, reduce the incidence of this cancer. Unfortunately, currently there are no official statistics, credible, showing the incidence or prevalence of this type of tumor in the population of Romania.

For cardiovascular pathology I want to continue my collaboration with the Institute of Emergency Cardiovascular Diseases and Transplantation in the study of post-transplant rejection. It's about acute cellular rejection, especially the humoral and chronic rejection.

Microscopic study of cardiac ischemia and reperfusion injury is another concern of the professional, which will be doubled by scientific research.

The research will comprise a large part of my daily work, in addition to professional activities, teaching and academic. Practical activities of laboratory research will be, as before, very closely linked to the rest of my activities, especially those in the field of pathology.