

Mathematical Statistics Department

University of Vilnius, Lithuania

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The main research topics of the department used for real applications *in industry* are mathematical statistics, reliability, survival analysis, quality control (V. Bagdonavičius, A. Bikelis, R. Eidukevičius, V. Kazakevičius, J. Kruopis, R. Levulienė, P. Vaitkus).

Optimization of quality control systems, reliability estimation and control, unit training regime and duration optimization using accelerated life testing are examples of real applications of mathematical methods in *Kaunas radio plant, Šiauliai television plant, Panevėžys kinescopes factory “Ekranas”, Vilnius electronic components plant “Vingis”, Vilnius “Vilma national devices” factory.*

Models for analysis of simultaneous failure time and wear data with covariates were applied for traumatic tire failure prediction and maintenance optimization in *Dnepropetrovsk tire plant “Dneproshina”.*

The joint effects of the applied load and the structural dimensions on the failure time due to a screw failure of spine implants produced by *Stryker corporation* were modeled. Estimation of reliability in usual conditions of the product from accelerated life testing data was the main purpose.

We have experience in *analysis of bio-medical data, planning and analysis of clinical trials* and collaborate with specialists of Vilnius University Hospital *Santariskiu Klinikos* and Vilnius University Oncological Institute.

Our graduate student P. Daniušis is developing new and efficient *machine learning techniques* for wide spectrum of problems. He has experience with most machine learning algorithms (classification/regression, clustering, multidimensional data visualization, prediction) and needs to find practical applications. He claims to offer a high quality data analysis services.

Head of department

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