

Summary of habilitation thesis

The crowning of my research work was the doctoral thesis entitled Prognostic factors in acute myeloid leukemia, in 2009, under the coordination of Prof. Dr. Galaftion Oltean, at the University of Medicine and Pharmacy Tirgu Mures.

I extended my activities in the field of hematology research, which continues and led to the emergence of articles and research grants.

In 2005 under the direction of Prof. Dr. Minodora Dobreanu I participated in the developing of the Romanian Journal of Laboratory Medicine, which is ISI indexed from 2008, and has impact factor from 2010. The work at this journal has significantly contributed to my professional development.

Research concerns have diversified and materialized in numerous interdisciplinary collaborations. Teaching and research activities combined with the work and medical experience I have accumulated (physician medical laboratory).

I developed new collaborations regarding pathophysiological aspects related to preeclampsia, which have resulted in the publication of two articles as principal author.

Another direction of research that I developed is related to the investigation of metabolic disorders and two articles have resulted.

In 2014, a major achievement was the approval and the appearance of two patents, showing the ability of innovation and research of inventors.

On the basis of the foregoing, I propose the following, related to didactic, academic and research activity:

In terms of teaching I support the application of new teaching methods with students: problem based learning and problem based teaching. Pathophysiology is a pilot Department and from the current academic year we are applying these new methods of teaching. Applying new teaching methods will increase the involvement and interaction of students in teaching (practical or lectures): evidence-based medicine, online interactive systems, increasing the number of existing online courses, training and developing subdomain-oriented scientific groups. Encouraging students and young teachers to develop ideas through scientific support is an important desideratum. I have already collaborated with the students on developing the material for the practical works (book with ISBNB) for English students and on the publication of articles.

I propose my professional involvement in the university activities as requested, and also my involvement in the activities of international organizations where University of Medicine and Pharmacy Tirgu Mures is a member (Recife - Réseau francophone d'epidemiology clinique international) and networking with other universities (Erasmus programme), collaborations with the University of Palermo, where we have been through Erasmus Mobility for Teachers twice, and where we have set up possible common research themes.

As lines of research I am seeking further collaboration with the teams I already worked with, and also the approach of new themes such as the development and assessment of reference intervals in laboratory medicine. Applying the proposed method at a large scale will lead to the re-evaluation of normal medicine in the sense of geographical particularization (currently recognized) with low economic costs.

I also propose to continue the existing research directions:

- Continuation of real time biostatistics and its application and development in medicine;
- Continuation of research in the field of clinical hematology:
 - Prognosis of acute leukemia - to continue research on the prognosis of acute myeloid leukemia
 - Chronic lymphocytic leukemia - diagnostic and prognostic studies

Another research direction that I want to develop is linked to metabolism disorders:

- Pathophysiology of diabetes - obesity as a risk factor in type 2 diabetes, and its complications. I propose to continue the evaluation of young adults from this point of view by conducting multicenter studies on a more conspicuous group of subjects, which will bring solidity to the first published results.
- Metabolic disorders in young adults. In this regard I applied for a grant for young teams in order to obtain financing for the continuation and development of this direction of research. The scientific impact is setting new limit points that could be suggested to define abdominal obesity. The socio-economic impact is related to the possibility to implement the proposed approach for the general population to identify at risk subjects and public health policies to reduce the burden of health costs and the consequences of abdominal obesity.

Given the diversity of medical specialties of the Pathophysiology Department members and previous collaborations with other departments of the University of Medicine and Pharmacy Tirgu Mures, I consider feasible the suggested research directions.