

"Research Results in Distributed Systems, Wireless Networks,
and
Networks Security"

by

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Abstract:

The speaker will present his recent results in distributed systems, wireless mobile ad hoc networks, and computer networks security. Specifically, in distributed systems, he will present results in global time and state, mutual exclusion, deadlocks, checkpointing and failure recovery, load balancing; in wireless mobile ad hoc networks, he will present research results that he has obtained recently to develop robust scalable, efficient routing protocols; and in computer networks security, he will present results on efficient techniques for aggregating multiple digital signatures using public-key cryptosystems based on linear feedback shift registers (LFSR) and efficient authentication techniques using trapdoor hash functions. He will conclude the talk with some open problems in these areas.

Short Biography of Mukesh Singhal

Mukesh Singhal is a Full Professor and Gartner Group Endowed Chair in Network Engineering in the Department of Computer Science at The University of Kentucky, Lexington. From 1986 to 2001, he was a faculty in Computer and Information Science at The Ohio State University.

Mukesh Singhal received a Bachelor of Engineering degree in Electronics and Communication Engineering with high distinction from Indian Institute of Technology, Roorkee, India, in 1980 and a Ph.D. degree in Computer Science from University of Maryland, College Park, in May 1986. His current research interests include cloud computing, distributed systems, wireless networks and mobile computing systems, and computer and networks security.

Mukesh Singhal has published over 200 refereed articles in these areas. He has directed 25 Ph.D. dissertations and has supervised over 250 MS Theses/Projects. He has written four books titled ``Distributed Computing Systems'', Cambridge University Press, 2008, ``Data and Computer Communications: Networking and Internetworking'', CRC Press, 2001, ``Advanced Concepts in Operating Systems'', McGraw-Hill, New York, 1994 and ``Readings in Distributed Computing Systems'', IEEE Computer Society Press, 1993. He is a Fellow of IEEE. He is a recipient of 2003 IEEE Technical Achievement Award. He has served in the editorial board of "IEEE Transactions on Parallel and Distributed Systems", "IEEE

Transactions on Knowledge and Data Management", and "IEEE Transactions on Computers". From 1998 to 2001, he served as the Program Director of Operating Systems and Compilers program at National Science Foundation.