

Abstract

In the year 2009 I publicly defended my PhD thesis entitled „Numerical and experimental modelling of the flow in the centrifugal pumps” under the coordination of acad.prof.dr.ing. Ioan ANTON, being one of the first PhD thesis from Romania in which is investigated, with the help of numerical simulation, the complex flow from the impellers of large power pumps.

In the year 2003 I was starting my university career at Politehnica University Timisoara, Faculty of Mechanical Engineering, department of Hydraulic Machines, initially as a university preparator and starting from the year 2005 as a university assistant. In the year 2012 I promoted as a lecturer and starting from the year 2017 I have the position of associated professor. Along my university career, alongside my colleagues, I published 3 support books for my courses, 3 support books for the seminars and laboratories and I was involved in the activity for modernizing the Laboratory of Fluid Mechanics, the Laboratory of Hydraulic Machines and the Laboratory of Numerical Simulation. The courses that I taught, eight in number, were with a specific for the domain of Mechanical Engineering, *Hydraulic and Pneumatic Machines and Systems*, bachelor engineer degree, and *Hydrodynamics of Machines and Hydromechanical Systems*, master’s degree.

I have coordinated more than 50 bachelor and master thesis, as single coordinator or together with other colleagues. Starting from the year 2011 I am one of the coordinators of the Practice activity of the students from the 3rd year of the domain Mechanical Engineering. Another component of my activity was to attract students to attend our bachelor’s degree of *Hydraulic and Pneumatic Machines and Systems* and our master’s degree of *Hydrodynamics of Machines and Hydromechanical Systems*. For doing this I organised study trips to a number of hydropower plants (Iron Gates 1, Iron Gates 2, Baile Herculane, Raul Mare-Retezat) and I had direct discussion with the students emphasising the useful things they would learn if they would attend our two specializations and so they would be able to get hired as engineers in the companies from Romania and abroad.

Since I defend my PhD thesis I participated, as a manager or member of the research team, to the implementation of 4 research grants and 9 research contracts with industrial partners. After the progress of this type of research activity I published 23 research papers that were presented at international conferences or were published in international journals, 18 of them being indexed in international data bases ISI and SCOPUS.

For my professional and academic activity, I will continue to update other courses and to upgrade the laboratories.

I will continue to attract research funding by applying to the research competitions and I will extend my collaboration with the companies that are acting in my domain of research. The results of my future research I will publish them in international journals and present them at international conferences.

All my academic, professional and scientific experience and the research infrastructure that I developed I will employ in the activity that I will carry out with my PhD students. I will seek that the research themes that I will propose to be part of research subjects of some research grants or research contracts, so that the practical component of the PhD student's research activity to be significant and to ensure a supplementary income.