"ExScal: A Perspective on Large Scale Wireless Sensor Networks"

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Abstract
Recents experiments have evaluated the ability of heterogeneous, hierarchical wireless sensor networks to scale to large node numbers and coverage areas. An exemplar is Project ExScal, where we designed and deployed a network of 1000+ sensor nodes and 200+ 802.11b backbone nodes for a 1.3km by 300m remote, open area. In this talk, we overview key issues in the scaling of wireless sensor network operations and applications, based on lessons derived from ExScal and other related experiments. We discuss at some length the impact of the network characteristics on a number of data management problems related to convergecast, broadcast, and in-network data flows. Finally, we identify challenges for future work in this area.

Biography
Anish Arora is Professor of Computer Science and Engineering at the Ohio State University. Dr. Arora focuses on fault tolerance, security, and timeliness of distributed and networked systems, with special emphasis on sensor networked systems. He is an expert in self-stabilization. He has chaired/co-chaired several seminars/conferences in self-stabilization, as well as in distributed computing and computer networking; most recently, Arora has served as program chair of the 25th International Conference on Distributed Computing Systems (ICDCS'05) and the program co-chair of the Second ACM Conference on Embedded Sensor Networks Systems (SENSYS'04).

Arora is an editor of the ACM Transactions on Sensor Networks, Real Time Systems, and New Generation Systems. His research is presently supported by DARPA, NSF, and Microsoft Research Embedded Systems Program.