

**Sonia Fahmy**  
Professor of Computer Science, Purdue University  
305 N. University St., West Lafayette, IN 47907-2107, USA  
fahmy@cs.purdue.edu, <http://www.cs.purdue.edu/~fahmy>, (765) 494-6183

### Professional Preparation

- Ph.D., Computer and Information Science, The Ohio State University, Columbus, OH, 1999
- M.S., Computer and Information Science, The Ohio State University, Columbus, OH, 1996
- B.Sc., Computer Science, The American University in Cairo, Egypt, 1992

### Appointments

- Professor, Computer Science, Purdue University, 2011–present
- Associate Professor, Computer Science, Purdue University, 2005–2011
- Visiting Scientist, Hewlett-Packard Laboratories, Palo Alto, CA, February–April 2006
- Assistant Professor, Computer Science, Purdue University, 1999–2005
- Presidential Fellow, The Ohio State University, 1998–1999
- Research Associate, Computer and Info. Science, The Ohio State University, 1996–1998
- Teaching Associate, Computer and Info. Science, The Ohio State University, 1994–1996
- Software Engineer, DigitalTest/PSD, 1992–1994

### Current Research Interests

- Internet measurement, simulation, and testbeds
- Network security
- Wireless and sensor networks

### Selected Awards, Patents, and Memberships

- Best student paper award, 14th IEEE International Workshop on Quality of Service (IWQoS), 2006
- National Science Foundation CAREER award, 2003
- Schlumberger Foundation technical merit award, 2000 and 2001
- Presidential Fellowship for Dissertation Research, The Ohio State University, 1998–1999
- President's Cup for the Highest Ranking Graduating Student, The American University in Cairo, June 1992
- Presidential Fellowship, The American University in Cairo, 1989–1992
- Steering committee member of the IEEE International Conference on Network Protocols (ICNP), 2008–present
- Steering committee chair of Workshop on Secure Network Protocols (NPsec) (held in conjunction with ICNP), 2005–present
- Elected vice-chair, Technical Committee on Computer Communications (TCCC), IEEE Communications Society, 2009–2010
- Senior member of the IEEE, and member of the ACM
- "ERICA: Explicit Rate Indication for Congestion Avoidance in ATM Networks," U.S. Patent 5,805,577, September 1998 (with R. Jain, S. Kalyanaraman, R. Goyal, and R. Viswanathan)

### Professional Service

#### Selected Program and Organizing Committees

- *General chair* (with M. Gouda) of the 16th IEEE International Conference on Network Protocols (ICNP), 2008; *General chair*, First Workshop on Secure Network Protocols (NPsec), held in conjunction with IEEE ICNP, Boston, MA, 2005
- *Technical program committee (TPC) chair* (with T. Hasegawa) of ICNP 2010; *TPC chair* (with J. Mirkovic) of the Workshop on Cyber Security Experimentation and Test (CSET) 2008; *TPC chair* (with G. Manimaran) of the 4th IEEE International Conference on Broadband Communications, Networks and Systems (BroadNets), Internet Technologies Symposium, 2007; *TPC chair* (with G. Carle) of the 4th International Conference on Wired/Wireless Internet Communications (WWIC) 2006; *TPC chair* (with K. Park), First SPIE International Conference on Scalability and Traffic Control in IP Networks 2001

- TPC member or area chair of ACM SIGMETRICS 2010; IEEE INFOCOM 2001, 2003–2006, 2008–2012; IEEE ICNP 2001, 2005–2007, 2009–2011; IEEE IWQoS 2004–2007, 2009; IEEE ICDCS 2000, 2004, 2005, 2007, 2009; WNS2 2006; IEEE WoWMoM 2006; Networking 2005; IEEE ASWN 2004; ICPP 2003; IEEE ICC 2000; IEEE GLOBECOM 2000

#### Editorial Boards

- Associate Editor, IEEE Transactions on Computers, August 2007–present
- Associate Editor, IEEE/ACM Transactions on Networking, February 2011–present

#### Standardization Bodies

- Contributed sections to the ATM Forum traffic management specifications 4.0 and 4.1, and participated in several IETF and IRTF working groups, 1995–2000

#### Selected Mentoring and Outreach Activities

- Distributed Mentor Program (DMP) (for undergraduate women); Women in Science Program (for graduate women); Engineering Projects in Community Service (EPICS) program (for undergraduate students); Horizons program (for minority freshmen).

#### Selected Publications

1. Ethan Blanton, Sonia Fahmy, Greg N. Frederickson, Sriharsha Gangam, On the Cost of Network Inference Mechanisms. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, 22(4):662–672, April 2011.
2. Roman Chertov and Sonia Fahmy, Forwarding Devices: From Measurements to Simulations. *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, 21(2), pp. 12:1–12:23, February 2011.
3. Y. Wu, Z. Mao, S. Fahmy, N. B. Shroff. Constructing Maximum-Lifetime Data Gathering Forests in Sensor Networks. *IEEE/ACM Transactions on Networking*, 18(5):1571–1584, October 2010.
4. Y. Wu, S. Fahmy, N. B. Shroff. Optimal Sleep/Wake Scheduling for Time-Synchronized Sensor Networks with QoS Guarantees. *IEEE/ACM Transactions on Networking*, 17(5):1508–1521, October 2009.
5. J. Mirkovic, A. Hussain, S. Fahmy, P. Reiher, R. K. Thomas. Accurately measuring denial of service in simulation and testbed experiments. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 6(2):81–95, Apr/June 2009.
6. R. Chertov, S. Fahmy, and N. B. Shroff. Fidelity of Network Simulation and Emulation: A Case Study of TCP-Targeted Denial of Service Attacks. *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, 19:1:4:1–4:29, December 2008.
7. S. Fahmy, M. Kwon. Characterizing Overlay Multicast Networks and their Costs. *IEEE/ACM Transactions on Networking*, 15(2):373–386, April 2007.
8. O. Younis, S. Fahmy. On Efficient On-line Grouping of Flows with Shared Bottlenecks at Loaded Servers. *IEEE/ACM Transactions on Networking*, 13(2):288–301, April 2005.
9. M. Kwon, S. Fahmy. Path-aware Overlay Multicast. *Computer Networks*, 47(1):23–45, 14 January 2005.
10. O. Younis, S. Fahmy. HEED: A Hybrid, Energy-Efficient, Distributed Clustering Approach for Ad-hoc Sensor Networks. *IEEE Transactions on Mobile Computing*, 3(4):366–379, Oct–Dec 2004.