

# Richard Ernest Newman

Department of Computer & Information Science & Engineering  
CSE-E346, The University of Florida  
Gainesville, FL 32611-6120  
(352) 392-1488/-1200 sec'y/-1220 fax  
<http://www.cise.ufl.edu/~nemo>  
Internet: [nemo@cise.ufl.edu](mailto:nemo@cise.ufl.edu)

## EDUCATION

Ph. D. Computer Science, 1986. University of Rochester, Rochester, NY.  
M. S. Computer Science, 1983. University of Rochester, Rochester, NY.  
B. A. Mathematics, 1981. New College, Sarasota, FL.

## HONORS

**University Superior Accomplishment Award for Faculty Service**, University of Florida, 1995-1996.  
**Superior Accomplishment Award**, Academic Affairs, University of Florida, 1996.  
**Teaching Improvement Program Award**, College of Engineering, University of Florida, 1995.  
**ACM Teacher of the Year**, CISE Department, 1994-1995.  
**Distinguished Service Key**, Alpha Phi Omega National Service Fraternity, 1991.  
**Faculty of the Year**, CIS Department, 1989-1990.  
**Member**, Upsilon Pi Epsilon Computer Science Honorary Fraternity, 1989-present.

## EMPLOYMENT

**Assistant Professor**, Computer & Information Science & Engineering Department, University of Florida, Gainesville, FL, 1986-present.  
**Board of Directors**, Security and Audit Analysis, EpicTide, Inc., St. Petersburg, FL, 2004-present.  
**Consultant**, Medium access and PHY protocol analysis and development, Intellon Corporation, Ocala, FL, 1999-present.  
**Consultant**, Network security areas, Raytheon Systems Company, St. Petersburg, FL, 1997-present.  
**Senior Scientist**, Unistry Associates, Inc., Havertown, PA, 1995-1999.  
**Associate Director**, Space Communication Technology Center, Digital Signal Handling and Satellite Networking Technical Area, Computer and Information Science Department, University of Florida, Gainesville, FL, 1991-1997

## SELECTED JOURNAL PUBLICATIONS

1. Srinivas Katar, Manjunath Krishnam, Richard Newman, and Haniph Latchman, "Harnessing the potential of Power Line Communications using HomePlug AV Standard," to appear in *RF Design Magazine*, August 2006.
2. Lin, Yu-Ju, Haniph Latchman, Srinivas Katar and Richard Newman, Comparative Performance Study of Wireless and Powerline Networks, *IEEE Communications Magazine* 41:4, pp. 54-63, April, 2003.  
<http://www.cise.ufl.edu/~nemo/papers/CommMag2003.pdf>

3. Lee, Minkyu, Richard Newman, Haniph Latchman, Srinivas Katar, and Larry Yonge, "HomePlug 1.0 Powerline Communication LANs - Protocol Description and Performance Results," *International Journal on Communication Systems* 16:5, pp. 447-473, 2003.  
<http://www.cise.ufl.edu/nemo/papers/IJCS2003.pdf>
4. Yeh, Jyh-haw, Randy Chow, and Richard Newman, "Key Assignment for Enforcing Access Control Policy Exceptions in Distributed Systems," accepted by *Information Sciences Journal* (2003)
5. Johnson, Theodore and R. E. Newman-Wolfe, "A Comparison of Fast and Low Overhead Distributed Priority Locks," *Journal of Parallel and Distributed Computing* 32:1, 1996, pp. 74-89.

## SELECTED RECENT REFEREED CONFERENCE PUBLICATIONS

1. Srinivas Katar, Brent Mashburn, Richard Newman, and Haniph Latchman, "Allocation Requirements for Supporting Latency-Bound Traffic in HomePlug AV Networks," to appear in IEEE GlobeCom, San Francisco, 27 Nov. - 1 Dec. 2006.
2. Mahendra Kumar and Richard Newman, "STRBAC - An Approach towards Spatio-Temporal Role-Based Access Control," to appear in IASTED Conference on Network and Information Security (CNIS 2006), Cambridge, MA, October 9-11, 2006.
3. Richard E. Newman, Larry Yonge, Sherman Gavette, and Ross Anderson, "Protecting Domestic Powerline Communications," in proceedings of Symposium on Usable Privacy and Security (SOUPS 2006), Pittsburgh, PA, July 12-14, 2006, pp. 122-132.
4. Srinivas Katar, Brent Mashburn, Kaywan Afkhamie, Haniph Latchman, and Richard Newman, "Channel Adaptation Based on Cyclo-stationary Noise Characteristics in PLC Systems," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2006), Orlando, FL, March 26-29, 2006, pp. 16-21
5. Srinivas Katar, Manjunath Krishnam, Brent Mashburn, Kaywan Afkhamie, Richard Newman, and Haniph Latchman, "Beacon Schedule Persistence to Mitigate Beacon Loss in HomePlug AV Networks," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2006), Orlando, FL, March 26-29, 2006, pp. 184-188.
6. Hossein Asghari, Richard Newman, and Haniph Latchman, "Bandwidth-efficient Forward-Error-Correction Coding for High Speed Powerline Communications," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2006), Orlando, FL, March 26-29, 2006, pp. 350-355.
7. Ira S. Moskowitz and Richard E. Newman, "Multiple Access Covert Channels," in proceedings of IASTED Conference on Network and Information Security (CNIS 2005), Nov. 14-16, 2005, Phoenix, AZ, pp. 182-188.
8. Richard E. Newman, Piyush Harsh, and Prashant Jayaraman, "Security Analysis of and Proposal for Image Based Authentication," in proceedings of IEEE International Carnahan Conference on Security Technology, Oct. 10-13, 2005, Las Palmas, Canary Islands, Spain, pp. 141-144.
9. Kaywan H. Afkhamie, Haniph Latchman, Larry Yonge, Tim Davidson, and Richard Newman, "Joint Optimization of Transmit Pulse Shaping, Guard Interval Length, and Receiver Side Narrow-band Interference Mitigation in the HomePlugAV OFDM System," (invited paper) in proceedings of IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC 2005), New York, NY, June 6-8, 2005.
10. Yu-Ju Lin, Haniph A. Latchman, Jonathan C.L. Liu and Richard Newman, "Periodic Contention-Free Multiple Access For Power Line Communication Networks," IEEE 19th International Conference on Advanced Information Networking and Applications (AINA'05) Volume 2, March 28-30, 2005, Taiwan, pp. 315-318.

11. Srinivas Katar, Richard Newman, Haniph Latchman, and Larry Yonge, "Efficient MAC Framing and ARQ for High-Speed PLC Systems," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2005), Vancouver, Canada, April 2005, pp. 27-31.
12. Afkhamie, K. H., S. Katar, L. Yonge, and R. Newman, "An Overview of the upcoming HomePlug AV Standard," proceedings of International Symposium on Powerline Communications (ISPLC 2005), Vancouver, BC, 2005, pp. 400-404.
13. Yu-ju Lin, Haniph Latchman, Jonathan Liu, and Richard Newman, "Periodic Contention-free Multiple Access for Broadband Multimedia Powerline Communication Networks," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2005), Vancouver, Canada, April 2005.
14. Haniph A. Latchman, Kaywan H. Afkhamie, Srinivas Katar, Richard Newman, Brent Mashburn, and Larry Yonge, "High Speed Multimedia Home Networking Over Powerline," National Cable and Telecommunications Association (NCTA) National Show, San Francisco, CA, April 3-5, 2005.
15. Richard E. Newman, Vipin N. Reddy, and Ira S. Moskowitz, "Anonymity and Covert Channels in Simple Timed Mix-firewalls," in proceedings of WPET 2004, May 2004, Toronto, Canada, pp. 1-16. published in LNCS 3424, D. Martin and A. Serjantov, eds., Springer
16. Ira S. Moskowitz, Richard E. Newman and Paul F. Syverson, "Quasi-anonymous Channels," in proceedings of CNIS 2003, December 2003, NY, NY, pp. 126-131.
17. Ira S. Moskowitz, Richard E. Newman, Daniel P. Crepeau and Allen R. Miller, "Covert Channels and Anonymizing Networks," proceedings of ACM Workshop on Privacy in Electronic Society (WPES), October 30, 2003, Washington, DC, pp. 79-88.
18. Serjantov, Andrei and Richard E. Newman, "On the Anonymity of Timed Pool Mixes," IFIP International Information Security Conference, 2nd Bi-Annual Working Conference on Privacy and Anonymity in Networked and Distributed Systems (I-NetSec03), 26-28 May, 2003, Athens, Greece.
19. Newman, Richard E., Ira S. Moskowitz, Paul Syverson and Andrei Serjantov, "Metrics for Traffic Analysis Prevention," Workshop on Privacy Enhancing Technologies, 26-28 March, 2003, Dresden, Germany
20. Onbilger, Oguz Kann, R. Chow and R. Newman, "Remote Digital Signing with Mobile Agents," The Second International Workshop for Asian Public Key Infrastructures, October 30-November 01, 2002, Taipei, Taiwan.
21. Newman, Richard, Ira Moskowitz, Li-Wu Chang and Murali M. Brahmadesam, "A Spatial Steganographic Embedding Undetectable by JPEG-Compatibility Steganalysis," Int'. Workshop on Information Hiding IH 2002, pp. 258-277, October, 2002, the Netherlands.
22. Moskowitz, I. S., L. Chang and R. E. Newman, "Capacity is the Wrong Paradigm", New Security Paradigms Workshop, September, 2002, Virginia Beach, VA, USA.
23. Onbilger, Oguz Kann, R. Newman and R. Chow, "A Distributed and Compromise-tolerant Mobile Agent Protection Scheme," International Conference on Intelligent Agents, Web Technologies and Internet Commerce - IAWTIC2001, July 2001, Las Vegas
24. Lee, Chung-Wei, Jonathan C.L. Liu, Randy Chow, and Richard Newman, "An Altruistic QoS Routing for Multimedia Communications," accepted for publication in International Symposium on Intelligent Multimedia, Video & Speech Processing, Hong Kong, May 2-4, 2001.
25. Newman, R., B. Bouldin, P. Broccard, T. Coscenza, S. Farago, M. Hoyt, K. Nolan, M. Sanders, T. Swanson and J. Winner, "Use of LSP in Securing Wireless LAN Communications," *Proceedings of the SPIE Conference on Mathematics of Data/Image Coding, Compression, and Encryption III*, San Diego, CA, July 2000, pp. 44-55.

## COURSES

- Graduate Courses
  - Theory of Security (at FIU), developed course as special topic
  - Cryptographic Protocols (CIS 6934), developed course as special topic
  - Cryptography (CIS 6934), developed course as special topic
  - Computer and Network Security (CEN 5540), developed course
  - Computer Communication Networks (CDA 6168, CEN 6506)
  - Distributed Operating Systems (COP 6617), developed course
  - Operating Systems Principles (COP 5622, COP 5615)
  - Formal Languages and Computation Theory (COT 6325)
  - Computational Complexity (CIS 6935), developed course
  - Analysis of Algorithms (COT 5305)
- Undergraduate Courses
  - Computer Network Fundamentals (CEN 4500C), developed course and lab
  - Operating Systems Fundamentals (COP 4600)
  - Data Structures and Algorithms (COP 3530)

## RECENT PROFESSIONAL ACTIVITIES

**Guest Co-Editor** International Journal on Computer Science, Special Issue on Powerline Communications, 2003.

### **Reviewer:**

IEEE Transactions on Communications,  
IEEE Transactions on Computers,  
IEEE Transactions on Parallel and Distributed Computing,  
IEEE Transactions on Man and Cybernetics,  
IEEE Communications Magazine,  
International Journal on Computer Science,  
Journal of the ACM,  
Software Practice and Experience,  
Information Processing Letters,  
Theoretical Computer Science.

### **Program Committees:**

IEEE International Symposium on Powerline Communications (ISPLC) 2006 (Program Co-Chair), 2007  
IASTED Conference on Advances in Computer Science (ACST) 2007  
IASTED CNIS 2005, 2006  
Workshop on Privacy Enhancing Technologies 2004, 2005  
New Security Paradigms Workshop, 2003  
IEEE Conference on Local Area Communication Networks, (LCN2003, LCN2002, LCN2001)

### **Session Chair:**

ACST 2007  
ISPLC 2005, 2006  
CNIS 2005, 2006  
LCN2002, LCN2001.