TEXAS STATE VITA

I. Academic/Professional Background

A. Name and Title

Name: Dr. Mina S. Guirguis Title: Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
PHD	2007	Boston University	Computer Science	
MA	2005	Boston University	Computer Science	
BSC	1999	Alexandria University	Computer Science and Automatic Control	

C. University Experience

Position	*University*	*Comments*	*Dates*
Professor, Computer Science Department	Texas State University. San Marcos, TX, United States		September 2018 - Present
Associate Professor, Computer Science Department	Texas State University. San Marcos, TX, United States		September 2012 - August 2018
Assitant Professor, Computer Science Department	Texas State University. San Marcos, TX, United States		September 2006 - August 2012
Research Fellow, Computer Science Department	Boston University. Boston, MA, United States		May 2002 - August 2006
Teaching Fellow, Computer Science Department	Boston University. Boston, MA, United States		January 2001 - May 2002

D. Relevant Professional Experience

Position	*Entity*	*Comments*	*Dates*
Senior Research Fellows	LBJ Institute for STEM Education and Research, Texas State		January 2015 - Present

Position	*Entity*	*Comments*	*Dates*
	University		
Visiting Scholar	DHS CREATE, University of Southern California, Los Angeles, CA, United States		June 2016 - August 2016
Visiting Associate Professor	Electric and Computer Engineering, University of Texas at Austin, Austin, TX, United States		September 2014 - May 2015
VFRP Fellow	Air Force Research Laboratory, Rome, NY, United States		July 2013 - October 2013
VFRP Fellow	Air Force Research Laboratory, Rome, NY, United States		June 2012 - July 2012
Researcher	Fortress Technologies, Westford, MA, United States	Acquired by General Dynamics	June 2005 - June 2006
Software Developer	Microsoft Corporation, Redmond, WA, United States	Intern	May 2001 - August 2001
Software Developer	Software & Electronic Data Care, Troy, MI, United States		August 2000 - December 2000
Software Developer	El Alamia Sakhr Software Company, Cairo, Egypt		August 1999 - August 2000
Software Developer	Mitsubishi Electric Internet Services, Birmingham, United Kingdom	Intern	June 1998 - July 1998
Software Developer	International Computer Limited (ICL),	Intern	July 1997

Position	*Entity*	*Comments*	*Dates*
	Alexandria, Egypt		

II. TEACHING

A. Teaching Honors and Awards:

Award / Honor Recipient: Presidential Distinction Award for Excellence in Teaching, College of Science and Engineering.
August 2017

Award / Honor Recipient: Outstanding Teaching Fellow Award, Boston University.
April 2002

B. Courses Taught:

Texas State University:

CS 4298 - UNDERGRAD RSRCH I

CS 4299 - UNDERGRAD RSRCH II

CS 4310 - COMPUTER NETWORKS

CS 4310 - COMPUTERS NETWORKS

CS 4328 - OPERATING SYSTEMS

CS 4378Y - FORENSIC SYSTEMS

CS 4395 - INDEPENDENT STUDY

CS 5199B - THESIS

CS 5305 - FOUND OF OPERATING SYSTEMS

CS 5310 - NETWORKS & COMM

CS 5369F - DIGITAL FORENSICS

CS 5369R - DIGITAL FRNSC RSCH

CS 5395 - IND STUDY ADV

CS 5399A - THESIS

CS 5399B - THESIS

CS 7342 - ADVANCED COMPUTER NETWORKING

C. Directed Student Learning (i.e. theses, dissertations, exit committees, etc.):

Member, Master's Thesis, Status: Completed. (November 2019).
Student(s): Spandana Vottem.

Supervisor / Chair, Master's Thesis, "BLOC: A Game Theoretic Approach to Orchestrate CPS Against Cyber Attacks", Status: Completed. (July 2019).
Student(s): Alireza Tahsini, Graduate.

Supervisor / Chair, Master's Thesis, "Solving Cyber Alert Allocation Markov Games with Deep Reinforcement Learning", Status: Completed. (May 2019).
Student(s): Noah Dunstatter, Graduate.

Member, Master's Thesis, "Implementation and Evaluation of an Android Accessor-based IoT Middleware", Status: Completed. (August 2017).
Student(s): Vimal Krishnamoorthy, Graduate.

Member, Master's Thesis, "Determination of Emotional State through Physiological Measurement", Status: Completed. (December 2016).
Student(s): Lee Hinkle, Graduate.

Member, Master's Thesis, "Evaluation and Adaptation of a Constraint Optimization and Distributed Anytime A* Algorithm to Design-To-Criteria Scheduling Problem", Status: Completed. (May 2016).
Student(s): Muhammad Shiraz, Graduate.

Supervisor / Chair, Master's Thesis, "Bandits in the Cloud: A Moving Target Defense Against Multi-Armed Bandit Attack Policies", Status: Completed. (May 2016).
Student(s): Terry Penner, Graduate.

Supervisor / Chair, Master's Thesis, "Local Overlay-based Mobile Clouds", Status: Completed. (December 2015).
Student(s): Lavanya Tammineni, Graduate.

Member, Master's Thesis, "Development, Evaluation and Analysis of Complex Eye Movement Biometrics", Status: Completed. (December 2014).
Student(s): Corey Holland, Graduate.

Member, Master's Thesis, "The “Anonymous” Movement: Hacktivism as an Emerging Form of Political Participation", Status: Completed. (December 2014). Sociology Dept.
Student(s): Galina Mikhaylova, Graduate.

Supervisor / Chair, Master's Thesis, "Effect of an Interloper Attack on Dynamic Channel Assignment", Status: Completed. (December 2014).
Student(s): Janiece kelly, Graduate.

Supervisor / Chair, Honor's Thesis, "Navigating using Wireless Access Points (NUWAP)", Status: Completed. (May 2013).
Student(s): Aaron Horn, Undergraduate.

Member, Master's Thesis, "Secure Execution Partitioning of Weak Devices", Status: Completed. (May 2013).
Student(s): Sobit Thapa, Graduate.

Supervisor / Chair, Master's Thesis, "An Abstraction Layer for Controlling Heterogeneous Mobile Cyber-Physical Systems", Status: Completed. (May 2013).
Student(s): Trevor Hanz, Graduate.

Member, Master's Thesis, "Power-aware Task Scheduling on Homogeneous Multi-core Systems", Status: Completed. (December 2012).
Student(s): Shwetha Shankar, Graduate.

Supervisor / Chair, Master's Thesis, "On the Effect of Jamming Attacks on CPS in Target Tracking Applications", Status: Completed. (December 2011).
Student(s): Emad Guirguis, Graduate.

Member, Master's Thesis, "Compression of a Signature Database", Status: Completed. (November 2011).
Student(s): Edson Amboni, Graduate.

Member, Master's Thesis, "File Format Extensions Through Steganography", Status: Completed. (May 2010).
Student(s): Blake Ford, Graduate.

Member, Master's Thesis, "Improving the Performance of Constructive Multi-start Search Using Record Keeping", Status: Completed. (May 2010).
Student(s): Charles King, Graduate.

Member, Master's Thesis, "Prime-based Mimic Functions", Status: Completed. (May 2009).
Student(s): Wesley Connell, Graduate.

Member, Master's Thesis, "Balancing Data Locality and Parallelism for Improved Application Performance on Multi-Core Platforms", Status: Completed. (December 2008).
Student(s): Michael Cade, Graduate.

Supervisor / Chair, Master's Thesis, "Soft Quality of Service via TCP Congestion Signal Delegation on Aggregated Flows", Status: Completed. (May 2008).
Student(s): Jason Valdez, Graduate.

E. Teaching Grants and Contracts

1. Funded External Teaching Grants and Contracts:

Roundtree, Aimee (Principal), Zong, Ziliang (Co-Principal), Close, Hunter (Co-Principal), Collins, Kristina (Co-Principal), Guirguis, Mina (Supporting), Kim, MiHyun (Supporting). Coding Across the Disciplines: Computer Science Collaborative in Texas, WeTeach CS Program at UT Austin's Center for STEM Education, State, $100,000.00. (Funded: January 13, 2017 - August 15, 2017). Grant.

Novoa, Clara M, Romanella, susan, Ngu, Hee Hiong, Graham, Reiko, Guirguis, Mina S. SPARK: Increasing the Recruitment and Retention of Female Undergraduates in Engineering and Computer Science, NSF, $600,000.00. (Funded: June 2012 - June 2016). Grant.
Additional Comments: Senior Personnel

F. Other:

Student Accomplishments:

Award:

SaTC PI Meeting (undergraduate track) participant. "Protecting Cyber Physical Systems using a Game-Theoretic Approach." (October 2019).
Student(s): Leander Davis.

Presentation:

Supervisor. "Combating the Bandits in the Cloud: A Moving Target Defense Approach," IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID). (May 2017).
Student(s): Terry Penner, Graduate.

Supervisor. "Game Theoretic Approach to Wireless Networks Against Stealthy Decoy Attacks," Allerton Conference. (September 2016). University of Central Florida.
Student(s): Ahmad Anwar, Doctoral.

Supervisor. "Pinball Attacks: Exploiting Channel Allocation in Wireless Networks," IEEE International Conference on Communication (ICC). (May 2016).
Student(s): Janiece kelly, Graduate.

Supervisor. "Context Awareness over Transient Clouds," IEEE Global Communication Conference (Globecom). (December 2015). University of Genoa.
Student(s): Andrea Sciarrone, Doctoral.

Supervisor. "Stealthy Edge Decoy Attacks Against Dynamic Channel Assignment in Wireless Networks," International Conference for Military Communications (Milcom). (October 2015). University of Central Florida.
Student(s): Ahmad Anwar, Doctoral.

Supervisor. "Transient Clouds: Assignment and Collaborative Execution of Tasks on Mobile Devices," IEEE Global Communication Conference (Globecom). (December 2014).
Student(s): Terry Penner, Graduate.

Supervisor. "Demo: Transient Clouds," EAI International Conference on Mobile Computing, Applications and Services (MobiCASE). (November 2014).
Student(s): Terry Penner, Graduate.

Supervisor. "An Abstraction Layer for Controlling Heterogeneous Mobile Cyber-Physical Systems," IEEE International Conference on Automation Science and Engineering (CASE). (October 2013).
Student(s): Trevor Hanz, Graduate.

Supervisor. "Transient Clouds: Assignment and Collaborative Execution of Tasks on Mobile Devices," Grace Hopper Conference. (October 2013).
Student(s): Terry Penner, Undergraduate.

Supervisor. "Control Theoretic Adaptive Monitoring Tools for the Android Platform," IEEE International Workshop on Cloud Security Auditing. (June 2013).
Student(s): David Reynolds, Undergraduate.

Supervisor. "Stealthy Attacks on Pheromone Swarming Methods," IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA). (February 2013).
Student(s): Janiece kelly, Undergraduate.

Supervisor. "A Case for Low-level Jamming Attacks on Mobile CPS in Target Tracking Applications," International Symposium on Pervasive Systems, Algorithms, and Networks. (December 2012).
Student(s): Emad Guirguis, Graduate.

Supervisor. "Stealthy Attacks on Pheromone Swarming Methods," UTSA College of Sciences Research Conference. (October 2012).
Student(s): Janiece kelly, Undergraduate.

Supervisor. "On-Demand Adaptive Computing With Mobile Devices," UTSA College of Sciences Research Conference. (October 2012).
Student(s): Agustin Rivera, Undergraduate.

Supervisor. "Control Theoretic Adaptive Monitoring Tools for the Android Platform," In AFCEA Cyber and Information Challenges Conference. (June 2012).
Student(s): David Reynolds, Undergraduate.

Supervisor. "On the Safety and Security of Path Splicing: A Case Study for Path Splicing on the GEANT Network," IEEE Global Communication Conference (Globecom). (December 2009).
Student(s): Christopher Page, Undergraduate.

Supervisor. "Stealthy IP Prefix Hijacking," ACM SIGCOMM. (August 2008).
Student(s): Christian McArthur, Undergraduate.

Supervisor. "Liberating TCP: The Free and the Stunts," International Conference on Networking (ICN). (April 2008).
Student(s): Jason Valdez, Graduate.

Supervisor. "Stealthy IP Prefix Hijacking," Texas Academy of Science Annual Meeting. (March 2008).
Student(s): Christian McArthur, Undergraduate.

Supervisor. "Reduction of Quality Attacks on Content Adaptation Mechanisms," IEEE/ACM Conference on Grid Computing (GRID). (September 2007).
Student(s): Joshua Tharp, Undergraduate.

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press):

1. Books:

d. Chapters in Books:

Refereed:

Gu, Q., & Guirguis, M. S. (2014). Secure Mobile Cloud Computing and Security Issues. In *High Performance Cloud Auditing and Applications, Chapter 3*. New York, NY: Springer.

2. Articles:

a. Refereed Journal Articles:

Anwar, A., Kelly, J., Atia, G., & Guirguis, M. S. (2019). Pinball Attacks Against Dynamic Channel Assignment in Wireless Networks. *Elsevier Journal of Computer Communications (COMCOM)*, *140-141*. Published.

Anwar, A., Atia, G., & Guirguis, M. S. (2019). A Game-Theoretic Framework for the Virtual Machines Migration Timing Problem. *IEEE Transactions on Cloud Computing*. Published.

Anwar, A., Atia, G., & Guirguis, M. S. (2018). Adaptive Topologies Against Jamming Attacks in Wireless Networks: A Game-Theoretic Approach. *Journal of Network and Computer Applications*. Published.

Guirguis, M. S., Gu, Q., Penner, T., Tammineni, L., Langford, T., Rivera-Longoria, A., … Van Slyke, B. (2017). Assignment and Collaborative Execution of Tasks on Transient Clouds. *Springer Annals of Telecommunications*. Published.

Sciarrone, A., Bisio, I., Lavagetto, F., Penner, T., & Guirguis, M. S. (2015). Context-Awareness over Transient Cloud in D2D networks: Energy Performance Analysis and Evaluation. *Wiley Transactions on Emerging Telecommunications Technologies*. Published.

Page, C., Guirguis, E., & Guirguis, M. S. (2011). Performance Evaluation of Path Splicing on the GÉANT and the Sprint Networks. *The Elsevier International Journal of Computer and Telecommunications Networking (COMNET)*, *55*(17).

Guirguis, M. S., & Valdez, J. (2010). Traffic Shapping via Congestion Signals Delegation. *The IARIA International Journal on Advances in Networks and Services*, *3*(3-4).

Connell, W., Tamir, D., & Guirguis, M. S. (2010). Lexical Steganography Using Prime Based Mimic Functions. *The International Journal of Wireless Communications and Networking (IJWCN)*, *2*(2).

Guirguis, M. S., Bestavros, A., Matta, I., & Zhang, Y. (2007). Adversarial Exploits of End-Systems Adaptation Dynamics. *The Elsevier International Journal of Parallel and Distributed Computing (JPDC)*, *67*(3).

Guirguis, M. S., Bestavros, A., & Matta, I. (2006). Exogenous-Loss Aware Traffic Management in Overlay Networks: Toward Global Fairness. *The Elsevier Computer Networks Journal (COMNET)*, *50*(13).

3. Conference Proceedings:

a. Refereed Conference Proceedings:

Dunstatter, N., Tahsini, A., Guirguis, M. S., & Tešić, J. (2019). Solving Cyber Alert Allocation Markov Games With Deep Reinforcement Learning. In *10th Conference on Decision and Game Theory for Security (GameSec)*.

Anwar, A., Atia, G., & Guirguis, M. S. (2018). Towards a Protected Cloud Against Side Channel Attacks: A Game Theoretic Framework. In *Allerton Conference on Communication, Control and Computing (Allerton)*.

Additional Comments: Allerton Conference on Communication, Control and Computing (Allerton)

Anwar, A., Atia, G., & Guirguis, M. S. (2018). It's Time to Migrate! A Game-Theoretic Framework for Protecting a Multi-tenant Cloud against Collocation Attacks. In *IEEE International Conference on Cloud Computing (CLOUD)*.

Additional Comments: the IEEE International Conference on Cloud Computing (CLOUD)

Novoa, C. M., Siddique, K., Guirguis, M. S., & Tahsini, A. (2018). A Game-Theoretic Two-Stage Stochastic Programing Model to Protect CPS against Attacks. In *IEEE 16th International Conference on Industrial Informatics (INDIN)* (pp. 15–22).

Additional Comments: Khan Siddique (Ingram School of Engineering) and Alireza Tashini (Department of Computer Science) graduate students Texas State University

Dunstatter, N., Guirguis, M. S., & Tahsini, A. (2018). Markov Games in Allocating Security Analysts to Cyber Alerts. In *National Cyber Summit (NCS)*.

Guirguis, M. S., Tahsini, A., Siddique, K., Novoa, C. M., Moore, J., Julien, C., & Dunstatter, N. (2018). BLOC: A Game-Theoretic Approach to Orchestrate CPS against Cyber Attacks. In *IEEE Conference on Communications and Network Security (CNS)*.

Anwar, A., Atia, G., & Guirguis, M. S. (2017). Dynamic Game-Theoretic Defense Approach against Stealthy Jamming Attacks in Wireless Networks. In *Allerton Conference on Communication, Control and Computing (Allerton)*.

Additional Comments: Allerton Conference on Communication, Control and Computing (Allerton)

Schlenker, A., Xu, H., Guirguis, M. S., Kiekintveld, C., Sinha, A., Tambe, M., … Dunstatter, N. (2017). Don't Bury your Head in Warnings: A Game-Theoretic Approach for Intelligent Allocation of Cyber-security Alerts. In *International Joint Conference on Artificial Intelligence (IJCAI)*.

Additional Comments: International Joint Conference on Artificial Intelligence (IJCAI)

Schlenker, A., Xu, H., Kiekintveld, C., Sinha, A., Tambe, M., Guirguis, M. S., … Dunstatter, N. (2017). Towards a Game-theoretic Framework for Intelligent Cyber-security Alert Allocation. In *proceedings of the 3rd IJCAI workshop on Algorithmic Game Theory*.

Additional Comments: 3rd IJCAI workshop on Algorithmic Game Theory

Penner, T., & Guirguis, M. S. (2017). Combating the Bandits in the Cloud: A Moving Target Defense Approach. In *IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID)*.

Additional Comments: IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID)

One of two candidate papers for best student award.

Tammineni, L., & Guirguis, M. S. (2016). Toward Local Overlay-based Mobile Clouds. In *Smart Cloud Networks and Systems Confercence (SCNS)*.

Anwar, A., Atia, G., & Guirguis, M. S. (2016). Game Theoretic Defense Approach to Wireless Networks Against Stealthy Decoy Attacks. In *Allerton Conference on Communication, Control and Computing (Allerton)*.

Ortiz, A. M., & Guirguis, M. S. (2016). Measuring the Impact of Unique Entry-Level Instructional Course Modules Designed to Inspire Computer Science Interest. In *ASEE Annual Conference & Exposition*.

Kelly, J., Guirguis, M. S., & Atia, G. (2016). Pinball Attacks: Exploiting Channel Allocation in Wireless Networks. In *IEEE International Conference on Communications (ICC)*.

Sciarrone, A., Bisio, I., Lavagetto, F., Penner, T., & Guirguis, M. S. (2015). Context Awareness over Transient Clouds. In *IEEE Global Communications Conference (GLOBECOM)*.

Anwar, A., Kelly, J., Atia, G., & Guirguis, M. S. (2015). Stealthy Edge Decoy Attacks Against Dynamic Channel Assignment in Wireless Networks. In *IEEE International Conference for Military Communications (Milcom)*.

Hinze, H., Ruth, M., & Guirguis, M. S. (2015). Disrupting Adaptive Traffic Lights Cycles through Selective Jamming Attacks. In *IEEE 81st Vehicular Technology Conference (VTC)*.

Penner, T., Johnson, A., Slyke, B., Guirguis, M. S., & Gu, Q. (2014). Transient Clouds: Assignment and Collaborative Execution of Tasks on Mobile Devices. In *IEEE Global Communication Conference (Globecom)*.

Penner, T., Johnson, A., Slyke, B., Guirguis, M. S., & Gu, Q. (2014). Demo: Transient Clouds. In *EAI International Conference on Mobile Computing, Applications and Services (MobiCASE)*.

Nguyen, V., Guirguis, M. S., & Atia, G. (2014). A Unifying Approach for the Identification of Application-driven Stealthy Attacks on Mobile CPS. In *Allerton Conference on Communication, Control, and Computing (Allerton)*.

Langford, T., Gu, Q., Rivera-Longoria, A., & Guirguis, M. S. (2013). Collaborative Computing On-Demand: Harnessing Mobile Devices in Executing On-the-Fly Jobs. In *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*.

Hanz, T., & Guirguis, M. S. (2013). An Abstraction Layer for Controlling Heterogeneous Mobile Cyber-Physical Systems. In *IEEE International Conference on Automation Science and Engineering (CASE)*.

Reynolds, D., & Guirguis, M. S. (2013). Control Theoretic Adaptive Monitoring Tools for the Android Platform. In *IEEE International Workshop on Cloud Security Auditing*.

Guirguis, M. S., & Atia, G. (2013). Stuck in Traffic (SiT) Attacks: A Framework for Identifying Stealthy Attacks that Cause Traffic Congestion. In *IEEE 77th Vehicular Technology Conference (VTC)*.

Kelly, J., Richter, S., & Guirguis, M. S. (2013). Stealthy Attacks on Pheromone Swarming. In *IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)*.

Guirguis, E., Guirguis, M. S., & Halkude, N. (2012). A Case for Low-level Jamming Attacks on Mobile CPS in Target Tracking Applications. In *International Symposium on Pervasive Systems, Algorithms, and Networks (ISPAN)*.

Guirguis, M. S., Ogden, R., Song, Z., Thapa, S., & Gu, Q. (2011). Can You Help Me Run These Code Segments on Your Mobile Device? In *IEEE Global Communication Conference (Globecom)*.

Valdez, J., Guirguis, M. S., Wingate, D., & Rinkevich, R. (2011). An Expanding Reference Library for Peer-to-Peer Content. In *APWG eCrime Researchers Summit (eCRS)*.

Guirguis, E., Guirguis, M. S., & Page, C. (2010). SKWeak Attacks on Path Splicing: Vulnerability Assessment and Defense Mechanisms. In *IEEE Global Communication Conference (Globecom)*.

Connell, W., Tamir, D., & Guirguis, M. S. (2010). Prime-based Mimic Functions for the Implementation of Covert Channels. In *IEEE International Conference on Wireless Communication, Networking and Information Security (WCNIS)*.

Page, C., & Guirguis, M. S. (2009). On the Safety and Security of Path Splicing: A Case Study for Path Splicing on the GÉANT Network. In *IEEE Global Communication Conference (Globecom)*.

McArthur, C., & Guirguis, M. S. (2009). Stealthy IP Prefix Hijacking Attacks: Don't Bite Off More than You can Chew. In *IEEE Global Communication Conference (Globecom)*.

Guirguis, M. S., Valdez, J., Lababedi, B. E., & Valdez, J. (2009). Burn Before Reading: A Stealthy Framework for Combating Forensics Investigations. In *APWG eCrime Researchers Summit*.

Guirguis, M. S., & Goto, H. (2009). HELP:// Hypertext in-Emergency Leveraging Protocol. In *IEEE International Conference on Communications (ICC)*.

Guirguis, M. S., Tharp, J., Bestavros, A., & Matta, I. (2009). Assessment of Vulnerability of Content Adaptation Mechanisms to RoQ Attacks. In *International Conference on Networking (ICN)*.

Guirguis, M. S., & Valdez, J. (2008). Masquerading a Wired Covert Channel into a Wireless-like Channel. In *IEEE Workshop on Network Security and Privacy (NSP)*.

Valdez, J., & Guirguis, M. S. (2008). Liberating TCP: The Free and the Stunts. In *International Conference on Networking (ICN)*.

Guirguis, M. S., Bestavros, A., Matta, I., & Zhang, Y. (2007). Reduction of Quality (RoQ) Attacks on Dynamic Load Balancers: Vulnerability Assessment and Design Tradeoffs. In *IEEE International Conference on Computer Communications (INFOCOM)*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2006). On the Impact of Low-Rate Attacks. In *IEEE International Conference on Communications (ICC)*.

Zhang, Y., Bestavros, A., Guirguis, M. S., Matta, I., & West, R. (2005). Friendly Virtual Machines: Leveraging a Feedback-Control Model forApplication Adaptation. In *ACM/USENIX Conference on Virtual Execution Environments (VEE)*.

Guirguis, M. S., Bestavros, A., Matta, I., & Zhang, Y. (2005). Reduction of Quality (RoQ) Attacks on Internet End-Systems. In *IEEE International Conference on Computer Communications (INFOCOM)*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2004). Routing Tradeoffs inside a d-dimensional Torus with applicability to CAN. In *International Computer Engineering Conference New Technologies for the Information Society (ICENCO)*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2004). Bandwidth Stealing via Link Targeted RoQ Attacks. In *IASTED International Conference on Communication and Computer Networks (CCN)*.

Diamant, G., Veytser, L., Matta, I., Bestavros, A., Guirguis, M. S., Guo, L., … Chen, S. (2004). itmBench: Generalized API for Internet Traffic Managers. In *IEEE Globecom Workshop on Computer-Aided Modeling, Analysis and Design of Communication Links and Networks (CAMAD)*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2004). Exploiting the Transients of Adaptation for RoQ Attacks on Internet Resources. In *IEEE International Conference on Network Protocols (ICNP)*.

Guirguis, M. S., Bestavros, A., Matta, I., Riga, N., Diamant, G., & Zhang, Y. (2004). Providing Soft Bandwidth Guarantees Using Elastic TCP-based Tunnels. In *IEEE Symposium on Computer and Communications (ISCC)*.

10. Other Works in Print:

Posters:

Nguyen, V., Guirguis, M. S., & Atia, G. (2014). A Framework for Identifying Stealthy Attacks on Mobile CPS Applications. In *Symposium on the Control of Network Systems (SCONES)*.

Penner, T., Johnson, A., Guirguis, M. S., & Gu, Q. (2013). Transient Clouds: Assignment and Collaborative Execution of Tasks on Mobile Devices. In *Grace Hopper Conference*.

McArthur, C., & Guirguis, M. S. (2008). Stealthy IP Prefix Hijacking. In *ACM SIGCOMM*.

Tharp, J., & Guirguis, M. S. (2007). Reduction of Quality Attacks on Content Adaptation Mechanisms. In *Proceedings of IEEE/ACM Conference on Grid Computing (GRID)*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2004). Adaptation=Vulnerability: Under RoQ Attacks. In *ACM SIGCOMM*.

Guirguis, M. S., Bestavros, A., & Matta, I. (2003). XQM: eXogenous-loss aware Queue Management. In *IEEE International Conference on Network Protocols (ICNP)*.

Technical Reports:

Guirguis, M. S., Bestavros, A., & Matta, I. (2003). *On the Efficiency and Fairness of Transmission Control Loops: A Case for Exogenous Losses*. *Technical Report 2003-013*. Boston University.

B. Works Not in Print:

1. Papers Presented at Professional Meetings:

Guirguis, M. S., 10th Conference on Decision and Game Theory for Security (GameSec), "Solving Cyber Alert Allocation Markov Games With Deep Reinforcement Learning," Stockholm, Sweden. (October 2019).

Novoa, C. M., Siddique, K., Guirguis, M. S., Tahsini, A., IEEE 16th International Conference on Industrial Informatics (INDIN), "A Game-Theoretic Two Stage Stochastic Programing Model to Protect CPS against Attacks," Porto, Portugal. (July 19, 2018).

Guirguis, M. S., IEEE Conference on Communications and Network Security (CNS), "BLOC: A Game-Theoretic Approach to Orchestrate CPS against Cyber Attacks," Beijing, China. (May 2018).

Guirguis, M. S., IEEE Vehicular Technology Conference (VTC), "Disrupting Adaptive Traffic Lights Cycles through Selective Jamming Attacks." (May 2015).

Guirguis, M. S., Allerton Conference on Communication, Control, and Computing (Allerton),, "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications." (September 2014).

Guirguis, M. S., "Stuck in Traffic (SiT) Attacks: A Framework for Identifying Stealthy Attacks that Cause Traffic Congestion." (June 2013).

Guirguis, M. S., IEEE Global Communication Conference (Globecom), "Can You Help Me Run These Code Segments on Your Mobile Device?." (December 2011).

Guirguis, M. S., APWG eCrime Researchers Summit, "An Expanding Reference Library for Peer-to-Peer ContentAPWG eCrime Researchers Summit." (November 2011).

Guirguis, M. S., EXE Student Organization, "BGP: Between Unplugging a Country and Hijacking Network Prefixes." (April 2011).

Guirguis, M. S., IEEE Global Communications Conference (Globecom), "SKWeak Attacks on Path Splicing: Vulnerability Assessment and Defense Mechanisms." (December 2010).

Guirguis, M. S., IEEE Global Communications Conference (Globecom), "Stealthy IP Prefix Hijacking Attacks: Do not Bite Off More than You can Chew." (December 2009).

Guirguis, M. S., APWG eCrime Researchers Summit, "Burn Before Reading: A Stealthy Framework for Combating Forensics Investigations." (October 2009).

Guirguis, M. S., IEEE International Conference on Communications (ICC), "HELP://Hypertext in-Emergency Leveraging Protocol." (June 2009).

Guirguis, M. S., IEEE Workshop on Network Security and Privacy, "asquerading a Wired Covert Channel into a Wireless-like Channel." (December 2008).

Guirguis, M. S., IEEE INFOCOM, "Reduction of Quality Attacks on Dynamic Load Balancers." (May 2007).

Guirguis, M. S., IEEE International Conference on Communications (ICC), "On the Impact of Low-Rate Attacks." (June 2006).

Guirguis, M. S., IEEE INFOCOM, "Reduction of Quality (RoQ) Attacks on Internet End-Systems." (March 2005).

Guirguis, M. S., IASTED International Conference on Communication and Computer Networks, "Bandwidth Stealing via Link Targeted RoQ Attacks." (November 2004).

Guirguis, M. S., IEEE International Conference on Network Protocols (ICNP), "Exploiting the Transients of Adaptation for RoQ Attacks on Internet Resources." (October 2004).

Guirguis, M. S., IEEE Symposium on Computer and Communications, "Providing Soft Bandwidth Guarantees Using Elastic TCP-based Tunnels." (July 2004).

2. Invited Talks, Lectures, and Presentations:

Guirguis, M. S., "BLOC: A Game-Theoretic Approach to Orchestrate CPS with Check Blocks against Cyber Attacks," The Strauss Center and the Center for Enterprise and Policy Analytics (CEPA), UT Austin, Austin. (January 2020).

Guirguis, M. S., "Protecting our Cyber Infrastructure through Security Games," The Strauss Center and the Center for Enterprise and Policy Analytics (CEPA), UT Austin, Austin. (January 2020).

Guirguis, M. S., At&T Cyber Leadership, "Research in CS @ Texas State: Intelligent Security Lab." (March 2019).

Novoa, C. M., Siddique, K., Guirguis, M. S., Tahsini, A., INFORMS Annual Conference 2018, "A Game-Theoretic Two Stage Stochastic Stochastic Programing Model to Protect CPS against Attacks," Convention Center, Phoenix, AZ, United States. (November 7, 2018).

Guirguis, M. S., "Research in CS @ Texas State: Intelligent Security Lab," Cyber San Antonio, Public Safety HQ in downtown San Antonio. (October 29, 2018).

Guirguis, M. S., "Computer Science @ Texas State: An overview of Educational Programs and Research Activities," Air Force, Alamo University Center. (June 27, 2018).

Guirguis, M. S., SEMI High Tech U, "Computer Science." (October 2016).

Guirguis, M. S., "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications," University of Texas at El Paso. (June 2016).

Guirguis, M. S., University of Southern California, "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications," University of Southern California. (June 2016).

Guirguis, M. S., Viz Stars, "Cyber Security and the New Era of Cyber-Physical Systems." (April 2016).

Guirguis, M. S., Old Dominion University, "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications," Old Dominion University. (December 2015).

Guirguis, M. S., "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications," University of Central Florida. (March 2015).

Guirguis, M. S., "A Unifying Framework for Identifying Stealthy Attacks on Mobile CPS Applications," Texas A&M University. (November 2014).

Guirguis, M. S., "Stealthy Attacks on Mobile Cyber-Physical Systems: Identifying Exploits on Coordination Methods between UAVs," Air Force Research Laboratory. (July 2014).

Guirguis, M. S., "Collaborative Computing in Mobile Clouds," Air Force Research Laboratory. (July 2013).

Guirguis, M. S., "Securing Mobile Cyber-Physical Systems against Stealthy Attacks," Air Force Research Laboratory. (July 2012).

Guirguis, M. S., "Securing Mobile Cyber-Physical Systems against Stealthy Attacks," NSF United-States/Middle-East Workshop On Trustworthiness in Emerging Distributed Systems and Networks. (June 2012).

Guirguis, M. S., Industry Advisory Board (IAB), "Securing Mobile Cyber-Physical Systems against Stealthy Attacks," Computer Science. (May 2012).

Guirguis, M. S., "Stealthy Attacks on Adaptation Mechanisms Employed in Network Architectures," University of Texas at San Antonio. (October 2010).

Guirguis, M. S., "Stealthy Attacks on Adaptation Mechanisms Employed in Network Architectures," Texas A&M. (October 2010).

Guirguis, M. S., Microsoft Research, "Exploiting the Transients of Adaptation for RoQ Attacks on Internet Resources." (September 2004).

5. Other Works not in Print:

a. Works "submitted" or "under review":

c. Other Works Not in Print:

Posters:

Guirguis, M. S., NSF SaTC PI Meeting, "Securing Mobile Cyber-Physical Systems against Stealthy Attacks," NSF. (January 2017).

Guirguis, M. S., NSF SaTC PI Meeting, "Securing Mobile Cyber-Physical Systems against Stealthy Attacks," NSF. (November 2012).

C. Scholarly / Creative Grants and Contracts:

1. Funded External Grants and Contracts:

Metsis, Vangelis (Principal), Percent Contribution: 50%, Guirguis, Mina (Co-Principal), Percent Contribution: 50%. Supplementary funds for REU Site: Research Experiences for Undergraduates in Smart & Connected Communities, National Science Foundation, Federal, $20,000.00. (Submitted: June 25, 2019). Grant.

Metsis, Vangelis (Principal), Guirguis, Mina S (Co-Principal). REU Site: Research Experiences for Undergraduates in Smart & Connected Communities, NSF, Federal, $359,812.00. (Funded: May 2018 - May 2022). Grant.

Guirguis, Mina S (Principal), Julien, Christine (Co-Principal). SATC: CORE: Small: Collaborative: CPS ACTS: Orchestrating CPS with Action blocks, $89,044.00. (Funded: October 2018 - September 2020). Grant.

Ortiz, Araceli (Principal), Close, Eleanor (Co-Principal), Guirguis, Mina (Co-Principal), Novoa, Clara (Co-Principal), Talley, Kimberly Grau (Co-Principal). Texas State STEM Rising Stars, National Science Foundation Improving Undergraduate STEM Education (IUSE) program, Federal, $1,500,000.00. (Funded: January 1, 2015 - January 31, 2020). Grant.

Guirguis, Mina S (Principal). CAREER: Securing Mobile Cyber-Physical Systems (CPSs) Against Stealthy Attacks, NSF, $458,047.00. (Funded: January 2012 - December 2018). Grant.

Guirguis, Mina S (Principal). A Game-Theoretical Approach to Allocating Cybersecurity Analysts to Cyber Alerts, DHS, Federal, $45,000.00. (Funded: March 2017 - March 2018). Grant.

Guirguis, Mina S, Gu, Qijun. REU Site: Research Experience for Undergraduates in Mobile Cyber-Physical Systems (CPSs), NSF, $339,912.00. (Funded: January 2012 - May 2017). Grant.

Guirguis, Mina S. Secure Collaborative Computing in Mobile Clouds, AFRL, $7,000.00. (Funded: September 2013 - October 2013). Grant.

Guirguis, Mina S. Control Theoretic Adaptive Monitoring Tools for the Android Platform, AFRL, $11,000.00. (Funded: September 2012 - October 2012). Grant.

2. Submitted, but not Funded, External Grants and Contracts:

3. Funded Internal Grants and Contracts:

Guirguis, Mina S. HELP: Hypertext in-Emergency Leveraging Protocol, REP, $8,000.00. (Funded: December 2007 - December 2008). Sponsored Research.

Guirguis, Mina S. Computer Networks and Distributed Systems Laboratory: A Renovation, Academic Computing Committee, $32,000.00. (Funded: April 2007). Sponsored Research.

D. Scholarly / Creative Fellowships, Awards, Honors:

Award / Honor Recipient: College Achievement Award for the Presidential Award for Excellence in Scholarly/Creative Activities, College of Science and Engineering.
August 2015

Award / Honor Recipient: Excellence in Scholarly/Creative Activities, College of Science and Engineering.
September 2013
September 2012

Award / Honor Recipient: NSF CAREER.
January 2012

Award / Honor Recipient: Best Session Abstract, Texas Academy of Science.
March 2008

Award / Honor Recipient: Honorable Mention Award, Center of Information and Systems Engineering.
April 2005

Award / Honor Recipient: Travel Grant Award to attend IEEE INFOCOM, NSF.
March 2005

Award / Honor Recipient: Travel Grant Award to attend IEEE ICNP, NSF.
October 2004

Fellowship Recipient: Graduate Fellowship, Boston University.
January 2001

E. Scholarly / Creative Professional Development Activities Attended:

"Visiting Scholar," DHS Center for Risk and Economic Analysis of Terrorism Events (CREATE), Los Angeles, CA, United States. (June 2016 - August 2016).

F. Media Recognition:

Internet, Summer Research Team Helps Devise Strategies to Manage and Reduce Cyber threats. (October 2016).

Additional Comments:
https://www.orau.gov/dhseducation/profiles/srt/guirguis.html

Magazine, Hillviews Magazine. (2019).

Additional Comments: Vol. 50, No. 2 2019

Radio, Cyber Talk Radio WOAI 1200. (December 18, 2018).

Additional Comments: https://www.youtube.com/watch?v=xeSNnbuLm78

IV. SERVICE

A. Institutional

1. University:

Panelist, NSF Proposal Writing Workshop. (January 2017).

Graduate Marshal. (May 2011).

Graduate Marshal. (May 2010).

2. College:

Member, College Tenure and Promotion. (September 1, 2018 - Present).

University Mentor, H-LSAMP. (January 2008 - 2018).

Member, Graduate Scholarships Committee. (March 2007 - March 2010).

3. Department/School:

Undergraduate Committee. (June 2016 - Present).

Publicity and Recruitment Committee. (September 2012 - Present).

Member, Academic Assessment Committee. (September 2012 - Present).

Member, Personnel Committee. (September 2012 - Present).

Chair, Faculty Recruitment. (June 2016 - September 2019).

Member, Faculty Recruitment. (September 2012 - May 2016).

Member, Scholarship Committee Member. (September 2006 - May 2016).

Chair, Scholarship Committee. (September 2012 - 2014).

Organizer, Computer Science Seminar Series. (September 2008 - May 2014).

Member, Graduate Committee Member. (September 2006 - May 2011).

Member, Research Council Committee. (September 2006 - August 2007).

Member, Academic Honesty Committee. (September 2006 - December 2006).

B. Professional:

Technical Program Committee (TPC) Member, The National Workshop for REU Research in Networking and Systems. (May 2015 - Present).

Editorial Review Board Member, International Journal on Advances in Networks and Services. (January 2011 - Present).

Reviewer / Referee, Reviewed journal and conference submissions for many venues including IEEE SECON, IEEE Globecom, IEEE ICC, IARIA ICN, Elsevier Computer Networks (COMNET), Elsevier Journal of Parallel and Distributed Computing (JPDC), Elseiver Journal of Systems and Software (JSS), IEEE Transactions on Vehicular Technology, and IEEE Communication Letters, among others. (May 2002 - Present).

Panelist, NSF Innovative Technology Experiences for Students and Teachers (ITEST). (October 2019).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (October 2019).

Panelist, NSF CPS/SaTC. (June 2019).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (April 2019).

Panelist, NSF SaTC Medium/Small -- Systems Security. (March 2019).

Symposium Co-Chair, Communication and Information System Security Symposium -- IEEE Globecom. (April 2017 - December 2018).

Technical Program Committee (TPC) Member, IEEE Global Communications Conference (Globecom) -- Ad-Hoc and Sensor Networks (AHSN) Symposium, Wireless Networking (WN) Symposium and Mobile and Wireless Networks (MWN) Symposium. (January 2010 - 2018).

Technical Program Committee (TPC) Member, IEEE International Conference on Communication (ICC) -- Ad Hoc and Sensor Networks (AHSN) Symposium, Mobile and Wireless Networking (MWN) Symposium and Wireless Networking (WN) Symposium. (January 2009 - 2018).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (November 2018).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (September 2018).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (February 2017).

Chair, The National Workshop for REU Research in Networking and Systems. (January 2017).

General Chair, The Third National Workshop for REU Research in Networking and Systems. (January 2016 - January 2017).

Technical Program Committee (TPC) Member, ACM/IEEE/IFAC/TRB International Conference on Connected Vehicles & Expo. (January 2012 - September 2016).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (August 2016).

Technical Program Committee (TPC) Member, International Workshop on Assurance in Distributed Systems and Networks (ADSN). (January 2013 - June 2016).

Technical Program Committee (TPC) Member, The International Conference on Performance, Safety and Robustness in Complex Systems and Applications (PESARO). (January 2011 - April 2016).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR). (February 2016).

Panelist, NSF Small Business Innovation Research/Technology Transfer (SBIR/STTR) -- 2 panels. (February 2016).

Technical Program Committee (TPC) Member, The International Conference on Networks (ICN). (January 2009 - February 2016).

Panelist, NSF CISE Research Initiation Initiative (CRII). (January 2016).

Panelist, NSF Secure and Trustworthy Cyberspace (SaTC). (January 2016).

Local Chair, EAI International Conference on Mobile Computing, Applications and Services (MobiCASE). (January 2014 - November 2014).

Technical Program Committee (TPC) Member, IEEE International Conference on Symposium on Personal Indoor and Mobile Radio Communications. (January 2012 - September 2012).

Technical Program Committee (TPC) Member, IEEE High Performance Computing and Communications (HPCC). (January 2011 - September 2011).

Technical Program Committee (TPC) Member, IEEE Communications Society on Sensor, Mesh and Ad Hoc Communications and Networks (SECON). (January 2011 - June 2011).

Panelist, NSF Communications, Circuit, and Sensing Systems. (April 2011).

Technical Program Committee (TPC) Member, IEEE Wireless Communications & Networking Conference. (May 2010 - March 2011).

Technical Program Committee (TPC) Member, International Conference on Wireless Algorithms, Systems and Applications. (January 2009 - August 2009).

C. Community:

Speaker, SEMI High Tech U. (October 2016).

Speaker, Viz Stars. (April 2016).

Host (in the Mobile CPS lab), Stephen F. Austin High School students. (December 2015).

Speaker, STEM Living Learning Community (LLC). (October 2015).

Host (in the Mobile CPS lab), Doris Miller and Owen Goodnight Middle schools students. (May 2014).

Additional Comments: 70 students visited our Mobile CPS lab.

Host (in the Mobile CPS lab), High School students as part of the Women in Science and Engineering (WISE) Conference. (November 2013).

Host (in the Mobile CPS lab), Students and their families in the Texas State University Family weekend. (September 2013).

Host (in the Mobile CPS lab), 4th and 5th grade GT students from Crockett and Mendez Elementary schools. (September 2012).

Host (in the Mobile CPS lab), La Joya High School students. (September 2012).

Additional Comments: 45 students visited our Mobile CPS lab.

Judge, University Interscholastic League (UIL) contests in Computer Science. (April 2010).

D. Organization Memberships:

The Institute of Electrical and Electronics Engineers (IEEE). (January 2002 - Present).