

# Dr. Sghaier Guizani

Alfaisal University  
P.O. Box 50927  
Riyadh 11533, KSA

+966 11 215 7752 (Off.)  
+ 966 55 480 1083 (Mob)

*sguizani@alfaisal.edu* ✉ *sguizani@gmail.com*

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## EDUCATION

- ❖ **Ph.D. of Applied Science (2007)**, Electrical & Computer Engineering, University of Quebec, Trois- Rivieres, Canada.
  - **Thesis title:** “*Optical Post Chromatic Dispersion Compensation in an Optical Fiber Communication System*”
- ❖ **Master of Applied Science (1992)**, Electrical & Computer Engineering, North Carolina A&T State University, USA
  - **Thesis title:** “*Minimization Techniques for Single and Multiple Output Boolean Functions*”
- ❖ **Bachelor of Applied Science (1990)**, Electrical & Computer Engineering, State University of New York at Binghamton, NY, USA

## TEACHING EXPERIENCE

**Sept 2011 – Present, Assistant Professor – Alfaisal University, Riyadh, KSA**

- Electric Circuits I
- Electric Circuits II
- Signals and systems
- Communications Theory
- Control systems and feedback design

**Jan. 2010 – Aug. 2012, Assistant Professor, – UAE University, Al-Ain, UAE**

- Electric Circuits I & II
- Electric Circuits Laboratory
- Digital Logic Design
- Digital Logic Laboratory
- Data Communication

**Sept 2006 – Dec. 2009, Assistant Professor, Math & Computer Department, Qatar University, Qatar**

- Data Communications
- Signals & Systems
- Computer Networks

**Sept 2004 – May 2006, Lecturer, University of Moncton, Canada**

Teaching the following undergraduate courses:

- Circuits and electronics
- Laboratory of electronics
- Signals and Systems

**Sept 2002 – August 2004, Teaching Assistant, University of Quebec, Canada**

Teaching the following undergraduate courses:

- Mathematics for Computer Science

- Computer language Engineering
- Computer System and Architecture

## **INDUSTRIAL EXPERIENCE**

**November 1999 - July 2002:**

**Asic Verification Engineer: Nortel Networks, Ottawa, Canada**

**Project:** 10 G bits/s Ethernet chip (AE97)

The AE97 is a single chip device with combined Protocol Processor and Physical Layer Interface Transceiver functionality. The AE97 targets the LAN application specified in the IEEE P802.3ae standard. Developed the Design Document for the Behavioral Model of the Terminal/Line side interface of the chip. Designed the software interface registers

WA01/WA03 Chips are dual mode devices that can be used for either SONET based application or SDH based applications. The WA01/03 devices provide an OC-3 or STM-1 generation/termination function allowing the composition/decomposition of OC-3/STM-1 rate streams. OC-3/STM-1 is intended for SONET/SDH based applications that map/de-map DS3/E3 and/or VT1.5/TU-11 tributary with the SONET/SDH payload envelope. Developed many test cases to test different features of AE97 using VERA and Verilog.

**January 1993 - July 1999:**

**Senior Network Engineer: Alcatel Data Networks, Orvault, France**

I was involved in global software development projects within multiple site development environments (ADN France - CDET Tunis - FACE Italy - BMI Austria). I led software product planning, design, development, and testing, usability evaluations and deployment of key software, and support of the clients, created white papers, of the Data Network Management software Alcatel 1100 NMU (Network Management Unit) and Alcatel 1100 VGS (Virtual Private Network Graphical Station). Including Graphical User Interface, Distributed Communication, peer2peer Architecture, on Unix Platforms using C, C++, SNMP, TCP/IP, X25 protocol, Oracle, Pro\*C & SQL and various Graphical packages Motif, Data Views. My involvement with the above is in developing the following projects:

- ALCATEL1100 NMU
- ALCATEL 1100 NMU-VGS-MMI (Man-Machine Interface Commands)
- ALCATEL 1100 NMS (Network Management System)
- ALCATEL 1100 VGS

## COMPUTER EXPERIENCE & SKILLS

- **Networking:**  
TCP/IP, SMTP, SNMP, X25/Sunlink
- **Database:**  
Oracle, SQL packages, PL SQL/  
Embedded SQL
- **Computer graphics Environments:**  
OSF Motif, DATA Views, X Window  
System, OpenGL, Photoshop CS2
- **Platforms/Machines:**  
HP Open view, Sun-Sparc Workstations,  
HP-9000, Mac, Tektronix, IBM, SUN, PC,  
NCD terminals, PCs
- **Operating Systems:**  
Solaris, MacOSX, Windows, Linux
- **Primary Languages:**  
Java, C, C++, PASCAL, , COBOL,  
Prolog, Lisp, Assembly Languages.  
(working knowledge).
- **Hardware Description Languages:**  
SHDL, VHDL, and FPGA
- **Web Technologies:**  
Apache web server, Axis Framework,  
HTML, CSS, JavaScript.
- **Tools:**  
OPNET, NETWORK, MathSoft,  
MathCad, MathLab, and Mathematica
- **Word processors:**  
Adobe Framemaker, Mac Pages, MS  
Office, Interleaf, LATEX

## Publications

### Journal Papers:

1. **S. Guizani**, "A k-means clustering based security framework for mobile data mining", Wireless Communications and Mobile Computing Journal, **Accepted**
2. **I. Yacook, E. Ahmed, A. Gani, S. Mokhtar, M. Imran, S. Guizani**, "Mobile ad hoc cloud: A survey", Wireless Communications and Mobile Computing Journal, Volume 16, Issue 16, November 2016
3. **S. Guizani**, "Relay attacks concerns in wireless ad hoc, sensors, and RFID networks", Wireless Communications and Mobile Computing Journal, Volume 16, Issue 11, 10 August 2016
4. **E. Ahmed, I. Yaqoob, A. Ahmed, A. Gani, M.Imran, S. Guizani**, "Green Industrial Networking: Recent advances, Taxonomy, and Open Research Challenges", IEEE Communication magazine. Accepted. To be published in Oct. 2016
5. **S. Guizani**, "Security Analysis of RFID Relay Attack", Journal of Internet Technology, Accepted - to be published in Vol.17 No.2, March 2016
6. **I.Yaqoob, I.A.T Hashem, Y. Mehmood, A.Gani, S.Mokhtar, S.Guizani**, "Enabling Communication Technologies for Smart Cities", IEEE Communications Magazine, 22 August 2016.
7. **A. Akhuzada, E. Ahmed, A. Gani, M. Khan, M. Imran, S. Guizani** "Securing software defined networks: taxonomy, requirements, and open issues", IEEE Communication magazine, Volume: 53, Issue: 4, April 2015
8. **A. Al-Mogren, M. Iftikhar, M. Imran, N. Xiong, S. Guizani** "Performance analysis of hybrid polling schemes with multiple classes of self-similar and long-range dependent traffic input", Journal of Internet Technology, Vol. 16 No. 4, P.615-628 - 2015
9. **Wu, T.-Y., S. Guizani, Lee, W.-T., Huang, P.-C. ,** "An enhanced structure of layered forward error correction and interleaving for scalable video coding in wireless video delivery", IEEE Wireless Communications, Vol. 20, 2013
10. **Lo, H.-F., S. Guizani, Wu, T.-Y., Lee, W.-T., Lin, H.-W.** "IEEE 802.21-based seamless multicast streaming with dynamic playback control" Computer Communications journal, Vol. 35, N° 2, pages 179-187, January 2012
11. **Tin-Yu Wu, S. Guizani, Wei-Tsong Lee, and Ku-Hung Liao**, "Improving RSU service time by Distributed Sorting Mechanism", Elsevier Journal of Ad Hoc Networks, Vol. 10, No 2, March 2012
12. **Tin-Yu Wu, S. Guizani**, "Improving Performance of RSU Communication by Distributed Sorting Mechanism", Journal of Wireless Communications and Mobile Computing (WCMC) – Accepted – April 2010

13. M. Soliman, **S. Guizani**, "Investigating RFID Enabled Devices in Smart Electronic Learning Environments", International Journal of Interactive Mobile Technologies (IJIM), Vol. 4, No. 1, 2010
14. Bo Rong, Hsiao-Hwa Chen, YiQian, Kejie Lu, Rose Qingyang Hu, **S. Guizani**, "A Pyramidal Security Model for Large-Scale Group-Oriented Computing in Mobile Ad Hoc Networks: The Key Management Study", IEEE Transactions on Vehicular Technology, Volume 58, No 1, 2009
15. Ruhai Wang, **S. Guizani**, "A comparative investigation of acknowledgment mechanisms for data transport in space internet" IEEE Wireless Communications, Vol. 15, No. 1, February 2008
16. Hairong Yan, Jie Li, Guoji Sun, **S. Guizani**, Hsiao-Hwa Chen, "A novel power control MAC protocol for mobile ad hoc networks", International Journal of Sensor Networks (IJSNet), Vol. 4, No. 4, 2008
17. **S. Guizani**, H. Hamam, X. Du, and H-H. Chen, "Ad-hoc systems backboned by fibers: Limitations and solutions" International Journal of Sensor Networks (IJSNet), Vol. 4, No. 4, pp. 75, 2008
18. W. El-Hajj, D. Kountanis, A. Al-Fuqaha, and **S. Guizani**, "A Fuzzy-Based Virtual Backbone Routing for Large Scale MANETs" International Journal of Sensor Networks (IJSNet), Vol. 4, No. 4, pages 75, 2008.
19. X. Du, M. Zhang, K. E. Nygard, **S. Guizani**, and H-H. Chen, "Self-healing sensor networks with distributed decision making" International Journal of Sensor Networks (IJSNet), Vol. 2, No. 5/6, pp. 289-298, July 2007.
20. B. Sun, L. Osborne, Y. Xiao, and **S. Guizani**, "Intrusion Detection Techniques in Mobile Ad Hoc and Wireless Sensor Networks", IEEE Wireless Communications Magazine, Vol. 14, pp. 56-63, May 2007.
21. Yang Xiao, Xiaojiang Du, Jingyuan Zhang, and **S. Guizani**, "Internet Protocol Television (IPTV): the Killer Application in the Next Generation Internet", IEEE Communications Magazine, Vol. 45, No. 11, pp. 126-134, November 2007.
22. **S. Guizani**, M. Razzak, H. Hamam, Y. Bouslimani "Optical post- equalization Based on Self-Imaging", Journal of Modern Optics, Vol. 53, No. 12, pp. 1675-1684, August 2006.
23. **S. Guizani**, M. Razzak, H. Hamam, Y. Bouslimani, A. Cheriti "Fiber over wireless chromatic dispersion compensation for a better Quality of Service", EURASIP Journal on Wireless Communications and Networking, Vol. 2006 , No. 2, pp. 44-44, April 2006.
24. **S. Guizani**, H. Hamam, Y. Bouslimani and A. Chérity (2005) "High bit rate optical communications: Limitations and perspectives", IEEE Canadian Review Vol. 50, pp. 11-15, 2005.

### Conference Papers:

1. **S. Guizani**, "Implementation of an RFID Relay Attack Countermeasure", IEEE IWCMC Conference, Page(s): 1318 – 1323, , 24-28 Aug. 2015, Dubrovnik, Croatia
2. **S. Guizani**, "Security applications challenges of RFID technology and possible countermeasures" , 2014 International Conference on Computing, Management and Telecommunications, ComManTel 2014, April 27 - 29, 2014, DaNang, Vietnam.
3. Iftikhar, M., Shoukat, I.A., Salman, H. **S. Guizani**, "The explicit analysis of polling systems combined with non-preemptive priority scheduling under self-similar traffic input ", 2013 Computing, Communications and IT Applications Conference, ComComAp 2013, April 2 - 3, 2013, HKUST, Hong Kong, China.
4. **S. Guizani**, N, Nasser, "An audio/video crypto Adaptive optical steganography technique", IWCMC 2012 - 8th International Wireless Communications and Mobile Computing Conference. August 27 to 31, 2012, Limassol, Cyprus
5. N. Nasser and **S. Guizani**; Al-Masri, "Middleware Vertical Handoff Manager: A Neural Network-Based Solution" , IEEE International Conference on Communications, ICC- 2007, pp. 5671-5676, Glasgow, Scotland, 24-28 June 2007
6. N. Nasser and **S. Guizani**, "Analysis of a Cell-based Call Admission Control Scheme for QoS Support in Multimedia Wireless Networks", IEEE International Conference on Computer Communications and Networks, 2007. ICCCN-2007, pp: 1250 – 1255. Honolulu, HI, 13-16 Aug. 2007, USA
7. **S. Guizani** and H. Hamam, "Self-imaging based dispersion compensation: performance and tolerance of the system", IEEE International Conference on Signal Processing and Communication, ICSPC 2007, Dubai, United Arab Emirates. 24-27 November, 2007.

8. C. Cai, S. Ci, **S. Guizani**, and A. Al-Fuqaha, "Constructing an Efficient Mobility Profile of Ad-Hoc Node for Mobility-Pattern-Based Anomaly Detection in MANET" IEEE GLOBECOM 2006, Nov. 2006, San Francisco, CA, USA
9. X. Du, Y. Xiao, **S. Guizani**, and H. H. Chen, "An Efficient Key Management Scheme for Heterogeneous Sensor Networks" IEEE GLOBECOM 2006, Nov. 2006, San Francisco, CA, USA.
10. X. Du, **S. Guizani**, Y. Xiao and H. H. Chen, "A Secure Routing Protocol for Heterogeneous Sensor Networks" IEEE GLOBECOM 2006, Nov. 2006, San Francisco, CA, USA.
11. **S. Guizani**, M. Razzak, H. Hamam, Y. Bouslimani, and A. Cheeriti "Effect of Chromatic dispersion on fiber over wireless systems" IEEE ICC 2006, June 11-15, 2006, Istanbul, Turkey
12. **S. Guizani**, M. Razzak, H. Hamam, and Y. Bouslimani "A new Optical post- equalization based on self-Imaging", Photonics North (SPIE) Conference, September 12-14, 2005, Toronto, Canada
13. **S. Guizani**, M. Razzak, Y. Bouslimani, H. Hamam and A. Cheriti (2005), "A new optical post compensation technique for chromatic dispersion: Application to fiber-fed wireless", IEEE Communication Society, International Conference on Wireless Networks, Communications, and Mobile Computing, June 2005.
14. M. Benoune, **S. Guizani**, J. Au, Y. Bouslimani, H. Hamam and O. Latry, "LPFG implementation using electrical arc and micro-deformation," IEEE - ICIT04, 2004, Tunisia.

### **Books:**

- **S. Guizani**, Optical Post CD Compensation In An Optical Fiber Communication System", ISBN-13: 978-3639704785, December 28, 2013, (<http://www.amazon.com/Optical-Compensation-Fiber-Communication-System/dp/3639704789>)

### **Book Chapters:**

- **S. Guizani**, H. Hamam "Optical Fiber Communications," Encyclopedia 2006, Edited by Hussein Bidgoli, California State — Fullerton
- **S. Guizani**, H. Hamam "Chromatic dispersion compensation by means of optical fiber components" in Optical Fiber Components: Design and Applications, Edited by Habib Hamam, Research SignPost Edition, 2006

### **Patents:**

- N. Jerbi, R. Osman, **S. Guizani**, Y. Bouslimani and H. Hamam, RCS-CO2 (Remote Control Software for CO2) laser setup. Copyright #1030291, Canadian Intellectual Property Office - Industry Canada, 2005.

### **Grants, Contracts, & Proposals**

1. Principal Investigator (PI), Internal Research Grant, "iMonitor - NFC/RFID Monitoring System", **30,000 SAR**, 2014 (Funded: Alfaisal University)
2. Principal Investigator (PI), Internal Research Grant, "iPatient – RFID Identification System", **50,000 SAR**, 2013 (Funded: Alfaisal University)
3. Principal Investigator (PI), "Holography based Steganography" \$308,000, QNRF, Dec. 2010
4. Co-Investigator (Co-PI), "Internet Access for Mobile Machines" **\$20,000**, Spring Board Proof of Concept Fund Program, Canada, 10/1/2005 to 9/30/2006, **Funded**, (H. Hamam—PI, University of Moncton, Canada)

### **Professional Activities & Development**

#### • **Journals**

1. **Associate Editor**, [Security and Communication Networks](#), Wiley Journal, 2007-Present.
2. **Associate Editor**, [International Journal of Sensor Networks \(IJSNet\)](#), InderScience, 2005-Present.
3. **Associate Editor**, [Journal of Computer Systems, Networking, and Communications](#), Hindawi, 2007-2011.
4. **Guest Editor** - [Security and Communication Networks](#), Wiley. Special Issue on "WiMAX Security and Applications", published, August 2009.

5. **Guest Editor** – Elsevier [Computer Communications Journal](#) Special Issue on “*Security on Wireless Ad Hoc and Sensor Networks*”, Volume 30, Issues 11-12, 2007

• **Conferences**

1. TPC Member & Reviewer: [IEEE ICC 2017](#), 21-25 May 2017, Paris, France
2. TPC Member & Reviewer: [Security in Computing and Communications](#), Sept. 21-24, 2016, Jaipur, India
3. TPC Member & Reviewer: [NAFOSTED Conference on Information and Computer Science](#), Sept. 14-16, 2016, Danang, Vietnam
4. TPC Member & Reviewer: [IEEE WCNC 2015](#), 9-12 March 2015, New Orleans, USA
5. TPC Member & Reviewer: [IEEE ComComAp 2014](#), Oct. 20 - 22, 2014, Beijing, China
6. TPC Member & Reviewer: [GlobeCom 2014](#), 8-12 December, 2014, Austin, USA
7. TPC Member & Reviewer: [IEEE ICC 2014](#), 10 - 14 June 2014, Sydney, Australia
8. Technical Program Chair: [IEEE ComManTEI 2014](#), 27-29, 2014, DaNang, Vietnam
9. TPC Member & Reviewer: [IEEE WCNC 2014](#), 6 - 9 April 2014, Istanbul, Turkey
10. TPC Member & Reviewer: [GlobeCom 2013](#), 9 - 13 Dec. 2013, Atlanta, USA
11. TPC Member & Reviewer: [IEEE ICC 2013](#), 9 - 13 June 2013, Budapest, Hungary
12. TPC Member & Reviewer : [IT 2013](#), 17 -19 March, 2013, Al Ain, UAE
13. TPC Member & Reviewer: International Conference on Connected Vehicles & Expo (ICCVE 2012), 12 - 16 Dec. 2012, Beijing, China
14. TPC Member & Reviewer: [IEEE ICC 2011](#), 5- 9 June, 2011, Koyoto, Japan, Symposium on:
  - a. WNS: *Wireless Networking Symposium*
  - b. CISS: *Communication & Information System Security Symposium*
15. TPC Member & Reviewer: [IEEE WCNC 2011](#), Symposium on: “Multiple Access” MAC – 28 - 31 March, 2011, Quintana-Roo, Mexico
16. TPC Member & Reviewer: [IEEE GlobeCom 2010](#), 6 – 10 Dec, 2010, Miami, Florida, USA Symposium on:
  - a. AHSN: *Ad Hoc Sensor and Mesh Networking Symposium*
  - b. CISS: *Communication & Information System Security Symposium*
17. TPC Member & Reviewer: [IEEE WCNC 2010](#), Symposium on: “Multiple Access” MAC – 18-21 April 2010, Sydney, Australia
18. TPC Member & Reviewer: [IEEE GlobeCom 2009](#), Nov 30- Dec 4, 2009, Honolulu, Hawaii, USA Symposium on:
  - a. AHSN: *Ad Hoc Sensor and Mesh Networking Symposium*
  - b. CISS: *Communication & Information System Security Symposium*
19. TPC Member & Reviewer: [IEEE ICC 2009](#), 14-18 June, 2009, Dresden, Germany, Symposium on:
  - a. WN: *Wireless Networking Symposium*
  - b. CISS: *Communication & Information System Security Symposium*
20. TPC member & Reviewer: [GlobeCom 2008](#), Symposium on “*Ad hoc Sensor and Mesh Networks*” AHSN – 30 Nov.- 4 Dec. 2008, New Orleans, LA, USA
21. TPC member & Reviewer: [ChinaCom 2008](#), Symposium on “*Wireless Communications and Networking*“ WCN - August 25-27, 2008, Hangzhou, China
22. TPC member & Reviewer: [IEEE International Conference on Communications](#), Symposium on *Wireless Networking*, WN – May 19-23, 2008, Beijing, China
23. TPC member & Reviewer: [IEEE International Conference on Communications \(ICC\)](#), Symposium on “*Wireless Ad Hoc and Sensor Networks*”, 24-28 June 2007, Glasgow, Scotland, UK
24. TPC member, [IEEE Wireless Communications and Networking Conference \(WCN 2007\)](#), March 2007, Hong Kong.
25. Reviewer: [IEEE Wireless Communications and Networking Conference \(WCN 2007\)](#), March 2007, Hong Kong.
26. TPC member: [IEEE Vehicular Technology Conference \(VTC 2006\)](#), “Radio Access Techniques” Track, Montreal, Canada, September 2006, Montréal, Canada
27. Reviewer: [IEEE Vehicular Technology Conference \(VTC 2006\)](#), “Radio Access Techniques” Track, Montreal, Canada, September 2006, Montréal, Canada.
28. TPC member: [IEEE International Conference on Communications \(ICC\)](#), Symposium on “Wireless Ad Hoc and Sensor Networks”, June 10-15, 2006, Istanbul, Turkey.
29. Reviewer: [IEEE International Conference on Communications \(ICC\)](#), Symposium on “Wireless Ad Hoc and Sensor Networks”, June 10-15, 2006, Istanbul, Turkey.
30. **Program Committee Member**, [Fourth International Conference on Communications in Computing \(CIC 2003\)](#), Las Vegas, Nevada, June 2003.

**REFERENCES**

**Dr. H-H. Chen**

Chair of Radio Communications  
Technical Committee (RCC),

National Sun Yat-Sen University, Taiwan  
**Email:** [hshwchen@mail.nsysu.edu.tw](mailto:hshwchen@mail.nsysu.edu.tw)  
**Tel.** + 886-7-5254488

**Dr. H. Hamam** President of the departmental Assembly, Faculty of Engineering, Chair, EMAT Laboratory, Leader, ICT Research axis in the three campuses of University of Moncton, University of Moncton, NB, Canada  
**Email:** [hamamh@umoncton.ca](mailto:hamamh@umoncton.ca)  
**Tel.** + (506) 858-4762

**Dr. Y. Bouslimani** Professor, Electrical Engineering, University of Moncton, Canada  
**Email:** [bousliy@umoncton.ca](mailto:bousliy@umoncton.ca)  
**Tel.** + (506) 858-4756