



Europass
curriculum vitae

Academic Profile

Personal information

Surname(s) / First name(s)	George Hadjichristofi	
Telephone(s)		Mobile: +357-
Fax(es)	+357-25735001	
E-mail(s)	com.hg @frederick.ac.cy	
Nationality(-ies)	Cypriot	
Education		
Dates	January 2002 – June 2005	
Title of qualification awarded	Doctor of Philosophy in Computer Engineering	
Name of awarding institution	Virginia Polytechnic Institute and State University	
Key features	This work focused on issues of key management and dynamic IP Security (IPsec) security associations establishment in mobile ad hoc networks	
Dates	August 1999 – December 2001	
Title of qualification awarded	Master of Science in Computer Engineering	
Name of awarding institution	Virginia Polytechnic Institute and State University	
Key features	This work focused on characterizing IP Security (IPsec) overhead in wireline and wireless networks for web and Email applications	
Dates	August 1995 – May 1999	
Title of qualification awarded	Bachelor of Science in Computer Engineering	
Name of awarding institution	Virginia Polytechnic Institute and State University	
Honors and Awards	2nd prize at the International Mobile Ad Hoc Interoperability and Cooperation Challenge (MANIAC) March 2009 (for team representing the University of Cyprus) co-located with Percom 2009 (www.maniacchallenge.org)	
	Alexander Schwarzkopf Prize for Technological Innovation 2007 (for the research team of the Wireless Information Networking Lab (WINLAB) at Rutgers)	
	Virginia Tech Scholarship, 1996-1997	
	FULBRIGHT Scholar 1995-1999, Scholarship for Academic Excellence, Cyprus Fulbright Commission Cyprus-America Scholarship Program	
	Eta Kappa Nu (Electrical Engineering Honor Society)	
	Golden Key National Honor Society	
	National President's List: Fall 96	
	National Dean's List: Fall 95, Spring 97, Spring 98	
Work experience		
Dates	February 2011 -	
Employer Name	Frederick Institute of Technology	
Occupation or position(s) held	Lecturer	

Main activities and responsibilities	Teaching and Research
Dates	September 2010 – January 2011
Employer Name	Frederick Institute of Technology
Occupation or position(s) held	Part-time lecturer
Main activities and responsibilities	Teaching
Dates	December 2008 – December 2010
Employer Name	University of Cyprus
Occupation or position(s) held	Co-Principal Investigator on "TRUST" project,
Main activities and responsibilities	Executing research on security in next generation networks
Dates	August 2009 – December 2010
Employer Name	University of Cyprus
Occupation or position(s) held	Special scientist
Main activities and responsibilities	Taught computer and network security
Dates	August 2007 – May 2009
Employer Name	University of Cyprus
Occupation or position(s) held	Lecturer / Assistant Professor
Main activities and responsibilities	Teaching computer engineering/science courses
Dates	December 2006- August 2007
Employer Name	Rutgers University
Occupation or position(s) held	Post-doctoral Researcher
Main activities and responsibilities	Research scientist at WINLAB.
Dates	September 2005- November 2006
Employer Name	Virginia Polytechnic Institute and State University, Northern Campus in Washington D.C. area
Occupation or position(s) held	Post-doctoral Researcher
Main activities and responsibilities	Research scientist on two National Science Foundation projects
Dates	September 2000 – August 2005
Employer Name	Virginia Polytechnic Institute and State University, Blacksburg, Virginia
Occupation or position(s) held	Research Assistant
Main activities and responsibilities	I was involved in research activities of the department, except my Ph.D., concerning the field of security. It included participation in a project funded by the Office of Naval Research in the USA
Dates	August 1999 – August 2000
Employer Name	Virginia Polytechnic Institute and State University, Blacksburg, Virginia
Occupation or position(s) held	Teaching Assistant
Main activities and responsibilities	Graded homework for courses and computer engineering labs and taught computer engineering labs

<p>Professional Contribution</p>	<p>Conference Committee Member</p> <p>Publicity Chair:</p> <ul style="list-style-type: none"> • International Conference on Communications, Networking and Information Technology (MIC-CNIT2012), Dec 2012, Cyprus <p>Program Chair:</p> <ul style="list-style-type: none"> • IWCMC - 8th International Wireless Communications and Mobile Computing Conference, August 2012, Cyprus <p>Technical Program Committee:</p> <ul style="list-style-type: none"> • 5th Web2Touch - Modeling the Collaborative Web Knowledge Conference Workshop, June 2012, France <p>Organizing Chair:</p> <ul style="list-style-type: none"> • Risks Awareness and Management through Smart Solutions (RAMSS 2011), September 2011, Poland <p>Tutorial Co-Chair :</p> <ul style="list-style-type: none"> • 18th International Conference on Telecommunications ICT, May -8, 2011, Cyprus <p>Reviewer</p> <ul style="list-style-type: none"> • W2T 2012, FedCSIS 2011, Collaboration, Electronic messaging, Anti-Abuse and Spam Conference (CEAS 2011), MILCOM 2011, ICCCT 2011, Computing Frontiers 2009, Euro-NGI 2008, VTC 2008, IEEE Globecom'07, IEEE Globecom'06, IEEE ICCCN'06, IEEE INFOCOM'05, IEEE WCNC'05, and IEEE ITCC'05 <p>Reviewer for Journals</p> <ul style="list-style-type: none"> ■ Elsevier Journal of Computer Networks ■ Elsevier Journal of Ad hoc Networks ■ IEEE Security and Privacy <p>Professional Societies</p> <p>Registered Member</p> <ul style="list-style-type: none"> ■ Member of ETEK ■ Member of IEEE ■ Member of IEEE Communications Society ■ Member of ACM ■ Member of ACM SIGSAC (Special Interest Group on Security, Audit and Control) ■ Member of OWASP (Open Web Application Security Project) <p>Invited Talks/ Lectures</p> <ul style="list-style-type: none"> ■ "Internet Addiction and Other Inherent Risks", Invited Lecture, organized by Frederick University Nicosia, Cyprus, 2 November,2011. ■ "Computer and Network Security" course, Invited Lecturer for the Department of Electrical and Computer Engineering of the University Cyprus for Fall 2011
<p>Service to the Institute</p>	<p>--</p>
<p>Research Projects</p>	
<p>Duration, Funding Ag. and Funding</p>	<p>December 2008 - February 2011, Cyprus Research Promotion Foundation Total budget (Cyprus): Euro 95,000</p>

Title	Assessing and Building Trust in Next Generation Network Architectures - TRUST
Role and Contribution	Co-Investigator Investigated security issues in a next generation architecture (Cache and Forward) to promote the design of systems that allow the secure, dynamic access of information.
Duration, Funding Ag. and Funding	Jan 2008 - August 2008 – European Union FP7 ICT-07-216041 (2 year project) Total budget (Cyprus): Euro 14,500,000
Title	4WARD
Role and Contribution	Served as a wireless virtualization consultant for the project. The Project aimed to design, optimize and interoperate new networks through a new Internet architecture. 4WARD proposed a set of radical architectural approaches by interoperating complementary families of network architectures. It enabled the co-existence of multiple networks on common platforms through carrier-grade virtualization for networking resources that are self-managing. The solution embraced the full range of technologies, from fibre backbones to wireless and sensor networks.
Duration, Funding Ag. and Funding	December 2006– August 2007, National Science Foundation, USA
Title	Global Environment for Network Innovations (GENI) Development
Role and Contribution	Project Manager Investigated and lead the integration of PlanetLab (wired) and Orbit (wireless) testbeds to guide the development of GENI. This integration would develop a control and management framework across wired and wireless networks, providing research users with a single programming interface and experimental methodology. I investigated and lead the virtualization of wireless network resources to provide capabilities for simultaneous support of multiple concurrent experiments ("slices") on the same set of radio devices. I guided the development of a proof-of-concept implementation in support of the Cache and Forward (CNF) architecture funded under the Future Internet Design (FIND) initiative
Duration, Funding Ag. and Funding	December 2005 – December 2006 National Science Foundation (NSF), USA (3 years)
Title	Mobile Ad hoc Networking Interoperability And Cooperation (MANIAC) challenge
Role and Contribution	Served as a project manager. The project aimed to establish a multi-institutional competition to better understand cooperation and interoperability in ad hoc networks. We studied the tension between the desire of nodes to focus only on delivery of their team's packets (in order to preserve battery life and competitive advantage) and the need for nodes in a MANET to cooperate in order to permit the delivery of packets across the heterogeneous network. I developed the software architecture for the competition and lead a group of students to implement the software for the competition through a series of class projects. I investigated and refined the proposed architecture of the competition. Once the core software was developed by the students a mock competition was executed at Virginia Tech to extract further requirements for the MANIAC challenge.
Duration, Funding Ag. and Funding	December 2005 – December 2006
Title	Advanced Wireless Integrated Navy Network (AWINN), Office of Naval Research, USA
Role and Contribution	Served as a task Integration leader and researcher. The project provided the precursor of development, demonstration, and configuration of high payoff technologies. A prototype test bed was built for a Network Centric Environment (NCE) in support of the US, Navy's Command & Control vision. <ul style="list-style-type: none"> Developed and lead integration of various technologies (routing, multi-description video, IPsec and Key management, real-time middleware). This task involved managing a group of students and guiding them to integrate all the functionalities on the AWINN testbed Developed integration applications required for multi-description video in order to exploit multi-path routing (cross-layer optimization)

	<ul style="list-style-type: none"> • Developed a decentralized network monitoring and visualization tool to display dynamic topology and wireless link quality information in a MANET (cross-layer optimization with routing protocol) • Augmented existing network monitoring tools to display the status of the various network functions such as security associations and multi-channel routing • Guided the development of a topology control mechanism that decreases interference and increases the effective network capacity and network lifetime • Prepared and coordinated demonstrations of the AWINN testbed and related functionalities • Investigated deployment issues of the IP security protocol in an IPv6-based mobile ad hoc environment • Augmented the existing Virginia Tech-developed key management system to handle IPv6-based security associations • Explored interactions between IPv6 based IPsec and different components and functions and evaluated and demonstrated both functionality and performance to ensure proper operation in an ad hoc network
Duration, Funding Ag. and Funding	May 2000 – May 2005, National Science Foundation, Office of Naval Research
Title	Navy Collaborative Information Technology Initiative (NAVCIITI)
Role and Contribution	<p>Served a security lead guiding the security aspects of the project task. Our task focused on enabling interoperability between heterogeneous networks that may belong to and be managed by different organizations, including allies and coalition partners. The research addressed 1. wireless-wireline interoperability, including mobility; 2. quality of service (QoS); 3. network management; and 4. security, especially in wireless systems, for the Navy's Virtual Operations Network (VON) initiative.</p> <ul style="list-style-type: none"> • Designed and implemented a distributed key management system that was suitable for mobile ad hoc networks • Simulated the proposed key management system to assess its effectiveness in increasing service availability in a highly partitioned mobile ad hoc network • Extended IPsec functionality by integrating the decentralized key management system with an existing IPsec implementation (FreeSWAN) • Conducted an overhead analysis of IPsec over wired and wireless media for web and email applications • Investigated interoperability of IPsec over multiple platforms including Cisco, Windows 2000, and Linux • Investigated interoperability of IPsec with routing protocols, QoS, and Real Time Systems in a Mobile Ad Hoc Network
Publications	
Doctoral Thesis	A Framework for Providing Redundancy and Robustness in Key Management for IP Security (IPsec) Security Associations in a Mobile Ad-Hoc Environment, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA.
Publications	<p>Book Chapters</p> <p>A.1 G. Hadjichristofi, A. Pipis, V. Vassiliou, and A. Pitsillides, "Security in Sensor Networks", chapter in book titled "Security in Computing and Networking Systems: The State-of-the-Art", W. Smari and Bill McQuay (Editors), October 2009.</p>

B. Papers Appearing in Scientific Journals

- B.1 M. Thompson, L. DaSilva, A. Mackenzie and G. Hadjichristofi, "Mobile Ad Hoc Networking Interoperability And Cooperation Challenge: MANIAC" IEEE communications, Jan 2012.
- B.2 G G. C. Hadjichristofi, L. A. DaSilva, S. F. Midkiff, W. DeSousa, and U. Lee, "Key Management, Routing, Network Monitoring, and Topology Control: Implementation and Integration" accepted to Journal of Computer Networks, September 2010, doi:10.1016/j.comnet.2010.09.001. vol 55.
- B.3 G. C Hadjichristofi, W. J. Adams, and N. J. Davis, "A Framework for Key Management in Mobile Ad Hoc Networks," International Journal of Information Technology (IJIT), Vol. 11, No. 2, pp. 31-61, 2005.
- B.4 L. A. DaSilva, S. F. Midkiff, J. S. Park, G. C. Hadjichristofi, K. Phanse, T. Lin, and N. J. Davis, "Network Mobility and Protocol Interoperability in Ad Hoc Networks," IEEE Communications Magazine, Vol. 42, No. 11, pp. 88-96, November 2004.

In Preparation

- BEJS.1 E. Stavrou, A. Pitsillides, and G. C. Hadjichristofi, "Secure Routing in Sensor networks," to target date for publication late 2012.

Editorial of Conference Proceedings

C. Papers Published in Refereed Conference Proceedings

- C.1 M. Hadjioannou and G. Hadjichristofi, "A Secure Dynamic Data Aggregation System for Citizen Safety in Emergency Response Scenarios" to appear at the IWCMC2012 Trust, Security and Privacy Symposium, 2012.
- C.2 G. Hadjichristofi, G. Kappos and C. Hadjicostis, "A novel 3-D model for node and system trust" in the IWCMC2011 Trust, Security and Privacy Symposium, 2011.
- C.3 M. Fugini, G. Hadjichristofi, C. Raibulet, "Engineering Trusted Services for Risk Management in Work Environments" to appear at the 5th Multimedia and Ubiquitous Engineering 2011.
- C.4 G. Hadjichristofi and C. Hadjicostis, "Security in the Cache and Forward Architecture for the Next Generation Internet," appeared in the 12th International conference on distributed computing and networking Jan 2011 (ICDCN 2011).
- C.5 G. Hadjichristofi and M. Fugini, "A Reputation scheme for Web Services," submitted to the 12th International Conference on Information Integration and Web-based Applications & Services (iiWAS2010)
- C.6 G. Hadjichristofi, E. Stavrou, A. Pitsillides, C. Hadjicostis, "Security in next generation sensor networks: Issues and Challenges" to appear in the International Conference of Security and Cryptography (SECRYPT) July 2010.
- C.7 R. Mahindra, G. Bhanage, G. Hadjichristofi, S. Ganu, P. Kamat, I. Seskar, and D. Raychaudhuri "Integration Of Heterogeneous Networking Testbeds" in International conference on testbed and research infrastructures for the development of networks and communities (Tridentcom) 2008, No. 27.
- C.8 R. Mahindra, G. Bhanage, G. Hadjichristofi, I. Seskar, D. Raychaudhuri, and Y.Y. Zhang, "Space Versus Time Separation For Wireless Virtualization On An Indoor Grid" in Euro Next Generation Internet (NGI) 2008.
- C.9 S. Singhal, G. Hadjichristofi, I. Seskar, and D. Raychaudhuri, "Evaluation of UML Based Wireless Network Virtualization" in Euro Next Generation Internet (NGI) 2008.
- C.10 Hanif Kazemi, G. C. Hadjichristofi, L. A. DaSilva, "MMAN: A Monitor for Mobile Ad hoc Networks: Design, Implementation and Testing," in ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization (WINTECH)

2008 (co-located with MobiCom 2008), pp. 57-64.

- C.11 A. DaSilva, S. F. Midkiff, G. C. Hadjichristofi, and J. S. Park, "Emulating Dynamic Topologies for Repeatable Experiments with Mobile Ad Hoc Networks", International conference on testbed and research infrastructures for the development of networks and communities (Tridentcom), May 2007.
- C.12 G. C. Hadjichristofi, A. Brender, M. Gruteser, R. Mahindra and I Seskar, "A Wired-Wireless Testbed Architecture for Network Layer Experimentation Based on ORBIT and VINI" appeared in WINTECH 2007, September 12, 2007 (co-located with MobiCom 2007), pp 83-90.
- C.13 L. A. DaSilva, A. B. MacKenzie, and G. C. Hadjichristofi, "Mobile Ad Hoc Network Interoperability And Cooperation (MANIAC) Challenge: Objectives and Architecture" in 7th ACM Intl. Symp. on Mobile Ad Hoc Networking and Computing (MobiHoc 2006). (poster paper)
- C.14 W. J. Adams, G. C. Hadjichristofi, and N. J. Davis, "Calculating a Node's Reputation in a Mobile Ad Hoc Network," in Proceedings of the 24th IEEE Performance, Computing, and Communications Conference (IPCCC), April 2005, pp. 303-307.
- C.15 G. C. Hadjichristofi, W. J. Adams, and N. J. Davis, "A Framework for Key Management in Mobile Ad Hoc Networks," in Proceedings of the International Conference on Information Technology Coding and Computing, April 2005, Vol. 2, pp. 568-573.
- C.16 G. C. Hadjichristofi, N. J. Davis, and S. F. Midkiff, "IPsec Overhead in Wireline and Wireless Networks for Web and Email Applications," in Proceedings of the 22nd IEEE Performance, Computing, and Communications Conference (IPCCC), April 2003, pp. 543-547.

D. Demonstrations

- D.1 V. Srivastava, L. DaSilva, A. MacKenzie, G. Hadjichristofi, K. Wood, H. Kazemi, "Cooperation and monitoring solutions for mobile ad hoc networks", IEEE INFOCOM 2007.
- D.2 W. M. De Sousa, L. A. Dasilva, and G. C. Hadjichristofi, "Topology Control in Ad Hoc Networks," in Third Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2006).
- D.3 G. C. Hadjichristofi, L. A. DaSilva, A. B. MacKenzie, S. F. Midkiff, M-T. T. Refaie, K. N. Wood, J. Suris, D. Raymond, "Monitoring Cooperation: A Reputation-based Mechanism for Isolating Selfish Nodes in Mobile Ad Hoc Networks," in the Twelfth Annual International Conference on Mobile Computing and Networking (Mobicom 2006).