

CURRICULUM VITAE

Falah Awwad

Associate Professor

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IF = Impact Factor	CIT = College of Information Technology
EE = Electrical Engineering Department	COE = College of Engineering
UAEU = United Arab Emirates University	UAE = United Arab Emirates
If the affiliation for an activity (i.e., research, teaching, service, etc.) is not mentioned, then it is by default at COE, CIT, UAEU, UAE	

I. EDUCATION

- **Ph.D.**, Electrical and Computer Engineering, Concordia University, Montreal, Quebec, Canada (2002 – 2006)
- **M.Sc.**, Electrical and Computer Engineering, Concordia University, Montreal, Quebec, Canada (2000 – 2002)
- **B.Sc.**, Electrical Engineering, Kuwait University, Kuwait.

II. PROFESSIONAL EXPERIENCE

- **Associate Professor**, Department of Electrical Engineering, College of Engineering (COE), United Arab Emirates University (UAEU), Al Ain, UAE, September 1, 2013 – present.
- **Assistant Professor**, Department of Electrical Engineering, College of Engineering (COE), United Arab Emirates University (UAEU), Al Ain, UAE, February 5, 2013 – August 31, 2013.
- **Assistant Professor**, Computer System Design Track (Computer Engineering), College of Information Technology (CIT), United Arab Emirates University (UAEU), Al Ain, UAE, August 2007 – February 4, 2013.
- **Visiting Scholar/Researcher**, Department of Electrical Engineering & Computer Sciences (EECS), University of California at Berkeley, Berkeley, CA, USA, March 21 – April 3, and July 20 – August 2, 2012.
- **Visiting Researcher**, ECE Department, Concordia University, Montreal, Quebec, Canada, June 2010 – August 2010.
- **Postdoctoral Fellow**, Ecole Polytechnique de Montreal, and Concordia University, Montreal, Quebec, Canada, October 2006 – July 2007.
- **Research and Teaching Assistant**, ECE Department, Concordia University, Montreal, Quebec, Canada, Jan. 2000 – Sept. 2006
- **Head of Biomedical/Electronics Maintenance Workshop and Head of**

Biomedical/Electronics Training Unit, Royal Scientific Society (RSS), Electronic Services and Training Center (ESTC), Amman, Jordan, December 1991 – August 1999.

- **Electronic/Computer Engineer**, National Center for Computer Applications, Amman, Jordan, February 1991 – November 1991.
- **Electronic Engineer**, Kuwait T.V., Ministry of Information, Kuwait, October 1985 – August 1990.
- **Computer Engineer**, Al-Ehsan General Trading & Contracting EST. (Computer Service Div.), Kuwait, February 1985 – September 1985.

III. RESEARCH

III.1 RESEARCH INTERESTS

- **Low-Power High-Speed VLSI Systems.**
 - SoC On-chip interconnects modeling, and repeater insertion strategies.
 - Low-power CMOS circuit design.
- **Medical Imaging.**
- **Micro-devices Fabrication and Characterization.**
- **Design with Emerging Technologies (e.g., CMOS-Based Microfluidic).**
- **Wireless Body Sensors/Sensor Networks.**
- **Biologically-inspired sensors and actuators.**
- **Network Communication algorithms.**

III.2 BOOKS/BOOK CHAPTERS

- E. Ghafar-Zadeh and **F. Awwad**, "CMOS Electrochemical Sensor Microsystems", Chapter 2 in the book "CMOS Biological Microsystems" Edited by Vamsy Chodavarapu, and Albert H. Titus, **Springer, 2013**, ISBN 978-1-4614-2283-9.
<http://www.springer.com/engineering/circuits+%26+systems/book/978-1-4614-2283-9>
- **Falah Awwad**, I. Khalil, and Najah Abu Ali; Book of Abstracts - Innovations'09, 6th International Conference on Innovations in Information Technology, UAE University.
- **Falah Rashad Awwad**, "A Theory on Repeater-insertion Methodologies for SoC Interconnects", Publisher: Concordia University (Canada), 2006. ISBN: 0494238410, 9780494238417

III.3 PATENTS

- Awarded an NRF grant (60,000 AED) to pursue preparation of patent on: "High efficiency nano-injection of cell re-programming factors for stem cell therapy". Filled in collaboration with York University (Canada) to process a US Patent.

III.4 ARTICLES IN REFEREED JOURNALS

- [1] Arjun Sham; Ahmed Al-Azzawi; Salma Al-Ameri; Bassam Al-Mahmoud; **Falah Awwad**; Ahmed Al-Rawashdeh; Rabah Iratni; Synan AbuQamar, "Transcriptome Analysis Reveals Genes Commonly Induced by Botrytis Cinerea Infection, Cold, Drought and Oxidative Stresses in Arabidopsis," submitted to **PLOS ONE Journal**, August 2014.
- [2] Synan AbuQamar, Arjun Sham, **Falah Awwad**, Rabah Iratni, Suad Ajeb, and Ahmed Al-Rawashdeh, "Microarray-based Analysis of Arabidopsis Mutants with Increased Susceptibility to Botrytis cinerea," **Molecular Plant-Microbe Interactions**, submitted, 2013. (IF = 4.762)
- [3] Azam Beg, **Falah Awwad**, Walid Ibrahim, and Faheem Ahmed, "On the Reliability Estimation of Nano-Circuits using Neural Networks," **Journal of Microprocessors and Microsystems: Embedded Hardware Design (MICPRO) - Elsevier**, submitted, 2013. (IF = 0.549)
- [4] Uzma Mushtaq, Osman Hasan, and **Falah Awwad**, "NoC based Implementation of Free Form Deformations in Medical Imaging Registration". **Journal of Microprocessors and Microsystems: Embedded Hardware Design (MICPRO) - Elsevier**, submitted, 2013. (IF = 0.549)
- [5] Nabovati, G.; Ghafar-Zadeh, E.; Mirzaei, M.; Ayala-Charca, G.; **Awwad, F.**; Sawan, M., "A New Fully Differential CMOS Capacitance to Digital Converter for Lab-on-Chip Applications," **IEEE Transactions on Biomedical Circuits and Systems**, vol. no. 99, August 11, 2014. doi: 10.1109/TBCAS.2014.2336596
- [6] Ahmad Ayesh, Haya Ahmed, **Falah Awwad**, Samir Abueishah, and S. T. Mahmoud. "Mechanisms of Ti Nanoclusters Formation by Inert Gas Condensation", **Journal of Materials Research** 28.18 (2013): 2622-2628. (IF = 2.16)
- [7] **Falah Awwad**, Ahmad Ayesh, and Sarah Awwad, "Are Laptops Distracting Educational Tools in Classrooms," **ELSEVIER, Procedia-Social and Behavioral Sciences** 103 (2013): 154-160.
- [8] **Falah Awwad**, Ahmad Ayesh, and Sarah Awwad, "Effectiveness of Laptop Usage in UAE University Undergraduate Teaching", **Turkish Online Journal of Educational Technology**, (TOJET), volume 12, Issue 2, pp. 77-88, April 2013. (IF = 0.956)
- [9] Ahmad Ayesh and **Falah Awwad**, "Opportunity for DNA Detection using Nanoparticle-Decorated Graphene Oxide," **Journal of Nanomaterials & Molecular Nanotechnology (JNMM)**, June 2012. Digital Object Identifier: 10.4172/jnmn.1000e101. (IF: 2012 Still Computing)
- [10] I. Khalil, M. Awad, S. Bouktif, and **F. Awwad**, "MSN: Mutual Secure Neighbor Verification in Multi-hop Wireless Networks". **Journal of Security and Communication Networks (a Wiley journal)**, 4: n/a. Digital Object Identifier: 10.1002/sec.304, 2011. (IF = 0.472)

- [11] **Falah Awwad**, Mohamed Nekili, and Mohamad Sawan, "A Novel Theory on Parallel Repeater-Insertion Methodologies for Long On-Chip Interconnects". **International Journal of Circuit Theory and Applications**, Volume 40, Issue 7, pages 693–708, July 2012. Digital Object Identifier: 10.1002/cta.751. (IF = 2.389) (ISI Journal Citation Reports © Ranking: 2011: 69/245)
- [12] M. Sawan, S. Hashemi, M. Sehil, **F. Awwad**, M. Hajj-Hassan and A. Khouas, "Multicoils-based inductive links dedicated to power up implantable medical devices: Modeling, design and experimental results", **Biomedical Microdevices Journal**, PMID: 19488859, June 2009. (IF = 3.406)
- [13] **Falah Awwad**, M. Nekili, V. Ramachandran and M. Sawan, "On Modeling of Parallel Repeater-Insertion Methodologies for SoC Interconnects", **IEEE Transactions on Circuits and Systems I (TCAS-I)**, Vol. 55, No. 1, pp. 322-335, Digital Object Identifier: 10.1109/TCSI.2007.910538, February 2008. (IF = 2.4)

III.5 CONFERENCE PAPERS AND PRESENTATIONS

III.5.a Refereed conference proceedings

- [1] Faiq Khalid Lodhi, Syed Rafay Hasan, Osman Hasan, and **Falah Awwad**, "Hardware Trojan Detection in Soft Error Tolerant Macro Synchronous Micro Asynchronous (MSMA) Pipeline", **The IEEE 57th International Midwest Symposium on Circuits & Systems (MWSCAS 2014)**, College Station, Texas, August 3-6, 2014.
- [2] Faiq Khalid Lodhi, Syed Rafay Hasan, Osman Hasan, and **Falah Awwad**, "Low Power Soft Error Tolerant Macro Synchronous and Micro Asynchronous Pipeline," **The IEEE Computer Society Annual Symposium on VLSI (ISVLSI 2014)**, Tampa, Florida, USA, July 9-11, 2014.
- [3] Ghazal Nabovati, Ebrahim Ghafar-Zadeh, Maryam Mirzaei, Giancarlo Ayala-Charca, **Falah Awwad**, and Mohamad Sawan, "Fully Integrated CMOS Capacitive Sensor for Lab-on-Chip Applications," **The 2014 IEEE International Symposium on Circuits and Systems (ISCAS 2014)**, SPECIAL SESSION: Microsystems for Biochemical Sensing, Melbourne, Australia, June 1-5, 2014.
- [4] Bahareh Gholamzadeh, Ebrahim Ghafar-Zadeh, **Falah Awwad**, and Mohamad Sawan, "Piezoresistive Cantilever Platform for Label-free Detection of Molecules," **5th IEEE Latin American Symposium on Circuits and Systems (LASCAS 2014)**, Santiago, Chile, February 25-28, 2014.
- [5] Ghazal Nabovati, Ebrahim Ghafarzadeh, **Falah Awwad**, and Mohamad Sawan, "A Sigma Delta ISFET Readout Circuit for Lab-on-Chip Applications," **11th IEEE International NEWCAS Conference**, Paris, France, June 16-19, 2013.
- [6] **Falah Awwad**, Ahmad Ayeshe, and Sarah Awwad, "Are Laptops Distracting Educational Tools in Classrooms," **13th International Educational Technology Conference (IETC 2013)**, Kuala Lumpur, Malaysia, May 13-15, 2013.

- [7] E. Ghafar-Zadeh, B. Gholamzadeh, M.Sawan, and **F. Awwad**, "Toward implantable Glucometer: Design, Modeling and Experimental Results," **35th Annual International Conference of the the IEEE Engineering in Medicine and Biology Society IEEE-EMBC 2013**, July 3-7, Osaka, Japan.
- [8] Uzma Mushtaq, Osman Hasan, and **Falah Awwad**, "PNOC: Implementation on Verilog for FPGA," **The ninth IEEE International conference on Innovations in Information Technology (Innovations'09)**, March 17-19, 2013, Al Ain, UAE.
- [9] Mohammad Daoud, Mohammad M. Baba, **Falah Awwad**, Mahasen Al-Najjar, and Emad S. Tarawneh, "Accurate Segmentation of Breast Tumors in Ultrasound Images using a Custom-Made Active Contour Model and Signal-to-Noise Ratio Variations," **8th IEEE International Conference on SIGNAL IMAGE TECHNOLOGY & INTERNET BASED SYSTEMS**, 25-29, November 2012 - Sorrento - Naples, Italy.
- [10] G. Nabovati, E. Ghafar-Zadeh, **F. Awwad**, and M. Sawan, "Fully Digital Low-Power Self-Calibrating BPSK Demodulator for Implantable Biosensor". **55th International Midwest Symposium on Circuits and Systems**, Boise, Idaho, August 5-8, 2012.
- [11] F. K. Lodhi, O. Hasan, S. R. Hasan, and **Falah Awwad**, "Modified Null Convention Logic Pipeline to Detect Soft Errors in Both Null and Data Phase". **55th International Midwest Symposium on Circuits and Systems**, Boise, Idaho, pp. 402-405, August 5-8, 2012.
- [12] E. Ghafar-Zadeh, B. Gholamzadeh, **F. Awwad**, M. Sawan, "On chip electroporation: Design, Modeling and Experimental Results". **Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology (EMBC)**, San Diego, California, USA, Aug. 28 - Sept. 1, 2012.
- [13] **Falah Awwad**, "Network Theory where Microelectronics Meet Math". **The Third Palestinian Conference on Modern Trends in Mathematics and Physics (PCMTMP)**, Hebron, Palestine, 16-18 July, 2012.
- [14] Fadi N. Sibai, Saadullah Mohammad, Hashir Karim Kidwai, and **Falah Awwad**, "Parallel Implementation and Performance Analysis of a 3D Oil Reservoir Data Visualization Tool on the Cell Broadband Engine and CUDA GPU". **Proceedings of the 14th IEEE International Conference on High Performance Computing and Communications (HPCC 2012)**, Liverpool, UK, 25-27 June, 2012.
- [15] Emad Elnajjar, **Falah Awwad**, and Fathi M. Allan, "Assessing the Efficiency of the Use of Laptops on the UAEU Students' Various Activities". **IAT Technological Education Conference (IAT TEC 2011)**, Abu Dhabi, UAE, 30-31 March 2011.
- [16] Mohammad Hayajneh, Imad Barhumi, and **Falah Awwad**, "Antenna Selection Algorithm for Down Link MIMO SDMA OFDM Cellular Systems". **The IEEE 21th Personal, Indoor and Mobile Radio Conference**, 26-30 September 2010, Istanbul, Turkey.
- [17] Fariborz Fereydouni-forouzandeh, Otmane Ait Mohamed, Mohamad Sawan, and **Falah Awwad**, "Delay Calculation and Error Compensation in TBCD-TDM Communication Protocol for Wireless Body Sensor Networks". **IEEE-NEWCAS and TAISA Conference**, Canada, June 2010.

- [18] Saad Elmansori, Otmane Ait Mohamed, and **Falah Awwad**, "Static Slicing-Based Pre-Reduction Technique for MDG Model-Checker". **The sixth IEEE International conference on Innovations in Information Technology (Innovations'09)**, Dec., 2009, pp. 299 - 303. This paper has been nominated for a best paper award in Computing and Embedded Systems track.
- [19] Fariborz Fereydouni-forouzandeh, Otmane Ait Mohamed, Mohamad Sawan, and **Falah Awwad**, "TBCD-TDM: Novel Ultra-Low Energy Protocol for Implantable Wireless Body Sensor Networks". **Proceedings of the IEEE GLOBAL COMMUNICATIONS CONFERENCE (IEEE GLOBECOM 2009)**, 30 Nov. – 4 Dec., 2009.
- [20] **Falah Awwad**, Mohamed Nekili, and Mohamad Sawan. "Performance Metrics Study for Repeater-Insertion Strategies". **Proceedings of the Joint IEEE-NEWCAS and TAISA Conference**, Montreal, June 22-25, 2008.
- [21] **Falah R. Awwad**, Tawfeeq Lammoshi, and Mohamed Nekili. "Importance of On-Chip Inductance in Designing RLC VLSI Interconnects". **Proceedings of the International Conference on Microelectronics**, Lebanon, Dec. 2002.
- [22] **Falah R. Awwad**, and Mohamed Nekili. "Variable-Segment & Variable-Driver Parallel Regeneration Technique for RLC VLSI Interconnects". **Proceedings of the 12th ACM Great Lakes Symposium on VLSI 2002**, pp. 118-123, New York, NY, USA, April 18-19, 2002.
- [23] **Falah R. Awwad**, and Mohamed Nekili. "Regeneration Techniques for RLC VLSI Interconnects". **Proceedings of the International Conference on Microelectronics**, Morocco, pp. 209-212, Oct. 2001.

III.5.b Invited talks & oral conference presentation

- [1] **Falah Awwad**, Ahmad Ayesh, and May Brik, "Are Laptops Distracting Educational Tools in Classrooms," Global Education Forum (GEF) & Gulf Educational Supplies & Solutions (GESS) 2013, Dubai, World Trade Center, UAE, 5-7 March 2013 (March 6, 2013).
- [2] **Falah Awwad**, "Micro-Scale Electroporation for Biological Applications," Hardware Verification Group (HVG), ECE Department, Concordia University, September 28, 2011.
- [3] **Falah Awwad**, "Inductive links: Design and Implementation for Biomedical Implantable Devices," UAEU Physics Symposium, April 23, 2009.

III.6 CONTRACTS AND GRANTS

(Note: 1 USD = 3.678 AED)

(Note: Total funds approved from different grants resources: **4,277,700 AED**; received **1,500,000 AED**).

III.6.a Emirates Foundation Grants

(Note: Total funds for approved Emirates Foundation grants: **320,000 AED**).

- [1] P.I. – “Low power protocols design and implementation for implantable wireless body sensor networks,” April 2010 – April 2011 (**120,000 AED**).
- [2] Co-P.I. – “Remote health monitoring in UAE,” April 2009 – April 2011 (**200,000 AED**) (with I. Khalil and S. Bouktif).

III.6.b National Research Foundation Grants

(Note: Total funds for approved National Research Foundation (NRF) grants: **1,058,500 AED**).

- [3] P.I. – “CMOS based implantable biosensor integrated with nano-layers of biomaterials for continuous-time glucose monitoring,” Evaluation received April 2010 (Ranked “Competitive;” To be funded if budget becomes available) (**998,500 AED**).
- [4] P.I. – “High efficiency nano-injection of cell re-programming factors for stem cell therapy,” Evaluation received February 2012 (Ranked “SUCCESSFUL;” Patent Filing Award (PFA 2011) competition) (**60,000 AED**).

III.6.c UAEU-NRF Grants Program

(Note: Total funds for approved UAEU-NRF grants as of Sep. 18, 2011: **1,500,000 AED**).

- [5] P.I. – “CMOS based implantable biosensor integrated with nano-layers of biomaterials for continuous-time glucose monitoring,” Funds received March 2011 (**750,000 AED for three years**).
- [6] P.I. – “Integrated Ultrasonic-Microfluidic System for In-Vitro Cancer Study,” Funds received January 2012 (**750,000 AED for three years**).

III.6.d UAEU-SQU (Sultan Qaboos University) Grants Program

(Note: Total funds for approved UAEU-SQU grants: **296,000 AED**).

- [7] Co-P.I. – “Study of graphene field effect transistors for high speed applications,” Funds received 2012 (**296,000 AED for 3 years; 2012-2015**).

III.6.e UAEU Grants Program

(Note: Total funds for approved UAEU grants: **917,100 AED**).

- [8] P.I. – “Detection of Mercury (II) traces in water using Au nanocluster decorated graphene based sensors,” 2014 (**450,000 AED**) (with Ahmad Ayesh) - National Water Center.
- [9] Co-P.I. – “Comparative Transcriptome Analysis Reveals Common Genes Involved in Responses to Botrytis cinerea Infection and Various Abiotic Stresses in Arabidopsis,” 2014

- (**365,100 AED**) (with Synan Abu-Qamar, Rabah Iratni and Ahmed Al-Rawashdeh) - Khalifa Center for Genetic Eng. & Biotechnology.
- [10] Co-P.I. – “Arabidopsis Microarray Profiling Identifies Genes Involved in Host Response to Botrytis Infection,” 2011 (**102,000 AED**) (with Synan Abu-Qamar, Rabah Iratni and Ahmed Al-Rawashdeh).

III.6.f UAEU Internal Individual Grants Program

(Note: Total funds for approved UAEU individual grants: **20,000 AED**).

- [11] “High-speed Low-power Reliable On- Chip RC/RLC Interconnects,” March 2008-June 2009 (**20,000 AED**)

III.6.g UAEU-CIT Internal Research Linkage Grants Program

(Note: Total funds for approved UAEU-CIT research linkage grants: **50,000 AED**).

- [12] Joint research with Professor Bernhard Boser at UC Berkeley, 2012. (**50,000 AED**).

III.6.h External Joint Collaboration Grants with External Funding Agencies

(Note: Total funds for approved external grants: **116,100 AED**).

- [13] P.I. – “Ultrasound-Based Computer-Aided Diagnosis System for Accurate Breast Cancer Detection” – Terry Fox Foundation (**116,100 AED**).

III.7 FELLOWSHIPS, PRIZES, AND AWARDS GIVEN FOR RESEARCH, TEACHING OR SERVICE ACHIEVEMENTS

- [1] Supervisor of project winning the second place in the Electrical Engineering Female day Graduation Projects Competition. Project title: “**Radio-controlled Color Guided Vehicle**”, 2014, UAEU.
- [2] CIT/UAEU Outstanding Award in Service (2011-2012).
- [3] Best paper award in Computing and Embedded Systems track, sixth IEEE International conference on Innovations in Information Technology (Innovations’09), Dec., 2009, pp. 299 - 303.
- [4] Ph.D. Graduate Scholarship, ReSMiQ (Regroupement Stratégique en Microélectronique du Québec) (2005-2006).

III.8 EDITORSHIPS, EDITORIAL BOARDS, AND REVIEWING ACTIVITIES

- [1] Member of the Editorial Board, Austin Journal of Nanomedicine & Nanotechnology.
- [2] Member of the Editorial Board, Journal of Nanomaterials & Molecular Nanotechnology.
- [3] Member of the editorial Board, International Journal of Open Problems in Computer Science and Mathematics (IJOPCM).
- [4] Member of the Editorial Board, Journal of Computing and Applications.

- [5] Co-Chair. Workshop for the preparation of the SRC/ATIC Center Proposal for: “Center of Excellence Energy-Efficient Electronic Systems”. October 18, 2012.
- [6] Co-Chair. Towards Minimum Energy University Research Center on Low Power Semiconductor Technologies Workshop. May 3rd, 2012.
- [7] Program Co-Chair, “Sixth International Conference on Innovations in Information Technology (IIT 2009),” UAEU, UAE, December 2009.
- [8] Member of the Organizing Committee, “Second eGovernment Forum (eGov’10): Drafting an Agenda for Success in UAE,” hosted by CIT on 18 May, 2010.
- [9] Member of the Organizing Committee, IEEE workshop on “Automation, Control, and Information Technologies: Opportunities at the Crossroads,” UAEU, CIT, Al Ain, UAE, November 5, 2009.
- [10] Reviewer and Technical Program Committee Member, “International Conference on Innovations in Information Technology,” 2008, 2009, 2010, 2011.
- [11] Referee for the following journals:
 - IEEE Transactions on Circuits and Systems (TCAS-I)
 - IEEE Transactions on Circuits and Systems (TCAS-II)
 - IEEE Transactions on Nanotechnology
 - Austin Journal of Nanomedicine & Nanotechnology.
 - Journal of Nanomaterials & Molecular Nanotechnology
 - Elsevier Microelectronics Journal
 - Journal of Analog Integrated Circuits and Signal Processing
 - Journal of Security and Communication Networks (a Wiley journal)
 - Kuwait Journal of Science and Engineering
 - The Emirates Journal for Engineering Research (EJER), ISSN: 1022-9892
 - International Journal of Open Problems in Computer Science and Mathematics (IJOPCM), ISSN: 1998-6262
- [12] Referee for the following conferences:
 - IEEE Canadian Conference on Electrical and Computer Engineering (CCECE).
 - IEEE NEWCAS/TAISA Joint Conference: NEWCAS NorthEast Workshop on Circuits and Systems/Analog Information and Signal Processing, and its Applications conference.
 - IEEE NEWCAS Conference: NEWCAS North-East Workshop on Circuits.
 - International Conference on Innovations in Information Technology.
 - IEEE International Conference on Microelectronics (ICM).
 - International conference on Design & Technology of Integrated Systems in nanoscale era.
 - International Conference on Renewable Energy: Generation and Applications” ICREGA’10.
 - IEEE International Conference on Emerging Technologies (ICET 2011). Technical Program Committee of IEEE International Conference on Emerging Technologies (ICET 2011).

[<http://icet.seecs.nust.edu.pk/index.php>]

- Technical Committee Member. The Third International Conference on Communications and Information Technology ICCIT 2013 (ICCIT-2013): networks and internet technologies (NIT). June 19-21, 2013 – Beirut, Lebanon. (<http://www.iccit-conf.org/>)

IV. TEACHING, MENTORING, AND ADVISING

IV.1 COURSES TAUGHT & COORDINATED IN THE LAST SEVEN YEARS, CIT, COE, UAEU

Semester	Course/Section Number	Course Title	Enrollment	Prof. Evaluation	College/University Average
Fall 2007	ITBP 205 sec. 54	Digital Design and Computer Organization	17	4.69	4.13/4.25
Fall 2007	CSEB 311 sec. 51	Digital Systems Design 1	20	3.96	4.13/4.25
Spring 2008	CSEB 301 sec. 01	Circuits Fundamentals	3	Unavailable	Unavailable
Spring 2008	CSEB 311 sec. 01	Digital Systems Design 1	7	Unavailable	Unavailable
Spring 2008	CSEB 311 sec. 51	Digital Systems Design 1	17	4.63	3.90/4.27
Spring 2008	ITBP 290 sec. 72	IT Core Exhibition	4	Unavailable	Unavailable
Fall 2008	CSEB 302 sec. 51	Digital Electronics	5	4.67	4.22/4.27
Fall 2008	CSEB 311 sec. 51	Digital Systems Design 1	21	4.49	4.22/4.27
Fall 2008	CSEB 311 sec. 52	Digital Systems Design 1	19	4.47	4.22/4.27
Spring 2009	CSEB 302 sec. 51	Digital Electronics	5	4.33	4.25/4.28
Spring 2009	ELEC 330 sec. 01	Computer Programming	15	4.23	3.99/4.28
Spring 2009	ELEC 330 sec. 51	Computer Programming	7	4.33	3.99/4.28
Spring 2009	ITBP 460 sec. 52	Professional Responsibility 3	22	3.93	4.25/4.28
Spring 2009	ITBP 460 sec. 53	Professional Responsibility 3	21	4.23	4.25/4.28
Fall 2009	ITBP 460 sec. 51	Professional Responsibility 3	21	4.47	4.19/4.31
Fall 2009	CSEB 321 sec. 51	Hardware Testing & Fault Tolerance	5	4.67	4.19/4.31

Fall 2009	ITBP 498 sec. 01	Independent Study – Stochastic Processes	2	Unavailable	Unavailable
Spring 2010	CSEB 300 sec. 51	Computer Architecture	25	4.47	4.27/4.285
Spring 2010	CSEB 490 sec. 51	Senior Computer System Engineering Exhibit	4	Unavailable	Unavailable
Spring 2010	SECB 411 sec. 51	Fault Tolerance & Reliability	16	4.16	4.27/4.285
Fall 2010	CSEB 310 sec. 51	Digital Systems Design with HDL	6	4.10	4.52/4.48
Fall 2010	ITBP 205 sec. 54	Digital Design and Computer Organization	10	4.89	4.52/4.48
Fall 2010	ITBP 480 sec. 62	Senior Graduation Project 1	4	4.50	4.52/4.48
Spring 2011	CSEB 310 sec. 51	Digital Systems Design with HDL	7	4.58	4.56/4.49
Spring 2011	CSEB 321 sec. 51	Hardware Testing & Fault Tolerance	7	4.63	4.56/4.49
Spring 2011	ITBP 480 sec. 59	Senior Graduation Project 1	5	4.75	4.56/4.49
Spring 2011	ITBP 481 sec. 62	Senior Graduation Project 2	4	4.91	4.56/4.49
Fall 2011	CSEB 321 sec. 51	Hardware Testing & Fault Tolerance	7	4.56	4.49/4.41
Fall 2011	ITBP 370 sec. 51	Professional Responsibility in IT	9	4.82	4.49/4.41
Fall 2011	ITBP 481 sec. 59	Senior Graduation Project 2	5	4.75	4.49/4.41
Spring 2012	ITBP 103 sec. 51	Principles of IT	20	4.28	4.49/4.43
Spring 2012	ITBP 103 sec. 55	Principles of IT	20	4.04	4.49/4.43
Spring 2012	CSEB 321 sec. 51	Hardware Testing & Fault Tolerance	2	Unavailable	Unavailable
Fall 2012	ITBP 205 sec. 51	Digital Design and Computer Organization	18	5.00	4.47/4.39

Fall 2012	ITBP 103 sec. 51	Principles of IT	20	4.55	4.47/4.39
Fall 2012	CSEB 301 sec. 51	Circuits Fundamentals	6	5.00	4.47/4.39
Spring 2013	ELEC 305 sec. 01	Electric Circuits I	20	4.22	4.27/4.41
Spring 2013	ELEC 305 sec. 51	Electric Circuits I	32	4.59	4.27/4.41
Spring 2013	GENG 200 sec. 07	Introduction to Programming	14	4.75	4.27/4.41
Fall 2013	ELEC 305 sec. 01	Electric Circuits I	13	4.59	4.28/4.36
Fall 2013	ELEC 305 sec. 51	Electric Circuits I	24	4.09	4.28/4.36
Fall 2013	GENG 200 sec. 07	Introduction to Programming	17	4.43	4.28/4.36
Spring 2014	ELEC 305 sec. 01	Electric Circuits I	7	4.73	4.25/4.35
Spring 2014	ELEC 305 sec. 51	Electric Circuits I	26	4.51	4.25/4.35
Spring 2014	GENG 200 sec. 06	Introduction to Programming	8	4.88	4.25/4.35
Spring 2014	ELEC 585 sec. 52	Graduation Project I	4	Unavailable now	Unavailable now
Fall 2014 (currently)	ELEC 305 sec. 01	Electric Circuits I	6	Unavailable now	Unavailable now
Fall 2014 (currently)	ELEC 305 sec. 51	Electric Circuits I	21	Unavailable now	Unavailable now
Fall 2014 (currently)	ELEC 590 sec. 52	Graduation Project II	4	Unavailable now	Unavailable now
Total	49 sections	21 different courses	602	4.51	4.32/4.36

Notes:

- I taught **21 different courses to 49 sections** during the **fifteen semesters** of my teaching period in UAE University.

- For all the available courses' ratings mentioned in this table, my students overall average evaluation is **4.51** while the college and the UAEU overall average evaluation is **4.32** and **4.36**, respectively.

• **COURSES COORDINATED:**

1. GENG 200 – Introduction to Programming. College of Engineering. (Feb. 2013 – till now)
2. ELEC 305 – Electric Circuits I. College of Engineering. (Feb. 2013 – till now)
3. CSEB 300 – Computer Architecture (till Feb. 2013)
4. CSEB 302 – Digital Electronics (till Feb. 2013)
5. CSEB 310 – Digital Systems Design with HDL (till January 2012)
6. CSEB 311 – Digital Systems Design I (till Feb. 2013)
7. CSEB 312 – Digital Systems Design II (till Feb. 2013)
8. CSEB 321 – Hardware Testing & Fault Tolerance (till Feb. 2013)
9. ITBP 480 – Senior Graduations Project I (Fall 2012) (till Feb. 2013)
10. ITBP 481 – Senior Graduations Project II (Fall 2012) (till Feb. 2013)

- CHAIRMAN. SENIOR GRADUATION PROJECTS COMMITTEE. CIT/UAEU. Fall 2012/2013. TASKS AND DUTIES:
 - Review and update the current graduation project evaluation process if needed.
 - Review and save (keep track) the project proposals submitted by the faculty members at the beginning of each term and provide feedback to faculty.
 - The committee members will hold timely meetings to resolve issues related to the SGPs.
 - Look for any course over-riding issue related to the ITBP480 course when requested.
 - Assign one instructor to each senior graduation project (SGP) in consultation with the advisors.
 - In consultation with the advisors, chairman of this committee is responsible to assign two faculty members (evaluation jury) to evaluate each SGP of the ITBP481 at the end of each semester.
 - The committee members evaluate all ITBP480 projects at the end of each term.
 - Coordinate with CIT outreach committee to provide visibility and exposure for the senior graduation projects accomplishments in appropriate community events.
 - Set the date of senior projects presentation and examinations (final evaluation) at the end of each semester.
 - Manage the logistics needed during the SGPs final examination day.

IV.2 COURSES TAUGHT AT OTHER INSTITUTIONS (CONCORDIA UNIVERSITY, AND ROYAL SCIENTIFIC SOCIETY)

1. Basic Circuits Analysis (ELEC 273)
2. Principles / Electrical Engineering (ELEC 275)
3. Digital Systems Design Lab. (COEN 312)
4. Medical Instrumentation
5. Biomedical Imaging

IV.3 COURSE OR CURRICULUM DEVELOPMENT

1. Proposing and Development of a Computer Engineering Program to be adopted jointly by the Colleges of Engineering and Information Technology at UAEU.
2. GENG 200 – Introduction to Programming:
 - Course Coordinator. (since Feb. 2013)
 - Modified and updated lecture notes and material for this course
 - This is an iPad-based course
 - Responsible to coordinate 16 sections/semester
 - No. of students is about 400 students/semester
3. ELEC 305 – Electric Circuits I:
 - Course Coordinator. (since Feb. 2013)
 - Modified and updated lecture notes and material for this course
 - This is an iPad-based course

4. Computer System Design (CSD) New Courses. Served on a committee at the CSD track level to develop, improve and review the new curriculum courses and general outcomes.
5. CSEB 302 – Digital Electronics:
 - Course Coordinator. (till Feb. 2013)
 - Created and developed new lecture notes and material for this course.
6. CSEB 300 – Computer Architecture:
 - Although I was not the owner (coordinator) of this course (till Feb. 2013), I found that the previous contents of this course weren't appropriate to our Computer System Design track (CSD) students; hence I re-developed the complete course lectures from scratch.
7. CSEB 310 – Digital Systems Design with HDL:
 - Course Coordinator (till January 2012). (till Feb. 2013)
 - Created and developed new lecture notes and material for this course.
8. CSEB 311 – Digital Systems Design I:
 - Course Coordinator. (till Feb. 2013)
 - Revised, modified and improved the contents of this course.
9. CSEB 312 – Digital Systems Design II:
 - Course Coordinator. (till Feb. 2013)
 - Revised, modified and improved the contents of this course.
10. CSEB 321 – Hardware Testing & Fault Tolerance:
 - Course Coordinator. (till Feb. 2013)
 - Created and developed new lecture notes and material for this course.
11. CSEB 425 - Embedded Systems
 - Contributed to the development of this course. (till Feb. 2013)
12. ITBP 480 – Senior Graduation Project I:
 - Course Coordinator. (Fall 2012) (till Feb. 2013)
13. ITBP 481 – Senior Graduation Project II:
 - Course Coordinator. (Fall 2012) (till Feb. 2013)
14. Doctoral Program (Computer Engineering Program)
 - Proposed and provided description for the following graduate courses:
 - ITPG 605 - Advanced Computer Architectures: This course was accepted as a CIT core graduate course.
 - ITPG 633 - Advanced Biometrics
 - ITPG 645 - Integrated Circuit (IC) Design and Test
 - ITPG 646 - Real Time Embedded Systems
15. VLSI Design Laboratory:
 - Preparation for
 - Major contributions to the development of VLSI Lab,
 - Lectures and Labs for IC Design related courses,
 - Providing assistance in bachelor level projects in VLSI Design area,
 - Comprehensive laboratory manuals from scratch in IC Design related courses based on the Synopsis, Cadence, Xilinx ISE,

Modelsim platform tools with hardware technologies like Xilinx SPARTAN 3 series FPGAs, with design entry at Verilog/VHDL, Schematic and Layout levels.

IV.4 SOFTWARE, WEB PAGES, OR OTHER CONTRIBUTIONS TO TEACHING

Teaching my CSEB courses (for instance CSEB 300) needs continuous efforts in modifying and updating the lectures to commensurate with the scientific and technological advancement in the field of computer system design. The following teaching methods were used:

- 1- PowerPoint slides: The lecture notes were well-prepared and updated to cover the digital systems design concepts in a simple and clear way suitable for the students to understand.
- 2- Computer Animation: I prepared computer animations-based active figures and added them to the lecture notes of the CSEB 300 course. This will enable the students to visualize the physical concepts related to this course.

IV.5 TEACHING AWARDS AND OTHER SPECIAL RECOGNITION

1. Certificate of Achievement as Recognition of Accomplishments in Concordia University Teaching (December 2005).
2. I received many positive comments and messages from my students in which they praise my teaching style.
3. The student evaluations for my courses have consistently been above the college and university averages.

IV.6 ADVISING: OTHER THAN SUPERVISING STUDENT RESEARCH

IV.6.a Undergraduate

1. Advised 31 Pre-Information Technology students in the 2007/2008 academic year.
2. Advised 18 Pre-Information Technology students in the 2008/2009 academic year.
3. Advised 8 Computer System Design students in the 2009/2010 academic year.
4. Advised 15 Pre-Information Technology students in the 2010/2011 academic year.
5. Supervised 2 internship groups of 3 students in the 2008/2009 academic year.
6. Supervised 2 internship groups of 3 students in the 2009/2010 academic year.
7. Supervised one IT-core exhibition project group of 4 students during the Spring-2008 semester.
8. Currently, supervising one senior graduation project group consisting of 4 students during the Spring-2014 and Fall-2014 semesters; Project title: **“Radio-controlled Color Guided Vehicle”**.
9. Supervised one senior project group of 4 students during the Spring-2010 semester.
10. Supervised one senior project group of 4 students in the 2010/2011 academic year.
11. Supervised one senior project group of 5 students during the Spring-2011 and Fall-2011 semesters.

IV.6.b Graduate

12. Currently, supervising one Master student at EE/UAEU.
13. Advised several students during the process of applying to the UAEU Ph.D. program.
14. Mentored and advised 3 Ph.D. students at UAEU/CIT.

IV.6.c Other advising activities (special assignments, recruiting, etc.)

15. Introducing new faculty for recruitment with UAEU/CIT.
16. Member, Search Committee, CIT, UAEU, 2011/2012 and 2012/2013.

IV.7 ADVISING: SUPERVISING STUDENT RESEARCH

IV.7.a Undergraduate

Supervising 4 undergraduate students working in research related to my individual grant project “High-speed Low-power Reliable On-Chip RC/RLC Interconnects” funded by UAEU.

IV.7.b Graduate

- **Master’s**
 - **Graduate Student Co-Advising:**
 - M.A.Sc. thesis Graduate: Mr. Tawfeeq Lammoshi (previously)
 - Department of Electrical and Computer Engineering/ Concordia University, Montreal, Canada.
 - Project: Design of parallel regeneration techniques for high-speed SoC RLC interconnects.
 - M.A.Sc. thesis Graduate: Uzma Mushtaq (previously)
 - School of Electrical Engineering and Computer Science - National University of Science and Technology (NUST), Islamabad, Pakistan
 - Project: FPGA NoC-based biomedical imaging Implementation.
 - M.A.Sc. thesis Graduate: Umber Mahrukh (currently)
 - Electrical Engineering Department, COE, UAEU, Al Ain, UAE.
 - Project: Nanoparticles decorated graphene-oxide based biosensor for DNA detection.
- **Doctoral**
 - **Ph.D. Student Supervision:**
 - Ph.D. thesis Graduate: Lamya Al Darmaki (previously)
 - Starting date: September 2012 – She quit the program on January 2013.

- College of Information Technology – UAE University
- Project: Ultrasonic System for Cancer Tissue Diagnosis and Treatment.
- **Ph.D. Student Co-Advising:**
 - Ph.D. thesis Graduate: Dr. Fariborz Fereydouni (previously)
 - Graduated Sept. 2010
 - Department of Electrical and Computer Engineering/ Concordia University
 - Project: Ultra Low Energy Communication Protocol for Implantable Wireless Body Sensor Networks.

IV.8 EXTENSION AND OUTREACH ACTIVITIES

1. Member. The Program Advisory Committee (PAC) for the Networks & Communications Engineering Program in the College of Engineering and Information Technology (CEIT) at Al Ain University of Science and Technology (AAU).
2. Forming and working collaboratively with five research groups at CIT as well as different UAEU faculty/departments.
3. Formation of collaborative research work with Dr. Ayman Saleh (Chairman of Clinical Imaging Department - Tawam Hospital - Al Ain - Abu Dhabi – UAE).
4. Working collaboratively with two research groups in Montréal/Canada: HVG, Hardware Verification Group at Concordia University and Polystim Neurotechnologies Laboratory at Polytechnique Montréal.
5. I am the director of a research group in Ecole Polytechnique de Montreal working in my project: “CMOS based implantable biosensor integrated with nano-layers of biomaterials for continuous-time glucose monitoring”. The group members are:
 - Prof. Mohamad Sawan (Co-Director)
 - Dr. Ebrahim Ghafar Zadeh (Senior Research Scientist)
 - Ghazal Nabovati (Ph.D. student)
 - Bahaareh Gholamzadeh (Master student)
6. Attending Globalfoundries (GF) discussion and presentation regarding the technologies provided by GF and the opportunities for UAEU students’ internship. (Oct. 2012)
7. **(Educational field visits)** Accompanying the UAEU students (Females) to GITEX (Shoppers and/or Exhibition) in Dubai for several years. GITEX (Gulf Information Technology Exhibition) is an annual consumer computer and electronics trade show which takes place in Dubai, United Arab Emirates.
8. Worked closely with many public and private organizations in the UAE to establish links and partnerships with UAEU and to gain financial support for CIT educational and research activities (TRA, ADCO, ZADCO, Visionaire, AlRowad, etc.). These efforts have yielded nearly 1M AED of external funding.
9. Attending the College of Science (COS) Forum on Teaching and Learning, College of Science, Thursday, Oct. 13, 2011.

V. SERVICE

V.1 AWARDS GIVEN FOR SERVICE ACHIEVEMENTS

- I am the recipient of the CIT/UAEU Outstanding Service Award (2011-2012).

V.2 PROFESSIONAL

V.2.a Non-Technical Proposals/Reports

- Title: **An SRC Center in the UAE: Request for Preliminary Inputs (March 2012)**
 - The Abu Dhabi Advanced Technology Investment Company (ATIC) and Semiconductor Research Corporation (SRC) were planning to create, in 2012, a university Research Center which focuses on low power semiconductor technologies and will be headquartered in the UAE. The funding for the Center is anticipated to be on the order of \$3.333 M per year.
 - On behalf of UAE University, Dean of CIT and I prepared and completed a document in the form of questionnaire, entitled: An SRC Center in the UAE: Request for Preliminary Inputs. This document includes an appendix listing UAEU funded projects in this field. This document has been sent to Miss Sara Sharaf from ATIC and to Professor Ralph Cavin from SRC on March 15, 2012.
 - The suggested name for this center is: Energy-Efficient Electronic Systems ATIC/SRC Center of Excellence (CEEES).
- Title: **Integrated Circuit Design Enablement Support and Services at UAE University (2011)**
 - I was selected by CIT Dean to prepare with UAEU-EE people a proposal which was submitted to ATIC/Globalfoundries by Dean Reyadh Al Mehaideb, Dean of Engineering.
 - They (ATIC & GLOBALFOUNDRIES) will provide qualified academic institutions with the following:
 - Support on computing system and software configuration
 - Support to acquire design software and design kits
 - Software licensing and installation
 - Proven design flows and methodologies from GLOBALFOUNDRIES design enablement
 - Collaboration projects with GLOBALFOUNDRIES and other industry leaders
 - Design expert support for R&D projects
 - Technology kits, prototyping foundry services and assembly & test services
 - Sponsorship of exceptional projects and technical paper publications
 - Help with curriculum enhancement to introduce more advanced circuit design courses and laboratories
 - Training of laboratory engineers, faculty members, and students
 - Internship to qualified students
 - Scope of work for selected universities and minimum standards of performance:
 - Full cooperation with ATIC and GLOBALFOUNDRIES including faculty, lab engineers, and administrators to ensure timely execution of the

- plan
 - Prepare hardware computer systems as per ATIC and GLOBALFOUNDRIES recommendations
 - Agree that ATIC and GLOBALFOUNDRIES will be point of contact for IC tools and design services requisition; universities are required to pay in full or share the fees of CAD tools licenses
 - 1-2 IC design projects that leads to silicon chip during 2011-2012 academic year run by students registered at a UAE academic institution not including visiting scholars; each project should have Emirati students leading and/or working as part of the team.
 - IC relevant courses and programs with microelectronics track
 - Lab design and technical hands-on projects incorporated into courses
 - Master & PhD programs with semiconductor related projects by 2013
 - Show cross-universities projects collaborations
- On February 1, 2012, a delegate from ATIC, Globalfoundries and Abu Dhabi Education Council (ADEC) visited us and had a meeting with all concerned parties and faculty.

V.2.b Offices and committee memberships held in professional organizations

- Member. IEEE Circuits and Systems Society.
- Member. The New York Academy of Sciences.
- Member. The Program Advisory Committee (PAC) for the Networks & Communications Engineering Program in the College of Engineering and Information Technology (CEIT) at Al Ain University of Science and Technology (AAU).
- Session Co-Chair. 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2013). Theme 7 – Cellular and Tissue Engineering and Biomaterials (Electrical fields at the cell and protein scale). July 3-7, 2013.
<http://embc2013.embs.org/>
- Member. RESMIQ, Le Regroupement Stratégique en Microsystèmes du Québec, Montréal, Québec, Canada. Sept. 2002 – Present.
- Member. HVG, Hardware Verification Group: Concordia University, Montréal, Québec, Canada. Oct. 2006 – Present.
- Member. Polystim Neurotechnologies Laboratory at Polytechnique Montréal. Oct. 2006 – Present.
- Organizing Committee Member. Innovations'07 (Fourth International Conference on Innovations in Information Technology). Dec. 2007.
- Organizing and Judging Committee. First IT Marathon (May 2008).
- Computing Systems Track Chair. Innovations'08 (Fifth International Conference on Innovations in Information Technology). Dec. 2008.
- Organizing Committee Member. Innovations'08 (Fifth International Conference on Innovations in Information Technology). Dec. 2008.
- Conference Panel Sessions Organizer. Innovations'08 (Fifth International Conference on Innovations in Information Technology). Dec. 2008.
- Session Chair. Innovations'08 (Fifth International Conference on Innovations in Information Technology). Dec. 2008.

- Program Co-Chair. Innovations'09 (Sixth International Conference on Innovations in Information Technology). Dec. 2009.
- Computing and Embedded Systems Track Chair. Innovations'09 (Sixth International Conference on Innovations in Information Technology). Dec. 2009.
- Session Chair. Innovations'09 (Sixth International Conference on Innovations in Information Technology). Dec. 2009.
- Computing and Embedded Systems Track Chair. Innovations'11 (Seventh International Conference on Innovations in Information Technology). April 25-27, 2011.
- Organizing Committee Member. Innovations'11 (Seventh International Conference on Innovations in Information Technology). April 25-27, 2011.
- Computing and Embedded Systems Track Chair. Innovations'12 (Eighth International Conference on Innovations in Information Technology). March, 2012.
- Organizing Committee Member. Innovations'12 (Eighth International Conference on Innovations in Information Technology). March, 2012.
- Computing and Embedded Systems Track Chair. Innovations'13 (Ninth International Conference on Innovations in Information Technology). March, 2013.
- Organizing Committee Member. Innovations'13 (Ninth International Conference on Innovations in Information Technology). March, 2013.
- Organizing Committee Member. 2nd IT Marathon. Spring 2009.
- Chief Judge. 2nd IT Marathon. (23rd April, 2009).
- Chief Judge. 3rd IT Marathon (15th April, 2010).
- Organizing Committee Member. 3rd IT Marathon (15th April, 2010).
- Organizing Committee. 4th IT Marathon (12th May, 2011).
- Chief Judge. 4th IT Marathon (12th May, 2011).
- Member. Publicity Committee. 5th IT Marathon (19th April, 2012).
- Judge and Chair. General Computer Knowledge Competition (afternoon session) of the IT Contest. 5th IT Marathon (19th April, 2012).
- Member. Publicity Committee. 6th IT Marathon (2013).
- Chair. IT Show Case Competition. 6th IT Marathon (2013).
- Judge. IT4SpecialNeeds Committee. 7th IT Marathon (8th May, 2014).
- Judge and Chair. General Computer Knowledge Competition (afternoon session) of the IT Contest. 7th IT Marathon (8th May, 2014).
- Co-Chair. Towards Minimum Energy University Research Center on Low Power Semiconductor Technologies Workshop. May 3, 2012.
- Co-Chair. Workshop for the preparation of the: "Energy-Efficient Electronic Systems ATIC/SRC Center of Excellence (CEEES)". October 18, 2012.
- Attending a "Follow up meeting on SRC Center Thrust on Device/Memories" in Masdar Institute, May 17, 2012.
- Member. Editorial Board, Austin Journal of Nanomedicine & Nanotechnology.
- Member. Editorial Board of Journal of Nanomaterials & Molecular Nanotechnology.
- Member of the editorial Board, International Journal of Open Problems in Computer Science and Mathematics (IJOPCM).
- Member. Editorial Board of Journal of Computing and Applications (JCA).
- Member. Technical Program Committee of IEEE International Conference on Emerging Technologies (ICET 2011). [<http://icet.seecs.nust.edu.pk/index.php>]
- Referee for the following journals:
 - IEEE Transactions on Circuits and Systems (TCAS-I)
 - IEEE Transactions on Circuits and Systems (TCAS-II)

- IEEE Transactions on Nanotechnology
- Austin Journal of Nanomedicine & Nanotechnology.
- Journal of Nanomaterials & Molecular Nanotechnology
- Elsevier Microelectronics Journal
- Journal of Analog Integrated Circuits and Signal Processing
- Kuwait Journal of Science and Engineering
- Journal of Security and Communication Networks (a Wiley journal)
- International Journal of Computer Technology and Applications
- Journal of Electrical and Computer Engineering (Hindawi Publishing Corporation)
- The Emirates Journal for Engineering Research (EJER), ISSN: 1022-9892
- Referee for the following conferences:
 - IEEE Canadian Conference on Electrical and Computer Engineering (CCECE).
 - IEEE NEWCAS/TAISA Joint Conference: NEWCAS NorthEast Workshop on Circuits and Systems/Analog Information and Signal Processing, and its Applications conference.
 - IEEE NEWCAS Conference: NEWCAS NorthEast Workshop on Circuits.
 - IEEE International Conference on Microelectronics (ICM).
 - 8th International conference on Design & Technology of Integrated Systems in nanoscale era (DTIS'13)
 - International Conference on Renewable Energy: Generation and Applications” ICREGA’10.
 - IEEE International Conference on Emerging Technologies (ICET 2011).
 - International Conference on innovations in Information Technology (CIT/UAEU).
 - Technical Committee Member. The Third International Conference on Communications and Information Technology ICCIT 2013 (ICCIT-2013): networks and internet technologies (NIT). June 19-21, 2013 – Beirut, Lebanon.
<http://www.iccit-conf.org/>
 - 2013 IEEE International Conference on Electronics, Circuits, and Systems

V.2.c Reviewing activities for agencies

Reviewer for Natural Sciences and Engineering Research Council (NSERC), Canada.

V.3 CAMPUS

V.3.a Departmental

- Chair. Electrical Engineering Department Screening Committee, Spring 2014.
- Chair. Teaching Load and Scheduling Committee; Electrical Engineering Department. Fall 2013 – till now.
- Member. EE Research Committee; Electrical Engineering Department. Fall 2014 – Spring 2015.
- Member. EE Graduate Studies Committee; Electrical Engineering Department. Fall 2013 – Spring 2014.
- Member. Publicity Committee; Electrical Engineering Department. Fall 2013 – Spring 2014.\

- Member. Electrical Engineering (EE) Department Exit Exam Committee.
 - I prepared 26 multiple choice questions related to the Electric Circuit I topics (April 17-24, 2014) and submitted to committee head (Dr. Mahmoud Al Ahmed).
- Led the development and finalizing of the general outcomes of the Computer System Design track courses for ABET accreditation. 2009-2010.
- Coordinator of five Computer System Design courses in Computer Systems Design/College of Information Technology (CSD/CIT). 2007-2013.
- Designer. Computer Systems Design (CSD) track brochure. 2008-2009.
- Member. Computer Systems Design/College of Information Technology (CSD/CIT) ABET Assessment sub-committee. 2008-2009.
- Member. CSD Research committee. 2008-2009.
- Member. CIT ABET Assessment sub-committee (at the CSD track level). 2009-2010.
- Member. CSD Research committee. 2009-2010.
- Presenter and Organizing Committee Member. CSD track in the CIT students' orientation day (male students). Wednesday 30-9-2009 (2009-2010).
- Presenter and Organizing Committee Member. CSD track in the CIT students' orientation day (male students). 2010-2011.
- Member. Graduation Project Committee. CIT/UAEU. Fall 2011 – Spring 2012.

V.3.b College

1. **Member. Peer Evaluation Teaching (PET) Committee. College of Engineering. Fall 2013 – Spring 2014.**
2. **Member. COE Students Interview Committee.**
 - I was nominated by EE department to interview eligible non-national students who would like to transfer to College of Engineering in spring 2014. The exams were conducted on Wednesday 12/2/2014.
3. **Member. Engineering Requirement Unit Screening Committee** (for the position of a “Programmer”) – UAEU/College of Engineering. Spring 2014.
4. **Jury/Examiner. Graduation Projects 1 & 2 Examination/COE/UAEU** (First Semester 2013-2014)
5. **Jury/Examiner. COE Final Presentation for Industrial Training/COE/UAEU** (First Semester 2013-2014)
6. **Jury/Examiner. Graduation Projects 1 & 2 Examination/COE/UAEU** (Second Semester 2012-2013)
7. **Chairman. Senior Graduation Projects Committee. CIT/UAEU. 2012/2013.** Tasks and Duties:
 - Review and update the current graduation project evaluation process if needed.
 - Review and save (keep track) the project proposals submitted by the faculty members at the beginning of each term and provide feedback to faculty.
 - The committee members will hold timely meetings to resolve issues related to the SGPs.
 - Look for any course over-riding issue related to the ITBP480 course when requested.
 - Assign one instructor to each senior graduation project (SGP) in consultation with the advisors.

- In consultation with the advisors, chairman of this committee is responsible to assign two faculty members (evaluation jury) to evaluate each SGP of the ITBP481 at the end of each semester.
 - The committee members evaluate all ITBP480 projects at the end of each term.
 - Coordinate with CIT outreach committee to provide visibility and exposure for the senior graduation projects accomplishments in appropriate community events.
 - Set the date of senior projects presentation and examinations (final evaluation) at the end of each semester.
 - Manage the logistics needed during the SGPs final examination day.
8. **Program Co-Chair, “Sixth International Conference on Innovations in Information Technology (IIT’09),” (Held on December 15-17, 2009).** It is an annual scientific meeting organized by the college of Information Technology of the UAE University and technically sponsored by IEEE. It offers unique opportunities for dissemination of innovative research at the frontiers of information technology and its applications. I was responsible for organizing, implementing and following-up on all the activities of the conference: CFP, Committees, Sponsorship (~1M AED), EDAS setup and administration, paper reviewing and selection process, media, publishing, local arrangement, keynote speakers, program, social activities, opening and closing, etc.
9. **Chair of Judging Committee and Chief Judge of the 2nd, 3rd and 4th IT Marathons (Held on April 23, 2009, April 15, 2010, and May 12, 2011, respectively):** ITMarathon is a national competition which brings together talented students from high schools throughout the UAE to meet with peers as well as with industry and academic experts. One aim of this event is to expand young minds’ IT literacy scope and encourage IT innovation. A second major goal of this event is to serve as recruitment event of high school students to join the college of information technology at UAEU. Over than 400 students selected from 80 schools across the seven Emirates of UAE took part in each edition of this national competition every year. The overall attendance, in every year, including team coaches, students, educational zones’ participants, and faculty members exceeds 500. Even though the big number of participant presents huge challenges for the organizing committee, the event organization and management was very successful and smooth. This was due to the huge efforts and the team work spirit shown by the main organizers of the competition. Following are only few of the tasks performed during my post as a chief judge of the event:
- Visit Schools and Educational zone across the 7 UAE emirates to promote the competition among high school students (Publicity Committee).
 - Involvement in the local arrangements (Local arrangement committee).
 - Contributing on the preparation of the VIP opening ceremony speech.
 - Significantly contributing on the design of Arabic/English website to host the description, the criteria, and other exhaustive details about the competition (Web Committee).
 - Involved in various tasks on the day of the event: logistics, opening & closing, etc.
 - Sharing in the brainstorming discussions that led to many novel additions to this event such as the inclusion of the special program for the coaches.
 - Arranging and getting a virtual class on the blackboard to host the questions of the competition.
 - Design and setup 65 separate machines for 65 teams connected with a local dedicated server using a local area network.
 - Supervising the competition and the question marking process.

- Preparing and supervising the general competition rules and the judging criteria and guidelines for the various ITMarathon categories (ITContest, ITShowcase, ITThinker, ITFair). This includes the following:
 - The preparation of the general competition rules,
 - The preparation of sample questions for the four categories of the competition (Computing & Networking, security, Algorithms, Web Design, and Graphics),
 - The preparation of the competition questions,
 - Arranging the email account and the virtual class on the blackboard to host the questions of the competition,
 - The preparation of various judging rules for each question type,
 - Supervising the competition and the question marking process.
- 10. **Member, Research and Graduate Committee**, 2008/2009, 2009/2010 and 2010/2011 academic years. Responsibilities include:
 - Review interdisciplinary research projects
 - Review individual research projects
 - Review CIT PhD applications: Evaluate application files from admission office, evaluate application files from supervisors, review RA proposals, reports, research papers, etc.
 - Compile the publications and the research activities of the faculty members.
- 11. **Computing systems track chair and organizer**, “5th IIT (Innovations’08) conference on Innovations in Information Technology 2008 (IIT 2008)”. Also I am (i) TPC member; and (ii) reviewer of many papers.
- 12. **Computing and Embedded systems track chair**, “6th IIT (Innovations’09) conference on Innovations in Information Technology 2009 (IIT 2009)”. Also I am (i) TPC member; and (ii) reviewer of many papers.
- 13. **Computing and Embedded systems track chair and organizer**, “7th IIT (Innovations’11) conference on Innovations in Information Technology 2011 (IIT 2011)”. Also I am (i) TPC member; and (ii) reviewer of many papers.
- 14. **Computing and Embedded systems track chair and organizer**, “8th IIT (Innovations’12) conference on Innovations in Information Technology 2012 (IIT 2012)”. Also I am (i) TPC member; and (ii) reviewer of many papers.
- 15. **Computing and Embedded systems track chair and organizer**, “9th IIT (Innovations’13) conference on Innovations in Information Technology 2013 (IIT 2013)”. Also I am (i) TPC member; and (ii) reviewer of many papers.
- 16. **Member and Participant, “Culture Day:”** Present joint culture of Jordan and Palestine, April 2010.
- 17. **Member, Organizing Committee**, “CIT Second eGovernment Forum (eGov’10): Drafting an Agenda for Success in UAE” hosted by the CIT on 18 May, 2010.
- 18. **Member, Local Organizing Committee**, “Automation, Control, and Information Technologies: Opportunities at the Crossroads” workshop hosted by the CIT on November 9, 2009.
- 19. **Member, Judging Committee, “the first IT Marathon (ITM) competition”** held at CIT on May 1st, 2008. Contributions include: (i) Preparation of the general competition rules, (ii) preparation of sample questions for the four categories of the competition (Hardware, Algorithms, Web Design, and Graphics), and (iii) supervising competition and question marking process (more than 1200 individual problems has been marked).
- 20. **Member. Senior Graduation Projects Committee. CIT/UAEU. 2011/2012.**
- 21. **Member. Publicity Committee. 5th IT Marathon (19th April, 2012).**

- Visited Fujairah educational zone and had a 2-hour meeting with almost 40 school teachers working in many schools of Fujairah Educational Zone to promote the competition among high school students (January 18-19, 2012).
- 22. **Judge and Chair. General Computer Knowledge Competition (afternoon session) of the IT Contest. 5th IT Marathon (19th April, 2012).**
 - Arranging and getting a virtual class on the blackboard to host the questions of the competition.
- 23. **Chair of the IT Show Case Competition and Member of the Publicity Committee. 6th IT Marathon (2013).**
- 24. **Member, Search Committee, CIT, UAEU, 2011/2012 and 2012/2013.**

V.3.c University

1. Member. UAEU Mobile Learning Operational Committee (MLOC). Spring 2014.

- Committee Responsibilities:
 - i. Draft guidelines for the implementation of mobile learning in University courses, including defining the approval process and identifying the support needed at Department, College, and University levels. These guidelines are to be submitted to the Provost for approval.
 - ii. Review proposals from faculty members, according to these guidelines.
 - iii. As part of the review proposals, identify an assessment framework that will enable analysis of the degree to which the proposed transition to mobile format enhances learning in the particular course or an overall program.
 - iv. Identify the training needs for supporting faculty and staff in the effective use of mobile learning, including the technology, pedagogy, content-development, and teaching methods.
 - v. Create a framework for the acquisition and release of mobile device apps to faculty and instructors.

2. Member. Task force of MLOC. Spring 2014.

V.3.d Special administrative assignments

1. Coordinator of the following courses
 - CSEB 302 – Digital Electronics
 - CSEB 310 – Digital Systems Design with HDL (till January 2012)
 - CSEB 311 – Digital Systems Design I
 - CSEB 312 – Digital Systems Design II
 - CSEB 321 – Hardware Testing & Fault Tolerance
 - ITBP 480 – Senior Graduation Project I (Fall 2012)
 - ITBP 481 – Senior Graduation Project II (Fall 2012)

V.3.e Other

1. A Jury Member. IT-core presentations. Fall 2007.
2. A Jury Member. Internship presentations. Fall 2007.
3. A Jury Member. IT-core presentations. Fall 2008.
4. A Jury Member. Internship presentations. Fall 2008.
5. A Jury Member. Senior exhibition presentations. Spring 2008.

6. A Jury Member. Internship presentations. Spring 2008.
7. Member. CIT research committee. 2008-2009.
8. Organizing Committee Member. CIT Gamers' Day. November 25, 2008.
9. Organizing Committee Member. CIT Culture day. November 5, 2008.
10. A Jury Member. IT-core presentations. Fall 2009.
11. A Jury Member. Internship presentations. Fall 2009.
12. A Jury Member. Senior exhibition presentations. Spring 2009.
13. A Jury Member. Internship presentations. Spring 2009.
14. Organizing Committee Member. CIT Culture day. April 20, 2010.
15. Member. CIT Research and Graduate Studies Committee (RGSC).
16. Organizing Committee Member. CIT/UAEU orientation days. Oct. (26-28), 2010.
17. Member. UAE University supervision & proctoring committee for the final exam. Fall 2007.
18. Member. UAE University supervision & proctoring committee for the final exam. Spring 2008.
19. Member. UAE University Low Energy Chip Development and Research with Advanced Technology Investment Company (ATIC) Group. April 05, 2010 - Present. This committee is chaired by the Provost of the UAE University.
20. Member. UAE University Intellectual Property Advisory Committee. 2012.
 - Role: To assist and counsel the UAEU OVPRGS (UAEU Office of the Vice Provost for Research and Graduate Studies) in the preliminary screening of potentially patentable inventions.
21. Jury/Examiner. Graduation Projects 1 & 2 Examination/COE/UAEU (First Semester 2013-2014)
22. Jury/Examiner. COE Final Presentation for Industrial Training/COE/UAEU (First Semester 2013-2014)
23. Jury/Examiner. Graduation Projects 1 & 2 Examination/COE/UAEU (Second Semester 2012-2013)

V.4 COMMUNITY, LOCAL, AND NATIONAL

1. Member. The Program Advisory Committee (PAC) for the Networks & Communications Engineering Program in the College of Engineering and Information Technology (CEIT) at Al Ain University of Science and Technology (AAU).
2. Member. PET Committee. College of Engineering. Fall 2013 – Spring 2014.
3. Chair. Teaching Load and Scheduling Committee; Electrical Engineering Department. Fall 2013 – Spring 2014.
4. Member. Publicity Committee; Electrical Engineering Department. Fall 2013 – Spring 2014.
5. Chairman. Senior Graduation Projects Committee. CIT/UAEU. 2012/2013.
6. Session Co-Chair. 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2013). Theme 7 – Cellular and Tissue Engineering and Biomaterials (Electrical fields at the cell and protein scale). July 3-7, 2013.
<http://embc2013.embs.org/>
7. Co-Chair. Towards Minimum Energy University Research Center on Low Power Semiconductor Technologies Workshop. May 3rd, 2012.
 - The Abu Dhabi Advanced Technology Investment Company (ATIC) and Semiconductor Research Corporation (SRC) were planning to create, in 2012, a university Research Center which focuses on low power semiconductor technologies and will be headquartered in the UAE. The funding for the Center is anticipated to be on the order of \$3M per year.

- Dean of CIT and I prepared and completed a document in the form of questionnaire, entitled: An SRC Center in the UAE: Request for Preliminary Inputs. This document includes an appendix listing our (UAEU) current funded projects in this field. This document has been sent to Miss Sara Sharaf from ATIC and to Professor Ralph Cavin from SRC on March 15, 2012.
 - As one important milestone towards the establishment of this center, the CIT at the UAEU and I held the first SRC/ATIC Minimum Energy University Research Center Workshop on low power semiconductor technologies on May 3, 2012.
 - Almost 50 professors from the following UAE-based universities participated in this workshop: UAE University (UAEU), Khalifa University, Masdar Institute (MI), American University of Sharjah (AUS), and New York University - Abu Dhabi.
 - The professors, who participated in this workshop, are from different backgrounds such as Information Technology, Electrical Engineering, Mechanical Engineering and Physics. They have been divided into 8 break-down groups to discuss and summarize the technical topical areas and research themes of the proposed SRC/ATIC university Research Center.
8. Attending a "Follow up meeting on SRC Center Thrust on Device/Memories" in Masdar Institute, May 17, 2012.
 - A note about the purpose of this meeting from Dr. Irfan Saadat (from Masdar Institute), the organizer of this meeting: This is a working meeting in which researchers come with their (pseudo) complete ideas on joint research covering the materials, devices, memories, etc.
 9. Co-Chair. Workshop for the preparation of the: "Energy-Efficient Electronic Systems ATIC/SRC Center of Excellence (CEEES)". October 18, 2012.
 10. Program Co-Chair. Innovations'09 (Sixth International Conference on Innovations in Information Technology). December 15-17, 2009.
 11. Publication Committee Member. "Sixth International Conference on Innovations in Information Technology (IIT'09)". Dec. 2009.
 12. Organizing Committee Member. (Fourth, Fifth, Sixth, Seventh, Eighth and Ninth) International Conference on Innovations in Information Technology. (2007, 2008, 2009, 2011, 2012, and 2013, respectively).
 13. Computing and Embedded systems track chair. (Fifth, Sixth, Seventh, Eighth, and Ninth) International Conference on Innovations in Information Technology. (2008, 2009, 2011, 2012, and 2013, respectively).
 14. TPC member and reviewer. (Fifth, Sixth, Seventh, Eighth, and Ninth) International Conference on Innovations in Information Technology. (2008, 2009, 2011, 2012, and 2013, respectively).
 15. Conference Panel Sessions Organizer. Innovations'08 (Fifth International Conference on Innovations in Information Technology). Dec. 2008.
 16. Session Chair. (Fifth and Sixth) International Conference on Innovations in Information Technology. (2008 and 2009, respectively).
 17. Chair of Judging Committee and Chief Judge of the 2nd, 3rd, and 4th IT Marathons (held on April 23, 2009, April 15, 2010, and May 12, 2011, respectively): IT Marathon is a national competition which brings together talented students from high schools throughout the UAE to meet with peers as well as with industry and academic experts. One aim of this event is to expand young minds' IT literacy scope and encourage IT innovation. A second major goal of this event is to serve as recruitment event of high school students to join the college of information technology at UAEU. Over 400 students selected from 80 schools across the seven Emirates of UAE took part in the second, third and fourth editions of this national competition. The overall attendance, in every year, including team coaches, students,

- educational zones' participants, and faculty members, exceeds 500.
18. Member. Publicity Committee. 5th IT Marathon (19th April, 2012).
 19. Judge and Chair. General Computer Knowledge Competition (afternoon session) of the IT Contest. 5th IT Marathon (19th April, 2012).
 20. Chair of the IT Show Case Competition and Member of the Publicity Committee. 6th IT Marathon (2013).
 21. Member and Participant, "Culture Day": Present joint culture of Jordan and Palestine, November 2008 and April 2010.
 22. Member. Judging Committee, "First IT Marathon (ITM) Competition," May 1, 2008.
 23. College of Science (COS) Forum on Teaching and Learning, College of Science, Thursday, Oct. 13, 2011.
 24. Attending IEEE UAE seminars and workshops.
 25. Attending UAEU Provost educational technologies seminars.
 26. Attending all the research seminars presented by Prof. Bernhard Boser (from UC Berkeley) at UAEU (May 2012).
 27. Attending CIT Graduate Students' Research Seminar Series (2012 - 2013)
 28. Attending Globalfoundries (GF) discussion and presentation regarding the technologies provided by GF and the opportunities for UAEU students' internship.
 29. UAE University Technical Contact Person for the "Energy-Efficient Electronic Systems ATIC/SRC Center of Excellence (CEEES)".
 - Nominated by Dean of CIT to represent the CIT in the UAEU-SRC-Center committee (Consisting of myself and representatives from Colleges of Engineering and Science)
 - I was selected to be the UAE University technical contact person regarding this center.
 30. Accompanying the UAEU students (Females) to GITEX (Shoppers and/or Exhibition) in Dubai for several years.