



# Experiment Laboratory of Machinery Design

## Principal goals and activities

The experiment laboratory is a research and training laboratory where experiments are conducted for:

- Analyses of kinematic and dynamic parameters using contact and contactless methods.
- Analyses of dynamic properties of machines and equipment.
- Analyses of high-speed processes.

## General focus of laboratory

- Site for measurement of kinematic and dynamic parameters is equipped with a number of sensors and instruments that offer to conduct measurement according to the customer's requirements.
- Site for analysis of rapid processes is equipped with an OLYMPUS I-Speed high-speed recording camera with computer analysis capability.
- Site for testing machine components: Equipped with a TIRAVib vibration generator. This offers to test machine and equipment components by random and/or periodic vibration.
- Site for machine component balancing is equipped with a SCHENCK Pasio 15 unit which offers static and dynamic balancing of machine components.

## Specific instruments

- Olympus i-SPEED high-speed camera for recording high speed processes.
- TIRA electrodynamic vibration generator.
- MGC Plus DAQ unit for measuring mechanical parameters.
- PULSE analyser by Brüel&Kjaer.
- SCHENCK Pasio 15 balancing unit.

## Offer of technology and expertise

The laboratory uses a number of measuring instruments. We offer conducting of measurement of selected physical parameters.

- Analysis of kinematic and dynamic parameters (trajectory, acceleration, force, momentum, etc.) using contact and contactless methods.
- Operation measurement in industrial practice.
- Conducting of experiments for acquisition of input data for numerical simulation.

