## Finalists **SWARM2021**

### Best Paper Award

### Swarm Robots Using A New Levy Walk Generator in Targets Exploration

by

Yoshiaki Katada

Multimodal Optimization by Particle Swarm Optimization with Graph-Based Speciation Using  $\beta$ -Relaxed Relative Neighborhood Graph

by

Tetsuyuki Takahama and Setsuko Sakai Takahama

### Beyond Tracking: Using Deep Learning to Discover Novel Interactions in Biological Swarms

by

Taeyeong Choi, Benjamin Pyenson, Juergen Liebig and Theodore Pavlic

A winner (Winners) will be announced at the closing ceremony from 19:10 June 4 (JST). Finalists, if you can, please attend closing ceremony.

# Finalists **SWARM2021**Best Student Paper Award

### Snake Robot Locomotion with Locked-Joint and Free-Joint Failures

by

Belal Elsayed, Tatsuya Takemori and Fumitoshi Matsuno

### Collective transport of arbitrarily shaped objects using robot swarms

by

Marius Jurt, Emma Milner, Mahesh Sooriyabandara and Sabine Hauert

#### Dynamics of mosquito swarms over a moving marker

by

Puneet Jain, Om Prakash Singh and Sachit Butail

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