

# Comparing on-line evolved controllers for reconfigurable robot organisms of different shape

Jürgen Stradner, WhoEverWantsTo Contribute, and EverBody Welcome

Artificial Life Laboratory at the Department of Zoology  
Karl-Franzens University Graz, Universitätsplatz 2, A-8010 Graz, Austria,  
`juergen.stradner@uni-graz.at`

**Abstract.** In multicellular self-reconfigurable robotics one main issue ...

## 1 Introduction

In multicellular self-reconfigurable robotics one main issue ... Included is a test cite which was randomly chosen to be Kernbach et al. (2009).

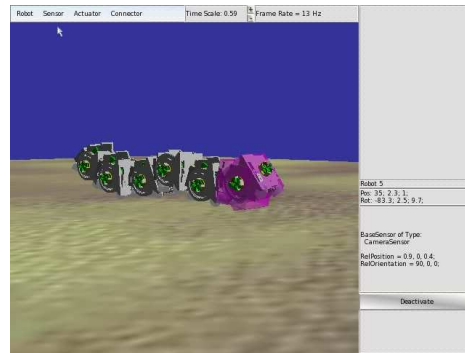
## 2 Material and Method

The conditions for the test scenario are chosen as follows

- The scene file for all controller tests builds an arena which consists off a flat floor of a dimension of 5x5 meters (which is 50x50 KIT-robot sizes). See Tab. 1 for further information.
- The different cshapes which the controllers have to deal with are:
  - i (2 modules)
  - I (8 modules)
  - T (2+2+2 plus 1 middle module)
  - H (4 modules for the horizontal bar and 2+2+2+2 modules for the “legs”)
- detailed parameters are the number of ticks or steps per evaluation, the number of steps in total. They have to be settled!

parameter	dimension
arena	5x5

**Table 1.** Test table.



**Fig. 1.** Test figure.

### 3 Results

Here we present the results. A test figure is shown in Fig. 1.

### 4 Discussion

This article describes the investigation on online-evolved controllers

## Bibliography

Kernbach, S., Hamann, H., Stradner, J., Thenius, R., Schmickl, T., van Rossum, A., Sebag, M., Bredeche, N., Yao, Y., Baele, G., de Peer, Y. V., Timmis, J., Mohktar, M., Tyrrell, A., Eiben, A., McKibbin, S., Liu, W., Winfield, A., 2009. On adaptive self-organization in artificial robot organisms. In: Guerrero, J. (Ed.), Proc. of the First IEEE International Conference on Adaptive and Self-adaptive Systems and Applications (IEEE ADAPTIVE 2009). IEEE Computer Society Press, Athens/Glyfada, Greece.