Self-organizing logistics systems

Abstract:
The social insects, such as bees or ants, operate complex logistics systems that are efficient even though no agent is in charge. Instead of a centralized control, each agent follows a simple local rule and an efficient global organization emerges spontaneously.

This idea has been successfully adapted to coordinate order-pickers in a warehouse. Under a protocol called “bucket brigades”, each worker follows a simple rule; and without conscious intention or even awareness of the workers, the flow of work is smoothed and bottlenecks are removed. Furthermore, this happens without the advice of engineers, consultants, or management.

The bucket brigade protocol has increased pick rates by 20-50% at some major distribution centers.

(This is joint work with Don Eisenstein of the University of Chicago.)


Professor ISyE
Manhattan Associates Professor of Supply Chain Management and Research Director, The Supply Chain & Logistics Institute

September 4, 2007
2:00-3:30pm
Neely Lobby
refreshments

Library and Information Center

Tuesday Talks is a series of lectures sponsored by the Georgia Tech Library featuring research by Georgia Tech faculty presented for the rest of us...