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I AM LOOKING FOR: A PARTNER (FOR MY PROJECT) A PROJECT TO JOIN

BRIEF DESCRIPTION OF YOUR PARTNER SEARCH (*) (2-3 lines to be published on the website – the complete form will be available to download)

We would like to join a project in which our computer science skills and experience will be useful - in particular, multi-agent modeling and computer simulation, and/or machine learning and data analysis. In recent years we have developed a multi-scale simulation model of foraminifera, details of which are summarized in the attached document.

DESCRIPTION OF YOUR EXPERTISE/SKILLS

In recent years we have developed a model of foraminifera, some details are available here: <http://www.framsticks.com/foraminifera>. The model is an example of our skills, and it includes parameters related to morphology, movement strategy, metabolism and reproduction of foraminifera as well as parameters related to the environment such as feeding fluxes. The model was used for the following applications:

- **Analysis of shell morphogenesis**, <http://www.framsticks.com/files/common/ForaminiferaGenotypePhenotypeMapping.pdf>
- **Multi-agent simulation of foraminifera response to variability of feeding fluxes**, <http://www.framsticks.com/files/common/SimulationForaminiferaFeedingFluxes.pdf>. The influence of the amount of nutrients and feeding type (constant versus seasonal) on population size and energy carried by individuals was tested.
- **Analysis of the speciation process**. The processes of allopatric speciation and adaptation in different environmental niches was analyzed in simulation by modeling speciation genes and investigating genealogical trees.
- **Investigation of the energetics of foraminifera**. In this simulation experiment, energy acquired and spent by each individual during its lifetime was registered and analyzed.

In general, our skills encompass

- Development of models and simulations of biological processes
- Multi-agent systems
- Programming (C/C++, Java, Python, R, and other languages)
- Machine learning, data analysis and mining
- Techniques of artificial and computational intelligence

DESCRIPTION OF YOUR PROJECT/THE PROJECT YOU WOULD LIKE TO JOIN

See BRIEF DESCRIPTION OF YOUR PARTNER SEARCH above.

DESCRIPTION OF THE EXPERTISE/SKILLS YOU ARE LOOKING FOR IN YOUR PROJECT