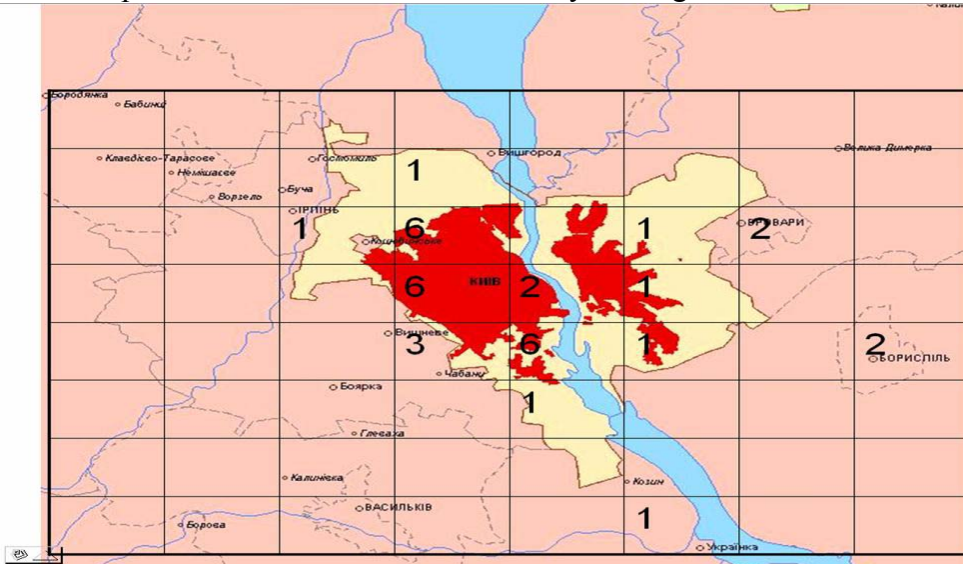


Design, investigation and applications of principally new models of socio-economic systems

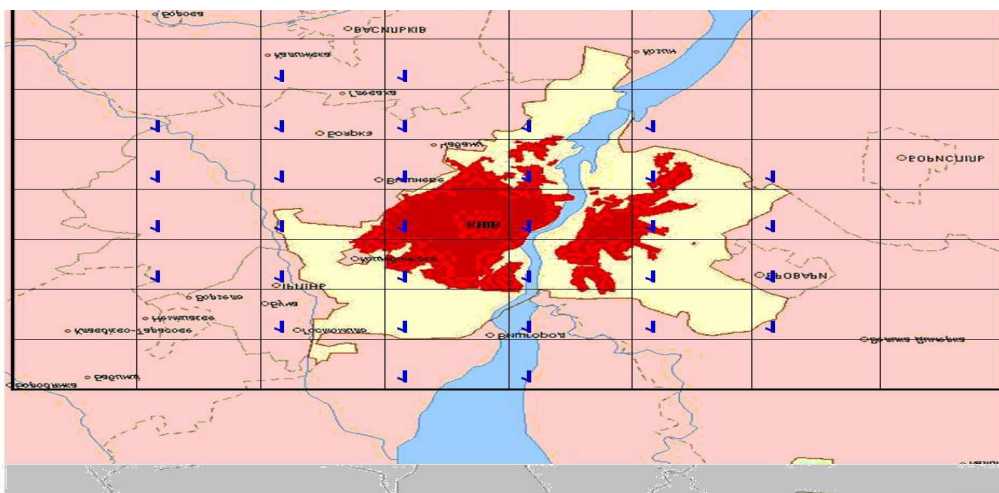
Research manager — PhDD, prof. A.S. Makarenk.

A new way of creating models of complex social systems based on the principle advantages of different exact combination of classes of models: cellular automata, neural networks and multiagent systems, and taking into account the properties of individuals as components of such systems. Found new approaches to building models of socio-economic systems. The new model taking into account the properties of prediction and considered their application to problems of traffic management. Ways properties include multi-agent approach in the general scheme of a class of neural models of the type of memory "yattyu and anticipation. A class of problems for socio-economic systems, where it is necessary to use such models.

The results have practical value as a study in which various new classes of models for different social systems and processes. In particular, have developed models to predict the solutions practically important problem of the motion of large crowds of pedestrians, the collective of agents and the formation of public views on important issues. Basically, the computer program can serve as prototypes for real existing programs with modeling and forecasting. Developed concept to build new models will in future investigate qualitatively important problems of sustainable development and transformation of society and e-government.



Location of some dirty industries in Kiev (the initial amount)



Simulation results of one of the possible scenarios of harmful debris production