

Dr. NATARAJAN MEGHANATHAN

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ACADEMIC EDUCATION

- **Doctor of Philosophy**, Computer Science, The University of Texas at Dallas, August 2002 to May 2005, GPA: 4.0/4.0; Dissertation Title: *Performance Tradeoffs for Routing in Mobile Ad hoc Networks*
- **Master of Science**, Computer Science, Auburn University, September 1998 to May 2002, GPA: 3.9/4.0
Thesis Title: *Resource Scheduling and Load Sharing using Tickets in Mobile Computing Environments*
- **Bachelor of Technology**, Chemical Engineering, Anna University, India, August 1994 to May 1998, GPA: 9.2/10.0

POSITIONS AT A GLANCE

- **Full Professor (tenured)**, Department of Computer Science, Jackson State University, Jackson, MS, July 2015 – Present
- **Associate Professor (tenured)**, Department of Computer Science, Jackson State University, Jackson, MS, July 2011 – June 2015
- **Summer Faculty Fellow**, Air Force Research Lab, Dayton, OH: RYWC, Distributed Collaborative Sensor Systems Technology Branch, June – July 2012
- **Assistant Professor (tenure-track)**, Department of Computer Science, Jackson State University, Jackson, Mississippi, August 2005 – June 2011
- **Graduate Teaching Assistant**, Department of Computer Science, University of Texas at Dallas, Richardson, Texas, September 2002 – May 2005
- **Graduate Research Assistant**, Department of Computer Science, Auburn University, Auburn, AL, August 2000 – May 2002
- **Graduate Research/ Teaching Assistant**, Department of Chemical Engineering, Auburn University, Auburn, AL, September 1998 – June 2000

TEACHING INTERESTS

Network Science, Computer Networks, Wireless Networks, Computer and Network Security, Software Security, Graph Theory, Algorithm Design and Analysis, Object-Oriented Programming, Machine Learning

RESEARCH INTERESTS

Network Science and Graph Theory Algorithms, Wireless Ad hoc Networks and Sensor Networks, Cyber Security, Data Mining and Machine Learning, Cloud Computing, Bioinformatics and Computational Biology

NEW COURSES DEVELOPED AT JACKSON STATE UNIVERSITY

- **Undergraduate:** CSC 423 Algorithms for Bioinformatics; CSC 434 Network Science; 436 Wireless Networks; CSC 437 Computer Security; CSC 438 Systems and Software Security; CSC 439 Advanced Information Security

- **Graduate:** CSC 525 Wireless Ad hoc Networks; CSC 541 Cryptography and Network Security; CSC 561 Graduate Capstone Project; CSC 601 Computing Algorithms; CSC 621 Machine Learning; CSC 634 Big Data Mining; CSC 635 Big Data for Cyber Security; CSC 641 Network Science

COURSES TAUGHT AT JACKSON STATE UNIVERSITY

#	Course Name	Undergraduate	Graduate	# Semesters	Newly Developed
1	CSC/L 118 Programming Fundamentals	X (Freshman)		3	
2	CSC 211 Object-Oriented Programming	X (Sophomore)			
3	CSC 323 Algorithm Design & Analysis	X (Junior)		10	
4	CSC 435 Computer Networks	X (Senior)		17	
5	CSC 437 Computer Security	X (Senior)	X	1	X
6	CSC 438 Systems and Software Security	X (Senior)	X	2	X
7	CSC 439 Adv. Information Security	X (Senior)	X	3	X
8	CSC 423 Algorithms for Bioinformatics	X (Senior)	X	1	X
9	CSC 434 Network Science	X (Senior)	X	4	X
10	CSC 524 Computer Communication Networks and Distributed Processing		X	7	
11	CSC 539 Wireless Ad hoc Networks and Sensor Networks		X	2	X
12	CSC 541 Cryptography and Network Security		X	1	X

EXTERNALLY FUNDED GRANTS

- **Title:** Minority Leaders Research Collaboration Program, A Stable Trustworthy Neighborhood Scheme for Secure Mobile Sensor Networks; **Role:** *Principal Investigator*; **Funding Agency:** Clarkson Aerospace/US Air Force; **Subcontract #:** JACK 15-S7700-02-C2; **Period:** 01/15/2016 to 12/31/2016; **Amount:** \$75,000.
- **Title:** A New Paradigm for Efficient Space Communications: Rateless Coding with Unequal Error Control and Data Fusion; **Role:** Co-Principal Investigator (Overall) / *Principal Investigator* (JSU Sub-contract); **Funding Agency:** National Aeronautics and Space Administration (NASA) Experimental Program to Stimulate Competitive Research (EPSCoR) Program / University of Mississippi; **Period:** 09/01/2014 to 08/31/2017; **Amount:** \$135,000 (JSU Sub-contract) / \$ 750,000 (Overall).
- **Title:** Science Curriculum Development: A Course on Algorithms for Bioinformatics; **Role:** *Principal Investigator*; **Funding Agency:** MS-INBRE Program, National Institutes of Health (NIH) / University of Southern Mississippi; **Subcontract #:** USM-GR05067-10; **Period:** 06/01/2014 to 05/31/2015; **Amount:** \$25,000.
- **Title:** Minority Leaders Program, Cyber-Security Research for Distributed Sensor Systems and Cloud Computing Applications; **Role:** *Principal Investigator*; **Funding Agency:** Clarkson Aerospace/US Air Force; **Subcontract #:** JACK 13-S567-020-02-C2; **Period:** 11/26/2012 to 12/30/2013; **Amount:** \$75,000.
- **Title:** Incorporating Systems Security and Software Security in Senior Projects, **Role:** *Principal Investigator*; **Funding Agency:** National Science Foundation. **Grant Number:** DUE-0941959; **Period:** 09/15/2010 to 08/31/2014. **Amount:** \$ 199,986 [Co-PIs: L. Moore and H. Kim].
- **Title:** SDCI NMI: From Desktops to Clouds; **Role:** *Faculty Investigator*; **Funding Agency:** National Science Foundation / Virginia Tech; **Subcontract #:** 478455-19A87; **Period:** 09/01/2013 to 08/31/2014; **Amount:** \$30,000 [JSU PI: R. Alo].

- **Title:** Modeling and Simulation of Complex Systems, **Role:** *Senior Personnel*; **Funding Agency:** National Science Foundation. **Grant #:** NSF EPS-09-3787; **Period:** 09/01/2009 to 08/31/2014; **Amount:** \$20,000,000 [2-summer months salary for 2010 and 2011, One-summer month salary for 2012].
- **Title:** REU Site: Undergraduate Research Program in Wireless Ad hoc Networks and Sensor Networks; **Role:** *Principal Investigator*; **Funding Agency:** National Science Foundation; **Grant Number:** CNS-0851646; **Period:** 01/15/2009 to 12/31/2012. **Amount:** \$ 319,989 [Co-PI: L. Moore].
- **Title:** Routing Protocols to Minimize the Number of Route Disconnections for Communication in Mobile Ad hoc Networks; **Role:** *Principal Investigator*; **Funding Agency:** Army Research Lab; **Grant Number:** W911NF-08-2-0061; **Period:** 10/01/2008 to 09/30/2009. **Amount:** \$ 99,691.

INTERNALLY FUNDED GRANTS

- **Title:** A Framework to Detect the Presence of Radiological Dispersal Devices (RDDs) using Wireless Sensor Networks; **Role:** *Faculty Investigator*; **Funding Agency:** Jackson State University Massie Chair Program [PI: Alo]; **Period:** 02/2014 to 08/2015. [One month Summer salary for 2014 and 2015; Two students to work with].
- **Title:** Risk Assessment, Identification and Notification (RAIN) System; **Role:** *Co-Principal Investigator*; **Funding Agency:** Jackson State University - Institute for Multi-Modal Transportation; **Period:** 07/01/2008 to 05/30/2009. **Amount:** \$49,977 [PI: G. Skelton].
- **Title:** Development of a Location Prediction Based On-Demand Routing Protocol to Minimize the Number of Route Discoveries and Hop Count per Path in Mobile Ad Hoc Networks; **Role:** *Principal Investigator*; **Funding Agency:** Jackson State University - Center for University Scholars; **Period:** 06/01/2008 to 07/31/2008. **Amount:** \$10,000.

FUNDED RESEARCH AND TEACHING AWARDS

- **Summer Faculty Fellowship:** “AF SFFP: A Benchmarking Algorithm to Determine the Sequence of Stable Data Gathering Trees for Wireless Mobile Sensor Networks,” funded by the **American Society for Engineering Education/US Air Force Office of Scientific Research**. Program Number/Project: 13.35.01.B6851: Secure, Reliable, and Responsive Distributed Sensor Networks. Project Performed at Location: AFRL/Ry Wright Patterson AF Base, Ohio; Award Period: 06/04/2012 to 07/27/2012. Award Amount: \$12,000.
- **Fall-2013 Early Adopter Award:** “Distributed Computing and Programming in the Undergraduate Algorithms, Networks and Security Courses at Jackson State University,” funded by the **NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing – Core Topics for Undergraduates: Fall Early Adopter Program**. Funded through: Georgia State University; Award Period: 08/2013 to 12/2013. Award Amount: \$2,000.
- **Creative Award for Faculty and Staff:** "Design and Development of a Local Spectrum Knowledge-based Minimal Channel Switch Routing Protocol for Cognitive Radio Ad hoc Networks," funded by the **Jackson State University Creative Awards for Faculty and Staff (CAFS)** Program. Award Amount: \$5,000; Award Period: January 2014 to December 2014.

AWARDS, HONORS & CERTIFICATIONS

- **Faculty Excellence Award in Computer Science**, Jackson State University for Academic Year 2013-14.

- **Jackson State University Faculty Honoree** for the **Mississippi Institutions of Higher Learning HEADWAE Best Faculty Award**, Year: 2010.
- **Best Faculty Award for Research in Computer Science** awarded by the College of Science, Engineering and Technology, Jackson State University, Calendar Year: 2008.
- **Listed in Marquis Who's Who in America, 2009 edition**
- **Nominated** (by the Department of Computer Science, Jackson State University) for the **Mississippi Institutions of Higher Learning HEADWAE Best Faculty Award**, Period Covered: June 2007 – May 2008; June 2008 – May 2009; June 2009 – May 2010.
- **ACM-Southeast Conference Best Paper Award**, won 1st place among 244 papers, for the paper on the stability of multicast Steiner trees in mobile ad hoc networks, March 2006
- **Certificate of Appreciation**, presented by the ACM Students Chapter, Jackson State University, Jackson, Mississippi, April 2006.
- **Certificate in Forensics Training**, completed the CF-101 Introduction to Cyber Crime in January 2007 and CF-102 Forensics Tools and Techniques Workshop in August 2007
- **Certificate in Metadata Training**, completed the "Introduction to Geospatial Metadata" training, offered by National Oceanic and Atmospheric Administration, November 2007
- **Certificate in Graduate Information Assurance Program**, University of Texas at Dallas, 2004
- **Cisco Certified Network Associate**, score: 90%, April 2001
- **Sun Certified Programmer** for Java 2 Platform, score: 88%, February 2001
- **Presidential Graduate Fellowship**, Auburn University, 1998-99, 2001-02

SCIENTIFIC PUBLICATIONS

BOOKS

- [B3] **N. Meghanathan** (editor), *Advanced Methods for Complex Network Analysis*, 17 chapters (427 pages), IGI Global Publishers, Hershey, PA, USA, April 2016, ISBN: 9781466699649.
- [B2] **N. Meghanathan** (author and editor), *Recent Advances in Ad Hoc Networks Research*, 10 chapters (234 pages), IGI Nova Publishers, New York, USA, August 2014, ISBN: 978-1-63321-337-1.
- [B1] **N. Meghanathan** (author and editor) and Y. B. Reddy (author and editor), *Cognitive Radio Technology Applications for Wireless and Mobile Ad hoc Networks*, 15 chapters (370 pages), IGI Global Publishers, Hershey, PA, USA, June 2013, ISBN: 978-1-46664-221-8.

BOOK CHAPTERS

- [BC15] **N. Meghanathan**, "Diameter-Aggregation Delay Tradeoff for Data Gathering Trees in Wireless Sensor Networks," Chapter 10, pp. 239-255, *Handbook of Research on Wireless Sensor Network Trends, Technologies, and Applications*, Editor: Narendra Kumar Kamila, IGI Global, July 2016.
- [BC14] **N. Meghanathan**, "Eigenvector Centrality-Based Mobile Target Tracking in Wireless Sensor Networks," Chapter 16, pp. 394-411, *Handbook of Research on Wireless Sensor Network Trends, Technologies, and Applications*, Editor: Narendra Kumar Kamila, IGI Global, July 2016.
- [BC13] **N. Meghanathan**, "Impact of the Structure of the Data Gathering Trees on Node Lifetime and Network Lifetime in Wireless Sensor Networks," Chapter 7, pp. 192-204, *Handbook of Research on Advanced Wireless Sensor Network Applications, Protocols, and Architectures*, Editors: Niranjan Ray and Ashok Turuk, IGI Global, July 2016.
- [BC12] **N. Meghanathan**, "Distributed Data Gathering Algorithms for Mobile Sensor Networks," Chapter 13, pp. 329-359, *Emerging Communication Technologies Based on Wireless Sensor Networks: Current Research and Future Applications*, Editors: Mubashir Husain Rehmani and Al-Sakib Khan Pathan, CRC Press, April 2016.

- [BC11] **N. Meghanathan**, "A Pairwise Key Distribution Mechanism and Distributed Trust Evaluation Model for Secure Data Aggregation in Mobile Sensor Networks," Chapter 12, pp. 299-328, *Emerging Communication Technologies Based on Wireless Sensor Networks: Current Research and Future Applications*, Editors: Mubashir Husain Rehmani and Al-Sakib Khan Pathan, CRC Press, April 2016.
- [BC10] **N. Meghanathan**, "Virtualization as The Catalyst for Cloud Computing," Chapter 105, pp. 304-320, *Encyclopedia of Information Science and Technology, Third Edition*, Editor: Mehdi Khosrow-Pour, ISBN: 1466658886, DOI: 10.4018/978-1-4666-5888-2, IGI Global Publishers, Hershey, PA, USA, July 2014.
- [BC9] **N. Meghanathan**, "Algorithms to Determine Stable Connected Dominating Sets for Mobile Ad hoc Networks," Chapter 9, pp. 249-274, *Wireless Communications and Networking: Theory and Practice*, Editor: M. Matin, ISBN: 1466651709, DOI: 10.4018/978-1-4666-5170-8.ch009, IGI Global Publishers, Hershey, PA, USA, February 2014.
- [BC8] **N. Meghanathan** and P. Mumford, "Graph Intersection-based Benchmarking Algorithm for Maximum Stability Data Gathering Trees in Wireless Mobile Sensor Networks," Chapter 17, pp. 433-458, *Wireless Communications and Networking: Theory and Practice*, Editor: M. Matin, ISBN: 1466651709, DOI: 10.4018/978-1-4666-5170-8.ch017, IGI Global Publishers, Hershey, PA, USA, February 2014.
- [BC7] **N. Meghanathan**, "Network Security: Attacks and Controls," Chapter 11, pp. 174-203, *Network Security Technologies: Design and Applications*, Editors: A. Amine, O. Ait Mohamed and B. Benatallah, ISBN: 1466647892, IGI Global Publishers, Hershey, PA, USA, November 2013.
- [BC6] **N. Meghanathan**, "Data Gathering Algorithms for Wireless Sensor Networks," Chapter 13: pp. 353-376, *Wireless Sensor Networks: Current Status and Future Trends*, Editors: S. Khan, A-S. Khan Pathan and N. A. Alrajeh, ISBN: 978-1-4665-0606-0, CRC Press, Taylor & Francis Group, USA, November 2012.
- [BC5] **N. Meghanathan**, "Topology-based Classification of Multicast Routing Protocols for Mobile Ad hoc Networks," Chapter 7: pp. 116-143, *Technological Advancements and Applications in Mobile Ad hoc Networks: Research Trends*, Editor: Kamaljit Lakhtaria, ISBN: 978-1-4666-0321-9, IGI Global Publishers, Hershey, PA, USA, March 2012.
- [BC4] **N. Meghanathan** and A. R. Geoghegan, "A Case Study on Testing for Software Security: Static Code Analysis of a File Reader Program Developed in Java," Chapter 5: pp. 89-112, *Advanced Automated Software Testing: Frameworks for Refined Practice*, Editor: Izzat Alsmadi, ISBN: 978-1-4666-0089-8, 270 pages, IGI Global Publishers, Hershey, PA, USA, January 2012. [Publication as part of the NSF CCLI/TUES Grant]
- [BC3] **N. Meghanathan**, "Applications of Graph Theory Algorithms in Mobile Ad hoc Networks," Chapter 4: pp. 98-125, *Mobile Computing Techniques in Emerging Markets: Systems, Applications and Services*, Editors: A. V. Senthil Kumar and Hakikur Rehman, 358 pages, IGI Global Publishers, Hershey, PA, USA, January 2012.
- [BC2] **N. Meghanathan**, "A Location Prediction Based Routing Protocol and its Extensions for Multicast and Multi-path Routing in Mobile Ad hoc Networks," Chapter 12: pp. 217-242, *Mobile Ad-Hoc Networks: Protocol Design*, Editor: Xin Wang, ISBN: 978-953-307-402-3, 656 pages, In-Tech Education and Publishing, Vienna, Austria, January 2011.
- [BC1] **N. Meghanathan**, "Greedy Algorithms to Determine Stable Paths and Trees in Mobile Ad hoc Networks," Chapter 14: pp. 253-272, *Advances in Greedy Algorithms*, Editor: Witold Bednorz, ISBN: 978-953-7619-27-5, 586 pages, In-Tech Education and Publishing, Vienna, Austria, November 2008.

REFEREED JOURNALS

* undergraduate student co-authors, ^ graduate student co-authors, + faculty/other collaborators as co-authors

- [J100] **N. Meghanathan**, "Maximal Assortative Matching for Real-World Network Graphs, Random Network Graphs and Scale-Free Network Graphs," *Springer Vietnam Journal of Computer Science*, vol. 3, no. 3, pp. 151-179, August 2016.

- [J99] **N. Meghanathan**, "Assortativity Analysis of Real-World Network Graphs based on Centrality Metrics," *Computer and Information Science*, vol. 9, no. 3, pp. 7-25, August 2016. Link DOI
- [J98] **N. Meghanathan**, "On the Sufficiency of using the Degree Sequence of the Vertices to Generate Random Networks Corresponding to Real-World Networks," *Polibits: Research Journal on Computer Science and Computer Engineering with Applications*, vol. 53, pp. 5-21, July 2016.
- [J97] **N. Meghanathan**, "Eigenvector Centrality-based Stable Path Routing for Cognitive Radio Ad hoc Networks," *International Journal of Network Science*, vol. 1, no. 2, pp. 117-133, June 2016.
- [J96] **N. Meghanathan**, "Maximal Assortative Matching and Maximal Dissortative Matching for Complex Network Graphs," *The Computer Journal*, vol. 59, no. 5, pp. 667-684, May 2016.
- [J95] **N. Meghanathan**, "Correlation Analysis between Maximal Clique Size and Centrality Metrics for Random Networks and Scale-Free Networks," *Computer and Information Science*, vol. 9, no. 2, pp. 41-57, May 2016.
- [J94] **N. Meghanathan**, "Maximal Assortative Matching for Complex Network Graphs," *Journal of King Saud University – Computer and Information Sciences*, vol. 28, no. 2, pp. 230-246, April 2016.
- [J93] **N. Meghanathan**, "On the Conduciveness of Random Network Graphs for Maximal Assortative or Maximal Dissortative Matching," *Computer and Information Science*, vol. 9, no. 1, pp. 21-30, February 2016. Link [Publication as part of the Massie Chair Grant]
- [J92] **N. Meghanathan**, "Correlation Coefficient Analysis: Centrality vs. Maximal Clique Size for Complex Real-World Network Graphs," *International Journal of Network Science*, vol. 1, no. 1, pp. 3-27, January 2016.
- [J91] **N. Meghanathan**, "A Greedy Algorithm for Neighborhood Overlap-based Community Detection," *Algorithms*, vol. 9, no. 1, p. 8: 1-26, 2016.
- [J90] **N. Meghanathan**, "A Model for Generating Random Networks with Clustering Coefficient Corresponding to Real-World Network Graphs," *International Journal of Control and Automation*, vol. 9, no. 1, pp. 163-176, January 2016.
- [J89] **N. Meghanathan**, "A Generic Algorithm to Determine Maximum Bottleneck Node Weight-based Data Gathering Trees for Wireless Sensor Networks," *Network Protocols and Algorithms*, vol. 7, no. 3, pp. 18-51, November 2015. [Publication as part of the NASA EPSCoR Sub Award]
- [J88] **N. Meghanathan**, "Exploiting the Discriminating Power of the Eigenvector Centrality Measure to Detect Graph Isomorphism," *International Journal in Foundations of Computer Science and Technology*, vol. 5, no. 6, pp. 1-13, November 2015.
- [J87] **N. Meghanathan**, "A Benchmarking Algorithm for Maximum Bottleneck Node Trust Score-based Data Gathering Trees in Wireless Sensor Networks," *International Journal of Interdisciplinary Telecommunications and Networking (IJITN)*, vol. 7, no. 3, pp. 13-35, July-September 2015. [Publication as part of the NASA EPSCoR Sub Award]
- [J86] **N. Meghanathan**, "Probabilistic Diffusion in Random Network Graphs," *International Journal in Foundations of Computer Science and Technology (IJFCST)*, vol. 5, no. 5, pp. 1-7, September 2015.
- [J85] **N. Meghanathan**, "Maximum Lifetime Communication Topologies of Secondary User Nodes in Cognitive Radio Ad hoc Networks," *Computer and Information Science*, vol. 8, no. 3, pp. 1-12, August 2015. [Publication as part of the NASA EPSCoR Sub award]
- [J84] **N. Meghanathan**, "Impact of Static Nodes and Pause Time on the Stability of Connected Dominating Sets in a Mobile Ad hoc Network," *International Journal of Wireless and Mobile Networks*, vol. 7, no. 4, pp. 1-18, August 2015.
- [J83] **N. Meghanathan**, "Time-Dependent Variation of the Centrality Measures of the Nodes during the Evolution of a Scale-Free Network," *Journal of Networks*, vol. 10, no. 7, pp. 431-442, July 2015. [Publication as part of the NASA EPSCoR Sub award]
- [J82] **N. Meghanathan**, "Distribution of Maximal Clique Size of the Vertices for Theoretical Small-World Networks and Real-World Networks," *International Journal of Computer Networks and Communications*, vol. 7, no. 4, pp. 21-41, July 2015.

- [J81] **N. Meghanathan**, "Centrality-based Connected Dominating Sets for Mobile Ad hoc Networks," *Network Protocols and Algorithms*, vol. 7, no. 2, pp. 16-41, July 2015. [Publication as part of the NASA EPSCoR Sub award]
- [J80] **N. Meghanathan**, "A Benchmarking Algorithm to Determine Minimum Aggregation Delay for Data Gathering Trees and an Analysis of the Diameter-Aggregation Delay Tradeoff," *Algorithms*, vol. 8, no. 3, pp. 435-458, July 2015. [Publication as part of the NASA EPSCoR Sub award], DOI: 10.3390/a8030435.
- [J79] **N. Meghanathan**, T. Gardner* and J. Lewis*, "An Energy-Efficient Tracking Algorithm to Trace a Radioactive Mobile Target in a Wireless Sensor Network," *Computer and Information Science*, vol. 8, no. 2, pp. 15-23, May 2015. [Publication as part of the Massie Chair Grant]
- [J78] **N. Meghanathan**, "Using Spectral Radius Ratio for Node Degree to Analyze the Evolution of Complex Networks," *International Journal of Computer Networks and Communications*, vol. 7, no. 3, pp. 1-12, May 2015, DOI: 10.5121/ijcnc.2015.7301.
- [J77] **N. Meghanathan**, "Distribution of Maximal Clique Size under the Watts-Strogatz Model of Evolution of Complex Networks," *International Journal in Foundations of Computer Science and Technology*, vol. 5, no. 3, pp. 1-12, May 2015, DOI: 10.5121/ijfctst.2015.5301.
- [J76] **N. Meghanathan**, "Correlations between Centrality Measures for Mobile Ad hoc Networks," *IGI International Journal of Wireless Networks and Broadband Technologies*, vol. 4, no. 2, pp. 15-28, April-June 2015.
- [J75] L. McClendon[^] and **N. Meghanathan**, "Using Machine Learning Algorithms to Analyze Crime Data," *Machine Learning and Applications: An International Journal*, vol. 2, no. 1, pp. 1-12, March 2015.
- [J74] **N. Meghanathan**, "A Stable Path Routing Protocol for Cognitive Radio Ad hoc Networks based on the Maximum Number of Common Primary User Channels," *Journal of Networks*, vol. 10, no. 2, pp. 117-124, March 2015. [Publication as part of the Massie Chair Grant]
- [J73] **N. Meghanathan**, "Stability-based and Energy-Efficient Distributed Data Gathering Algorithms for Mobile Sensor Networks," Elsevier *Ad hoc Networks*, vol. 19, pp. 111-131, August 2014.
- [J72] **N. Meghanathan**, "A Pair-wise Key Distribution Mechanism and Distributed Trust Evaluation Model for Secure Data Aggregation in Mobile Sensor Networks," *International Journal of Combinatorial Optimization Problems and Informatics*, vol. 5, no. 2, pp. 29-46, May-August 2014.
- [J71] **N. Meghanathan**, "Centrality-based Connected Dominating Sets for Complex Network Graphs," *IGI International Journal of Interdisciplinary Telecommunications and Networking*, vol. 6, no. 2, pp. 1-19, April-June 2014.
- [J70] **N. Meghanathan** and P. Mumford⁺, "Centralized and Distributed Algorithms for Stability-based Data Gathering in Mobile Sensor Networks," *Macrothink: Network Protocols and Algorithms (NPA)*, vol. 5, no. 3, pp. 84-116, December 2013. DOI: <http://dx.doi.org/10.5296/npa.v5i4.4208>.
- [J69] **N. Meghanathan** and P. Mumford⁺, "A Benchmarking Algorithm to Determine the Sequence of Stable Data Gathering Trees for Wireless Mobile Sensor Networks," *Informatica - An International Journal of Computing and Informatics*, vol. 37, no. 3, pp. 315-338, October 2013.
- [J68] **N. Meghanathan**, "Identification and Removal of Software Security Vulnerabilities using Source Code Analysis: A Case Study on a Java File Writer Program with Password Validation Features," *Journal of Software*, vol. 8, no. 10, pp. 2412-2424, October 2013. [Publication as part of the NSF TUES Grant]
- [J67] **N. Meghanathan** and P. Mumford⁺, "Node Failure Time and Coverage Loss Time Analysis for Maximum Stability Vs Minimum Distance Spanning Tree based Data Gathering in Mobile Sensor Networks," *International Journal of Computer Networks and Communications(IJCNC)*, vol. 5, no. 4, pp. 15-30, July 2013. DOI: 10.5121/ijcnc.2013.5402.
- [J66] **N. Meghanathan** and I. Dasari[^], "Performance Comparison Study of Connected Dominating Set Algorithms for Mobile Ad hoc Networks under Different Mobility Models," *International Journal of Combinatorial Optimization Problems and Informatics*, vol. 4, no. 2, pp. 12-30, May-August 2013.
- [J65] **N. Meghanathan**, "A Comprehensive Review and Analysis of Solutions for Different Layers of the TCP/IP Layer Stack and Security Issues for Cognitive Radio Networks," *International Journal of Advancements in Technology*, (IJOAT), vol. 4, no. 1, pp. 1-27, April 2013.

- [J64] **N. Meghanathan**, "A Survey on the Communication Protocols and Security in Cognitive Radio Networks," *International Journal of Communication Networks and Information Security*, (IJCNIS), vol. 5, no. 1, pp. 19-37, April 2013.
- [J63] **N. Meghanathan**, "Source Code Analysis to Remove Security Vulnerabilities in Java *Socket* Programs: A Case Study," *International Journal of Network Security and its Applications* (IJNSA), vol. 5, no. 1, pp. 1-16, January 2013. [Publication as part of the NSF CCLI/TUES Grant], DOI: 10.5121/ijnsa.2013.5101
- [J62] **N. Meghanathan**, "Automated Source Code Analysis to Identify and Remove Software Security Vulnerabilities: Case Studies on Java Programs," *International Journal of Software Engineering* (IJSE), vol. 6, no. 1, pp. 3-32, January 2013. [Publication as part of the NSF CCLI/TUES Grant]
- [J61] **N. Meghanathan** and J. A. Thompson , "On the Different Forms of Spanning Tree-based Broadcast Topologies for Mobile Ad hoc Networks," *International Journal of Combinatorial Optimization Problems and Informatics* (IJCOPI), vol. 4, no. 1, pp. 3-11, January-April 2013. [Publication as part of the NSF REU Grant]
- [J60] **N. Meghanathan**, "Link Expiration Time and Minimum Distance Spanning Trees based Distributed Data Gathering Algorithms for Wireless Mobile Sensor Networks," *International Journal of Communication Networks and Information Security* (IJCNIS), vol. 4, no. 3, pp. 196-206, December 2012
- [J59] **N. Meghanathan** and M. Terrell , "A Simulation Study on the Strong Neighborhood-based Stable Connected Dominating Sets for Mobile Ad hoc Networks," *International Journal of Computer Networks & Communications* (IJCNC), vol. 4, no. 4, July 2012. [Publication as part of the NSF REU Grant]
- [J58] **N. Meghanathan**, "Routing Protocols to Determine Stable Paths and Trees using the Inverse of Predicted Link Expiration times for Mobile Ad hoc Networks," *International Journal of Mobile Network Design and Innovation*, (IJMNDI), Inderscience Publishers, vol. 4, no. 4, pp. 214-234, June 2012.
- [J57] **N. Meghanathan**, "Graph Theory Algorithms for Mobile Ad hoc Networks," *Informatica - An International Journal of Computing and Informatics*, vol. 36, no. 2, pp. 185-200, June 2012.
- [J56] **N. Meghanathan** and M. Terrell , "An Algorithm to Determine Stable Connected Dominating Sets for Mobile Ad hoc Networks using Strong Neighborhoods," *International Journal of Combinatorial Optimization Problems and Informatics* (IJCOPI), vol. 3, no. 2, pp. 79-92, May-August 2012.
- [J55] **N. Meghanathan**, "A Comprehensive Review and Performance Analysis of Data Gathering Algorithms for Wireless Sensor Networks," *International Journal of Interdisciplinary Telecommunications and Networking* (IJITN), vol. 4, no. 2, pp. 1-29, April-June 2012.
- [J54] **N. Meghanathan**, "A Simulation-based Performance Comparison of the Minimum Node Size and Stability-based Connected Dominating Sets for Mobile Ad hoc Networks," *International Journal of Computers and Network Communications* (IJCNC), vol. 4, no. 2, pp. 169-184, March 2012.
- [J53] **N. Meghanathan** and P. D. Mumford⁺, "Maximum Stability Data Gathering Trees for Mobile Sensor Networks," *International Journal of Mobile Network Design and Innovation*, Inderscience Publishers, vol. 4, no. 3, pp. 164-178, 2012. [Publication as part of the AFOSR/AFRL/SFFP 2012 Research]
- [J52] **N. Meghanathan**, "Node Stability Index: A Stability Metric and an Algorithm to Determine Long-Living Connected Dominating Sets for Mobile Ad hoc Networks," *International Journal of Interdisciplinary Telecommunications and Networking* (IJITN), vol. 4, no. 1, pp. 31-46, January-March 2012.
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- [C30] **N. Meghanathan**, “A Node-Disjoint Multi-path Extension of the Location Prediction Based Routing Protocol for Mobile Ad hoc Networks,” *Proceedings of the International Conference on Signal Processing and Communication Systems*, Omaha, Nebraska, USA, September 28-30, 2009.
- [C29] **N. Meghanathan**, “Multicast Extensions to the Location-Prediction Based Routing Protocol for Mobile Ad hoc Networks,” *International Conference on Wireless Algorithms, Systems and Applications*, Boston, USA, August 16-18, 2009, published in the *Springer Verlag Lecture Notes of Computer Science Series*, LNCS 5682, B. Liu et al. (Eds.), pp. 190-199, 2009.
- [C28] **N. Meghanathan**, “On the Connectivity, Lifetime and Hop Count of Routes Determined using the City Section and Manhattan Mobility Models for Vehicular Ad hoc Networks,” *International Conference on Contemporary Computing*, Noida, India, August 17-19, 2009, *Springer Verlag Communications in Computer and Information Science Series*, CCIS 40, pp. 170-181, 2009. Acceptance Rate: 31%
- [C27] **N. Meghanathan** and M. Sugumar[^], “A Beaconless Minimum Interference Based Routing Protocol for Mobile Ad hoc Networks,” *International Conference on Contemporary Computing*, Noida, India, August 17-19, 2009, published in the *Springer Verlag Communications in Computer and Information Science Series*, CCIS 40, pp. 58-69, 2009. Acceptance Rate: 31%
- [C26] **N. Meghanathan**, “A Density and Mobility Aware Energy-Efficient Broadcast Strategy to Minimize the Number of Route Discoveries in Mobile Ad hoc Networks,” *Proceedings of the 2009 International Conference on Wireless Networks, ICWN 09, Las Vegas*, pp. 167 – 173, July 13-16, 2009, Acceptance Rate = 25%, ECI: 0.87
- [C25] **N. Meghanathan**, “An Algorithm to Determine Energy-aware Connected Dominating Set and Data Gathering Tree for Wireless Sensor Networks,” *Proceedings of the 2009 International Conference on Wireless Networks, ICWN 09, Las Vegas*, July 13-16, 2009, Acceptance Rate = 25%, ECI: 0.87
- [C24] **N. Meghanathan** and G. W. Skelton⁺, “An Energy Efficient Risk Notification Message Dissemination Protocol for Vehicular Ad hoc Networks,” *Proceedings of the International Conference on High Performance Computing, Networking and Communications Systems*, HPCNCS-09, Orlando, July 13-16, 2009.
- [C23] **N. Meghanathan**, “A Beaconless Node Velocity-based Stable Path Routing Protocol for Mobile Ad hoc Networks,” *Proceedings of the IEEE Sarnoff Symposium Conference*, pp. 9-13, Princeton, NJ, March 30-April 1, 2009.
- [C22] **N. Meghanathan**, “Impact of Range of Simulation Time and Network Shape on the Hop Count and Stability of Routes for Mobile Ad hoc Networks,” *Proceedings of the 47th ACM Southeast Conference*, Clemson, March 19-21, 2009.
- [C21] **N. Meghanathan** and L. C. Milton[^], “A Simulation-Based Performance Comparison Study of Stability-Based Routing, Power-Aware Routing and Load-Balancing Routing Protocols for Mobile Ad hoc Networks,” *Proceedings of the 6th International Conference on Wireless On-demand Network Systems and Services*, Snowbird, Utah, Feb 2 – 4, 2009.
- [C20] **N. Meghanathan**, “Location Prediction Based Routing Protocol for Mobile Ad hoc Networks,” *Proceedings of the IEEE Global Communications (GLOBECOM) Conference*, pp. 569-573, New Orleans, Nov-Dec 2008.
- [C19] **N. Meghanathan**, “Stability and Link Efficiency of On-Demand Source Tree-Based Routing Protocols for Mobile Ad Hoc Networks,” *Proceedings of the International Conference on High Performance Computing, Networking and Communication Systems*, pp. 159-166, July 2008.
- [C18] **N. Meghanathan** and G. W. Skelton⁺, “A Two Layer Architecture of Mobile Sinks and Static Sensors,” *Proceedings of the 15th International Conference on Advanced Computing and Communication*, pp. 249-254, December 2007

- [C17] **N. Meghanathan**, “Stability and Hop Count of Node-Disjoint and Link-Disjoint Multi-Path Routes in Ad Hoc Networks,” *Proceedings of the 3rd IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)*, New York, October 2007 (acceptance rate: 44%).
- [C16] **N. Meghanathan**, “Impact of Broadcast Route Discovery Strategies on the Performance of Mobile Ad Hoc Network Routing Protocols,” *Proceedings of the International Conference on High Performance Computing, Networking and Communication Systems*, pp. 144 – 151, July 2007 (acceptance rate: 30%).
- [C15] S. Knight⁺, H. Kim⁺, **N. Meghanathan** and C. Bland⁺, “Fast Determination of Ancestor-Descendant Relationships using Bit Patterns,” *Proceedings of the International Conference on Knowledge and Engineering*, June 2007 (acceptance rate: 22%).
- [C14] **N. Meghanathan**, “Stability-Energy Consumption Tradeoff among Mobile Ad Hoc Network Routing Protocols,” *Proceedings of the 3rd IARIA International Conference on Wireless and Mobile Communications*, March 2007 (acceptance rate: 31%), extended version invited for publication in the *Journal of Networks*.
- [C13] **N. Meghanathan**, “A Simulation Study on the Stability-Oriented Routing Protocols for Mobile Ad Hoc Networks,” *Proceedings of the 3rd IEEE and IFIP International Conference on Wireless and Optical Communication Networks*, April 2006.
- [C12] **N. Meghanathan**, “Comparison of Stable Path Selection Strategies for Mobile Ad Hoc Networks,” *Proceedings of the 5th IFIP International Conference on Networking*, April 2006 (acceptance rate: 39%).
- [C11] **N. Meghanathan**, “On-demand Maximum Battery Lifetime Routing with Power Sensitive Power Control,” *Proceedings of the 5th IFIP International Conference on Networking*, April 2006 (acceptance rate: 39%).
- [C10] **N. Meghanathan**, “Determining a Sequence of Stable Multicast Steiner Trees in Mobile Ad Hoc Networks,” *Proceedings of the 44th ACM-Southeast Conference*, pp. 102-106, March 2006.
- [C9] **N. Meghanathan**, “An Algorithm to Determine the Sequence of Stable Connected Dominating Sets in Mobile Ad Hoc Networks,” *Proceedings of the 2nd Advanced International Conference on Telecommunications*, February 2006 (acceptance rate: 37%).
- [C8] **N. Meghanathan** and A. Farago⁺, “Comparison of Routing Strategies for Minimizing Energy Consumption in Mobile Ad Hoc Networks,” *Proceedings of the 4th Asian International Mobile Computing Conference*, January 2006.
- [C7] **N. Meghanathan** and A. Farago⁺, “An Efficient Algorithm for the Optimal Number of Route Transitions in Mobile Ad Hoc Networks,” *Proceedings of 1st IEEE – International Conference on Wireless and Mobile Computing, Networking and Communications*, August 2005.
- [C6] **N. Meghanathan** and A. Farago⁺, “On the Route Refresh Frequency for On-demand Maximum Battery Life Routing in Ad Hoc Networks,” *Proceedings of 1st IEEE – International Conference on Wireless and Mobile Computing, Networking and Communications*, August 2005.
- [C5] **N. Meghanathan** and A. Farago⁺, “Maximizing Network Lifetime under Fixed Energy Budget in Ad Hoc Networks,” *Proceedings of 6th IEEE– Southeast Conference*, pp. 319 – 326, Fort Lauderdale, FL, USA, April 8 – 10, 2005.
- [C4] **N. Meghanathan** and A. Farago⁺, “Power Sensitive Power Control in Ad Hoc Networks,” *Proceedings of 43rd ACM- Southeast Conference*, March 2005.
- [C3] **N. Meghanathan** and A. Farago⁺, “Looking at Protocol Efficiency from a New Angle: Stability – Delay Analysis,” *Proceedings of 2nd ACM International Workshop on Mobility Management and Wireless Access (MobiWAC)*, in conjunction with Mobicom ’04, October 2004.
- [C2] S. Baskiyar⁺ and **N. Meghanathan**, “Scheduling and Load Sharing in Mobile Computing Environments using Tickets,” *Proceedings of 39th ACM- Southeast Conference*, March 2001.

- [C1] **N. Meghanathan**, V. M. Saucedo⁺ and G. A. Krishnagopalan⁺, "Modeling of Kraft Pulping Process Based on On-line Data from Near Infrared Analyzer," *AIChE Symposium Series* 324, vol. 96, Fundamentals & Numerical Modeling of Unit Operations in Forest Products Industries, pp. 36-41, 2001.

ABSTRACTS AND POSTER PRESENTATIONS

* undergraduate student co-authors, ^ graduate student co-authors, + faculty/other collaborators as co-authors

- [A37] **N. Meghanathan**, "Breadth First Search-based Efficient Algorithm for Betweenness Centrality," *Proceedings of the ACM-Mid Southeast Conference*, p. 68, Gatlinburg, TN, November 2015.
- [A36] **N. Meghanathan**, "Community Detection using Betweenness Centrality and Eigenvector Centrality," *Proceedings of the ACM-Mid Southeast Conference*, p. 70, Gatlinburg, TN, November 2015.
- [A35] **N. Meghanathan**, "Design of an Algorithms for Bioinformatics Course for Computer Science Majors," *Proceedings of the 79th Annual Meeting of the Mississippi Academy of Sciences*, vol. 60, no. 1, p. 131, Hattiesburg, MS, February 2015.
- [A34] **N. Meghanathan**, "A Greedy Algorithm to Determine the Longest Suffix Prefix Overlap of two DNA Strings," *Proceedings of the ACM-Mid Southeast Conference*, p.74, Gatlinburg, TN, November 2014.
- [A33] **N. Meghanathan**, "A Local Spectrum Knowledge-based Routing Protocol for Cognitive Radio Ad hoc Networks," *Proceedings of the ACM-Mid Southeast Conference*, p. 75, Gatlinburg, TN, November 2014.
- [A32] **N. Meghanathan**, "Design of an Algorithms for Bioinformatics Course for Computer Science Majors," *Proceedings of the 79th Annual Meeting of the Mississippi Academy of Sciences*, vol. 60, no. 1, p. 131, Hattiesburg, MS, February 2015.
- [A31] **N. Meghanathan**, "Dynamic Access Control Models for Cross-domain Authentication in Cloud Computing Environments," *Proceedings of the ACM-Mid Southeast Conference*, p. 74, Gatlinburg, TN, November 2013.
- [A30] **N. Meghanathan**, "Attack Trees for Threat/Risk Analysis of Software Security," *Journal of the Mississippi Academy of Sciences*, vol. 64, no. 1, p. 112, January 2013.
- [A29] **N. Meghanathan**, "Workshop: Incorporating Aspects of Systems and Software Security in Software Engineering Projects," *Journal of the Mississippi Academy of Sciences*, vol. 64, no. 1, p. 113, January 2013.
- [A28] A. Overton^{*}, **N. Meghanathan** and R. Isokpehi⁺, "A Binary Code-based Finite State Machine Model to Determine Ancestor-Descendant Relationships in Directed Acyclic Graphs," *Proceedings of the ACM-Mid Southeast Conference*, p. 49, Gatlinburg, TN, November 2012. [Publication as part of the NSF REU and MS EPSCoR Grants]
- [A27] S. Thumma[^] and **N. Meghanathan**, "Secure Software Design and Development Incorporating Role-based Access Control, Cryptographic Storage and Validation, and Parameterized SQL Statements," *Proceedings of the ACM-Mid Southeast Conference*, p. 57, Gatlinburg, TN, November 2012. [Publication as part of the NSF CCLI/TUES Grant]
- [A26] M. Bailey^{*} and **N. Meghanathan**, "Implementation of a Virtual Network for Cloud Computing," *Proceedings of the ACM-Mid Southeast Conference*, p. 63, Gatlinburg, TN, November 2012. [Publication as part of the NSF REU Grant]
- [A25] **N. Meghanathan**, "Information Hiding through Cover Generation using Context-Free Grammar," *Journal of the Mississippi Academy of Sciences*, vol. 57, no. 1, p. 127, January 2012.
- [A24] B. Chess^{*}, P. Fly^{*}, A. Moncrief^{*}, J. White^{*}, H. Kim⁺ and **N. Meghanathan**, "A Secure Online Student-Advisor Appointment Management and Registration System," *Journal of the Mississippi Academy of Sciences*, vol. 57, no. 1, p. 127, January 2012.

- [A23] J. Bouldin^{*}, J. Etheredge^{*}, J. Harris^{*}, H. Kim⁺ and **N. Meghanathan**, “Simulation of a Secure Touch-Screen Kiosk System for Amusement Park Planning,” *Journal of the Mississippi Academy of Sciences*, vol. 57, no. 1, p. 127, January 2012.
- [A22] A. Komilov^{*} and **N. Meghanathan**, “Development of a Web-based Application to Remotely Access the Computer Network Systems and Security Research and Education Modules at Jackson State University,” *Proceedings of the ACM-Mid Southeast Conference*, Gatlinburg, TN, November 2011. [Publication as part of the NSF CCLI/TUES Grant]
- [A21] **N. Meghanathan** and R. Isokpehi⁺, “A Cross-Reference Data Mining Study of the Universal Stress Protein Datasets of Viridiplantae,” accepted for presentation at *The 8th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society (MCBIOS 2011)*, College Station, TX, USA, April 1-2, 2011. [Publication as part of the NSF MS EPSCoR Grant]
- [A20] **N. Meghanathan** and R. Isokpehi⁺, “On the Variations in the Cytotoxicity of Gold Nanoparticles of Different Shapes,” accepted for presentation at *The 8th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society (MCBIOS 2011)*, College Station, TX, USA, April 1-2, 2011. [Publication as part of the NSF MS EPSCoR Grant]
- [A19] P. Fly^{*}, **N. Meghanathan** and R. Isokpehi⁺, “Implementation of the Binary Coding Scheme to Test for Ancestor-Descendant Relationships in K-ary Trees,” accepted for presentation at *The 8th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society (MCBIOS 2011)*, College Station, TX, USA, April 1-2, 2011. [Publication as part of the NSF MS EPSCoR Grant]
- [A18] J. Bouldin^{*}, S. Thumma[^], A. R. Geoghegan^{*}, M. Challagundla[^] and **N. Meghanathan**, “A Preliminary Design of a Virtual Security Laboratory for Information Systems and Software Engineering Projects,” *Journal of the Mississippi Academy of Sciences*, vol. 56, no. 1, p. 100, February 2011. [Publication as part of the NSF CCLI/TUES Grant]
- [A17] P. Fly^{*}, **N. Meghanathan** and R. Isokpehi⁺, “Use of Binary Codes to Determine Ancestor-Descendant Relationships in K-ary Trees,” *Journal of the Mississippi Academy of Sciences*, vol. 56, no. 1, p. 102, February 2011. [Publication as part of the NSF MS EPSCoR Grant]
- [A16] M. Challagundla[^], J. Bouldin^{*}, A. R. Geoghegan^{*}, **N. Meghanathan** and H. Kim⁺, “Role of Misuse Case Diagrams in Analyzing the Security Requirements of a Software Engineering Project,” *Journal of the Mississippi Academy of Sciences*, vol. 56, no. 1, p. 103, February 2011. [Publication as part of the NSF CCLI/TUES Grant]
- [A15] B. Torres^{*}, Q. Pang⁺, G. Skelton⁺, S. Bridges⁺ and **N. Meghanathan**, “Integration of an RFID Reader to a Wireless Sensor Network and the Use of it to Identify an Individual Carrying RFID Tags,” *Proceedings of the SACNAS (Society for Advancement of Chicanos and Native Americans in Science) National Conference*, September 30-October 3, 2010; poster accepted for presentation at the *2010 AGMUS Research Symposium*, September 10-11, 2010.
- [A14] N. Kostyuk⁺, **N. Meghanathan**, R. Isokpehi⁺ and H. Cohly⁺, “Functional Status of Organ Systems in Mitral Valve Prolapse,” *Proceedings of Jackson Heart Study Scientific Conference*, September 2010.
- [A13] **N. Meghanathan**, N. Kostyuk⁺, H. Cohly⁺ and R. Isokpehi⁺, “A Clustering Model for English Language Anxiety in Non-Native Speakers,” *Proceedings of the 7th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society*, p. 34, Jonesboro, AR, USA, February 2010.
- [A12] **N. Meghanathan**, N. Kostyuk⁺, H. Cohly⁺ and R. Isokpehi⁺, “Quadrant-Based Modeling for Assessing Functional State of Human Organ Systems,” *Proceedings of the 7th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society*, p. 98, Jonesboro, AR, USA, February 2010.
- [A11] **N. Meghanathan** and S. Gorla[^], “On the Probability of k-Connectivity in Mobile Ad hoc Networks,” *Journal of the Mississippi Academy of Sciences*, Vol. 55, No. 1, pp. 112, February 2010.

- [A10] N. Kostyuk⁺, R. Rajnarayanan⁺, R. Isokpehi⁺, **N. Meghanathan**, T. Bell⁺ and H. Cohly⁺, “Non-invasive, Real-Time, Mobile Biometrics Device: Pilot Evaluation Studies,” Proceedings of *The 7th Annual Conference of the Mid-South Computational Biology and Bioinformatics Society (MCBIOS 2010)*, p. 87, Jonesboro, AR, USA, February 2010.
- [A9] J. Miller^{*} and **N. Meghanathan**, “Determining Maximum Vehicular Flow for City Evacuation Planning,” abstract poster presented at the Winter Simulation Conference, Austin, TX, December 2009.
- [A8] D. Thomas^{*}, E. S. Addison^{*} and **N. Meghanathan**, “Development of the Multicast Flow Oriented Routing Protocol for Mobile Ad hoc Networks,” *Proceedings of the ACM-Mid Southeast Conference*, p. 30, Gatlinburg, TN, November 2009.
- [A7] J. Henderson^{*} and **N. Meghanathan**, “An Energy-aware Grid-Cluster Based Data Gathering Protocol for Wireless Sensor Networks,” *Proceedings of the ACM-Mid Southeast Conference*, p. 36, Gatlinburg, TN, November 2009.
- [A6] P. Fly^{*} and **N. Meghanathan**, “Implementation of Binary Tree Structures using Binary Codes,” *Proceedings of the ACM-Mid Southeast Conference*, p. 50, Gatlinburg, TN, November 2009.
- [A5] M. C. Matthews^{*} and **N. Meghanathan**, “Probability of Connectivity in a Grid Network of Wireless Nodes,” *Proceedings of the HBCU-UP 2009 Conference*, p. A76, # 112, Washington DC, USA, October–November 2009.
- [A4] S. Allam[^] and **N. Meghanathan**, “Development of an Automated Web-based Faculty Performance Evaluation Instrument,” *Journal of the Mississippi Academy of Sciences*, Vol. 54, No. 1, pp. 88, February 2009.
- [A3] **N. Meghanathan**, “Digital Medical Image Indexing using Attributed Relational Graph and Rectangular Tree,” *Proceedings of the ACM Mid-Southeast Conference*, p. 70, Gatlinburg, TN, November 2008.
- [A2] **N. Meghanathan** and K. Mudunuri[^], “Simulation-based Analysis of the Bandwidth Usage and Number of Hops per Receiver for Mobile Ad Hoc Network Multicast Routing Protocols,” *Journal of the Mississippi Academy of Sciences*, vol. 53, no. 1, p. 98, January 2008.
- [A1] **N. Meghanathan**, “An Algorithm to Determine the Sequence of Stable Multicast Trees in Mobile Ad Hoc Networks,” *Journal of the Mississippi Academy of Sciences*, Vol. 51, No. 1, p. 92, February 2006.

PROFESSIONAL SERVICE SCHOLARLY ACTIVITIES

PROGRAM EVALUATOR

- ABET CAC Program Evaluator, since June 2012.

REVIEW PANEL

- NSF Panelist, Nov-Dec. 2009, April-May 2012, November 2012.
- Louisiana Board of Regents: Research Competitiveness Subprogram (RCS): Nov-Dec. 2013.

EDITOR-IN-CHIEF

CURRENT

- Journal on Applications of Graph Theory in Wireless Ad hoc Networks and Sensor Networks (GRAPH-HOC), Publisher: Academy and Industry Research Collaboration Center (AIRCC)
- International Journal of Computer Networks and Communications (IJCNC), Publisher: Academy and Industry Research Collaboration Center (AIRCC)

- Machine Learning and Applications: An International Journal (MLAIJ), Publisher: Academy and Industry Research Collaboration Center (AIRCC)

PAST

- International Journal of Security, Privacy and Trust Management (IJSPTM), Publisher: Academy and Industry Research Collaboration Center (January 2012-June 2013)
- Science Academy Transactions on Computer and Communication Networks (SATCCN), Publisher: Science Academy, UK (February 2011-September 2012).

JOURNAL EDITORIAL BOARD MEMBER

- International Journal of Convergence Computing (IJConvC), Publisher: Inderscience Publications. ISSN: 2048-9129
- International Journal of Communication Networks and Distributed Systems (IJCND), Publisher: Inderscience Publications. ISSN: 1754-3916
- Journal of Networks, Academy Publisher, ISSN: 1796-2056.
- International Journal on Advances in Telecommunications, ISSN: 1942-2601
- International Journal of Network Security and its Applications, ISSN: 0975-2307

CONFERENCE PROCEEDINGS VOLUME EDITOR / JOURNAL GUEST EDITOR

- Fifth International Conference on Advances in Computing and Information Technology (ACITY 2015) July 25, 2015, Chennai, India. ISBN: 978-1-921987-41-0.
- Third International Conference of Advanced Computer Science & Information Technology (ACSIT 2015) June 13-14, 2015, Zurich, Switzerland. ISBN: 978-1-921987-40-3.
- Seventh International Conference on Wireless & Mobile Network (WiMo 2015), May 23-24, 2015, Sydney, Australia. ISBN: 978-1-921987-38-0.
- Second International Conference on Computer Science and Information Technology (COSIT 2015) March 21-22, 2015, Geneva, Switzerland. ISBN: 978-1-921987-34-2.
- The Fourth International Conference on Information Technology Convergence & Services (ITCS 2015) Jan 2-3, 2015, Zurich, Switzerland. ISBN: 978-1-921987-21-2.
- Sixth International Conference on Networks & Communications (NeTCoM 2014) December 27-28, 2014, Chennai, India. ISBN: 978-1-921987-19-9.
- The Sixth International Conference on Wireless & Mobile Networks (WiMoNe-2014) Sydney, Australia, December 27-28, 2014. ISBN: 978-1-921987-18-2.
- Fourth International Conference on Computer Science, Engineering and Applications (ICCSEA 2014), July 26-27, 2014 Chennai, India. ISBN: 978-1-921987-08-3.
- Third International conference on Advanced Computer Science and Information Technology (ICAIT 2014) July 12~13, 2014, Sydney, Australia. ISBN: 978-1-921987-20-5
- Fifth International Conference on Networks & Communications (NetCoM 2013), December 27, 2013, Chennai, India. ISBN: 978-3-319-03692-2
- Third International Conference on Advances in Computing & Information Technology (ACITY 2013), July 27, 2013, Chennai, India. ISBN: 978-1-921987-09-0
- The Second International Conference on Information Technology Convergence and Services (ITCS 2013), Feb 18~20, 2013, Bangalore, India. ISBN: 978-1-921987-07-6.
- Computer Networks & Communications (NetCom): Proceedings of the 4th International Conference on Networks & Communications (Lecture Notes in Electrical Engineering, Vol. 131), December 22-24, 2012, ISBN: 978-1-4614-6154-8.

- International Conference of Advanced Computer Science & Information Technology (ACSIT-2012), July 14 ~ 15, 2012, Chennai, India. ISBN : 978-1-921987-04-5.
- Advances in Computing and Information Technology, Proceedings of the Second International Conference on Advances in Computing and Information Technology (ACITY) July 13-15, 2012, Chennai, India. Vol. 176, 177, 178, ISBN-13: 978-3-642-31513-8.
- Proceedings of the Second International Conference on Computational Science, Engineering and Information Technology, CCSEIT 2012, Coimbatore, India, October 26 - 28, 2012. Proceedings published by ACM.
- International Journal of Wireless and Mobile Networks (IJWMN), Special Issue on Wireless & Mobile Networks - based on the Accepted Papers of The Third International Conference on Wireless, Mobile Networks (WiMone-3.0), Bangalore, India, January 2012.
- The Second International Conference on Computer Science and Information Technology (CCSIT 2012), January 2012, Bangalore, India, Springer-Verlag *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering Series*, (LNICST 84, 85 and 86)
- Trends in Networks and Communications, Proceedings of the NeCoM, WeST, WiMoN 2011 Conferences, Chennai, India - published in the Springer Communications in Computer and Information Science Series, July 2011. CCIS 197.
- Advances in Network Security and Applications, Proceedings of the 4th International CNSA 2011 Conference, Chennai, India - published in the Springer Communications in Computer and Information Science Series, July 2011. CCIS 196.
- The First International Conference on Computer Science and Information Technology (CCSIT 2011), January 2-4, 2011, Bangalore, India, Springer-Verlag CCIS 131, CCIS 132.
- The Second International Conference on Wireless & Mobile Networks (WiMoN-2010), July 23 - 25 2010, Chennai, India, published by Springer. CCIS 90.
- The First International Workshop on Trust Management in P2P Systems (IWTMP2PS 2010), July 23 - 25 2010, Chennai, India, published by the Springer Communications in Computer and Information Science Series (CCIS 89).
- International Conference on Recent Trends in Business Administration and Information Processing, BAIP 2010, Trivandrum, India, March 26-27, 2010, Published by the Springer Communications in Computer and Information Science Series, (CCIS 70), March 2010.

WORKSHOP ORGANIZATION CHAIR

- [1] International Workshop on Applications of Graph Theory in Wireless Ad hoc Networks and Sensor Networks (2010-2016)
- [2] International Workshop on Secure Software Development, as part of the 8th International Conference on Software Security and Reliability (SERE 2014), San Francisco, June 30-July 2, 2014.
- [3] Software Security Track, as part of the International Conference on Information Technology: New Generations (ITNG), Las Vegas, NV, USA (2013-2014)

SESSION CHAIR

- Fifth International Conference on Advances in Computing and Information Technology (ACITY 2015) July 25-26, 2015, Chennai, India.
- 4th International Conference on Computer Science, Engineering and Applications (ICCSEA 2014), Chennai, India, July 26, 2014.
- 11th International Conference on Information Technology : New Generations (ITNG 2014), April 7-9, 2014, Las Vegas, Nevada, USA (Sessions: Networking and Wireless Communications; Software Security).

- 10th International Conference on Information Technology : New Generations (ITNG 2013), April 15-17, 2013, Las Vegas, Nevada, USA (Session: Software Security).
- 9th International Conference on Information Technology: New Generations (ITNG 2012), April 16-18, 2012, Las Vegas, Nevada, USA (Session: Networking and Wireless Communications)
- IEEE Consumer Communications and Networking Conference (CCNC), January 14-17, 2012, Las Vegas, NV, USA (Session: Wireless Communications).

INVITED TALK

- University of Mississippi: Guest Lecture on *Maximum Bottleneck Node Weight and Link Weight-based Data Gathering Trees for Wireless Sensor Networks*, March 25, 2015.
- International Conference on Advances in Control and Computing of Analog and Digital Systems (ACCADS-2014), Coimbatore, India: Guest Lecture on *Stability-based Data Gathering Trees for Mobile Sensor Networks*, Dec 29-31, 2014.
- 6th International Conference on Networks & Communications (NETCOM-2014), Chennai, India: Guest Lecture on *Centrality Metrics for Complex Network Analysis*, Dec. 27-28, 2014.
- 4th International Conference on Computer Science, Engineering and Applications (ICCSEA 2014), Chennai, India: Guest Lecture on *Use of Graph Theory Algorithms to Determine Stable Paths in Wireless Mobile Ad hoc Networks*, July 26, 2014.
- Dhanalakshmi College of Engineering, Chennai, India: Guest Lecture on *Mobile Ad hoc Networks and Sensor Networks*, March 10, 2014.
- 3rd International Conference on Advances in Computing and Information Technology (ACITY), Chennai, India: Guest Lecture on *A Generic Algorithm to Determine Connected Dominating Sets for Mobile Ad hoc Networks and Performance Evaluation under Different Mobility Models*, July 27, 2013.
- Colloquium at Columbus State University, GA: Guest lecture on *Integration of Wireless Mobile Ad hoc Networks Research into the Classroom and Promotion of Undergraduate Research*, April 30, 2013.
- Research Colloquium organized by the Department of Computer Science, The University of Texas at Dallas, Guest Lecture on “Incorporating Aspects of Systems and Software Security in Software Engineering Projects”, October 5, 2012.
- Research Colloquium organized by the Department of Computer Science, The University of Texas at Dallas, on “Location Prediction Based Routing Protocol for Mobile Ad hoc Networks and its Extension for Multicast and Multi-path Communication”, December 2011.
- Florida A&M University Colloquium Series, Guest Lecture on *REU Program in Wireless Ad hoc Networks and Sensor Networks at Jackson State University*, March 20, 2009.

WORKSHOPS ORGANIZED

- Conducted a **reviewer's workshop** on *Guidelines for reviewing papers submitted for conferences and journals as well as including Hands-on review practice session for sample papers* at the 3rd International Conference on Advances in Computing and Information Technology (ACITY), Chennai, India, July 27, 2013.
- Organized and coordinated a **workshop on Introduction to Programming using Alice and Java Script** at Jackson State University (Networks lab, main-campus), February 7-8, 2013. The workshop sessions were conducted by Dr. Jey Veerasamy from The University of Texas at Dallas.

BOOK REVIEWS

- Reviewed for the 5th Edition of Security in Computing (by Pfleeger/Pfleeger/Margulies): Publisher: Pearson; Spring 2014.
- Reviewed for the 1st Edition of Java Programming (by Schildt): Publisher: McGrawHill; Spring 2012.

GRADUATE ADVISOR FOR MS THESIS AND PROJECTS

1. Tony Olaye, (Project) "Stability and Energy Consumption of Multi-path Routing Strategies", Department of Computer Science, Jackson State University, August 2006 – May 2007
2. Mouna Kettani, (Project) "Impact of Broadcasting Strategies on Mobile Ad Hoc Network Routing Strategies", Department of Computer Science, Jackson State University, August 2006 – May 2007
3. Michael Williams, (Thesis) "A Credible Secure Source Routing Protocol for Mobile Ad Hoc Networks," Department of Computer Engineering, Jackson State University, Jan. 2006 – Dec. 2006
4. Omar Kebbeh, (Thesis) "Exploring the Impact of Mobile Ad Hoc Network Routing Protocols on Network Lifetime", Department of Computer Science, Jackson State University, May 2006 – Aug. 2007
5. Alphonse Omulo, (Project) "Impact of Random Waypoint Simulation Time Period and Network Shape on the Performance of Routing Algorithms for Mobile Ad Hoc Networks," Department of Computer Science, Jackson State University, May 2006 – August 2007
6. Sugam Sharma, (Thesis) "Sink Mobility Models for Sensor Networks," Department of Computer Science, Jackson State University, May 2007 – May 2008
7. Kasi Mudunuri, (Thesis) "Simulation Study of the Bandwidth Efficient Multicast Routing Protocol for Mobile Ad Hoc Networks," Department of Computer Science, Jackson State University, May 2007 – December 2007
8. Sumanth Allam, (Project) "Tools and Techniques for Computer and Network Forensics," Department of Computer Science, Jackson State University, May 2007 – May 2008
9. Sumalatha Allam, (Project) "Automated Web-based Faculty Performance Evaluation," Department of Computer Science, Jackson State University, January 2008 – December 2008
10. Leslie Milton, (Thesis) "Performance Comparison of Stable Path, Load Balancing and Power-Aware Routing Protocols for Mobile Ad Hoc Networks," Department of Computer Science, Jackson State University, May 2007 – December 2008
11. Srilakshmi Vavilala, (Thesis) "Impact of Route Selection Metrics on the Performance of On-Demand Mesh-based Multicast Ad hoc Routing Protocols," Department of Computer Science, Jackson State University, August 2007 – December 2008
12. Ayomide Odunsi, (Thesis) "Scenario based Performance Evaluation of the Fish Eye State Routing Protocol," Department of Computer Science, Jackson State University, August 2007 – December 2008
13. Levon P. Judon, (Thesis) "Performance Study of Ad hoc Routing Protocols in the Presence of On-demand Recharging," Department of Computer Science, Jackson State University, Aug. 2007-July 2009
14. Meena Sugumar, (Thesis) "Minimum Interference based Routing Protocol for Mobile Ad hoc Networks," Department of Computer Science, Jackson State University, January 2008 – May 2009
15. Sireesha Gorla, (Project) "On the Probability of k-Connectivity in Ad hoc Networks under Different Mobility Models," Department of Computer Science, Jackson State University, Aug. 2008 – May 2010
16. Busola Olagbegi, (Project) "A Review of the Energy Efficient and Secure Multicast Routing Protocols for Mobile Ad hoc Networks," Dept. Computer Science, Jackson State University, May 2009-May 2010
17. Lopamudra Nayak (Thesis) "Design and Development of a Software Application for Automated Transcript Analysis and Course Enrollment," Department of Computer Science, Jackson State University, January 2010 – August 2011
18. DeShante Johnson (Project) "An Analysis of Software Security Attacks and Mitigation Controls," Department of Computer Science, Jackson State University, August 2011 – May 2012
19. Ilin S. Dasari (Thesis) "Performance Comparison Study of Connected Dominating Set Algorithms for Mobile Ad hoc Networks under Different Mobility Models," Department of Computer Science, Jackson State University, July 2011 - December 2012

20. Sandeep R. Thumma (Project) "An Automated Real Time Secure Application to Manage the Release of Pollutants in an Automobile Manufacturing Plant," Department of Computer Science, Jackson State University, January 2012 - December 2012
21. Ishtiaq Ali (Thesis) "A Simulation Study of the Distributed Data Gathering Algorithms for Mobile Sensor Networks," Department of Computer Science, Jackson State University, Jan. 2011 - Dec. 2013
22. Michael Terrell, (Thesis), "Session Mobility as a Service for Cloud Computing Environment: Design and Implementation," Department of Computer Science, Jackson State University, Jan. 2012-May 2014
23. Lawrence McClendon (Project), "Using Machine Learning Algorithms to Analyze Crime Data," Department of Computer Science, Jackson State University, August 2014-May 2015
24. Yuxiao (Mina) Zhou (Thesis), "Distributed Processing of Large Remote Sensing Images using Map Reduce," Department of Computer Science, Jackson State University, January 2014 – December 2015

DEPARTMENT, COLLEGE AND UNIVERSITY COMMITTEES MEMBERSHIP

- Graduate Program Coordinator for the Department of Computer Science, Spring 2014 - Present
- Assessment Coordinator for the Department of Computer Science, Fall 2006 - Fall 2011
- University Graduate Council, Fall 2011 – Present
- CSET Sabbatical Committee, Fall 2010 – Present
- Cyber Security Team to prepare for National Security Agency Certification and Center for Excellence in Information Assurance, Fall 2009 - Present
- Computer Science Representative for CSET Research Advisory Council, Fall 2009 – Summer 2012
- Computer Science Department Inclusion Report Committee for the New Academy, Jackson State University, September – November 2009.
- Planning Committee, The First Annual Computer Science Olympiad 2008, Jackson State University, August 2008 – November 2008
 - Moderator for the Robotics and Cryptography Events
 - Technical Coordinator: In-charge of Framing Judging Rules for each Event and Recording Event Scores
- Curriculum ABET Committee, Department of Computer Science, Jackson State University, January 2006 – Fall 2007
- Institutional Facilities ABET Committee, Department of Computer Science, Jackson State University, January 2006 – Fall 2007
- Student Support ABET Committee, Department of Computer Science, Jackson State University, January 2006 – Fall 2007
- Science Fair Special Awards Committee, Department of Computer Science, Jackson State University, Mississippi Region II Science Fair 2008.
- Graduate Curriculum Committee, Fall 2009 – Present
- Graduate Admissions Committee, Fall 2009 – Present
- Scholarship Committee, Fall 2009 and Spring 2010

FOREIGN LANGUAGE INSTRUCTOR

- Taught 'Tamil as a Foreign Language' to a the students funded in the Cyber Intelligence and Massie Chair programs at Jackson State University, (2 hours per week), Fall 2015.

STUDENT MENTORING PROGRAMS

- **Research Mentor:** NSF Research Experiences for Undergraduates (REU) Program, June 2009 – August 2012

- **Research Mentor:** Massie Chair Program, Jackson State University, Spring 2012; Spring 2014; Fall 2014
- **Research Mentor:** Science and Technology Access to Research and Graduate Education (STARGE), Jackson State University, June – July 2007.
- **Research Mentor:** Louis Stokes Mississippi Alliance for the Minority Participation (LSMAMP), Jackson State University, August – December 2005, August – December 2006, August – December 2007, August - December 2013.

Students Funded and Mentored through External Funds

#	Student Name	Funded Program	Funded and Mentored Semesters
1	Khalyle Hagood	NSF-REU ^[1]	Summer 2011
2	Markus Bailey		Spring 2012
3	Samuel Mahr		Spring 2012
4	Ty Walker		Spring 2012
5	Jared Dickinson		Fall 2012
6	Tiffany Rankins		Fall 2012
7	Micahel Terrell	NSF-TUES ^[2]	Spring 2012, Summer 2012, Fall 2012, Spring 2014
8	Abduaziz Komilov		Fall 2011
9	Uchechukwu Ngwudike		Spring 2013
10	Lemnyuy Bernard		Summer 2013
11	Michael Terrell	AFRL/Clarkson Aerospace: MLP ^[3]	Spring 2013, Summer 2013, Fall 2013
12	Andrew Overton		Spring 2013
13	Alvin Yuan		Spring 2013, Summer 2013
14	Melvin Latimore	Massie Chair ^[4]	Spring 2012
15	Ashley Blakley		Spring 2012
16	Towanta Reese		Spring 2012
17	Tiffani Gardner		Spring 2014 to Spring 2015
18	Justin Lewis		Spring 2014 to Spring 2015
19	Allison Gray		Spring 2014
20	Markell Beale	LSMAMP ^[5]	Fall 2013
21	Ayo Olutade	NASA EPSCoR, Massie Chair	Fall 2014, Spring 2015 Fall 2015
22	Angel Patterson	Massie Chair	Fall 2015
23	Jeffery Taylor	Massie Chair	Fall 2015

^[1]**NSF-REU:** Research Experiences for Undergraduates (REU) Program; students worked on research projects in the areas of wireless ad hoc networks and sensor networks. REU Website: <http://www.jsums.edu/cms/reu>

^[2]**NSF-TUES:** Transforming Undergraduate Education in STEM (TUES) Program; students worked on projects in the areas of Computer Networks and Cyber Security.

^[3]**Minority Leaders Program (MLP):** The Air Force Research Lab (AFRL) funded the students through the MLP program (sub contract from Clarkson Aerospace); students conducted research projects in the areas of Cloud Computing, Cyber Security and Mobile Sensor Networks

^[4]**Massie Chair Program:** Mentored students under the Department of Energy-sponsored Massie Chair program. The Spring 2012 students worked on Cyber Security projects related to Health Information Networks, Biometrics and Algorithmic Complexity; the Spring 2014 students worked on Cyber Security projects related to Wireless Sensor Networks and Radioactive Emission Detection.

^[5]**LSMAMP Program:** Mentored a student (Markell Beale) on applications of graph theory algorithms for ad hoc networks and sensor networks

OTHER PROFESSIONAL DEVELOPMENTS

Attended the following conferences and meetings in the recent past:

- Review Meeting of the Research Collaboration Program, Air Force Research Lab, Dayton, OH, USA, September 19-22, 2016.
- 12th International Conference on Information Technology: New Generations, ITNG, Las Vegas, NV, USA, April 13-15, 2015.
- 11th International Conference on Information Technology: New Generations, ITNG, Las Vegas, NV, USA, April 7-9, 2014.
- 26th ISCA International Conference on Computer Applications in Industry and Engineering, CAINE-2013, Los Angeles, USA, September 25-27, 2013.
- 3rd ISCA International Conference on Advanced Computing and Communications, ACC-2013, Los Angeles, USA, September 25-27, 2013.
- 10th International Conference on Information Technology: New Generations, ITNG, Las Vegas, USA, April 17-19, 2013.
- 4th International Conference on Sensor Networks and Applications (SNA 2012), New Orleans, USA, November 15-16, 2012.
- 9th International Conference on Information Technology: New Generations, ITNG, Las Vegas, USA, April 16-18, 2012.
- 9th IEEE International Consumer Communications and Networking Conference, Las Vegas, USA, January 7-10, 2012.
- Distance Learning Training Workshops, conducted by Jackson State University: DL 501 - Introduction to WebCT, DL 602 - Creating Quizzes, Surveys & Assessments in WebCT and DL 702 - Mastering WebCT's Gradebook, July 2011.
- ADMI 2011 Cloud Computing Workshop, hosted by Elizabeth City State University, Elizabeth City, NC, June 6-10, 2011.
- NSF REU PI Meeting, Pasadena (Los Angeles), CA, March 16-17, 2011.
- NSF CCLI/TUES PI Meeting, Washington, DC, January 2011 and 2013.
- 48th ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

LITERATURE CITATIONS



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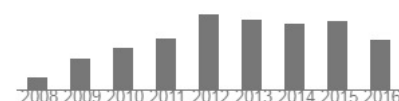
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PROPOSALS SUBMITTED (NOT ACCEPTED)

- **Principal Investigator:** "PisCes: Bridging the Gap between Demand and Supply for Professionals in Cyber Security," submitted to the National Science Foundation (NSF) SFS Program, Capacity Building Track. An amount of \$300,000 requested for a period of 3 Years, starting from September 1, 2014 to August 31, 2017.
- **Principal Investigator:** "BrainS: Broadening Participation and Building Diverse Communities in Cyber Security," submitted to the National Science Foundation (NSF) EPSCoR Track-3 Program (in collaboration with Mississippi State University and Tennessee State University). An amount of \$749,999 requested for a period of 4 Years, starting from January 1, 2014 to December 31, 2017.
- **Principal Investigator:** "MeriSTEM: Minor Program in Cyber Security for Computer Science and Non-Computer Science STEM Majors," submitted to the National Science Foundation (NSF) TUES-Type II Program (in collaboration with Grambling State University and Hinds Community College). An amount of \$599,995 requested for a period of 4 Years, starting from August 1, 2013 to July 31, 2017.
- **Principal Investigator:** "Curriculum Enhancement: Developing a New Course on Software Safety and Incorporating Software Safety Modules in the Regular Courses," submitted to the Nuclear Regulatory Commission (NRC) MSIP Program (in collaboration with Grambling State University). An amount of \$249,999 requested for a period of 2 Years, starting from July 1, 2013 to June 30, 2015
- **Principal Investigator:** "TUES Type II Collaborative Project: Integrating Software Safety into Undergraduate Computer Science and Software Engineering Education," submitted to the NSF-TUES Program (Type II Proposal) in collaboration with The University of Texas at Dallas (UTD PI: Dr. Eric Wong). An amount of \$181,086 requested for Jackson State University for a period of 3 years, starting from August 2012.
- **Principal Investigator:** "Exploring the Performance of the Routing Protocols and Data Gathering Protocols for Wireless Networks under Different Topology Control Graphs," submitted to the Army Research Lab in response to the DoD HBCU/MI BAA W911NF-11-R-0007. An amount of \$418,689 requested for a period of 36 months starting from December 19, 2011.
- **Principal Investigator:** "Collaborative Research II-New: CRISES: Computing Research Infrastructure for Sports Event Security," submitted to the National Science Foundation, Computing Research Infrastructure (CRI) Program; in collaboration with Shaoen Wu (Lead PI), University of Southern Mississippi. An amount of \$59,775 (total budget: \$295,217) was requested for a period of 24 months starting from May 1, 2011.
- **Principal Investigator:** "Biometric Investigation of Cardiac Patients," submitted to the National Institutes of Health (NIH) R-21 Program. An amount of \$356,568 was requested for a period of 24 months, starting from December 1, 2010. [Other PI: Dr. H. Cohly, Jackson State University, Dr. Daniel Sarpong, Jackson Heart Study]
- **Co-Principal Investigator:** "Educational Tools for Genomic Basis of Microbial Forensics," submitted in response to BAA 09-07 of the Department of Homeland Security, Science and Technology Directorate. An amount of \$202,505 was requested for a period of 12 months starting from August 1, 2010. [PI: Dr. H. Cohly, Jackson State University]
- **Co-Principal Investigator:** "Predictive Computational Modeling of the Toxicity of Nanomaterials on the Human Epidermal Cells," submitted to the National Science Foundation – Mississippi EPSCoR Program. An amount of \$38,625 was requested for a period of 12 months starting from January 1, 2010. [PI: Dr. H. Cohly, Jackson State University]
- **Co-Principal Investigator:** "Modeling the Effects of Physical Exercise on Cognition using Computational Neuroscience Techniques," submitted to the National Science Foundation CRCNS Program. An amount of \$1,691,271 was requested for a period of 60 months starting from July 1, 2010.[PI: Dr. H. Cohly, Jackson State University]

- **Co-Principal Investigator:** “Quantification and Visualization of Anxiety in Learning English as a Second Language,” submitted to the National Science Foundation CRCNS Program. An amount of \$990,811 was requested for a period of 36 months starting from July 15, 2010. [PI: Dr. H. Cohly, Jackson State University]
- **Principal Investigator:** “JAN-HOC: Road-Disjoint Evacuation Routes and Performance of Ad hoc Network Routing Protocols for the City of Jackson,” submitted to the Institute of Multi-modal Transportation. An amount of \$49,939 was requested for a period of 12 months starting from July 1, 2009.
- **Principal Investigator:** “Development of Wireless Sensor Networks Education and Research Laboratory”, in co-ordination with Dr. Gordon W. Skelton (Co-PI), pre-proposal submitted to the W. M. Keck Foundation. An amount of \$ 231,670 was requested for a period of 24 months starting from June 1, 2009.
- **Principal Investigator:** “Incorporating Computer and Network Security in Senior Projects,” in co-ordination with Loretta A. Moore (Co-PI) and Hyunju Kim (Co-PI), submitted to the National Science Foundation. An amount of \$148,699 was requested for a period of 36 months starting from January 1, 2009.
- **Principal Investigator:** “A Multi-disciplinary Computer Science Undergraduate Research Program”, in co-ordination with Dr. Gordon W. Skelton (Co-PI), submitted to the National Science Foundation. An amount of \$ 460,494 was requested for a period of 36 months starting from January 1, 2008.
- **Principal Investigator:** “Development of Wireless Sensor Networks Education and Research Laboratory”, in co-ordination with Dr. Gordon W. Skelton (Co-PI), submitted to the National Science Foundation. An amount of \$ 423,196 was requested for a period of 24 months starting from June 1, 2007.