

Shamik Sengupta

Associate Professor & Executive Director, UNR Cybersecurity Center

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Professional Experience

- **Executive Director, (March 2017 - Present)**
UNR Cybersecurity Center, University of Nevada, Reno
Reno, Nevada
- **Associate Professor, (July 2017 - Present)**
Department of Computer Science & Engineering, University of Nevada, Reno
Reno, Nevada
- **Assistant Professor, (July 2013 - June 2017)**
Department of Computer Science & Engineering, University of Nevada, Reno
Reno, Nevada
- **Assistant Professor, (September 2009 - June 2013)**
Department of Mathematics and Computer Science, John Jay College of Criminal Justice of the City University of New York
Computer Science PhD Program, The Graduate Center, City University of New York
New York, NY
- **Postdoctoral Researcher, (Jan. 2008 - Aug. 2009)**
Department of Electrical and Computer Engineering, Stevens Institute of Technology
Hoboken, NJ
- **Summer Research Intern, Broadband Systems Solutions, OSS R&D (Summer 2007)**
C-COR, Beaverton, Oregon
- **Summer Research Intern, Broadband and Mobile Networking Group (Summer 2005)**
NEC Research Labs, America Inc., Princeton, New Jersey
- **Graduate Research & Teaching Assistant, (Fall 2003 - Fall 2007)**
School of Electrical Engineering & Computer Science, University of Central Florida, USA

Honors and Awards

- **College of Engineering Excellence Award (2018)**
- **Best CSE Researcher Award (2018)**
- **Distinguished Alumni Award** from University of Central Florida, Dept. of Computer Engineering (2018)
- **Best Research Paper Award**, “Dynamic Deployment of UAV-Enabled Floating Access Points For Serving Hot Zones”, In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017
- **Best CSE Researcher Award (2016)**
- **NSF CAREER** Research Award Grant (2012 - 2017)
- **NSF CICI** Research Award Grant (2018 - 2019)
- **NSF SATC** Research Award Grant (2015 - 2018)

- **NSF RET Site** Research Award Grant (2015 - 2017)
- **NSF Capacity** Research Award Grant (2015 - 2018)
- Invited **Visiting Summer Researcher** at Air Force Research Lab, Rome, NY (2014)
- Sengupta's paper on "SpiderRadio: A cognitive radio implementation using IEEE 802.11 components", in IEEE COMSOC BEST READINGS IN COGNITIVE RADIO. (<http://www.comsoc.org/best-readings/topic/cognitive-radio>)
- "Salute to Scholars" Honor, CUNY Chancellor's annual fall reception, 2011, 2012
- **Vice-Chair of Mobile Wireless Network (MobIG) special interest group** of the IEEE COMSOC Multimedia Communications Technical Committee
- Invited to **National Science Foundation (NSF) proposal review panel**
- **Best Research Paper Award**, "A game theoretic framework for distributed self-coexistence among IEEE 802.22 networks", IEEE GLOBECOM 2008
- **National Science Foundation (NSF) Student Travel Award** (2007) in the IEEE Dynamic Spectrum Access Networks (DySPAN) conference
- Nominated for Order of Pegasus award (2007) from School of Electrical Engineering & Computer Science, University of Central Florida
- **Graduate International Travel Award** (2004-2005, 2006-2007) from University of Central Florida
- **Summer Research Fellowship** (2006) from University of Central Florida
- **First-Class Honors** in B.E. from Jadavpur University, India
- **National Scholarship** Under National Talent search in India

Educational Background

- **Ph.D. (Fall 2003 - Fall 2007) (CGPA 3.95/4.0)**
School of Electrical Engineering and Computer Science, University of Central Florida
Dissertation title: *An Economic Framework for Resource Management and Pricing in Wireless Networks with Competitive Service Providers* (Advisor: Prof. Mainak Chatterjee)
- **B.E. (First class/Hons.) (June 2002)**
Department of Computer Science & Engineering, Jadavpur University, Calcutta, India

Research Grants (Funded)

1. **National Science Foundation (NSF) CICI Research Award**, "CICI: CE: Implementing CYBEX-P: Helping Organizations to Share with Privacy Preservation", Amount: \$986,067; 2018 - 2019. (Role: **Principle Investigator**)
2. **National Science Foundation (NSF) CAREER Research Award**, "Survivability and Self-coexistence in the Battle of Cognitive Radio Network Societies", Amount: \$400,000; 2012 - 2017. (Role: **Principle Investigator**)
3. **National Science Foundation (NSF) SATC Research Award** "Establishing market based mechanisms for CYBER security information EXchange (CYBEX)", Amount: \$329,658; 2015 - 2018. (Role: **Principle Investigator**)
4. **National Science Foundation (NSF) RET Research Award** "RET Site: Cyber Security Initiative for Nevada Teachers (CSINT)", Amount: \$540,000; 2015 - 2018. (Role: **Principle Investigator**)

5. **National Science Foundation (NSF) Capacity Research Award** “Collaborative Research: Capacity building in Cybersecurity-literacy: An inter-disciplinary approach”, Amount: \$300,000; 2015 - 2017. (Role: **Principle Investigator**). (Collaboration between UNR and TMCC; UNR: \$262,534; TMCC: \$37,466)
6. **National Science Foundation (NSF) PFI Research Award**, “PFI:BIC: Enhanced Situational Awareness Using Unmanned Autonomous Systems for Disaster Remediation”, Amount: \$800,000; 2014 - 2017. (Role: Senior Personnel)
7. **Nokia**, “Prototype Implementation of IoT Networks - LTE and WAN Coexistence in Unlicensed Band”, Amount: \$25,000; 2015. (Role: **Principle Investigator**)
8. **National Science Foundation (NSF) SATC REU Supplement Award**, Amount: \$8,000; 2016-2017. (Role: **Principle Investigator**)
9. **National Science Foundation (NSF) CAREER REU Supplement Award**, Amount: \$14,000; 2016. (Role: **Principle Investigator**)
10. **National Science Foundation (NSF) CAREER REU Supplement Award**, Amount: \$12,000; 2014-2017. (Role: **Principle Investigator**)
11. **UNR Grant**, “Developing the Next Generation Cybersecurity Workforce at UNR through a Full Spectrum Cybersecurity Zone” Amount: \$118,800; 2017-2018. (Role: Co-Principle Investigator)
12. **UNR Grant**, “Developing Classroom Infrastructure for Cybersecurity Education” Amount: \$21,200; 2017. (Role: **Principle Investigator**)
13. **UNR Grant**, “Cybersecurity Operational Environment Development for Teaching and Training UNR Students” Amount: \$50,200; 2016-2017. (Role: **Principle Investigator**)
14. **USAF, AFMC Air Force Research Laboratory, SUNY IT Visiting Scholar Program**, “Insuring and Incentivizing Cyber Security Information Sharing”, Amount: \$17,391; 2014. (Role: **Principle Investigator**)
15. **UNR Research Enhancement Grant**, Amount: \$21,530; 2015 - 2016. (Role: **Principle Investigator**)
16. **UNR Acquisition of Instructional and Research Equipment (AIRE) Award**, “Sandbox A cyber security instructional infrastructure”, Amount: \$70,000; 2014. (Role: Co-Principle Investigator)
17. **PSC-CUNY Research Award**, “Investigating The Threats and Vulnerabilities in Cognitive Radio Enabled Dynamic Spectrum Access Networks”, Amount: \$11,980.40; 2011 - 2012. (Role: Principle Investigator)
18. **National Institute of Justice (NIJ) Research Subaward**, “Cognitive Radio Protocols & Platforms for Dynamic Spectrum Access in Public Safety Bands”, (Prime Recipient: Stevens Institute of Technology), Award Amount for John Jay College: \$10,000; 2010 - 2011. (Role: Principle Investigator)
19. **PSC-CUNY Research Award**, “Potential Vulnerabilities and Countermeasures in Dynamic Spectrum Access based Wireless Cognitive Radio Networks”, Amount: \$4,907.93; 2010 - 2011. (Role: Principle Investigator)
20. **NY State Graduate Research Technology Initiative Grant**, “Security and Inter-operability in Cognitive Wireless Networks”, Amount: \$14,940; 2009 - 2010.

Research Interests

- **Wireless Networking & Mobile Computing** – Unmanned Autonomous Systems, Cognitive radio, Dynamic spectrum access (DSA), D2D communications, Interoperable networks, Testbed implementation, Network design and performance analysis, DSA security, Cross-layer protocol optimization, Wireless mesh, sensor networks;
- **Cybersecurity** – Network security, Covert communications, Malicious node sensing/detection, Wireless Honeypot, Spectrum fingerprinting, Sybil attacks, keyless security;

- **Network economics** – Heterogeneous wireless networking systems, Differentiated service pricing, auction theory, resource management and QoS provisioning;
- **Cross-disciplinary Research** – Applied game theory, Economic theory, Probability, Stochastic process, Anthropology & human-society inspired evolutionary models, Behavioral dynamics;

Courses Taught

• *Graduate Courses*

- Internet Security (at University of Nevada, Reno)
- Computer Communication Networks (at University of Nevada, Reno)
- Game Theory in Wireless Network Design (at University of Nevada, Reno)
- Wireless Networking and Mobile Computing (at City University of New York)
- Network Security (at John Jay College, City University of New York)
- Forensic Management of Digital Evidence (at John Jay College, City University of New York)
- Architecture of Secure Operating Systems (at John Jay College, City University of New York)
- Multimedia Network Security (at Stevens Institute of Technology)

• *Undergraduate Courses*

- Internet Security (at University of Nevada, Reno)
- Computer Communication Networks (at University of Nevada, Reno)
- Digital Design (at University of Nevada, Reno)
- Computer Networking (at John Jay College, City University of New York)
- Data Communications and the Internet (at John Jay College, City University of New York)
- Introduction to Multimedia Networking (at Stevens Institute of Technology)

Patent Invention Disclosure

- “**A Method and Apparatus for Dynamic Spectrum Access**”, United States Patent and Trademark Office. (With K. Hong and R. Chandramouli)
- “**In-Band Line-of-Sight Discovery for Directional Full-Duplex Transceivers**”, U.S. Provisional Patent Application 62/338,953, filed May 19, 2016. (With Suman Bhunia, Mahmudur Khan, and Murat Yuksel)

Testbed Development and Demonstration

- “**DSA enabled Cognitive Radio Networking for First Responders’ Critical Networks**”, *The Christian Regenhard Center for Emergency Response Studies*, 2012, New York.
- “**A Software Driven Dynamic Spectrum Access Radio Prototype**”, *IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)*, 2008, Chicago.
- “**Cognitive Radio Protocols and Platform for Dynamic Spectrum Access in Public Safety Bands**”, *National Institute of Justice (NIJ)*, 2008, Colorado. (Joint work with Stevens Institute of Technology)

Selected Talks

- **National Science Foundation (NSF) SHOWCASE Presentation** for our project, CyberCorps(R): "Collaborative Research: Capacity building in Cybersecurity-literacy: An inter-disciplinary approach, Seattle, 2017. (This NSF project was chosen as NSF SHOWCASE).
- **BEST PAPER AWARD** - "Dynamic Deployment of UAV-Enabled Floating Access Points For Serving Hot Zones", In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017.
- Guest Speaker in American Inns of Court group at the United States District Court in Reno (Spring 2017)
- Guest Speaker in Northern Nevada Business Speaker Series (Fall 2017)
- NSF Technology Transfer Presentation in Internet2 Tech Ex 2017 Cybersecurity Research Acceleration Workshop & Showcase for NSF Grant CYBEX, San Francisco, 2017
- NSF Technology Transfer Presentation in Internet2 Tech Ex 2017 Cybersecurity Research Acceleration Workshop & Showcase for NSF Grant CYBERCORPS, San Francisco, 2017
- **"How to sustain in the emerging Cyberspace: A Game Theory Perspective"**, Jadavpur University, India, 2016.
- **"How to sustain in the emerging Cyberspace: A Game Theory Perspective"**, Indian Institutes of Engineering Science and Technology, Shibpur, India, 2016.
- **"DSA enabled Cognitive Radio Networking for First Responders' Critical Networks"**, *The Christian Regenhard Center for Emergency Response Studies*, 2012, New York.
- **Tutorial on security in Cognitive Radio Networks: Inter-disciplinary Approach**, *Department of Electrical and Computer Engineering*, Rutgers University, The State University of New Jersey, 2009.
- **Timing covert communications: a method for keyless security**, *IEEE Communications Society*, North Jersey Chapter & *Department of Electrical and Computer Engineering*, New Jersey Institute of Technology, 2008.
- **A game theoretic approach for modeling defense strategies in timing covert channels**, *Department of Electrical and Computer Engineering*, Stevens Institute of Technology, 2008.

University Committee Services

- Serving Executive Director of the UNR Cybersecurity Center, University of Nevada, Reno (March 2017 - Present)
- Serving Chair of the Faculty Evaluation Committee, CSE Dept., University of Nevada, Reno (Fall 2017 - Present)
- Served Chair of the Faculty Search Committee, CSE Dept., University of Nevada, Reno (2016 - 2017)
- Served Department Graduate Committee Member, CSE Dept., University of Nevada, Reno (Fall 2013 - Spring 2017)
- Served Department Colloquium Committee Chair, CSE Dept., University of Nevada, Reno (Fall 2014 - Spring 2016)
- Served Department Colloquium Committee Member, CSE Dept., University of Nevada, Reno (Fall 2013 - Fall 2014)
- Served College of Engineering FACE Committee Member, University of Nevada, Reno (Fall 2015 - Spring 2017)
- Served Major Program Coordinator for Undergraduate Computer & Information Systems (CIS) Major, Math. & Comp. Sc. Department, John Jay College of City University of New York, (Spring 2010 - Spring 2013)

- Served Department Curriculum Committee member, Math. & Comp. Sc. Department, John Jay College of City University of New York, (Fall 2011 - Spring 2013)

International Professional Activities

Journal Editor

- Serving editorial board of Elsevier Computer Communications, Area Editor, Elsevier Computer Communications (Spring 2015 - Present).
- Serving editorial board of Springer Computing (Spring 2014 - Present).
- Served Guest Editor, IETE Technical Review, 2017.
- Served Guest Editor, ELSEVIER Physical Communication Special Issue on Self-optimizing Cognitive Radio Technologies, 2015.
- Served Lead Guest Editor, International Journal of Distributed Sensor Networks, Special Issue on Cognitive Radio Enabled Wireless Sensor Networks and Survivability Challenges, 2015.
- Served Guest Editor for Eurasip Journal on Wireless Communications and Networking, Special Issue on Advances in 4G Wireless and Beyond, 2013.

NSF Panel

- Serving in NSF proposal review panel

Track Chair

- Served Track Chair of International Conference on Information Technology (ICIT), '15, '16.

Vice-Chair of Mobile Wireless Network (MobIG)

- Served Vice-Chair of Mobile Wireless Network (MobIG) special interest group of the IEEE COMSOC Multimedia Communications Technical Committee

Symposium Co-Chair

- Served Symposium Co-Chair for the Cooperative and Cognitive Networks Symposium in the 6th International Wireless Communications & Mobile Computing Conference (IWCMC 2010), Caen, France.

Workshop Co-Chair

- First IEEE International Workshop on Cognitive Radio and Networks (CRNETS), 2008 in conjunction with IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Sep. 2008, Cannes, France (With Prof. Ekram Hossain, University of Manitoba and Dr. Soodesh Buljore, Motorola, France)

Session Chair

- The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017.
- IEEE MILCOM 2015.

Selected Technical Program Committee

- IEEE International Conference on Communications (ICC), '09, '10, '12, '13, '14, '15.
- IEEE Global Communications Conference (GLOBECOM), '08, '09, '10, '12.
- IEEE Military Communications Conference (MILCOM), '08, '10, '11, '12, '13, '14, '15, '16, '17.

- IEEE WoWMoM, '11, '12, '13, '14, '15, '16, '17.
- IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), '17.
- IEEE TENSYPMP 2017 - "Technologies for Smart Cities", '17.
- IEEE Consumer Communications & Networking Conference (CCNC), '14.
- International Wireless Communications and Mobile Computing Conference (IWCMC), '10, '12.
- IEEE 71st Vehicular Technology Conference: VTC2010-Spring, '10.
- IEEE Intl. Symp. on Personal, Indoor and Mobile Radio Communications (PIMRC), '08, '11, '15, '16, '17.
- International Conference on Computer Communications and Networks (ICCCN), '08.

Publicity Chair/Co-Chair

- First IEEE Workshop on Smart Service Systems (SmartSys) 2016
- IEEE Consumer Communications & Networking Conference (CCNC) 2014
- IEEE Workshop on Mobile Video Delivery (MoViD) 2008, 2009, 2010

Selected Journal/Conference Reviewer

- IEEE Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, IEEE Transactions on Multimedia, IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, IEEE Communications Surveys and Tutorials, IEEE Journal on Selected Areas, Elsevier Computer Networks, Elsevier Computer Communications, IEEE Transactions on Cognitive Communications and Networking
- IEEE INFOCOM, IEEE WoWMoM, IEEE DySPAN, IEEE GLOBECOM, IEEE ICC, IEEE MASS, IEEE PIMRC, IEEE WCNC

K-12 Outreach

- Collaborated with NY City Science and Engineering Fair program (NYCSEF) - a summer internship opportunity for high school students to work in the research lab with undergraduate and graduate students

Research Publications (Peer-Reviewed)

Journal Papers Accepted/Published

1. S. Bhunia, E. Miles, **S Sengupta**, and F. Vazquez-Abad, "CR-Honeynet: A Cognitive Radio Learning and Decoy Based Sustenance Mechanism to Avoid Intelligent Jammer", To appear in IEEE Transactions on Cognitive Communications and Networking (IEEE TCCN), 2018.
2. S Bhunia, P A Regis and **S Sengupta**, "Distributed Adaptive Beam Nulling to Survive Against Jamming in 3D UAV Mesh Networks", Elsevier Computer Networks, 2018.
3. S. Mneimneh, S. Bhunia, F. Vazquez-Abad and **S. Sengupta**, "A Game-Theoretic and Stochastic Survivability Mechanism against Induced-Attacks in Cognitive Radio Networks", To appear in Elsevier Pervasive and Mobile Computing, 2017.
4. P. Regis, C. Miley and **S. Sengupta**, "Multi-hop Mobile Wireless Mesh Network Testbed Development and Measurements". In International Journal of Innovative Research in Computer and Communication Engineering, 2017.
5. D. Tosh, **S. Sengupta**, C. Kamhoua, K. Kwiat, "Establishing Evolutionary Game Models for CYBer security information EXchange (CYBEX)", Accepted. To appear in Elsevier Journal of Computer and System Sciences, 2016.

6. S. Bhunia, V. Behzadan, P. A. Regis and **S. Sengupta**, "Adaptive Beam Nulling in Multihop Ad Hoc Networks Against Jammer in Motion", To appear in Elsevier Computer Networks, 2016.
7. S Bhunia, **S Sengupta** and F Vazquez-Abad, "Performance Analysis of CR-Honeynet to prevent Jamming Attack through Stochastic Modeling", *Elsevier Pervasive and Mobile Computing*, Volume 21, August 2015, Pages 133-149.
8. **S. Sengupta**, Walid Saad, Abhishek Roy:, "Cognitive Radio Enabled Wireless Sensor Networks and Survivability Challenges", *International Journal of Distributed Sensor Networks*, 2015.
9. S. Anand, **S. Sengupta**, K. Hong, K. P. Subbalakshmi, R. Chandramouli and H. Cam, "Exploiting Channel Fragmentation and Aggregation/ Bonding to Create Security Vulnerabilities", *IEEE Transactions on Vehicular Technology*, vol.63, no.8, pp. 3867-3874, Oct. 2014.
10. S. Anand, **S. Sengupta**, and R. Chandramouli, "Price-Bandwidth Dynamics for WSPs in Heterogeneous Wireless Networks", *Elsevier Physical Communication*, vol. 12, pp. 63-78, 2014.
11. K. Hong, **S. Sengupta** and R. Chandramouli, "SpiderRadio: A Cognitive Radio Implementation using IEEE 802.11 Components", *IEEE Transactions on Mobile Computing*, vol. 12, no. 11, pp. 2105-2118, 2013.
12. S. Bhattacharjee, **S. Sengupta**, M. Chatterjee, "Vulnerabilities in cognitive radio networks: A survey", *Elsevier Computer Communications*, vol. 36, issue 13, pp. 1387-1398, 2013.
13. **Shamik Sengupta** and K.P. Subbalakshmi, "Open Research Issues in Multi-hop Cognitive Radio Networks", *IEEE Communications Magazine*, vol.51, no. 4, pp. 168-176, 2013.
14. Navrati Saxena, **Shamik Sengupta**, Kai-Kit Wong, Abhishek Roy, "Special issue on advances in 4G wireless and beyond", *EURASIP Journal on Wireless Communications and Networking*, 2013.
15. **Shamik Sengupta**, Swastik Brahma, Mainak Chatterjee and Sai Shankar N, "Self-coexistence Among Interference-aware IEEE 802.22 Networks with Enhanced Air-interface", *Elsevier Pervasive and Mobile Computing*, vol. 9, issue 4, pp. 454-471, 2013.
16. S. Anand, **S. Sengupta**, K. Hong and R. Chandramouli, "Power Control Game in Multi-Terminal Covert Timing Channels", *IEEE Journal on Selected Areas in Communications - Game Theory in Wireless Communications*, vol. 30, issue 1, pp. 44-53, 2012.
17. Yi Tan, **Shamik Sengupta** and K. P. Subbalakshmi, "The Primary User Emulation Attack in Dynamic Spectrum Access Networks: A Game Theoretic Approach", *IET Communications*, vol. 6, issue 8, pp. 964-973, May 2012.
18. Santhanakrishnan Anand, **Shamik Sengupta**, and Rajarathnam Chandramouli, "MASPECT: A Distributed Opportunistic Channel Acquisition Mechanism in Dynamic Spectrum Access Networks" *IET Communications Special Issue on Cognitive Communications*, vol. 6, issue 8, pp. 872-882, May 2012.
19. Mukundan Venkataraman, **Shamik Sengupta**, Mainak Chatterjee, and Raja Neogi, "Designing a Collector Overlay Architecture for Fault Diagnosis in Video Networks", *Elsevier Computer Communications*, vol. 35, issue 4, pp. 418-430, Feb 2012.
20. Yi Tan, **Shamik Sengupta**, and K.P. Subbalakshmi, "Analysis of Coordinated Denial-of-Service Attacks in IEEE 802.22 Networks", *IEEE JSAC Special Issue on Cognitive radio Networking and Communications*, vol. 29, issue 4, pp. 890-902, 2011.
21. **Shamik Sengupta**, Kai Hong, R. Chandramouli and K. P. Subbalakshmi, "SpiderRadio: A Cognitive Radio Network with Commodity Hardware and Open Source Software", *IEEE Communications Magazine*, vol. 49, issue 3, pp. 101-109, 2011.
22. **Shamik Sengupta**, Mainak Chatterjee and Kevin Kwiat, "A Game Theoretic Framework for Power Control in Wireless Sensor Networks", *IEEE Transactions on Computers*, Feb. 2010, Vol. 59, No. 2, pp. 231-242.
23. **Shamik Sengupta** and Mainak Chatterjee, "An economic framework for dynamic spectrum access and service pricing", *ACM/IEEE Transactions on Networking*, Aug. 2009, Vol. 17, No. 4, pp. 1200-1213.

24. **Shamik Sengupta**, Santhanakrishnan Anand, Kai Hong and Rajarathnam Chandramouli, "On Adversarial Games in Dynamic Spectrum Access Networking based Covert Timing Channels", *ACM Mobile Computing and Communications Review (MC2R)*, Special Issue on Cognitive Radio Technologies and Systems, 2009.
25. **Shamik Sengupta**, Santhanakrishnan Anand, Mainak Chatterjee and Rajarathnam Chandramouli, "Dynamic Pricing for Service Provisioning and Network Selection in Heterogeneous Networks", *Elsevier Physical Communication (PHYCOM) Journal*, Special issue on Cognitive Radio: Algorithms & System Design, vol. 2, pp. 138-150, 2009.
26. Wenjing Wang, **Shamik Sengupta** and Mainak Chatterjee, "Scheduling for End-to-End Performance in Multi-rate CDMA/HDR Systems", *Elsevier Physical Communication (PHYCOM) Journal*, vol. 1, issue 4, pp. 277-287, Dec. 2008.
27. **Shamik Sengupta**, Mainak Chatterjee and Samrat Ganguly, "Improving quality of VoIP streams over WiMax", *IEEE Transactions on Computers*, vol. 57, pp. 145-156, Feb. 2008.
28. **Shamik Sengupta** and Mainak Chatterjee, "Designing Auction Mechanisms for Dynamic Spectrum Access", *ACM/Springer Mobile Networks and Applications (MONET)*, Special issue on Cognitive Radio Oriented Wireless Networks and Communications, 2008.
29. Mainak Chatterjee, **Shamik Sengupta**, and Samrat Ganguly, "Feedback based Real-time Streaming over WiMax", *IEEE Wireless Communications Magazine*, vol. 14, no. 1, pp. 64-71, Feb. 2007.
30. Jaideep Sarkar, **Shamik Sengupta**, Mainak Chatterjee and Samrat Ganguly, "Differential FEC and ARQ for Radio Link Protocols", *IEEE Transactions on Computers*, vol. 55, no. 11, pp. 1458-1472, Nov. 2006.

Conference Papers Accepted/Published

1. K. Rand, D. Feil-Seifer and **Shamik Sengupta**, "Unplugged Robotics as a Platform for Cybersecurity Education in the Elementary Classroom", (Accepted). To appear in 22nd Colloquium for Information Systems Security Education, 2018.
2. W. Doherty and **Shamik Sengupta**, "Inter-Disciplinary Capacity Building in Cybersecurity", (Accepted). To appear in 22nd Colloquium for Information Systems Security Education, 2018.
3. Alisha Thapaliya, Shamik Sengupta and Jeff Springer, "Wi-Fi Spectrum Usage Analytics in University of Nevada, Reno", (Accepted). In Proceedings of IEEE International Instrumentation and Measurement Technology Conference (I 2MTC), 2018.
4. R. Shukla, S. Sengupta and A. Patra, "Software-defined Network Based Resource Allocation in Distributed Servers for Unmanned Aerial Vehicles", (Accepted). In Proceedings of IEEE Annual Computing and Communication Workshop and Conference (CCWC) 2018.
5. R. Shukla, S. Sengupta and A. Patra, "Smart Plug-in Electric Vehicle Charging to Reduce Electric Load Variation at a Parking Place", (Accepted). In Proceedings of IEEE Annual Computing and Communication Workshop and Conference (CCWC) 2018.
6. R. Shukla, S. Sengupta and M. Chatterjee, "Software-Defined Network and Cloud-Edge Collaboration for Smart and Connected Vehicles", (Accepted). In Proceedings of International Conference on Distributed Computing and Networking (ICDCN) 2018.
7. R. Shukla and S. Sengupta, "A Novel Software-defined Network Based Approach for Charging Station Allocation to Plugged-in Electric Vehicles". In Proceedings of 16th IEEE International Symposium on Network Computing and Applications (NCA 2017), 2017.
8. Hisham A. Kholidy, Stefano Lannucci, Qian Chen, Sherif Abdelwahed, John Hamilton and Shamik Sengupta, "Attacks Detection in Cypher Physical Power Systems Using an Improved Non-Nested Generalized Exemplars Algorithm", In Proceedings of 12th IEEE International Conference on Computer Engineering and Systems (ICCES 2017), 2017.

9. Paulo Regis and **Shamik Sengupta**, “Distributed Split-Path Routing Strategy for Multi-hop Mesh Networks”, In IEEE MILCOM, 2017.
10. Iman Vakulinia, Deepak Tosh and **Shamik Sengupta**, “3-way Game Model for Privacy-Preserving Cybersecurity Information Exchange Framework”, In IEEE MILCOM, 2017.
11. Iman Vakulinia and **Shamik Sengupta**, “A Coalitional Game Theory Approach for Cybersecurity Information Sharing”, In IEEE MILCOM, 2017.
12. Suman Bhunia and **Shamik Sengupta**, “Implementation of Interface Agility for Duplex Dynamic Spectrum Access Radio Using USRP”, In IEEE MILCOM, 2017.
13. Deepak K. Tosh, Sachin Shetty, Shamik Sengupta, Jay P. Kesan, Charles A. Kamhoua, ”Risk Management Using Cyber-Threat Information Sharing and Cyber-Insurance”, (Invited). In Proceedings of Game Theory for Networks. GameNets 2017.
14. Alisha Thapaliya and **Shamik Sengupta**, “Understanding the Feasibility of Machine Learning Algorithms in a Game Theoretic Environment for Dynamic Spectrum Access”, In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017.
15. Amar Patra and **Shamik Sengupta**, “Dynamic Deployment of UAV-Enabled Floating Access Points For Serving Hot Zones”, In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017. (**Best Paper Award**)
16. Iman Vakulinia, Deepak Tosh and **Shamik Sengupta**, “Attribute Based Sharing in Cybersecurity Information Exchange Framework”, In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017.
17. Iman Vakulinia, Deepak Tosh and **Shamik Sengupta**, “Privacy-Preserving Cybersecurity Information Exchange Mechanism”, In Proceedings of The International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS), 2017.
18. Deepak Kumar Tosh, Iman Vakulinia, Sachin Shetty, Shamik Sengupta, Charles Kamhoua, Laurent Njilla and Kevin Kwiat, ”Three Layer Game Theoretic Decision Framework for Cyber-Investment and Cyber-Insurance”, (Accepted). In Proceedings of Conference on Decision and Game Theory for Security (GAMESEC), 2017.
19. P. Regis, S. Bhunia and **Shamik Sengupta**, “Enhancing Performance and Longevity of Multi-radio Multi-channel HetNets through Dynamic Path-assignment”, In Proceedings of International Conference on Computing, Networking and Communications (ICNC), 2017.
20. S. Bhunia and **Shamik Sengupta**, “Distributed Adaptive Beam Nulling to Mitigate Jamming in 3D UAV Mesh Networks”, In Proceedings of International Conference on Computing, Networking and Communications (ICNC), 2017.
21. S. Bhunia, M. Khan, **S. Sengupta**, M. Yuksel, “LOS Discovery for Highly Directional Full Duplex RF/FSO Transceivers”, In Proceedings of IEEE MILCOM, 2016.
22. M. Khan, S. Bhunia, M. Yuksel, **S. Sengupta**, “LOS Discovery in 3D for Highly Directional Transceivers”, In Proceedings of IEEE MILCOM, 2016.
23. M. Rahman, S. Mathew, M. Yuksel, **S. Sengupta**, “A Device-to-Device Service Sharing Middleware for Heterogeneous Wireless Networks”, In Proceedings of IEEE LANMAN 2016.
24. Paulo Alexandre Regis, Suman Bhunia and **Shamik Sengupta**, “Implementation of 3D Obstacle Compliant Mobility Models for UAV networks in ns-3”, In Proceedings of the ACM Workshop on ns-3 (WNS3 '16), pp. 124-131.
25. D. Tosh, **S. Sengupta**, S. Mukhopadhyay, C. Kamhoua, K. Kwiat, “Game Theoretic Modeling to Enforce Security Information Sharing among Firms”, In Proceedings of IEEE CSCloud, 2015.
26. C. Kamhoua,, A. Martin, D. Tosh, K. Kwiat, C. Heitzenrater, **S. Sengupta**, “Cyber-threats Information Sharing in Cloud Computing: A game Theoretic Approach”, In Proceedings of IEEE CSCloud, 2015.

27. Suman Bhunia, Vahid Behzadan, **Shamik Sengupta**, “Enhancement of Spectrum Utilization in Non-Contiguous DSA with Online Defragmentation”, In Proceedings of IEEE MILCOM, 2015.
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