

KHALID AMMAR, PH.D

ACADEMIC QUALIFICATIONS:

- **Doctor of Philosophy in Electrical and Computer Engineering.** 1995-2001
University of Sherbrooke, Sherbrooke, Canada.
Dissertation: Design and development of a very flexible and completely programmable pain control stimulator.
- **Master of Engineering in Electrical and Computer Engineering.** 1983-1986
Concordia University, Montreal, Canada.
Project: Design Rule Checking Package for VLSI layout.
- **Bachelor of Science in Computer Engineering.** 1977-1980
The Higher Institute of Electronics, Libya.
Project: Cartridge disk subsystem diagnostic program.

TEACHING EXPERIENCE:

AJMAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, UAE. 2002- Present
(ASSISTANT PROFESSOR).

- Lectured several courses in the area of computer engineering, such as:
 - Digital logic design.
 - Digital system design.
 - Digital integrated circuits.
 - Computer hardware design.
 - Microprocessor systems.
 - Embedded systems.
 - Computer interfacing.
 - Computer organization and architecture.
 - Microcontroller and Computer Interfacing
 - Operating systems.
 - Electric circuit analysis.
 - Electronics.
- Supervised students on their final projects.
- Participated in various university committees assignments.

NORTEL NETWORKS (HARDWARE DESIGN SOLUTION GROUP), 2000-2001
OTTAWA, CANADA. (SENIOR ASIC APPLICATIONS ENGINEER).

- Developed and presented intensive professional courses for Nortel Networks employees training programs, the material substantially raised awareness of technical issues within ASIC design community.

THE HIGHER INSTITUTE OF ELECTRONICS (HIE), LIBYA. (INSTRUCTOR) 1987-1992

- Lectured undergraduate courses in the area of digital electronics, computer architecture, and microprocessor applications.
- Designed lab experiments and supervised undergraduate projects.

THE HIGHER INSTITUTE OF ELECTRONICS (HIE), LIBYA. (ENGINEER) 1980-1982

- Supervised laboratories, and helped students in their laboratory sessions.

RESEARCH AND DEVELOPMENT EXPERIENCE:

GRAMS, UNIVERSITY OF SHERBROOKE, CANADA. (PH.D RESEARCHER) 1995-1999

Successfully explored, designed, implemented, and tested highly specialized computer system for medical application that introduced new features, improved the efficiency and offered significant flexibility for biomedical applications in the field of neurology

- Designed and implemented a full custom mixed signal RISC processor from concept to realization. The development phase included concept development, system requirements, requirements analysis, design specification, architecture, instruction set definition, design partition, HDL coding, simulation, synthesis, layout, system integration and testing.
- Designed an interface card with an FPGA to manage the data communication between a host computer and a transmitter.
- Developed application software that automated the microcode generation for a dedicated RISC processor and provided the communication protocol between a host computer and a transmitter control card. Integrated and tested the system hardware and software.
- As an active member of the GRAMS, I have participated in supervising undergraduate projects.

CONCORDIA UNIVERSITY, MONTREAL, CANADA. (M.ENG RESEARCHER) 1983-1986

Investigated the geometric VLSI layout problems. Significantly Improved VLSI verification and mask generation tools.

- Innovated new algorithms, which made major enhancements to the VLSI back-end tools such as DRC and mask pattern generator. Coded the algorithms as transportable package. The package incorporated in the design flow methodology and made available to all Canadian Microelectronics Corporation (CMC) VLSI community.

INDUSTRIAL EXPERIENCE:

*NORTEL NETWORKS (HARDWARE DESIGN SOLUTION GROUP), OTTAWA, 2000-2001
ONTARIO, CANADA. (SENIOR ASIC APPLICATIONS ENGINEER)*

- Provided design guidance and expertise to Nortel ASIC design community through full COT flow from the beginning of the design phase to prototypes and manufacturing by providing solution, analysis, and recommendations to resolve any technical issue in the areas of synthesis, simulation, static timing analysis, electrical rule checking, floor planning, layout and power analysis.
- Resolved and directed all non-design technical issues. Provided tool support, maintained design data tracking in the COT flow, managed file and version control for netlist and vendor libraries. Took action on project planning, status tracking, scheduling, and resource utilization.

TECHNICAL SKILLS:

- Operating Systems: Unix, Windows and MSDOS.
- Software Languages: C, Assembly, mikroC and Basic.
- Hardware Languages: VHDL and Verilog.
- CAD tools: Synopsys design tools (Design Compiler, VSS, VCS, Primetime), Cadence design tools (Verilog-XL, Virtuso, Cell Ensemble, Diva, Composer), Spice, Aldec Active-HDL, Proteus, etc.

PROFESSIONAL TECHNICAL COURSES:

- Prime Time Training with Synopsys. Ottawa, Canada, 2000.
- Chip Synthesis Training with Synopsys. Ottawa, ON, Canada, 2000.
- Jump start for verilog verification with Qualis. Ottawa, Canada, 2000.
- Deep knowledge in verilog verification with Qualis. Ottawa, Canada, 2000.
- High level Design using verilog with Qualis. Ottawa, Canada, 2000.

CERTIFICATES:

- A certificate of appreciation, for supervising the best scientific paper at the Ninth Approach student scientific conference of AUST Network, June, 2013.
- A certificate of appreciation, for supervising the best scientific paper at the eighth Approach student scientific conference of AUST Network, May, 2012.
- A certificate of appreciation, for contribution as assessor at the Seventh Approach Student Scientific Conference of AUST, May 2011.
- A certificate of appreciation, for contribution as assessor at the Sixth Approach Student Scientific Conference of AUST, May 2010.
- A certificate of appreciation, for contribution in organizing the international on “Trends in Information Technology and Applications 2010”, UAE, December 2010.

PROFESSIONAL DEVELOPMENT ACTIVITIES:

- Creating a High-Quality Syllabus, 2022
- Curriculum Design for Learning, 2019
- ABET Fundamentals of Program Assessment, 2015
- ABET Accreditation Process, 2014
- Excellence, Quality and Accreditation in Higher Education, 2014.
- Creative Problem Solving, 2013.

PUBLICATIONS:

Khalid Ammar; Abdullah Al-Emami; Amir Baher “*Real-time Vehicle Speed Enforcement System*” 10th Mediterranean Conference on Embedded Computing (MECO), Budva, Montenegro, Publisher: IEEE Xplore: 01 July 2021, DOI: 10.1109/MECO52532.2021.9460297.

Khalid Ammar; Rao Naveed Bin Rais “*Developing Fine-Grained Performance Indicators for Assessment of Computer Engineering using Outcome-Based Education*”, 9th International Conference on Information and Education Technology (ICIET), Okayama, Japan, Publisher IEEE Xplore, DOI: 10.1109/ICIET51873.2021.9419611

Khalid Ammar, Mohammad Jalmoud, Abdulrasul Boushehri, Khalid Fakhro “*A Real-time School Bus Tracking and Monitoring System*” The 10th IEEE Annual Information Technology Electronics & Mobile Communication Conference, Publisher IEEE Xplore: 19 December 2019. DOI: 10.1109/IEMCON.2019.8936199.

Mahmoud Saleh Abou Naaj, Mirna Nachouki, Khalid Ammar “*Factors Influencing Plagiarism and Collusion in Programming Assignments*” The 18th International Conference on Information Technology Based Higher Education and Training, Magdeburg, Germany. Publisher IEEE Xplore: 23 December 2019.

Khalid Ammar, Amira Duhair and Lara Bilal “*Color Detection and Mixing System*” International Journal of Computer Applications Technology and Research, Volume 6–Issue 9, 431-433, 2017, ISSN:-2319–8656.

Khalid Ammar and Abdelrahman Gamal “*Remote Monitoring and Alert System for Temperature Sensitive Products*”. International Journal of Computer Applications Technology and Research, Volume 5– Issue 5, 245 - 248, 2016, ISSN:- 2319–8656

Richmond Adebaye, Haroun Alryalat , Khalid Ammar (2016) *Interpreting Causes of Attrition in an Information Technology (I.T.) Undergraduate Degree Program within a Gulf State Regional University*: International Journals of Multidisciplinary Research Academy (IJMRA)) Vol. 6 Issue 11, October 2016 publication. ISSN: 2249-0558 - Impact factor – 6,629 (Oct publication date)

K. Ammar. “ASIC overview”. A document for Nortel Networks employees, Ottawa, Canada.

J. Mouine and K. Ammar. *A Miniaturized Implantable Spinal Cord Microstimulator for Treating Intractable Chronic Pain*, Proceedings of the 1st Special Topic International Conference of the IEEE Engineering in Medicine and Biology Society, pages 630-634 Lyon, France, October 2000.

J. Mouine, K. Ammar and Z. Chtourou. *A completely programmable and very flexible implantable pain controller*, Proceedings of the 22nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Chicago, U.S.A, July 2000.

A.Dziech, F.Algarari , K.Ammar. “*Two-Dimensional Haar Piecewise Linear Transformation*”. Proceedings, inter, AMSE conference, Djerba, Tunisia, November 1991, AMSE press, Vol2, pp33-42.

A.J Al-khalili, D.A Al-khalili, K.Ammar “*An Algorithm for polygon conversion to boxes for VLSI layouts*”, VLSI Journal of Integration, No, 4, 1988.

K. Ammar and A.J. Al-khalili “*A General Algorithm for conversion of polygons to boxes for VLSI layouts*”, ICTC 86, Limerick, Ireland, September 1986.

Khalid Ammar and Asim Al-kahlili. “*Algorithms for conversion of polygon to boxes for VLSI cad tools*”. IASTED, International Symposium, Computer-aided Design and Application, Vancouver, Canada, June 1986.