## Studying House-Hunting in the Temnothorax Ants Using Distributed Computing Theory

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## The House-Hunting Problem



Source: http://antyscience.wordpress.com/


Source: Nest Site Choice in Social Insects, S. C. Pratt

Model (Platform)


## $\underset{\text { ransport }}{\text { Tandem }} \sim \log n$

Together at least $\log \mathbf{n}$


## Algorithm

$\log k+\log n$


## Conclusions

## DC results:

well-known DC problems (gossip, consensus)

## Bio insights:

computational evidence that quorums are useful

## What Next?

better lower bounds (artifact of consensus)
robust algorithms
more realistic models more insights
algorithms that match real ant behavior?

