

Preface

The production of car and vehicle industry increased greatly in the past decades. People would like to reach the destination as quickly as possible. The quick transportation of persons and goods is more and more important. This is the case in Hungary, where the improvement of the car industry was great in the past decades. Great car producers settled here like Mercedes Benz, Audi, Suzuki, Opel and also small and medium enterprises connected to car element production have developed greatly.

Education has to follow this trend. Vehicle engineering training has a long tradition in Hungary. At the Budapest Technical University and Economics, at the István Széchenyi University in Győr they have a long-term experience in this kind of training. At the University of Miskolc, which is a successor of the Mining and Metallurgical Academy, the first technical higher educational institution on the Earth, founded in 1735, the mechanical engineering training started in 1949. The industrial demand forced the university to start vehicle engineering training also. It was accredited in 2015 and started this year.

The main requirements for cars and car elements are safety, manufacturability and economy. Safety against different loads such as permanent and variable actions is guaranteed by design constraints on stresses, deformations, stability, fatigue, eigenfrequency, while manufacturability is considered by fabrication constraints. The economy is achieved by minimization of the cost.

The main topics of the conference are as follows:

Design: Acoustic investigations, Car electronics, Autonomic vehicles, Fatigue, Industrial applications, Vehicle Powertrain, Modelling and simulation of vehicle informatics and electronic systems, Vehicle navigation, Visual systems of vehicles, Mechatronics, Numerical methods FEM and BEM applications, Vibration and damping, Stability calculations, Structural materials, Structural safety, Structural connections, Analysis and design of structural elements, Design guides, Fracture mechanics, Thin walled structures, Driver assist systems, Hybrid and electric cars.

Fabrication: Forming technologies, Surface protection, Production logistics, Manufacturing technologies, Welding technologies, Heat treatment, Innovative casting technologies, Industrial applications, Maintenance, Environmental

protection, Lean technologies, Quality assurance, Gluing technologies, Production, Testing.

Economy: Life cycle assessment, Fabrication costs, Industrial applications, Cost engineering, Structural optimization.

Education: Vehicle engineering training, Dual training, Industrial practice, Training techniques, Training materials.

It is a great pleasure to organize this conference, to give participants an opportunity to show and discuss the new research results in a friendly atmosphere.

The organizers wish all participants successful days to collect new ideas and get new acquaintances.

Miskolc, Egyetemvaros, Hungary
October 2016

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<http://www.springer.com/978-3-319-51188-7>

Vehicle and Automotive Engineering
Proceedings of the JK2016, Miskolc, Hungary
Jármai, K.; Bollo, B. (Eds.)
2017, XIV, 500 p. 304 illus., 210 illus. in color.,
Hardcover
ISBN: 978-3-319-51188-7