

The project aims at extending the functionality of ARUZ supersimulator. The machine weighting over 50 tons has been design and developed by scientist of Lodz University of Technology and is located in Bionanopark+, Technopark, Lodz. It is composed out of 30 000 FPGA devices – differing from regular processors that execute a fixed list of instructions in their flexibility. Their functionality can be modified multiple times. This feature allows to adapt the machine structure to a specific problem to be solved. At present, the ARUZ is dedicated for simulating complex phenomena in liquids. The machine designers expect it having much larger potential. Development of a simple way of programming such a computer, accessible for those not familiar with details of its structure, seems to be a natural next step forward, stimulating widespread adoption of such systems. Moreover, an attempt to implement alternative algorithms will alone render possible an expansion of the range of problem solvable by ARUZ.

The authors believe, that the development of the ARUZ supersimulator can significantly accelerate the solution of problems of great importance for humanity in domains of medicine, cosmetic and pharmaceutical industry, cell biology, etc.