

Lindauer discovered that scout bees communicate potential nest-site locations through “waggle dances”.



1955

2023



Li et al. proposed a honeybee - inspired swarm cooperation approach for search and rescue missions.

2024



March-Poñs et al. replicated the nest-site selection behavior of honeybees using a physical Kilobot swarm.

Seeley & Buhrman employed video-labeling technology to quantify dance decay and quorum-sensing dynamics.



1999

2022



Zhao et al. introduced a neural network model “RMSNN” for self-organizing collision avoidance.

2024



Ni et al. developed a Q-learning based ABC algorithm for adaptive selection of neighborhood search strategies.

Seeley et al. formulated the “quorum sensing” hypothesis, explaining the decision-triggering mechanism.



2006

2012



Seeley et al. discovered that “stop signals” provide cross-inhibition for accelerating consensus formation.

2025



Qi et al. introduced an improved bee-foraging-inspired PSO algorithm to enhance search performance.