



**REPUBLIC OF SRPSKA**  
**UNIVERSITY OF BANJA LUKA**  
**FACULTY OF MECHANICAL ENGINEERING**

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<http://www.mfbl.rs.sr>

#### WHO WE ARE:

The Faculty of Mechanical Engineering was founded in 1971. There are 500 students currently studying at it. With more than 40 permanently employed teachers and assistants, of whom 12 are full-time lecturers and 14 assistant lecturers, it represents one of the greatest teaching and research potentials in the region. Organisationally, it contains five departments: Department for Production Engineering, Department for Energy and Transportation Mechanical Engineering, Department for Mechatronics, Department for Industrial Engineering and Management, Department for Occupational Safety. The faculty also contains many laboratories (Laboratory for Engine and Vehicles, Laboratory of dynamics of machines, Laboratory for Computers Aided Design, Laboratory for Technology Process Designing, Laboratory for Automation and Robotics, Laboratory for Welding, Laboratory for Cutting Processing, Laboratory for Hydraulics and Pneumatics, Laboratory for Technology and for Plastic Deformability Technology and Processing Systems, Laboratory for Measuring Technique). Due to international projects, some laboratories managed to modernise their equipment quite significantly. The faculty organises basic, specialist, master and doctoral studies as well as additional forms of studies such as courses of innovation of knowledge, continual professional education and advanced training, seminars and similar events in the field of mechanical engineering.

#### COLLABORATION INTERESTS:

The faculty is interested in participating in projects under EU FP7, TEMPUS as well as other international programs. The following project areas within FP7 are of particular interest to the faculty:

- Innovative strategies for clean urban transport.
- Policy of transport.
- Clean and energy efficient gasoline and diesel engines.
- Environment-friendly and efficient industrial processes.
- Green corridors.
- Attenuation of vibration and vibration-induced noise affecting residents near railway lines.

Possible role in a project: research partner, scientific expert, consultant.

#### AREAS FOR R&D COLLABORATION:

- Alternative fuels in transport.
- Emissions inventorying and forecasting.
- Inspection of in-use cars in order to attain minimum emissions of pollutants and optimum energy efficiency.
- Road safety.
- Energy policy and renewable sources.
- Human vibrations.

#### MAIN ACHIEVEMENTS:

A selected list of articles include:

- Petković S, Pećanac M.: *Influence Of Different Mixtures Of Ethanol And Unleaded Gasoline On Engine Performance*, International Journal for Vehicle Mechanics, ISSN 1450-5304, Engines and transportation systems, 1-2/2008.
- Petković S., Pešić R., Milašinović A. S. Veinović: *Influence of low environmental temperatures on catalyst light of time*, 10h EAEC European Automotive Congress Paper EAEC05YU-EN13, Proceedings ISBN 86-80941-30-1, Belgrade, 2005.
- Pećanac M., Radovanović M., Petković S.: *Choice stable mixture unleaded gasoline for vehicles with 3,5 and 10% ethanol and 0,1, 0,2, 0,3, 0,5 and 1% water*, International Congress Motor Vehicles & Motors 2006, 4-6 October, Faculty of mechanical engineering Kragujevac, 2006., Proceeding on CD – ISBN 86-80581-95-X, Paper MVM20060053.
- Petković S., Mrdja J., Veinović S., Radonjic D., Pestic R., Davinic A., *The possibility of determination of the volumetric efficiency of engine*, International Journal for Vehicle Mechanics, Engines and transportation systems 1997.; Volume 23, Number 3, str. 21-27.
- Golubovic-Bugarški V., Blagojevic D., Posavljak S: *Modal parameter identification of aircraft engine compressor rotor blade using experimental modal analysis*, 24th Yugoslav congress on theoretical and applied mechanics, Belgrade, 2003.

#### WHAT MAKES US A GOOD PARTNER?

- Well-qualified workforce – most researchers have PhD degrees and specialisations.
- Network of well known international university experts and innovative companies.
- Experience in many projects.
- The Faculty of Mechanical Engineering provides technological development, support and assistance services to small and medium-sized enterprises.

#### EU PROJECTS:

- Flexible Premixed Burners for Low-Cost Domestic Heating Systems, funded by FP6, 2004-2007.
- WBC Virtual Manufacturing Network – Fostering an Integration of the Knowledge Triangle, TEMPUS: Joint Project – Higher Education and Society, 2008.
- Restructuring of the Faculty of Mechanical Engineering, TEMPUS: Phare, 1999
- Modernisation of the curriculum in the field of engine specifically related to the environmental aspect of the engine, TEMPUS: Individual projects 2001-2002.
- Initial National Communication (INC) of Bosnia and Herze-



govina under the United Nations Framework Convention on Climate Change (UNFCCC), Banja Luka 2009, European Commission PHARE Programme with the intention of the European Union's PHARE and CARDS programmes and the World Bank.

**OTHER PROJECTS:**

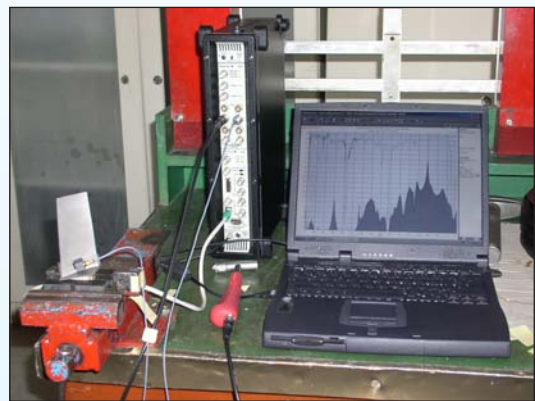
- The effect of application of alternative fuels to lubricants, and ecological characteristics of the engines, scientific research project funded by the Ministry of Science and Technology of the Republic of Srpska, 2007.
- The effect of application biodiesel to lubricants, and ecological characteristics of the engines, scientific research project funded by the Ministry of Science and Technology of the Republic of Srpska, 2009.



*Laboratory "Siemens"*



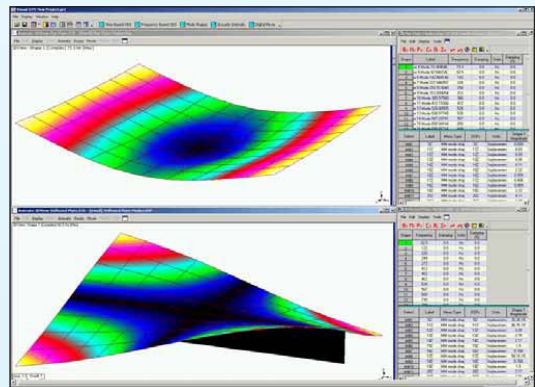
*Faculty of mechanical engineering*



*Laboratory of dynamics of machines*



*Laboratory for engines and vehicles*



*Laboratory for automation and robotics*

**OTHER INFORMATION:**

**Name of the organisation:** University of Banja Luka, Faculty of Mechanical Engineering  
**Organisation type:** University  
**Name of the research department:** Department for Engines and Vehicles  
**Number of researchers:** Faculty – 36, Department – 7  
**Working languages:** Serbian  
**Webpage:** <http://mfbl.rs.sr>  
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