Abstract of the doctoral thesis:

*Valuation of wear of selected materials in sliding combination in low power hydraulic motors*

The work includes a literature review, in which attention was paid to the construction of low-power hydraulic motors and analysis of the wear mechanisms of selected components of the hydraulic engine. Analysis of currently used abrasion-resistant coatings and their applications, allows for its selection for further research. A series of preliminary tests were performed, which consisted of metallographic examinations of the compensation disk. The currently used liquids were analyzed to identify wear products.

The main tests were based on laboratory tests and bench tests. Laboratory tests included: tribological tests, metallographic tests, profilometric studies of the target surface. The bench tests were carried out using an experimental stand on which the actual hydraulic engine was tested.

The work additionally proposes the use of machine learning, which is more and more often used as an aid in further research.