

# Kemal Akkaya

*Dept. of Electrical & Computer Eng.  
Florida International University  
10555 West Flagler Street, EC 3915  
Miami, FL 33174*

*Email: [kakkaya@fiu.edu](mailto:kakkaya@fiu.edu)  
Phone: +1-305- 348 3017  
Fax: +1-305-348 3707  
URL: <http://web.eng.fiu.edu/kakkaya>*

RESEARCH INTERESTS ◇ Security and Privacy, Cyber-physical Systems, Internet of Things, Software Defined Networking

---

EDUCATION ◇ **Doctor of Philosophy** May 2005  
Department of Computer Science & Electrical Engineering  
University of Maryland, Baltimore County (UMBC), Baltimore, MD, USA

◇ **Master of Science** June 1999  
Department of Computer Engineering  
Middle East Technical University (METU), Ankara, Turkey

◇ **Bachelor of Science** June 1997  
Department of Computer Engineering and Information Sciences  
Bilkent University, Ankara, Turkey

---

EMPLOYMENT HISTORY ◇ **Professor** Aug 2017 – ongoing  
Department of Electrical & Computer Engineering  
Florida International University (FIU)  
Miami, FL

◇ **Associate Professor** Aug 2014 – 2017  
Department of Electrical & Computer Engineering  
Florida International University (FIU)  
Miami, FL

◇ **Associate Professor** Aug 2011 – 2014  
Department of Computer Science  
Southern Illinois University Carbondale (SIUC)  
Carbondale, IL

◇ **Visiting Associate Professor** July 2012 – Dec. 2012  
Department of Computer Science  
George Washington University  
Washington, DC

◇ **Assistant Professor** Aug 2005 – July 2011  
Department of Computer Science  
Southern Illinois University Carbondale (SIUC)

Carbondale, IL

- ◇ **Graduate Teaching Assistant** Aug. 2003 – May 2005  
Department of Computer Science  
University of Maryland Baltimore County, Baltimore, MD, USA
- ◇ **Graduate Research Assistant** Jan. 2002 – Aug. 2003  
Department of Computer Science  
University of Maryland Baltimore County, Baltimore, MD, USA
- ◇ **Research Assistant & Developer** Aug. 2000 – Dec. 2001  
Maryland Center for Telecommunications Research (MCTR)  
University of Maryland Baltimore County, Baltimore, MD, USA
- ◇ **Software Technical Application Systems Developer** Dec. 1999 – July 2000  
Automation of Local Labor Offices for Turkish Employment Organization  
CyberSoft Ltd., Ankara, Turkey
- ◇ **Graduate Teaching Assistant** Sept. 1997 – Dec. 2000  
Department of Computer Science and Engineering  
Middle East Technical University (METU), Ankara, Turkey

---

REFEREED  
BOOK  
CHAPTERS

- ◇ **1.** U. Kocabiyik and K. Akkaya, Digital Forensics for IoT and Sensor Networks, Book Chapter in *The Philosophy of Mission-oriented Wireless Sensor Networks*, Springer (in press).
- ◇ **2.** A. Sherif, M. Ismail, M. Pazos-Revilla, M. Mahmoud, K. Akkaya, E. Serpedin, K. Qaraqe, Privacy Preserving Power Charging Coordination Scheme in the Smart Grid, Book Chapter in *Transportation and Power Grid in Smart Cities: Communication Networks and Services*, John Wiley (in press).
- ◇ **3.** A. Uluagac, K. Akkaya, A. Mohan, M. Cintuglu, T. Youssef, O. Mohammed, D. Sullivan, “Wireless Infrastructure in Industrial Control Systems”, Book Chapter in *SCADA/ICS Security*, edited by E. Colbert & A. Kott (to appear).
- ◇ **4.** K. Akkaya, , A. Uluagac, A. Aydeger and A. Mohan, “Secure Software-Defined Networking Architectures for the Smart Grid”, Book Chapter in *Smart Grid: Networking, Data Management, and Business Models*, edited by H. Mouftah (to appear).
- ◇ **5.** N. Saputro, K. Akkaya and A. Uluagac, “Privacy-preservation for IoT used in Smart Buildings”, *Book Chapter in Security and Privacy in Internet of Things (IoTs): Models, Algorithms, and Implementations*, edited by Fei Hu (to appear).
- ◇ **6.** K. Akkaya, I. F. Senturk, and S. Janansefat, “Design, Implementation and Networking of Mobile Sensing Platforms”, *Book Chapter, Cooperative Robots and Sensor Networks* , A. Koubaa, A. Khelil (eds), Springer, 2014.

- ◇ 7. M. Younis, S. Lee, I. Senturk and K. Akkaya, “Topology Management Techniques for Tolerating Node Failure in WSNs”, *Book Chapter, The Art of Wireless Sensor Networks: Fundamentals I*, Ed. Habib Ammari, Springer, 2014.
- ◇ 8. M. Younis, T. Nadeem, A. Bicak and K. Akkaya, “Energy-efficient MAC Protocols for Wireless Sensor Networks”, *Book Chapter, Wireless Sensor Networks: From Theory to Applications*, Ibrahiem M. M. El Emary, S. Ramakrishnan (eds), CRC Press, Taylor and Francis Group, 2013.
- ◇ 9. M. Younis, K. Akkaya and Moustafa Youssef “Efficient Handling of QoS Traffic in Wireless Sensor Networks”, *Book Chapter, Encyclopedia on Ad Hoc and Ubiquitous Computing*, Ed. Dharma P Agrawal and Bin Xie, World Scientific, pp. 257-281, Sept. 2009.
- ◇ 10. M. Younis and K. Akkaya “Node Positioning for Increased Dependability of Wireless Sensor Networks”, *Book Chapter, Algorithms and Protocols for Wireless Sensor Networks*, Ed. A. Boukerche, Wiley & Sons, New Jersey, pp. 225-266, 2008.
- ◇ 11. K. Akkaya and I. Ari, “In-network Data Aggregation in Wireless Sensor Networks”, *Book Chapter, Handbook of Computer Networks*, Ed. H. Bidgoli, John Wiley & Sons, Vol. 2, 2007, pp. 1131-1146.
- ◇ 12. A. Yazici and K. Akkaya, “Conceptual Design of GIS (Geographic Information Systems) applications”, *Book Chapter, Recent Research Issues on the Management of Fuzziness in Databases*, edited by G. Bordogna and G. Pasi, Physica- Verlag, Heidelberg and New York, 2000.

---

REFEREED  
JOURNAL  
PAPERS

- ◇ 1. B. Ciftler, S. Dikmese, I. Guvenc, K. Akkaya and A. Kadri, Occupancy Counting with Burst and Intermittent Signals in Smart Buildings, in *IEEE Internet of Things Journal* (to appear).
- ◇ 2. S. Tonyali, K. Akkaya, N. Saputro, S. Uluagac and M. Nojournian, Privacy-preserving protocols for secure and reliable data aggregation in IoT-enabled Smart Metering systems, in *Elsevier Future Generation Computer Systems Journal* (to appear).
- ◇ 3. N. Saputro and K. Akkaya, Investigation of Smart Meter Data Reporting Strategies for Optimized Performance in Smart Grid AMI Networks, in *IEEE Internet of Things Journal* (to appear).
- ◇ 4. M. Mahmoud, N. Saputro, P. Akula and K. Akkaya, “Privacy-Preserving Power Injection over a Hybrid AMI/LTE Smart Grid Network”, in *IEEE Internet of Things Journal* (to appear).
- ◇ 5. M. Cintuglu, O. Mohammed, K. Akkaya and A. Uluagac, “A Survey on Smart Grid Cyber-physical System Testbeds”, in *IEEE Communication Surveys and Tutorials*, Vol. 19, No. 1, pp. 446-464, 2017.
- ◇ 6. H. Menour, I. Guvenc, K. Akkaya, S. Uluagac, A. Kadri and A. Tuncer, “UAV-Enabled Intelligent Transportation Systems for the Smart City: Applications and Challenges”, in *IEEE Communications Magazine*, Vol. 55, No.3, pp. 22-28, March 2017.

- ◇ 7. S. Tonyali, O. Cakmak, K. Akkaya, M. Mahmoud and I. Guvenc, "Secure Data Obfuscation Scheme to Enable Privacy-Preserving State Estimation in Smart Grid AMI Networks", *IEEE Internet of Things Journal*, Vol. 3 No. 5, pp. 709-719, Oct. 2016.
- ◇ 8. K. Rabieh, M. Mahmoud, K. Akkaya and S. Tonyali, "Scalable Certificate Revocation Schemes for Smart Grid AMI Networks Using Bloom Filters", *IEEE Transaction on Dependable and Secure Computing* (to appear).
- ◇ 9. M. Mahmoud, J. Misic, K. Akkaya, and S. Shen, "Investigating Public-Key Certificate Revocation in Smart Grid", *IEEE Internet of Things Journal* (to appear).
- ◇ 10. P. Sarisaray and K. Akkaya, "Performance Comparison of Background Subtraction Techniques for Wireless Multimedia Sensor Network Applications", *International Journal of Distributed Sensor Networks* (to appear).
- ◇ 11. I. Senturk, K. Akkaya and S. Yilmaz, "Towards realistic connectivity restoration in partitioned mobile sensor networks", *International Journal of Communication Systems*, Vol. 29, no. 2, pp. 230-250, 2016.
- ◇ 12. H. Oztarak, K. Akkaya, A. Yazici and P. Sarisaray, "Efficient Active Rule Processing in Wireless Multimedia Sensor Networks", *International Journal of Ad Hoc and Ubiquitous Networks*, Vol. 21, no.1, pp. 64-77, 2016.
- ◇ 13. K. Akkaya, K. Rabieh, M. Mahmoud and S. Tonyali, "Customized Certificate Revocation Lists for IEEE 802.11s-based Smart Grid AMI Networks", *IEEE Transactions on Smart Grid*, vol.6, no.5, pp.2366-2374, Sept. 2015.
- ◇ 14. F. Senel, K. Akkaya, M. Kantarci, and T. Yilmaz, "Self-deployment of Mobile Underwater Acoustic Sensor Networks for Maximized Coverage and Guaranteed Connectivity", *Elsevier Ad Hoc Networks*, vol. 34, pp. 170183, Nov. 2015.
- ◇ 15. N. Saputro and K. Akkaya, "PARP-S: A Piggybacking-based ARP for IEEE 802.11s-based Smart Grid AMI Networks", *Elsevier Computer Communications*, vol. 58, pp. 16-28, 2015.
- ◇ 16. M. Younis, I. Senturk, K. Akkaya, S. Lee, and F. Senel, "Topology Management Techniques for Tolerating Node Failures in Wireless Sensor Networks: A Survey", *Elsevier Computer Networks*, Vol. 58, pp. 254-283, 2014.
- ◇ 17. I. Senturk, K. Akkaya and S. Yilmaz, "Relay Placement for Restoring Connectivity in Partitioned Wireless Sensor Networks under Limited Information", *Elsevier Ad Hoc Networks*, Volume 13, Part B, pp. 487-503, 2014.
- ◇ 18. E. Yildiz, K. Akkaya, E. Sisikoglu and M. Sir, "Optimal Camera Placement for Providing Angular Coverage in Wireless Video Sensor Networks", *IEEE Transactions on Computers*, Vol. 63, No. 7, pp. 1812-1825, 2014.
- ◇ 19. N. Saputro and K. Akkaya, "On Preserving User Privacy in Smart Grid Advanced Metering Infrastructure Applications", *Wiley Security and Communications Networks Journal*, Vol.7 No. 1, pp. 206-220, 2014.
- ◇ 20. K. Akkaya, I. F. Senturk, and S. Vemulapalli, "Handling Large-scale Node Failures in Mobile Sensor/Robot Networks", *Elsevier Journal of Network and Computer Applications*, Vol. 36, No. 1, pp. 195-210, 2013.

- ◇ **21.** H. Oztarak, K. Akkaya and A. Yazici, “Efficient Localization and Tracking of Multiple Objects in Wireless Multimedia Sensor Networks” *Ad Hoc & Sensor Wireless Networks*, Volume 19, Number 3-4, pp. 241-276, 2013.
- ◇ **22.** I. F. Senturk, S. Yilmaz and K. Akkaya, “Connectivity Restoration in Delay Tolerant Sensor Networks using Game Theory”, *International Journal of Ad Hoc and Ubiquitous Networks*, Vol. 11, No. 2/3, pp. 109-124, 2012.
- ◇ **23.** N. Saputro, K. Akkaya and S. Uludag, “A Survey of Routing Protocols for Smart Grid Communications”, *Computer Networks Journal*, Vol. 56, No. 11, pp. 2742-2771, 2012.
- ◇ **24.** S. Uludag, T. Imboden, and K. Akkaya, “A taxonomy and evaluation for developing 802.11-based wireless mesh network testbeds”, *International Journal of Communication Systems*, Vol. 25, No. 8, pp. 963-990, 2012
- ◇ **25.** M. Riley, K. Akkaya and K. Fong, “A Group-based Hybrid Authentication Scheme for Cooperative Collision Warnings in VANETs”, *Wiley Security and Communication Networks Journal*, Vol. 4, No. 12, pp. 1469-1482, 2011.
- ◇ **26.** M. Riley, K. Akkaya and K. Fong, “A Survey of Authentication Schemes for Vehicular Ad Hoc Networks”, *Wiley Security and Communication Networks Journal*, Vol. 4, No. 10, pp. 1137-1152, 2011.
- ◇ **27.** F. Senel, M. Younis and K. Akkaya, “Bio-inspired Relay Node Placement Heuristics for Repairing Damaged Wireless Sensor Networks”, *IEEE Transactions on Vehicular Technology*, Vol. 60, No. 4, pp. 1835-1848, 2011.
- ◇ **28.** A. Newell and K. Akkaya, “Distributed Collaborative Camera Actuation for Redundant Data Elimination in Wireless Multimedia Sensor Networks”, *Elsevier Ad Hoc Networks Journal Special Issue on Wireless Multimedia Sensor Networks*, Vol. 9, No. 4, pp. 514-527, 2011.
- ◇ **29.** R. S. Aygun, Y. Ma, K. Akkaya, G. Cox and A. Bicak, “A Conceptual Model for Data Management and Distribution in Peer-to-Peer Systems”, *Springer Peer-to-Peer Networking and Applications Journal* Vol. 3, No. 4, pp. 294-322, 2010.
- ◇ **30.** K. Akkaya, I. Guneydas and A. Bicak, “Autonomous Actor Positioning in Wireless Sensor and Actor Networks using Stable-Matching”, *International Journal of Parallel, Emergent and Distributed Systems (IJPEDS)* Vol. 25, No. 6, pp. 439 - 464, 2010.
- ◇ **31.** K. Akkaya, F. Senel, A. Thimmapuram and S. Uludag, “Distributed Recovery from Network Partitioning in Movable Sensor/Actor Networks via Controlled Mobility”, *IEEE Transactions on Computers*, Vol. 59, No. 2, pp. 258 - 271, 2010.
- ◇ **32.** W. Zhang, Y. Liu and K. Akkaya, “Static Worst-Case Energy and Lifetime Estimation of Wireless Sensor Networks”, *Journal of Computing Science and Engineering (JCSE)*, Vol. 4. No. 2, 2010.
- ◇ **33.** A. Abbasi, M. Younis and K. Akkaya, “Movement Assisted Connectivity Restoration in Wireless Sensor and Actor Networks”, *IEEE Transactions on Parallel and Distributed Systems*, Vol. 20, No. 9, 2009, pp.1366-1379.
- ◇ **34.** K. Akkaya and A. Newell, “Self-deployment of sensors for maximized coverage in underwater acoustic sensor networks”, *Elsevier Computer Communications Journal*, vol. 32, no. 7, 2009, pp. 1233-1244.

- ◇ **35.** K. Akkaya, F. Senel and B. Mclaughlan, “Clustering of Wireless Sensor and Actor Networks based on Sensor Distribution and Connectivity”, *Elsevier Journal of Parallel and Distributed Computing*, vol. 69, no. 6, 2009, pp. 573-587.
- ◇ **36.** K. Akkaya and F. Senel, “Detecting and Connecting Disjoint Sub-networks in Wireless Sensor and Actor Networks”, *Elsevier Ad Hoc Networks Journal*, vol. 7, no. 7, 2009, pp. 1330-1346.
- ◇ **37.** K. Akkaya and S. Janapala, “Maximizing Connected Coverage via Controlled Actor Relocation in Wireless Sensor and Actor Networks”, *Elsevier Computer Networks Journal*, Vol. 52, Issue 14, 2008, pp. 2779-2796.
- ◇ **38.** K. Akkaya and M. Younis, “Coverage and Latency aware Actor Placement Mechanisms for Wireless Sensor and Actor Networks”, *International Journal of Sensor Networks*, Vol. 3, No. 3, 2008.
- ◇ **39.** M. Younis and K. Akkaya, “Strategies and Techniques for Node Placement in Wireless Sensor Networks: A Survey”, *Elsevier Ad Hoc Network Journal*, Vol. 6 No. 4, pp. 621-655, 2008.
- ◇ **40.** K. Akkaya, M. Demirbas and R. S. Aygun, “The Impact of Data Aggregation on the Performance of Wireless Sensor Networks”, *Wiley Wireless Communications & Mobile Computing (WCMC) Journal*, Vol. 8 pp. 171-193, 2008.
- ◇ **41.** W. Youssef, M. Younis and K. Akkaya, “Improving Gateway Safety in Wireless Sensor Networks using Cognitive Techniques”, *International Journal of Sensor Networks*, Vol. 43, No. 5, pp. 649668, 2007.
- ◇ **42.** K. Akkaya, M. Younis and W. Youssef, “Positioning of Base-Stations in Wireless Sensor Networks”, *IEEE Communications*, Vol. 45, No. 4, pp. 96-102, April 2007.
- ◇ **43.** K. Akkaya and M. Younis, “Sink Repositioning for Enhanced Performance in Wireless Sensor Networks”, *Elsevier Computer Networks Journal*, Vol. 49/4, pp. 512-534, 2005.
- ◇ **44.** K. Akkaya and M. Younis, “Energy-aware delay-constrained routing in wireless sensor networks”, *International Journal of Communication Systems, Special Issue on Service Differentiation and QoS in Ad Hoc Networks*, Vol. 17(6), pp. 663-687, 2004.
- ◇ **45.** K. Akkaya and M. Younis, “Energy-Aware and QoS Routing in Wireless Sensor Networks”, *Springer Cluster Computing Journal*, Vol. 8 pp. 179-188, 2005.
- ◇ **46.** K. Akkaya and M. Younis, “A Survey of Routing Protocols in Wireless Sensor Networks”, *Elsevier Ad Hoc Network Journal*, Vol. 3/3 pp. 325-349, 2005.

- 
- REFEREED PROCEEDINGS ◇ **1.** R. Algin, H. Tan and K. Akkaya, “Mitigating Selective Jamming Attacks in Smart Meter Data Collection using Moving Target Defense, in the *Proceedings of ACM International Symposium on QoS and Security for Wireless and Mobile Networks* (to appear).
- ◇ **2.** M. Cebe and K. Akkaya, “Efficient Management of Certificate Revocation Lists in Smart Grid Advanced Metering Infrastructure, in the *Proceedings of IEEE Mobile Ad Hoc and Sensor Systems (MASS17)* (to appear).

- ◇ 3. B. Roberts, K. Akkaya, E. Bulut and M. Kisacikoglu, “An Authentication Framework for Electric Vehicle-to-Electric Vehicle Charging Applications, in the *Proceedings of IEEE REUNS Workshop on Networking and Systems* (to appear).
- ◇ 4. M. Cebe and K. Akkaya, “Utilizing Advanced Metering Infrastructure to Build a Public Key Infrastructure for Electric Vehicles in the *Proceedings of ACM International Symposium on Design and Analysis of Intelligent Vehicular Networks and Applications* (to appear).
- ◇ 5. U. Ozgur, H. Nair, A. Sundararajan, K. Akkaya and A. Sarwat, “An Efficient MQTT Framework for Control and Protection of Networked Cyber-Physical Systems, in the *Proceedings of Communications and Network Security (CNS) Workshop on CPS Security* (to appear).
- ◇ 6. N. Saputro, S. Tonyali, K. Akkaya, M. Cebe and M. Mahmoud, “Efficient Certificate Verification for Vehicle-to-Grid Communications”, in the *Proceedings of International Conference on Future Network Systems and Security*, Gainesville, FL, Aug. 2017.
- ◇ 7. S. Tonyali, K. Akkaya, N. Saputro and X. Cheng, An Attribute & Network Coding-based Secure Multicast Protocol for Firmware Updates in Smart Grid AMI Networks, in the *Proceedings of International Conference on Computer Communications and Networks (ICCCN)*, Vancouver, Canada, July 2017.
- ◇ 8. S. Tonyali, K. Akkaya and N. Saputro An Attribute-based Reliable Multicast-over-Broadcast Protocol for Firmware Updates in Smart Meter Networks, in the *Proceedings of INFOCOM MiSENET Workshop 2017*, Atlanta, GA, April 2017.
- ◇ 9. M. Nojournian, A. Golchubian, N. Saputro and K. Akkaya “Preventing Collusion Between SDN Defenders and Attackers Using a Game Theoretical Approach, in the *Proceedings of INFOCOM SCAN Workshop 2017*, Atlanta, GA, April 2017.
- ◇ 10. A. Alsharif, S. Tonyali, M. Mahmoud, K. Akkaya, M. Ismail, and E. Serpedin, “Performance Analysis of Certificate Renewal Scheme for AMI Networks, in the *Proceedings of International Conference on Digital Signal Processing (ICDSP 2017)*, Kuala Lumpur, Malaysia, April 17-19, 2017.
- ◇ 11. S. Michaels, K. Akkaya and A. Uluagac, “Inducing Data Loss in Zigbee Networks via Join/Association Handshake Spoofing”, in the *Proceedings of IEEE Communication and Network Security Conference Workshops*, Philadelphia, PA, Oct. 2016.
- ◇ 12. H. Mohammed, S. Tonyali, K. Rabieh, M. Mahmoud, and K. Akkaya, “Efficient Privacy-Preserving Data Collection Scheme for Smart Grid AMI Networks, in the *Proceedings of Global Telecommunications Conference (GLOBECOM16)*, Washington, DC, Dec. 2016.
- ◇ 13. U. Ozgur, S. Tonyali and K. Akkaya, “Testbed and Simulation-based Evaluation of Privacy-preserving Algorithms for Smart Grid AMI Networks, in the *Proceedings of IEEE P2MNET Workshop in conjunction with IEEE LCN16*, Dubai, UAE, Nov. 2016.
- ◇ 14. A. Aydeger, N. Saputro, K. Akkaya and M. Rahman, “Mitigating Crossfire Attacks using SDN-based Moving Target Defense, in the *Proceedings of IEEE Local Computer Networks (LCN16)*, Dubai, UAE, Nov. 2016.

- ◇ 15. N. Saputro, K. Akkaya and S. Tonyali, “Addressing Network Interoperability in Hybrid IEEE 802.11s/LTE Smart Grid Communications, in the *Proceedings of IEEE Local Computer Networks (LCN16)*, Dubai, UAE, Nov. 2016.
- ◇ 16. E. Vattapparamban, I. Guvenc, A. Yurekli, K. Akkaya and S. Uluagac, “Drones for Smart Cities: Issues in Cybersecurity, Privacy, and Public Safety, in the *Proceedings of International Wireless Communications and Mobile Computing Conference (IWCMC16)*, Nicosia, Cyprus, Aug. 2016.
- ◇ 17. U. Ozgur, S. Tonyali, K. Akkaya and F. Senel, “Comparative Evaluation of Smart Grid AMI Networks: Performance Under Privacy, in the *Proceedings of IEEE International Symposium on Computers and Communications (ISCC16)*, Messina, Italy, June 2016.
- ◇ 18. E. Vattapparamban, B. Ciftler, I. Guvenc, K. Akkaya and A. Kadri, “Indoor occupancy tracking in smart buildings using passive sniffing of probe requests, in the *Proceedings of IEEE International Conference on Communications Workshops (ICC)*, Kuala Lumpur, Malaysia, May 2016.
- ◇ 19. A. Aydeger, K. Akkaya, M. Cintuglu, A. Uluagac, and O. Mohammed, “Software Defined Networking for Resilient Communications in Smart Grid Active Distribution Networks”, in the *Proceedings of IEEE International Conference on Communications (ICC’16)* Kuala Lumpur, Malaysia, June 2016.
- ◇ 20. M. Mahmoud, M. Ismail, P. Akula, K. Akkaya, E. Serpedin and K. Qaraqe, “Privacy-Aware Power Charging Coordination in Future Smart Grid”, in the *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC’16)* Doha, Qatar, April 2016.
- ◇ 21. S. Tonyali, K. Akkaya, N. Saputro and A. Selcuk Uluagac, “A Reliable Data Aggregation Mechanism with Homomorphic Encryption in Smart Grid AMI Networks”, in the *Proceedings of IEEE Consumer Communications and Networking Conference (CCNC)*, Las Vegas, NV, Jan. 2016.
- ◇ 22. K. Denny, A. Selcuk Uluagac, K. Akkaya and S. Bhansali, “A Novel Storage Covert Channel on Wearable Devices Using Status Bar Notifications”, in the *Proceedings of IEEE Consumer Communications and Networking Conference (CCNC)*, Las Vegas, NV, Jan. 2016.
- ◇ 23. A. Aydeger, K. Akkaya, and A. Uluagac “SDN-based Resilience in Smart Grid”, in the *Proceedings of IEEE NFV&SDN Conference Demos 2015*, San Francisco, CA, Nov. 2015.
- ◇ 24. C. Hu, X. Cheng, Z. Tian, J. Yu, K. Akkaya and L. Sun “An Attribute-Based Signcryption Scheme to Secure Attribute-Defined Multicast Communications”, in the *Proceedings of 11th International Conference on Security and Privacy in Communication Networks (SecureComm 2015)*, Dallas, TX, Oct. 2015.
- ◇ 25. P. Armengol, R. Tobkes, K. Akkaya, B. Ciftler and I. Guvenc “Efficient Privacy-Preserving Fingerprint-based Indoor Localization Using Crowdsourcing”, in the *Proceedings of IEEE REU Research in Networking and Systems Workshop in conjunction with IEEE MASS 2015*, Dallas, TX, Oct. 2015..
- ◇ 26. N. Saputro, K. Akkaya, and A. I. Yurekli “Path Error-Aware RTO Design for Smart Meter Data Traffic in IEEE 802.11s-based AMI Networks”, in the *Pro-*



*ceedings of IEEE Smart Grid Communications Conference 2015*, Miami, FL, Nov. 2015.

- ◇ **27.** F. Koohifar, N. Saputro, I. Guvenc and K. Akkaya, “Hybrid Wi-Fi/LTE Aggregation Architecture for Smart Meter Communications”, in the *Proceedings of IEEE Smart Grid Communications Conference 2015*, Miami, FL, Nov. 2015.
- ◇ **28.** P. K. Akulla, M. Mahmoud, K. Akkaya, and M. Song “Privacy-Preserving and Secure Communication Scheme for Power Injection in Smart Grid”, in the *Proceedings of IEEE Smart Grid Communications Conference 2015*, Miami, FL, Nov. 2015.
- ◇ **29.** B. Gonen, K. Akkaya and F. Senel, “Efficient Camera Selection for Maximized Target Coverage in Underwater Acoustic Sensor Networks”, in the *Proceedings of IEEE Local Computer Networks Conference 2015*, Clearwater, FL, Oct. 2015.
- ◇ **30.** N. Saputro, K. Akkaya, and I. Guvenc “Privacy-aware Communication Protocol for Hybrid IEEE 802.11s/LTE Smart Grid Architectures”, in the *Proceedings of IEEE Local Computer Networks Workshops 2015*, Clearwater, FL, Oct. 2015.
- ◇ **31.** K. Akkaya, A. S. Uluagac and A. Aydeger “Software Defined Networking for Wireless Local Networks in Smart Grid”, in the *Proceedings of IEEE Local Computer Networks Workshops 2015*, Clearwater, FL, Oct. 2015.
- ◇ **32.** S. Tonyali, K. Akkaya and N. Saputro, “Assessing the Feasibility of Fully Homomorphic Encryption for Smart Grid AMI Networks”, in the *Proceedings of International Conference on Ubiquitous and Future Networks*, Sapporo, Japan, July 2015.
- ◇ **33.** E. Uzun, F. Senel, K. Akkaya and A. Yazici, “Distributed Connectivity Restoration in Underwater Acoustic Sensor Networks via Depth Adjustment”, in the *Proceedings IEEE International Conference on Communications (ICC’15)*, London, UK, June 2015.
- ◇ **34.** K. Akkaya, I. Guvenc, R. Aygun, N. Pala and A. Kadri “IoT-based Occupancy Monitoring Techniques for Energy-Efficient Smart Buildings”, in the *Proceedings of IEEE WCNC Workshops*, New Orleans, LA, April 2015.
- ◇ **35.** S. Krishnamachari, M. Nojournian and K. Akkaya, “Implementation and Analysis of Dutch-Style Sealed-Bid Auctions: Computational vs Unconditional Security. in the *Proceedings of International Conference on Information Systems Security and Privacy (ICISSP)*, Loure Valley, France, Feb. 2015.
- ◇ **36.** M. Mahmoud, K. Akkaya, K. Rabieh and S. Tonyali, “An Efficient Certificate Revocation Scheme for Large-Scale AMI Networks”, in the *Proceedings of IEEE International Performance Computing and Communications Conference (IPCCC’14)*, Austin, TX, Dec. 2014..
- ◇ **37.** K. Akkaya, K. Rabieh, M. Mahmoud and S. Tonyali, “Efficient Generation and Distribution of CRLs for IEEE 802.11s-based Smart Grid AMI Networks”, in the *Proceedings of IEEE Smart Grid Communications Conference (SmartGridComm’14)*, Venice, Italy, Nov. 2014.
- ◇ **38.** N. Saputro and K. Akkaya, “Periodic Data Reporting Strategies for IEEE 802.11s-based Smart Grid AMI Networks”, in the *Proceedings of IEEE Smart Grid Communications Conference (SmartGridComm’14)*, Venice, Italy, Nov. 2014.

- ◇ 39. G. Solmaz, K. Akkaya and Damla Turgut, “Communication-constrained p-Center Problem for Event Coverage in Theme Parks”, in the *Proceedings of IEEE Global Communications Conference (GLOBECOM'14)*, Austin, TX, Dec. 2014..
- ◇ 40. I. F. Senturk and K. Akkaya, “Connectivity Restoration in Disjoint Wireless Sensor Networks Using Centrality Measures”, in the *Proceedings of IEEE International Workshop on Performance and Management of Wireless and Mobile Networks (P2MNET'14)*, Edmonton, Canada, Sept. 2014.
- ◇ 41. N. Saputro and K. Akkaya, “An Improved TCP for Reduced Packet Delay in IEEE 802.11s-based Smart Grid AMI Networks”, in the *Proceedings of 6th International Conference on Ad Hoc Networks (ADHOCNETS'14)*, Rhodes, Greece, Aug. 2014.
- ◇ 42. P. Boluk and K. Akkaya, “Performance Evaluation of Background Subtraction Algorithms for Android Devices Deployed in Wireless Multimedia Sensor Networks”, in the *Proceedings of IEEE IWCMC 2014*, Nicosia, Cyprus, Aug. 2014.
- ◇ 43. A. Beussink, K. Akkaya, I. Senturk and M. Mahmoud, “Preserving Consumer Privacy on IEEE 802.11s-based Smart Grid AMI Networks Using Data Obfuscation”, in the *Proceedings of IEEE INFOCOM Workshop on Communications and Control for Smart Energy Systems (CCSES)*, Toronto, CA, April 2014.
- ◇ 44. N. Saputro and K. Akkaya, “An Efficient and Secure ARP for Large-scale IEEE 802.11s-based Smart Grid Networks”, in the *Proceedings of 5th International Conference on Ad Hoc Networks (ADHOCNETS'13)*, Barcelona, Spain, Oct. 2013.
- ◇ 45. I. F. Senturk and K. Akkaya, “Mobile Data Collector Assignment and Scheduling for Minimizing Data Delay in Partitioned Wireless Sensor Networks”, in the *Proceedings of 5th International Conference on Ad Hoc Networks (ADHOCNETS'13)*, Barcelona, Spain, Oct. 2013.
- ◇ 46. F. Senel, K. Akkaya and T. Yilmaz, “Autonomous Deployment of Sensors for Maximized Coverage and Guaranteed Connectivity in Underwater Acoustic Sensor Networks”, in the *Proceedings of IEEE LCN 2013*, Sydney, Australia, Oct. 2013.
- ◇ 47. N. Saputro and K. Akkaya, “An Efficient ARP for Large-scale IEEE 802.11s-based Smart Grid Networks”, in the *Proceedings of IEEE LCN 2013*, short paper, Sydney, Australia, Oct. 2013.
- ◇ 48. S. Jananfah, K. Akkaya, I. Senturk and M. Gloff, “Rethinking Connectivity Restoration in WSNs Using Feedback From a Low-cost Mobile Sensor Network Testbed”, in the *Proceedings of IEEE International Workshop on Performance and Management of Wireless and Mobile Networks*, Sydney, Australia, Oct. 2013.
- ◇ 49. I. Senturk and K. Akkaya, “Energy and Coverage Trade-offs in Deploying a Mix of Mobile and Stationary Relays for Disjoint Wireless Sensor Networks”, in the *Proceedings of IEEE Global Communications Conference 2013 (GLOBECOM'13)*, Atlanta, GA, Dec. 2013.
- ◇ 50. I. Senturk, K. Akkaya, F. Senel and M. Younis, “Connectivity Restoration in Disjoint Wireless Sensor Networks using Limited Number of Mobile Relays”, in the *Proceedings of IEEE ICC'13*, Budapest, Hungary, June 2013.
- ◇ 51. I. Senturk and K. Akkaya, “Energy and Terrain Aware Connectivity Restoration in Disjoint Mobile Sensor Networks”, in the *Proceedings of IEEE 12th IEEE*

*International Workshop on Wireless Local Networks (WLN'12)*, Clearwater, FL, Oct. 2012.

- ◇ **52.** I. Senturk and K. Akkaya, “On the Performance of Sensor Node Repositioning Under Realistic Terrain Constraint”, in the *Proceedings of 37th Annual IEEE Conference on Local Computer Networks (LCN'12)*, Clearwater, FL, Oct. 2012.
- ◇ **53.** I. Senturk, K. Akkaya and F. Senel, “An Effective and Scalable Connectivity Restoration Heuristic for Mobile Sensor/Actor Network”, in the *Proceedings of IEEE Global Communications Conference 2012 (GLOBECOM'12)*, Anaheim, CA, Dec. 2012.
- ◇ **54.** S. Jananefat, I. Senturk, K. Akkaya and T. Gloff, “A Mobile Sensor Network Testbed Using iRobots”, in the *Proceedings of Demonstrations of the IEEE Conference on Local Computer Networks 2012*, Clearwater, FL, Oct. 2012.
- ◇ **55.** H. Oztarak, T. Yilmaz, K. Akkaya and A. Yazici, “Efficient and Accurate Object Classification in Wireless Multimedia Sensor Networks”, in the *Proceedings of 21st IEEE International Conference on Computer Communications and Networks (ICCCN'12)*, Munich, Germany, July 2012.
- ◇ **56.** I. Senturk, K. Akkaya and S. Yilmaz, “Distributed Relay Node Positioning for Connectivity Restoration in Partitioned Wireless Sensor Networks”, in the *Proceedings of IEEE International Symposium and Computers and Communications (ISCC'12)*, Cappadocia, Turkey, July 2012.
- ◇ **57.** I. Senturk, S. Yilmaz and K. Akkaya, “A Game-Theoretic Approach to Connectivity Restoration in Wireless Sensor and Actor Network”, in the *Proceedings of Wireless Sensor Actor and Actuator Networks Workshop in conjunction with IEEE ICC'12*, Ottawa, CA, June 2012.
- ◇ **58.** T. Imboden, K. Akkaya and Z. Moore, “Performance Evaluation of Wireless Mesh Networks using IEEE 802.11s and IEEE 802.11”, in the *Proceedings of Convergence among Heterogeneous Wireless Systems in Future Internet Workshop in conjunction with IEEE ICC'12*, Ottawa, CA, June 2012.
- ◇ **59.** N. Saputro and K. Akkaya, “Performance Evaluation of Smart Grid Data Aggregation via Homomorphic Encryption”, in the *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC'12)*, Paris, France, Apr. 2012.
- ◇ **60.** H. Oztarak, K. Akkaya and A. Yazici, “Providing Automated Actions in Wireless Multimedia Sensor Networks via Active Rules”, in the *Proceedings of 26th International Symposium on Computer and Information Sciences*, London, UK, Sept. 2011.
- ◇ **61.** E. Yildiz, K. Akkaya, E. Sisikoglu, M. Sir, and I. Guneydas, “Camera Deployment for Video Panorama Generation in Wireless Visual Sensor Networks”, in the *Proceedings of International Workshop on Video Panorama in conjunction with IEEE Symposium on Multimedia (ISM'11)*, Dana Point, CA, USA, Dec. 2011.
- ◇ **62.** E. Yildiz, K. Akkaya, E. Sisikoglu, and M. Sir, “An Exact Algorithm for Providing Multi-Perspective Event Coverage in Wireless Multimedia Sensor Networks”, in the *Proceedings of IEEE International Wireless Communications and Mobile Computing Conference (IWCMC)*, Istanbul, Turkey, July 2011.

- ◇ **63.** A. Newell, K. Akkaya and E. Yildiz, “Providing Multi-perspective Event Coverage in Wireless Multimedia Sensor Networks”, in the *Proceedings of IEEE Local Computer Networks (LCN’10)*, Denver, CO, Oct. 2010.
- ◇ **64.** M. Riley, K. Akkaya and K. Fong, “Delay-Efficient Geodynamic Group-Based Authentication in VANETs”, in the *Proceedings of IEEE Local Computer Networks (LCN’10), short paper*, Denver, CO, Oct. 2010.
- ◇ **65.** S. Vemulapalli and K. Akkaya, “Mobility-based Self Route Recovery from Multiple Node Failures in Mobile Sensor Networks”, in the *Proceedings of 10th IEEE International Workshop on Wireless Local Networks (WLN) in conjunction with LCN’10*, Denver, CO, Oct. 2010.
- ◇ **66.** W. Zhang, Yu and K. Akkaya, “Static Worst-case Lifetime Analysis of Wireless Sensor Networks”, in the *Proceedings of IEEE International Performance Computing and Communications Conference (IPCCC’09)*, Scottsdale, AZ, Dec. 2009.
- ◇ **67.** H. Oztarak, K. Akkaya and A. Yazici, “Lightweight Object Localization with a Single Camera in Wireless Multimedia Sensor Networks”, in the *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM’09)*, Hawaii, USA, Dec. 2009.
- ◇ **68.** F. Senel, M. Younis and K. Akkaya, “A Robust Relay Node Placement Heuristic for Structurally Damaged Wireless Sensor Networks”, in the *Proceedings of IEEE Local Computer Networks (LCN’09)*, Zurich, Switzerland, Oct. 2009.
- ◇ **69.** A. Abbasi, U. Baraudi, M. Younis, K. Akkaya, “C2AM: An Algorithm for Application-Aware Movement-Assisted Recovery in Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE International Conference on Wireless Communications and Mobile Computing*, Leipzig, Germany, June 2009.
- ◇ **70.** A. Newell and K. Akkaya, “Self-Actuation of Cameras for Redundant Data Elimination in Wireless Multimedia Sensor Networks”, in the *Proceedings of International Conference on Communications (ICC’09)*, Dresden, Germany, June 2009.
- ◇ **71.** I. Guneydas, K. Akkaya and A. Bicak, “Actor Positioning in Wireless Sensor and Actor Networks Using Matching Theory”, in the *Proceedings of International Workshop on Wireless Ad hoc and Sensor Networking (WWSAN’09), in conjunction with ICDCS’09*, Montreal, Canada, June 2009.
- ◇ **72.** S. Uludag and K. Akkaya, “Distributed Channel Assignment in Wireless Mesh Networks with Guaranteed Connectivity”, in the *Proceedings of IEEE Local Computer Networks (LCN’08)*, short paper, Montreal, Canada, Oct. 2008.
- ◇ **73.** A. Sama and K. Akkaya, “Real-time Routing for Mobile Sensor/Actor Networks”, in the *Proceedings of 8th IEEE International Workshop on Wireless Local Networks (WLN) in conjunction with LCN’08*, Montreal, Canada, Oct. 2008.
- ◇ **74.** K. Akkaya, A. Thimmapuram, F. Senel and S. Uludag, “Distributed Recovery of Actor Failures in Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE Wireless Communication and Networking Conference (WCNC’08)*, Las Vegas, NV, April 2008.
- ◇ **75.** F. Senel, K. Akkaya and M. Younis, “An efficient mechanism for establishing connectivity in Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE*

*Global Telecommunications Conference (GLOBECOM'07)*, Washington, DC, Nov. 2007.

- ◇ **76.** B. McLaughlan and K. Akkaya, “Coverage-based Clustering of Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE International Conference on Pervasive Services (ICPS'07)*, Istanbul, Turkey, July 2007.
- ◇ **77.** A. Abbasi, K. Akkaya and M. Younis, “A distributed connectivity restoration Algorithm in Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE International Conference on Local Computer Networks, (LCN'07)*, Dublin, Ireland, Oct. 2007.
- ◇ **78.** S. Uludag, L. Perkovic, A. Kashkanova and K. Akkaya, “Quality-of-Service Provisioning via Stochastic Path Selection under Weibullian Link Delays,” in the *Proceedings of IEEE/ACM International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine'07)*, Vancouver, CA, Aug. 2007.
- ◇ **79.** K. Akkaya and M. Younis, “C2AP: Coverage-aware and Connectivity Constrained Actor Positioning in Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE International Performance Computing and Communications Conference (IPCCC'07)*, New Orleans, LA, April 2007.
- ◇ **80.** K. Akkaya and M. Younis, “COLA: A Coverage and Latency aware Actor Placement for Wireless Sensor and Actor Networks”, in the *Proceedings of IEEE Vehicular Technology Conference (VTC'06)*, Montreal, CA, Sept. 2006.
- ◇ **81.** W. Youssef, M. Younis and K. Akkaya, “An Intelligent Safety-Aware Gateway Relocation Scheme for Wireless Sensor Networks”, in the *Proceedings of the IEEE International Conference on Communications (ICC'06)*, Istanbul, Turkey, June 2006.
- ◇ **82.** K. Akkaya, M. Younis and M. Youssef, “Efficient Aggregation of Delay-Constrained Data in Wireless Sensor Networks”, in the *Proceedings of Internet Compatible QoS in Ad Hoc Wireless Networks*, Cairo, Egypt, 2005.
- ◇ **83.** K. Akkaya and M. Younis, “Energy-Aware Routing to a Mobile Gateway in Wireless Sensor Networks”, in the *Proceedings of the IEEE Globecom Wireless Ad Hoc and Sensor Networks Workshop*, Dallas, TX, November, 2004.
- ◇ **84.** K. Akkaya and M. Younis, “Relocation of gateway for enhanced timeliness in wireless sensor networks”, in the *Proceedings of IEEE Workshop on Energy-Efficient Wireless Communications and Networks (EWCN)*, Phoenix, AZ, April 2004.
- ◇ **85.** M. Younis, K. Akkaya, M. Eltowiessy and A. Wadaa, “On Handling QoS Traffic in Wireless Sensor Networks”, in the *Proceedings of the International Conference HAWAII International Conference on System Sciences (HICSS-37)*, Big Island, Hawaii, Jan. 2004.
- ◇ **86.** M. Younis, K. Akkaya and A. Kunjithapatham, “Optimization of Task Allocation in a ClusterBased Sensor Network” in the *Proceedings of the 8th IEEE Symposium on Computers and Communications (ISCC03)*, Antalya, Turkey, June 2003.
- ◇ **87.** M. Younis, M. Bangad and K. Akkaya, “Base-Station Repositioning For Optimized Performance of Sensor Networks”, in the *Proceedings of the IEEE VTC*

2003 - *Wireless Ad hoc, Sensor, and Wearable Networks*, Orlando, Florida, Oct. 2003.

- ◇ 88. K. Akkaya and M. Younis, “An Energy-Aware QoS Routing Protocol for Wireless Sensor Networks”, in the *Proceedings of the IEEE Workshop on Mobile and Wireless Networks (MWN’03)*, Providence, Rhode Island, May 2003.
- ◇ 89. K. Akkaya and A. Yazici, “A Multi-dimensional Index Structure for Fuzzy Spatial Databases”, in the *Proceedings of IFSA-2001*, Vancouver, Canada, July 2001.
- ◇ 90. K. Akkaya and A. Yazici, “An Indexing Method for Spatial Databases”, in the *Proceedings of 17th International Symposium on Computer and Information Systems (ISCIS’99)*, Kusadasi, Turkey, 1999.

---

TECHNICAL  
REPORTS

- ◇ 1. K. Akkaya, “Relocation of Base-Station for Jamming Attack Avoidance in Wireless Sensor Networks”, *Technical Report, TR-08-01, Department of Computer Science, Southern Illinois University Carbondale*, 2008.
- ◇ 2. A. Newell and K. Akkaya, “Implementation Experiences with Motes and TinyDB in a Greenhouse Monitoring Application”, *Technical Report, TR-08-02, Department of Computer Science, Southern Illinois University Carbondale*, 2008.

---

GRANT  
SUPPORT

- ◇ **SaTC: TTP: Small: Collaborative: Privacy-aware Wearable-Assisted Continuous Authentication Framework**  
Co-PI: Kemal Akkaya, PI: Selcuk Uluagac  
National Science Foundation  
9/1/2017-8/31/2019, \$357,200.00
- ◇ **Collaborative Research: SURPASS: NSF SFS Unique Scholarship Program in Hardware and Systems Security**  
Co-PI: Kemal Akkaya, PI: Selcuk Uluagac  
National Science Foundation  
1/1/2017-12/31/2022, \$2,037,529.00
- ◇ **DroneITS: Drone-aided Platform for Enabling Next Generation Intelligent Transport Systems**  
PI: Kemal Akkaya  
Qatar National Research Fund  
1/1/2017-12/31/2020, \$218,123.00
- ◇ **Towards Software-Defined Networking Based Cyber Resilience**  
PI: Kemal Akkaya  
Florida Center for Cybersecurity  
\$50,000.00, 6/1/2016-12/31/2017
- ◇ **Securing Electric Energy Delivery Systems (SEEDS)**  
Co-PI: Kemal Akkaya, PI: Osama Mohammed  
Department of Energy  
\$2.4M, 10/1/2015-9/30/2020
- ◇ **REU Site: Security of Smart Things: From Small Devices to Large Infrastructures**

*Kemal Akkaya*

PI: Kemal Akkaya, Co-PI: A. Selcuk Uluagac  
National Science Foundation  
\$356,000.00, 4/1/2015-3/31/2018

◇ **Privacy-preserving Data Collection and Access for IEEE 802.11s-based Smart Grid Applications**

PI: Kemal Akkaya  
National Science Foundation  
\$298,112.00, 9/1/2013-8/31/2017

◇ **REU Supplement: Privacy-preserving Data Collection and Access for IEEE 802.11s-based Smart Grid Applications**

PI: Kemal Akkaya  
National Science Foundation  
\$16,000.00, 9/1/2016-8/31/2017

◇ **CPS: Synergy: Collaborative Research: Towards Secure Networked Cyber-Physical Systems: A Theoretic Framework with Bounded Rationality**

Co-PI: Kemal Akkaya, PI: Arif Sarwat  
National Science Foundation  
\$300,000.00, 1/1/2015-12/31/2017

◇ **REU Supplement: CPS: Synergy: Collaborative Research: Towards Secure Networked Cyber-Physical Systems: A Theoretic Framework with Bounded Rationality**

Co-PI: Kemal Akkaya, PI: Arif Sarwat  
National Science Foundation  
\$16,000.00, 1/1/2016-12/31/2017

◇ **Federating Disjoint Wireless Sensor Networks**

PI: Kemal Akkaya  
National Science Foundation  
\$191,878.00, 9/1/2010-8/31/2013

◇ **Delay and Coverage Aware Management of Wireless Sensor and Actor Networks**

PI: Kemal Akkaya  
Southern Illinois University Carbondale, Faculty Seed, 2007  
\$14,400 from 2007-2008

COURSES  
TAUGHT

- 
- ◇ **CS 215:** Discrete Mathematics (*Fall 2013, Spring 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Fall 2010, Spring 2010, Fall 2009, Spring 2008, Fall 2008, Spring 2007, Fall 2007, Spring 2007, Fall 2006, Spring 2006, Fall 2005*)
  - ◇ **CS 330:** Introduction to the Design and Analysis of Algorithms (*Spring 2010*)
  - ◇ **CS 485:** Software Engineering (*Spring 2014*)
  - ◇ **CS 410:** Computer Security (*Spring 2014, Spring 2013, Spring 2012, Spring 2011*)
  - ◇ **CS 441:** Mobile and Wireless Computing (*Fall 2013, Fall 2011, Fall 2010, Fall 2009, Fall 2008, Fall 2007, Fall 2006, Fall 2005*)

- ◇ **CS 591:** Wireless and Network Security (*Spring 2009*)
  - ◇ **CS1112:** Algorithm and Data Structures (*Fall 2012*) at George Washington University.
  - ◇ **EEL 5718:** Computer Communication Networks (*Fall 2014, Fall 2015*) at FIU.
  - ◇ **TCN 5271:** Ubiquitous and Sensor Network Centric Telecommunications (*Spring 2015, Spring 2016*) at FIU.
  - ◇ **TCN 4081:** Telecommunication Network Security (*Fall 2016*) at FIU.
  - ◇ **EEL 6990:** Cyber-physical Systems Security (*Fall 2017*) at FIU.
- 

RESEARCH  
SUPERVISION

- ◇ **Post-doc:**
  - Dr. Nico Saputro (in progress)
- ◇ **Ph.D.:**
  - Abhaykumar Kumbhar (in progress)
  - Ramazan Algin (in progress)
  - Abdullah Aydeger (in progress)
  - Mumin Cebe (in progress)
  - Tom Imboden (in progress)
  - Samet Tonyali (in progress)
  - Nico Saputro (defended in Summer 2016)
  - Izzet Senturk (defended in Dec. 2013)
  - Fatih Senel (Co-Advisor at UMBC) (defended in Summer 2012)
  - Hakan Oztarak (Co-Advisor at METU, Turkey) (defended in Spring 2012)
- ◇ **M.S.:**
  - Julian Zuuaga (in progress)
  - Andrew De La Rosa (in progress)
  - Utku Ozgur (defended in Spring 2017)
  - Abdullah Aydeger (defended in Summer 2016)
  - Ozan Cakmak (defended in Spring 2015)
  - Abdullah Albuali (defended in Fall 2014)
  - Mahbubul Khan (defended in Spring 2014)
  - Olive Mbianda (defended in Fall 2013)
  - Andrew Beussink (defended in Fall 2013)
  - Shadi Janansefat (defended in Spring 2013)
  - Sriram Krishnamachari (defended in Spring 2013)
  - Michale Gloff (defended in Spring 2012)
  - Enes Yildiz (defended in Spring 2011)
  - Marshall Riley (defended in Spring 2010)
  - Shanthi Vemulapalli (defended in Fall 2009)



- Aravind R. Sama (defended in Spring 2008)
- Fatih Senel (defended in Spring 2008)
- Ismail Guneydas (defended in Fall 2008)
- Srinavas Janapala (defended in Spring 2007)
- Aravind Thimmapuran (defended in Fall 2007)

◇ **M.S./Ph.D. Committees**

- Tauhidul Alam, PhD, CS (in progress)
- Frank Silva, PhD, ECE (in progress)
- Farshad Koochifar, PhD, ECE (in progress)
- Abla Hariri, PhD, ECE (in progress)
- Imtiaz Pervaz, PhD, ECE (in progress)
- Greg Reis, PhD, CS (in progress)
- Soomar Homsy, PhD, ECE (in progress)
- Bekir Ciftler, PhD, ECE (in progress)
- Ahmed Mohamed, PhD, ECE (in progress)
- Edwin Vattapparamban, MS, ECE (defended in Spring 2016)
- Ricardo Azevedo, MS, ECE (defended in Spring 2016)
- Yatish Joshi, PhD, CS (defended in Fall 2015)
- Seung Hoon Baek, Ph.D., ECE (defended in Oct. 2011)
- Brian McLaughlan, Ph.D., CS (defended in Spring 2010)
- Muhammad R. Khan, Ph.D., ECE (proposed in Spring 2010)
- Ali D. Khudhair, M.S., ECE (defended in Spring 2009)
- Ketki Khambete, M.S., ECE (defended in Fall 2009)
- Prashant Tonupunuri, M.S., CS (defended in Fall 2008)
- Insook Choe, M.S., CS (defended in Fall 2007)

- 
- PROF. ACTIVITIES
- ◇ **Area Editor** for Elsevier Ad Hoc Networks Journal, 2009, - present.
  - ◇ **Editorial Board Member** for IEEE Communication Survey and Tutorials, 2013, present.
  - ◇ **Editorial Board Member** for Sensors Journal, 2015, present.
  - ◇ **Guest Editor** for Journal of Hardware and Systems Security, “Security and Privacy in Automotive and Aerospace Cyber-Physical Systems”, 2017.
  - ◇ **Guest Editor** for Elsevier Ad Hoc Networks Journal, “Routing in Smart Grid Communication Networks”, 2013.
  - ◇ **General Chair** for IEEE LCN 2018.
  - ◇ **Workshop Chair** for IEEE CPS Security 2017.
  - ◇ **Program Chair** for IEEE LCN 2017.
  - ◇ **Program Co-Chair** for IEEE LCN 2016.

- ◇ **Corporate Relations Chair** for IEEE LCN 2015.
- ◇ **Publicity Chair** for IEEE WCNC, 2015.
- ◇ **Workshops Chair** for IEEE IPCCC, 2014.
- ◇ **Publications Chair** for IEEE Local Computer Networks (LCN), 2014.
- ◇ **Demo Chair** for IEEE Local Computer Networks (LCN), 2013.
- ◇ **Demo Chair** for IEEE Local Computer Networks (LCN), 2012.
- ◇ **Session Chair** for IEEE GLOBECOM, 2012.
- ◇ **Session Chair** for IEEE Local Computer Networks (LCN), 2012.
- ◇ **Session Chair** for IEEE WCNC, Paris, France, 2012.
- ◇ **Session Chair** for IEEE IWCMC, Istanbul, Turkey, 2011.
- ◇ **Publicity Chair** for IEEE Local Computer Networks (LCN), 2011.
- ◇ **Workshop Co-Chair** for IEEE IWCMC Workshop on Federated Sensor Systems, 2011.
- ◇ **Workshop Chair** for First IEEE LCN Workshop on Smart Grid Networking Infrastructure, 2010.
- ◇ **Guest Editor** for Elsevier Computer Communications Journal, “Specialized Routing and Node Placement Protocols for Emerging Wireless Ad Hoc Networks”, 2010.
- ◇ **Guest Editor** for Journal of High Speed Networks, “QoS Routing in Wireless Mesh Networks”, 2009.
- ◇ **Editorial Liaison Chair** for IEEE Local Computer Networks (LCN), 2010.
- ◇ **Session Chair** in IEEE International Conference on Communications (ICC), 2009.
- ◇ **Chair of Special Session on Wireless Sensor Networks**, International Conference on Computers and Their Applications (CATA), 2007.
- ◇ **Technical Program Committee Member** of numerous conferences and workshops including IEEE ICC, Globecom, LCN, WCNC, SmartGridComm, ICDCS, MASS.
- ◇ **Panel member:**
  - NSF REU Program (2016)
  - NSF NeTS Program (2010, 2013, 2016)
  - Natural Sciences and Engineering Research Council of Canada (NSERC) (2014)
  - Swiss National Science Foundation (2009)
  - The Netherlands Organization for Scientific Research (2009)
  - ORDA Panel for Faculty Seed Grant SIUC (2009, 2010)

---

UNIVERSITY SERVICE ◇ **Committees:** IT Committee Representative of College of Engineering FIU (2016), Computer Science Representative for Computing Advisory Committee (2009 - 2011), Computer Science Representative for Reflective Responsive University Grants Program (2006-2008)

- 
- COLLEGE SERVICE
- ◇ **Outreach:** FIU Engineering Expo (2016), Science Fair Judge for K-12 projects at Miami Dade College (2015), Served in Illinois Junior Science and Humanities Symposium (2008, 2009)
  - ◇ **Graduation Ceremony:** College Representative, FIU (Aug. 2015), Induction Ceremony, FIU (Dec. 2015), Computer Science Representative (May 2007), Usher (May 2008)
  - ◇ **Committees:** College T&P Committee (2017), College Curriculum Committee, FIU (2016), College Library Committee, FIU (2015)
- 
- DEPT. SERVICE
- ◇ **Committee member:** IoT Program Director, T&P Committee Chair (2017), Graduate Committee (2005-2007), Undergraduate Committee (2007- ), ABET CAC Committee (2009)
  - ◇ **Outreach:** Co-chair for Trends in Cybersecurity Conference (2015), Served on CS Day as Presenter (2005-2010)
- 
- AWARDS & HONORS
- ◇ **Total citations over 9600**, Google Scholar, Sep. 2017
  - ◇ **Best Paper Finalist, IEEE LCN 2013**
  - ◇ **Top Cited Article Award** for Elsevier Ad Hoc Networks, 2005-2010
  - ◇ **IEEE Senior Member, 2015**
  - ◇ **Made the list for the 10 most downloaded papers** from Computer Networks Journal, 2012
  - ◇ **Made the list for the 10 most downloaded papers** from Elsevier Ad Hoc Network Journal, 2007
  - ◇ **Special Research Initiative Support (SRIS)**, University of Maryland Baltimore County, 2003
  - ◇ **Best Project Award for Graduation Project**, 1997
  - ◇ **Full scholarship, Bilkent University**, Turkey, 1993
  - ◇ **Ranked in the top 200 among 1.2 million examinees in Nation-wide University Entrance Examinations**, Turkey, 1993
- 
- TALKS
- ◇ Naval Surface Warfare Center, Crane, Indiana, March 2016  
*Software Defined Networking for Cyber Resilience and Defense*
  - ◇ University of Nevada Reno, Reno, NV, March 2016  
*Privacy Preservation in Smart Grid: Cases of Smart Meter and Vehicle-to-Grid Communications*
  - ◇ Florida Atlantic University, Boca Raton, FL, Feb. 2016.  
*Security and Privacy Considerations in Vehicular Communications for Smart Grid Applications*
  - ◇ IEEE LCN On-Move Workshop Keynote, Clearwater, FL, Oct. 2015.  
*Security and Privacy Considerations in Vehicular Communications for Smart Grid Applications*

- ◇ IEEE LCN, Clearwater, FL, Oct. 2015.  
*Software Defined Networking for Wireless Local Networks*
- ◇ IEEE LCN 2014, Edmonton, Canada, Sep. 2014.  
*Connectivity Restoration in Disjoint Wireless Sensor Networks Using Centrality Measures*
- ◇ IEEE Globecom 2013, Atlanta, GA, Dec. 2013.  
*Energy and Coverage Trade-offs in Deploying a Mix of Mobile and Stationary Relays for Disjoint Wireless Sensor Networks*
- ◇ IEEE LCN 2013, Sydney, Australia, Oct. 2013.  
*Autonomous Deployment of Sensors for Maximized Coverage and Guaranteed Connectivity in Underwater Acoustic Sensor Networks'*
- ◇ IEEE ICC 2013, Budapest, Hungary, June 2013.  
*Connectivity Restoration in Disjoint Wireless Sensor Networks using Limited Number of Mobile Relays*
- ◇ IEEE GLOBECOM 2012, Anaheim, CA, Dec. 2012.  
*An Effective and Scalable Connectivity Restoration Heuristic for Mobile Sensor/Actor Networks*
- ◇ IEEE INFOCOM 2011, Shanghai, China, April 2011.  
*An Optimization-based Approach for Connecting Partitioned Mobile Sensor/Actuator Networks*
- ◇ IEEE Local Computer Networks (LCN'10), Denver, CO, Oct. 2010.  
*Providing Multi-perspective Event Coverage in Wireless Multimedia Sensor Networks*
- ◇ IEEE Local Computer Networks (LCN'10), Denver, CO, Oct. 2010.  
*Mobility-based Self Route Recovery from Multiple Node Failures in Mobile Sensor Networks*
- ◇ Dept. of Computer Science, SIUC, Colloquium, Oct. 2009.  
*A Group-based Lightweight Authentication Protocol for Vehicular Ad Hoc Networks*
- ◇ IEEE International Conference on Communications (ICC'09), Dresden, Germany, June 2009.  
*Self-Actuation of Cameras for Redundant Data Elimination in Wireless Multimedia Sensor Networks*
- ◇ Dept. of Computer Science and Engineering, Middle East Technical University, Ankara, Turkey, May 2008.  
*State-of-the-art and Future Research Trends in Wireless Sensor Networks*
- ◇ Dept. of Computer Science, SIUC, Colloquium, Oct. 2008.  
*Distributed Node Deployment in Underwater Acoustic Sensor Networks*
- ◇ IEEE Global Telecommunications Conference (Globecom'07), Washington, DC, Nov. 2007.  
*An efficient mechanism for establishing connectivity in Wireless Sensor and Actor Networks*
- ◇ Dept. of Computer Science, SIUC, Colloquium, Oct. 2007.  
*Maximizing Connected Coverage via Controlled Actor Deployment in Wireless Sensor and Actor Networks*

*Kemal Akkaya*

- ◇ IEEE International Conference on Pervasive Services (ICPS'07), Istanbul, Turkey, July 2007.  
*Coverage-based Clustering of Wireless Sensor and Actor Networks*
  - ◇ IEEE International Conference on Vehicular Technology (VTC'06), Montreal, Canada, Sept. 2006.  
*COLA: A Coverage and Latency aware Actor Placement for Wireless Sensor and Actor Networks*
-