

(Short Introduction of your institute)

Institute of robotics is active in theoretical and practical research, and education. Research and teaching activities include power electronics, mechatronics, control systems and advanced algorithms for motion control. In order to support the education process, we develop and construct new e-learning based approach to attain high quality educational process. Our team has established local and international collaboration in both, academia and industry. Institute is constitute on three laboratories: Laboratory for Power Electronics (Head: Prof. Dr. Miro Milanovič), Laboratory for Robotics (Head: Prof. Dr. Karel Jezernik), and Laboratory for Kinematics and Simulations (Head: Assoc. Prof. Dr. Peter Cafuta). The head of the institute is Prof. Karel Jezernik.

Key Research Fields & Competence Areas:

- A. Power electronics
 - Motor drives, electrical vehicles
 - Control of electrical drives
 - Converters (AC-AC, AC-DC, DC-AC, DC-DC)
- B. Industrial informatics
 - Embedded systems (DSP, FPGA)
 - Teleoperation
 - Rapid control prototyping (DSP2, dSPACE)
- C. Education
 - E-education
 - Remote lab
- D. Mechatronics, Robotics

Institute Highlights:

- § DSP-2 card (with TI DSP, including DSP2 library for Matlab/Simulink),
- § Fuel Cell Hybrid Vehicle System Component Development–HySYS, (EU project, 6th FP)
- § Electrical vehicle (in cooperation with Skoda),
- § Sensorless drive in the Velenje coalmine pump system,
- § FOCUS-SIAT: (EU project, 5th FP)
- § INES, Industrial Embedded Systems (EU project, 5th FP)
- § Low power contact-less transfer system (Kolektor group)
- § Conferences: IEEE ISIE'99, Bled; IEEE AMC'02, Maribor; IEEE ICIT'03, Maribor; EPE-PEMC'2006 Portorož

Contact Information:

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