Project: Build a Virtual World for Rodents !

We are currently developing an omnidirectional treadmill for our project *Rat Runs Robot.* The idea is to have a freely moving rat and virtual mazes, as well as presenting the rat different stimuli (e.g., auditory, olfactory) depending on the rat's position within the virtual maze. The purpose of the whole system is to serve as a flexible platform for developing a *Bidirectional Brain Computer Interface for Rats – Rat Runs Robot –* and for behavioral research.

The virtual maze will be implemented using a professional 3D engine, the *Blender 3D Engine*, and the Maze will be designed using a professional 3D modeling software, the *Blender 3D Modeler*. The virtual environment will communicate then via UDPorTCP/IP with the omnidirectional treadmill's hard- and software.

Target level: Masters or Bachelor Thesis

Requirements:
- Practical, hands-on programming experience and experience with and 3D Engines beyond class assignment level.
-Excellent problem solving capabilities
-You should not be afraid of rats.
-Ability to communicate in English.

Begin: ASAP