

PREFACE

“To invent, you need a good imagination and a pile of junk.”

T. A. Edison

Design, Testing and Characteristics of Mechatronic Devices is a special topic volume of scientific papers. The topic belongs to the fundamental research fields that are solved at the Faculty of Manufacturing Technologies of Technical University of Košice with a seat in Prešov for long period of time. Dealing with such kind of research is necessarily associated with high theoretical demands, so authors would like to disseminate achieved knowledge in research, educational and entrepreneurial areas.

The volume contains scientific papers presenting knowledge resulting from research work, mainly partial results achieved within scientific project supported by the Structural Funds of the European Union, OPVaV-2009/2.2/01-SORO, ITMS 26220220103 “Research and Development of the Intelligent Non-conventional Actuators Based on Artificial Muscles” and partially by grants of Slovak Ministry of Education.

Most of the presented experimental work was performed at internal laboratories of the Faculty of Manufacturing Technologies. Part of the contributions reports also the knowledge based on scientific cooperation of the Faculty within TU of Košice, namely with Faculty of Mechanical Engineering and with major international partner companies, to mention some of the most important: National Instruments, LB-acoustics, Omega, Honeywell, BMC, Bruel and Kjaer, Polytec etc.

More detailed, papers within this volume are also focused on operational reliability and stability of mechatronic devices through specific prototypes, tools and instruments along with their usage and verification, measurements and evaluation of the mechatronic devices operation as well as regulation and control of operational of mechatronic systems.

Substantial part of presented achievements is sourcing from the research with participation of young researchers. I am pleased to say that the collection includes significant part of scientific papers, authors of which are young holders of PhD degree.

I hope that knowledge presented in this collection as well as methods, technical systems and their applications have strong potential to attract and impress researchers as well as other professionals and will contribute to the process of giving an answers that still are to be given or questions that still are to be formulated.

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