EDITOR'S NOTE

Welcome to the new research and developments, presented by AJME, in 2017!

The tendency of the Governments in the last years, with respects to the research funding, is to provide mainly funds for applied research, required by the industrial needs. Fewer funds were dedicated for theoretical researches, within the national and European competition organized from public funds. That is why, more and more researchers and academic staff, are focusing their field of interest onto applied research, undertaken either separately, within the research laboratories, or jointly, in co-operation with companies, as quite many projects are dedicated to build bridges between the university labs and different companies, where technological transfer is needed.

In some cases there is an efficient mixture of the European projects, which are meant to increase the excellence of the Romanian researchers in some particular fields of expertize and the projects funded by the Romanian government, focused onto the needs of the local industrial companies. For example, the AMaTUC – Horizon 2020 project (**A**dditive **Ma**nufacturing at **T**echnical University of **C**luj-Napoca) has been an efficient research platform, to boost the excellence of the researchers from TUCN in 3D printing and related technologies. This AMaTUC (www.amatuc.com) project, helped the Romanian researchers, not only to improve their scientific expertise, but also they have learned from their European partners, how to improve the co-operation with industrial companies.

The cooperation with the AMaTUC partners and the experience gained during the exchange of staff periods helped the TUCN's scientists to increase their knowledge and expertise and managed to be successful within a National competition. Three Bridge Grants were successful in 2016, within the AMaTUC research group:

- "3D printing Optimization for customized dental applications" (OpTi-DeP). This Grant is coordinated by Prof. Nicolae Balc (Registration no. 101BG/2016). The period of this new project is 01.10.2016-30.09.2018 and the budget is 100.000 Euro;
- "Develop the machining capabilities for advanced composite materials, by using the water jet cutting process" (PreMCo). This Grant is coordinated by Dr. Alexandru Popan (Registration no. 99BG/2016). The period of the project is 01.10.2016-30.09.2018, budget: 100.000 Euro.
- "The optimization of the fibre reinforced composite materials and their manufacturing technology, used in developing electrical vehicle body panels". This Grant is coordinated by Dr. Paul Bere (Registration no. 96BG/2016). The period of the project is 01.10.2016-30.09.2018 and the budget is 100.000 Euro.

More and more theoretical research is undertaken in China. Almost half of the authors publishing their work in this AJME issue are from China, presenting important and interesting work on developing new applications of optimization algorithms in manufacturing technology and research on PLC multi axis motion control system. The Chinese researchers undertake difficult tasks, such as the theory of space symmetry group for mechanical parts, research on noise control, develop a simulation model for a converter driving motor, or optimize a nano tire pressure sensor, used in automotive.

The other half of the papers selected for this AJME issue are authored by European researchers who are undertaking more applied research, based on more experimental work, instead of developing new algorithms and software tools. Only two papers are presenting research developed in Romania, the other European authors sending their contribution from other universities, or research institutes from Poland and Slovakia.

There a wide range of topics covered by the European authors in this AJME issue, such as the CAM strategies, production planning, dimensional accuracy in plastic 3D printing, how to predict porosity of heat treated materials, aluminium sheet forming simulation, robot implementation in packing process and studies on designing and testing of a customized medical implant.

We do hope that YOU, the AJME readers, find interesting and useful results and new research methods presented here, so that we all could learn from the selected AJME articles.

Yours sincerely,

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