

## Sanaa Taha

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Objective: Curriculum Vitae.

### EDUCATION

University of Waterloo, Waterloo, Canada, Ph.D., Securing IP Mobility Management for Vehicular Ad Hoc Networks, 2013

Cairo University, Cairo, Egypt, Pre-doctoral, 2006

Cairo University, Cairo, Egypt, M.A., Performance Evaluation of IP Security, 2005

Cairo University, Cairo, Egypt, Pre-master, 2002

Cairo University, Cairo, Egypt, Bachelor of Computers Majoring in Information Technology, 2001

### SPECIAL SKILLS

#### Computer Programming

**PC programming Languages:** C, C++, C sharp, Visual C, and Visual Basic.

**Internet Programming Languages:** HTML, XML, Javascript, ASP, ASP.net.

**Database Programming Languages:** Microsoft access, Oracle SQL, SQL server.

**Network Simulations:** OMNET++, Mathlab.

#### Teaching

8 years of experience as assistant lecturer at faculty of Computers and Information, Cairo university, Cairo, Egypt, in teaching tutorials and labs.

**Courses that taught:** Microsoft office, Operating systems, Computer digital, data communications, computer Networks, Information Networks, Wireless Networks, Network Security, ISDN, Communication Technology, ICDL, CCNA, Oracle Developer.

two years of experience as assistant professor at faculty of Computers and Information, Cairo university, Cairo, Egypt, and Nile University, Cairo Egypt in both teaching and supervising research students.

#### Courses that taught:

CIT922, Introduction to Information Security, Nile University, joint with Dr. Marianne Azer, Fall 2013.

CIT 620, Operating Systems and Applications Security, Nile University, Fall 2013.

IT 322, Internet Technology, Cairo University, joint with Dr. Amira Kotb, Fall 2013, Fall 2014.

IT 423, Information and Computers Networks Security, Cairo University, Joint with Dr. Abo El Ela El Otaify, Winter 2014, Winter 2015.

IT622, Coding Theory, Cairo university, Grade course, Winter 2015.

#### Research students

Zaher Haddad, PhD, Security and privacy in LTE-A networks, Fall 2013- present.

Sarah Abd Moneam, Master, Location Privacy schemes for RFID networks, Fall 2013- present.

Marwa Ismaeal, Master, Applying authentication for mobile sink in health care systems, winter 2014- present.

#### Certificates

Certificate of Cisco Course Completion, CCNA 1 Networking Basics.

Certificate of Cisco Course Completion, CCNA 2 Routers and Routing Basics.  
 Certificate of cisco Course Completion, CCNA 3 Switching Basics and Intermediate Routing.  
 Certificate of cisco Course Completion, CCNA 4 WAN Technologies.  
 Certificate of ORACLE university, Oracle Database 10g: Introduction to SQL.  
 Certificate of ORACLE university, Oracle Database 10g: Program with PL/SQL.  
 Certificate of ORACLE university, Oracle Database 10g: Build Internet applications.  
 Certificate of ORACLE university, Oracle Database 10g: Build Reports.  
 Certificate of International computer Driving Licence, ICDL 4.0.

### **Computer Experience**

Microsoft Office, LaTeX, Visio Imaging, web pages, Programming languages, Matlab charts.

## **EMPLOYMENT**

**Assistant Lecturer**, Department of Information Technology, Faculty of Computers and Information, Cairo University, Cairo, Egypt. 2005-2008

**Teaching Assistant**, Department of Information Technology, Faculty of Computers and Information, Cairo University, Cairo, Egypt. 2001-2005

**Teaching Assistant**, Electrical and Computer Engineering, University of Waterloo, Waterloo, ON, Canada.

**Assistant Professor**, Department of Information Technology, Faculty of Computers and Information, Cairo University, Cairo, Egypt. 2013-present

## **PROFESSIONAL AFFILIATIONS**

Department of Information Technology, Faculty of Computers and Information, Cairo University, Cairo, Egypt.

### **Research Experience**

I have graduated as a software engineer from the faculty of computers and information, Cairo University, at Egypt. Through my undergraduate study, I learned the basics of programming, networks, information technology and systems, and computer architectures. I challenged myself, as a female, by choosing this field of engineering which requires hard work and much time staying late at computer labs doing programs and simulations. Despite these difficulties, I have been granted the award for academic distinction each year. This award is given for students who achieve a high GPA in each year of undergraduate study. In addition, I had the honor of academic distinction at graduation for achieving a final grade of 85%, which was the 3rd highest grade in my department. After graduation, I have taken other computer-related certificates to increase my knowledge base. These certificates include Oracle database 10g (introduction to SQL, program with PL/SQL, building Internet applications, and building reports), Cisco CCNA1 (networking basics of Cisco networking academy program), Cisco CCNA2 (routers and routing basics), CCNA3 (switching basics and intermediate routing), CCNA4 (WAN technologies), and International Computer Driving Licence (ICDL). Those certificates have enabled me to understand my research interest, i.e. computer networks. In my Master's study, I used what I have learned to propose a security protocol for the IP protocol employed in wired Internet. Also I have gained the experience to build secure protocols using primitive cryptographic algorithms. In my PhD study, I have studied wireless and mobile networks as well as increasing my background in the cryptology discipline; I have also learned many networks simulations such as ns2, OMNET++, and Matlab. After my graduation in 2001 through 2008, I worked as an assistant lecturer at Cairo University; therefore, I became used to managing many tasks simultaneously, what with teaching various courses and preparing labs for students, proctoring and marking exams, all while continuing my research. After successfully finishing my PhD study at University of Waterloo, Canada, I am currently working as assistant professor at Cairo University, Egypt.

## PUBLICATIONS

### Conference Papers

M. H. Salama, **S. Taha**, and Elmahdy, H. N. “PMAS: A Proposed Mutual Authentication Scheme for Wireless Body Area Networks”, in Proc. of The International Conference on Convergence ICTC 2015, Jeju Island, Korea, Oct. 28-30, 2015.

Zaher Haddad, M. Mahmoud, **S. Taha** and Iman Tharwat, “Secure LTE-A based infrastructure for AMI-utility in smart grid network,” in Proc. of the 11th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, WiMob 2015, Abu Dhabi, UAE, Oct. 19-21, 2015.

**S. Taha**, and X. Shen, “Fake Point Location Privacy Scheme for Mobile Public Hotspots in NEMO based VANETs”, in Proc. of IEEE ICC’13 conference, Budapest, Hungary, June 9-13, 2013.

**S. Taha** and X. Shen, “A link-layer authentication and key agreement scheme for mobile public hotspots in NEMO based VANET,” in Globe-com 2012 - Communication and Information System Security Symposium (GC12 CISS), Anaheim, CA, USA, Dec. 2012.

**S. Taha**, S. Cespedes and X. Shen, “ $EM^3A$ : Efficient mutual multi-hop mobile authentication scheme for pmip networks,” in Proc. of IEEE International conference on Communication (ICC 2012). IEEE, 2012.

**S. Taha** and X. Shen, “Anonymous home binding update scheme for mobile ipv6 wireless networking,” in Proc. of Global Telecommunications Conference (GLOBECOM 2011), 2011 IEEE. 2011, pp. 15.

**S. Taha**, F. A. Amer, and S. H. Ahmed, “Study Analysis on Multicast Stream Authentication”, in proc. of Annual Conference on Statistics, Computer Science and Operation Research, Cairo University, 2004, Pp. 97-117.

### Journal Papers

M. Mahmoud, **S. Taha**, Jelena Mistic, and X. Shen, “Lightweight Privacy-Preserving and Secure Communication Protocol for Hybrid Ad Hoc Wireless Networks“, in IEEE transaction on Parallel and Distributed Systems, vol.25, no.8, pp.2077-2090, Aug. 2014

**S. Taha** and X. Shen, “A Physical Layer Location Privacy Scheme for Mobile Public Hotspots in NEMO based VANET,” IEEE Transactions on Intelligent Transportation Systems, ITS, Vol. 14, Issue 4, PP. 1665 - 1680, Dec. 2013.

S. Cespedes, **S. Taha**, and X. Shen, “A Multi-hop Authenticated Proxy Mobile IP Scheme for Asymmetric VANET,” IEEE Transactions on Vehicular Technology, IEEE TVT, Vol. 62, Issue 7, Pp. 3271-3286, Sep. 2013.

**S. Taha** and X. Shen, “ALPP: Anonymous and Location Privacy Preserving Scheme for Mobile IPv6 Heterogeneous Networks,” Wiley Security and Communication Networks Journal, Special Issue: Security in Wireless Ad Hoc and Sensor Networks with Advanced QoS Provisioning, Vol. 6, Issue 4, Pp. 401-419, April 2013.

**S. Taha**, F. A. Amer, and S. H. Ahmed, A New Proposed Multicast Stream Authentication Technique, International Journal of Intelligent Computing and Information Science (IJICIS), Vol. 4, No. 2, July 2004, Pp. 155-172

### Books and Book Chapters

**S. Taha**, S. Cespedes and X. Shen, “Mutual Authentication in IP Mobility-enabled Multi-hop Wireless Networks”, in Security for Multihop Wireless Networks, S. Khan, and J. Mauri, Auerbach

Publications, Taylo & Francis Group, CRC press, USA, Pp. 102-124, April 2014.

**S. Taha** and X. Shen, “ Securing IP Mobility Management for Vehicular Ad Hoc Networks ”, SpringerBriefs In computer science, S. Zdonik, S. Shekhar, J. Katz, X. Wu, L.C. Jain, D. Padua, X. Shen, B. Furht, V. S. Subrahmanian, M. Hebert, K. Ikeuchi, B. Siciliano, S. Jajodia, Springer, Canada, 2013.

### Conference Presentations

“Study Analysis on Multicast Stream Authentication”, Annual Conference on Statistics, Computer Science and Operation Research, Cairo University, Egypt, Feb. 2004.

“ALPP: Anonymous and Location Privacy Preserving Scheme for Mobile IPv6 Heterogeneous Networks”, Graduate Student Research Conference, university of Waterloo, Monday April 23, 2012, 1:00- 2:20 pm in E5, Room 6008

“  $EM^3A$ : Efficient Mutual Multi-hop Mobile Authentication Scheme for PMIP Networks”, IEEE ICC’12, Ottawa, Canada, June 10 - 15, 2012. Session: CISS03

“Secure and Efficient Source Location Privacy Preserving Scheme for Wireless Sensor Networks”, IEEE ICC’12, Ottawa, Canada, June 10 - 15, 2012, session: CISS11

“A Novel Traffic-Analysis Back Tracing Attack for Locating Source Nodes in Wireless Sensor Networks”, IEEE ICC’12, Ottawa, Canada, June 10 - 15, 2012, session: CISS06

“Fake Point Location Privacy Scheme for Mobile Public Hotspots in NEMO based VANETs”, IEEE ICC’13, Budapest, Hungary, June 9-13, 2013, session: CIS-04

“SAFE: A Social Based Updatable Filtering Protocol with Privacy-Preserving in Mobile Social Networks”, IEEE ICC’13, Budapest, Hungary, June 9-13, 2013, session: WN-03