Application of Mathematical Modelling and Intelligent Algorithms in Clothing Construction

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In the project it is intended to develop new computer programs based on mathematical modelling and intelligent algorithms. Scope of computer programs is an area of clothing construction, and therefore data from measurements and scanning using 3D body scanners will be collected. For the analysis of digitized data of human body, data acquisition of static and dynamic anthropometry will be collected and then processed with geometric morphometry and PCA methods. In that way data of shapes and sizes that cannot be acquired with the usual methods of measurement and data processing will be obtained.



Based on these data new methods of construction will be developed, for which the most applicable methods of mathematical modelling will be defined. Intelligent algorithms will be used for solving problems related to the automatic marker making, where solutions to specific problems and conditions that must be met for that purpose will be found.

Using distinctive interdisciplinary approach computer programs will be developed for the purpose of construction of specific garment that is not common in our market such as overalls for professional sports, diving suits or clothes that is used for medical purposes (compression garments, etc.), and protective clothing.

The development of software applications will be based on scientific knowledge, and it also can have its practical application in the manufacture of clothing. In cooperation with industry, garments could be developed that are not in everyday use and for which there is a need in the domestic and foreign markets.

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