Evolved controller 20

Fitness = 134.53, degree of task partitioning = 1

(a) Robot density over time

(b) Robot trajectory and cache size over time
Evolved controller 9

Fitness = 125.3, degree of task partitioning = 0.98

(a)

Time

(b)

Robot trajectory

Cache size

Time
Evolved controller 5
Fitness = 122.57, degree of task partitioning = 0.94

(a)

Robot trajectory

Robot density

SOURCE
SLOPE
CACHE
NEST

Time

(b)

Robot trajectory

Cache size

Time
Evolved controller 19
Fitness = 119.93, degree of task partitioning = 1

(a) Robot density over time
(b) Robot trajectory and cache size over time
Evolved controller 11
Fitness = 106.67, degree of task partitioning = 0.91
Evolved controller 2

Fitness = 103.07, degree of task partitioning = 0.9

(a) Robot trajectory

(b) Robot trajectory and cache size over time
Evolved controller 3

Fitness = 102.87, degree of task partitioning = 0.76
Evolved controller 14
Fitness = 97.2, degree of task partitioning = 0.88

(a) Robot trajectory

(b) Cache size
Evolved controller 15
Fitness = 39.23, degree of task partitioning = 0.94
Evolved controller 12
Fitness = 38.73, degree of task partitioning = 0

(a) Robot density over time with different regions labeled as Source, Slope, Cache, and Nest.

(b) Robot trajectory and cache size over time, showing the evolution of robot movements and cache utilization.
Evolved controller 22
Fitness = 35.9, degree of task partitioning = 0

(a) Robot density over time. The robot density is shown for different locations: SOURCE, SLOPE, CACHE, and NEST. The time span is from 0 to 5000 time units.

(b) Robot trajectory and cache size over time. The robot trajectory is shown with different colors for each robot, and the cache size is shown for each time step from 0 to 5000 time units.
Evolved controller 4
Fitness = 35.87, degree of task partitioning = 0

(a) Robot trajectory

(b) Robot density

Evolved controller 4
Fitness = 35.87, degree of task partitioning = 0
Evolved controller 8

Fitness = 35.6, degree of task partitioning = 0.81
Evolved controller 16
Fitness = 33.43, degree of task partitioning = 0.91

(a) Robot density

(b) Robot trajectory

Cache size

Time
Evolved controller 18
Fitness = 32.93, degree of task partitioning = 0

(a)
Robot density

(b)
Robot trajectory

Cache size
Evolved controller 21
Fitness = 29.7, degree of task partitioning = 0
Evolved controller 7
Fitness = 27.57, degree of task partitioning = 0

(a)  
Robot trajectory

(b)  
Robot trajectory
Cache size
Evolved controller 13
Fitness = 26.83, degree of task partitioning = 0.01

(a) Robot density over time for SOURCE, SLOPE, CACHE, and NEST.

(b) Robot trajectory and cache size over time.
Evolved controller 6

Fitness = 22.87, degree of task partitioning = 0.06

(a) Robot trajectory

(b) Robot density

Cache size

Time
Evolved controller 17
Fitness = 22.43, degree of task partitioning = 0.97

(a)

Robot density
0 1000 2000 3000 4000 5000
SOURCE
SLOPE
CACHE
NEST

(b)

Robot trajectory
Cache size
0 1000 2000 3000 4000 5000
Evolved controller 1
Fitness = 20.03, degree of task partitioning = 0.62

(a) Robot density over time for different regions (SOURCE, SLOPE, CACHE, NEST).

(b) Robot trajectory and cache size over time.
Evolved controller 10
Fitness = 18.4, degree of task partitioning = 0.08

(a)

(b)