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Distinguished Seminar
Computer Science

Self-stabilizing Overlay Networks

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Computer Science 209

Abstract – Large-scale overlay networks for various peer-to-peer applications lack central supervision, and are expected to deal with nodes and links whose behaviors may be unpredictable, leading to bad configurations that can potentially impair their performance. One way to make such overlay networks robust is to design self-stabilizing overlay networks, i.e., overlay networks that can spontaneously recover from node and link failures, or major topology changes, without any external supervision. In this talk, we present a framework for building self-stabilizing overlay networks.

Brief Bio – **Sukumar Ghosh** is a Professor of Computer Science at the University of Iowa. He also serves as the Director of the Undergraduate Programs and a member of the Graduate Committee in his department. His primary research interests are in a wide range of Dynamic Distributed Systems, with emphasis on the algorithmic aspects of spontaneous recovery from faulty or perturbed configurations. He is the author of a textbook "Distributed Systems: An Algorithmic Approach" published by the CRC Press in 2006. During 2001-2013 he served as the Steering Committee Chair of the International Symposium on Stabilization, Safety, and Security (SSS). He is one of the founders, as well as the Steering Committee Co-chair of the International Conference on Distributed Computing and Networking (ICDCN). He is a Fellow of the Alexander von Humboldt Foundation of Germany.