



# University "Ss. Cyril and Methodius" - Faculty of Mechanical Engineering Skopje

## WHO WE ARE:

The very first mechanical engineering studies in Macedonia began in the fall of 1959, at the Technical Faculty in Skopje, which is within the Department of Electrical and Mechanical Engineering. Due to increased societal demands for mechanical engineers in the country, the Faculty of Electrical and Mechanical Engineering (FME) was founded as part of "SS Cyril and Methodius" University. Further developments within the mechanical engineering program provided an opportunity to establish the Faculty of Mechanical Engineering in 1977. It still holds its high rankings to the present day. The Faculty of Mechanical Engineering developed its own principles which comply with the vision of its founders and at the same time reflect the experience gained during the development process.

Besides its educational activities, FME is the bearer of scientific research activities within the domain of mechanical engineering. With the potential of its staff, it represents a center of scientific development, scientific thought and application of science in the economy. The research activity of the faculty is implemented through the realisation of different research projects as well as master and doctoral theses. Within the past few years, the faculty has realised 47 scientific research projects, implemented under different programs such as: TEMPUS, FP7, DAAD, CEEPUS, NATO, IPA, USAID, ADA, GTZ and the World Bank.

## COLLABORATION INTERESTS:

The Faculty of Mechanical Engineering – Skopje is open to all international research projects in the field of mechanical engineering. During the 50 years of its existence, FME has gained vast experience in collaboration and coordination of different kinds of international projects. FME is a member of the Enterprise Europe Network and uses all possible tools for partner searches. At this moment, the faculty is highly interested in FP7, IPA and INTERREG projects. Its staff can provide services in all segments of project management, from research partners and scientific experts, up to project coordinators.

## AREAS FOR R&D COLLABORATION:

The Faculty of Mechanical Engineering – Skopje is interested in collaboration in the following R&D areas:

- Motor vehicles
- Vehicle safety
- Theory of construction
- Mechanisation
- Industrial design
- Flexible automation

- Production processes and technologies
- Management and quality control
- Technology of plasticity
- Industrial engineering and management
- Business logistics and supply chain management
- Strength of materials and dynamic problems in mechanical engineering
- Machine dynamic
- Vibration and noise
- Dynamics of railroad vehicles and breaking systems
- Protective systems and shelters
- Mechatronics
- Welding (technological direction)
- Welded structures (structural direction)
- Environment protection
- Automatics
- Robots and manipulators control
- Unconventional sources of energy
- Environmental protection
- Energetic machine and engineering ecology
- Compressors and plants
- Techniques of cooling
- Heating and air conditioning
- Heating systems
- Heat and mass transfer
- Furnaces
- Process technique
- Internal combustion engines

## MAIN ACHIEVEMENTS:

From its establishment until today, the Faculty of Mechanical Engineering has achieved exceptional international collaboration that is realised through participation in mutual scientific research projects, assemblies, symposiums, seminars and conferences, organised by international institutions or the faculty itself. The faculty collaborates with the following institutions: Technical University of Berlin (Germany); University of Florence (Italy); University of Bradford (UK); State University of Arizona (USA); Pholitechnique Faculty of Wroclaw (Poland); IPA-Stuttgart (Germany); Technical University in Torino (Italy); Technical University in Vienna (Austria); University of Maribor (Slovenia); Russian University in Bochum (Germany); Institute of St. Petersburg (Russia); Technical University of Sofia (Bulgaria); University of Ljubljana (Slovenia); University of Zagreb (Croatia); University of Belgrade (Serbia); Institute for Nuclear Science in Vincha (Institute for Thermotechnics and Energetics) (Serbia); and Technical University of Darmstadt, (Institute of Steel Structures) (Germany).



### WHAT MAKES US A GOOD PARTNER?

The Faculty of Mechanical Engineering has a lean structure that has the ability to focus its resources on ongoing activities according to its priorities. The constant support from the university makes FME consistently reliable partner in any project. The commitment of the top management of the faculty for international collaboration motivates all its employees in providing the best results in their international activities.

According to partners from previous projects FME has always been recognised as a timely and responsible party, whose results were judged with high marks for their validity and whose deliverables were praised for their scientific quality.

### EU PROJECTS:

- MAS-PLM TEMPUS JP Project (2009-2012) – Master studies and continuing education network in product lifecycle management and sustainable production.
- Transport EU-Western Balkan Network for Training, Support and Promotion of Cooperation in FP7 research activities.
- ETF-SM-00066-2008, 145180-TEMPUS-1-2008-1-ATTEMPUS-SMHES, "Creating R&D Capacities and Instruments for boosting Higher Education-Economy Co-operations"
- ETF-SM-00013-2008,145129-TEMPUS-1-2008-1-BATEMPUS-SMHES, "COMPETENCE – Matching competences in higher education and economy: From competence catalogue to strategy and curriculum development."
- TEMPUS IV Project: 158644 – JPCR – "Development of Regional Interdisciplinary Mechatronic Studies" – DRIMS.
- TEMPUS JEP – Numerical Simulation Program in Mechanical Engineering.
- TEMPUS JEP – Development of Master Studies for Industrial Design and Marketing.

### OTHER PROJECTS:

- UNIDO National Centre for Cleaner Production.
- Johnson Controls Training Centre.



### OTHER INFORMATION:

**Name of the organisation:** University "Ss. Cyril and Methodius," Faculty of Mechanical Engineering – Skopje.

**Organisation type:** University

**Names of the research departments:**

- Institute of Production Engineering and Management
- Institute of Engineering Design, Mechanisation and Motor Vehicles
- Institute Power Engineering and Thermoenergetics
- Institute Hydraulics Engineering and Automatics
- Institute of Welding and Structure Engineering
- Institute of Mechanics
- Department of Mathematics and Computer Science
- Number of researchers: 90

**Working languages:** Macedonian and English

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