Dr. Hanady Hussien Issa

Contact

e-mail :
hanady.issa@gmail.com
hanady.issa@aast.edu
hanady.issa@ieee.org

Personal Information

Nationality	Egyptian
Social Status	Single
Home Address	7th Oqba street from Tahrir street Dokki, Cairo, Egypt.
Phone Number	: +2(022) 33352357
	: +2(0100) 6600433

Education

2004 to 2008	**Ph.D. Department of Electronics and Communications, Faculty of Engineering, Ain Shams University, Cairo, Egypt.**
	Title: "VLSI Design of high speed ADC for Ultra-Wide-Band Receivers"
1999 to 2003	**M.Sc. degree, Department of Electronics and Communications, Faculty of Engineering and Technology, Arab Academy for Science and Technology (AAST), Alexandria, Egypt.**
	Title: "Design and implementation of Encryption and Authentication algorithms on FPGA**"**
1993 to 1998	**B.Sc. - Faculty of Engineering and Technology, Arab Academy for Science and Technology (AAST)- Department of Electronics and Communications, Alexandria, Egypt.**
	GPA: Excellent with honor

Main Areas of research

- **Low Power Design**
- **Design and Hardware Implementation FPGA based.**
- **Printed Electronics Technology.**

Work Experience

Febuary 2019 – now

- Professor, AAST, Cairo, Egypt

September 2017 – now

- Director of Center of Excellence in Nanotechnology- Smart Village, AAST, Cairo, Egypt

August 2016 – now

- Head of Planinng Education unit, Cairo, AAST

2013 – 2019

- Associate Professor, AAST, Cairo, Egypt

2009 – 2013

- Assistant Professor, AAST, Cairo, Egypt

2000 – 2008

- Teaching Assistant, AAST, Cairo, Egypt

2003 -2010 concurrent

- Teaching and Training on advanced Computer Aided Design tools (CAD) in Telecommunication Program offered from National Telecommunication Institute (NTI), Ministry of Communication and Information Technology (MCIT), and AAST.

1998 – 2000

- Part Time Teaching Assistant**,** AAST, Alexandria, Egypt

Projects

Participate/ Direct several projects national and international

- Director of project with **UNESCO** with no. 4500360571-A1, its name is " **On-line Academic Services for Selected Courses in Nano- Sciences/Engineering Program**".
- Participate in **TEMPUS** project with name "**Excellence in Nanoscience Education for the MENA Region**" (XNEM).

Teaching Experiences

Undergraduate courses

Solid State Electronics	Third Term	AAST/Electronics and Communication department	1998-now
Electronic Devices I	Fourth Term	AAST/Electronics and Communication department	2000 - now
Electronic Devices II	Fifth Term	AAST/Electronics and Communication department	2002- now
Electronic Circuits I	Sixth Term	AAST/Electronics and Communication department	2008-now
Electronic Circuits II	Seventh Term	AAST/Electronics and Communication department	2004 - now
Digital VLSI Design	Eighth Term (elective course)	AAST/Electronics and Communication department	2002 -2008
VLSI Fabrication and Testing	Tenth Term (elective course)	AAST/Electronics and Communication department	2004 - 2006
Computer Aided Design	Ninth Term (elective course)	AAST/Computer Engineering department	2005-2007

Graduate Courses

Digital VLSI Design	Master	AAST/Electronics and Communication department	2009-now
Automated Measurement	Master	AAST/Electronics and Communication department	2009-now
Computer Aided Design	Master	AAST/Electronics and Communication department	2015 - now
Advanced Digital Circuit Design	Master	AAST/ Electrical Power and Control Department	2009-2010

Thesis Supervision

Design and Hardware Implementation (some topics)

- Design and Implementation of a video compression technique for High Definition videos implemented on a FPGA. **(Master thesis)**
- Hardware/Software support for machine independent software development. **(Master thesis)**
- Design and Implementation of Luby transform decoder for wireless communication on FPGA. **(Master thesis)**
- Design and Implement an Encryption algorithm for RFID on FPGA. **(Master thesis)**
- Design and Implementation of a Customized Security Algorithm for 3G Cellular Phones. **(Master thesis)**
- Design and Implementation of LDPC decoder for DVB on FPGA.**(Master thesis)**
- Design and implementation of RSA encryption algorithm on FPGA. **(Master thesis)**
- Design and Implementation of DVB-S2 receiver. **(Master thesis)**

Printed Electronics

- Design, characterization and implementation of organic light emitting diode (OLED) **(Master thesis)**
- Design and Fabrication for Printed Sensor **(Master thesis)**

Low power Design

- Dynamic Power Reduction of Microprocessors for IoT Applications. (**Master thesis)**
- Ultra Low Power FinFET SRAM for IoT Applications. (**Master thesis)**

CAD Tool Experiences

- ✓ HDL Designer from Mentor Graphics
- ✓ Quest and Precision from Mentor Graphics
- ✓ Virtuoso, Spectre Simulator and Assura from Cadence
- ✓ Quartus from Altera
- ✓ Xilinx tools.

Professional Society Membering

- IEEE Member
- Egyptian Engineering Syndicate Member

Languages

- English
- Arabic

Hobbies

- Reading
- Listening to Music
- Sewing

Technical Training

- **September -2005- September 2006** Training of the trainers on using Mentor Graphics Design tools (FPGA, and PCB), by Mentor graphics, Egypt
- **February 2007 - March 2010** Training of the trainers on using Cadence Design tools (analog Design, Spectre and Spectre RF Simulators, Virtuoso, Layout Editor) by Cadence France.
- **25 June – 8 July 2012** "INTERNATIONAL WORKSHOP ON CLEANROOM TRAINING FOR CRITICAL & SUSTAINABLE TECHNOLOGIES" LAB-ON-A-CHIP (LoC) Bilkent University – UNAM, Ankara / TURKEY
- **12 – 25 June 2016** International summer school and workshop in photovoltaic science and technology, GUNAM,EMTU, Ankara, Turkey

Publications

1. NK Shebl, SM Eisa, **HH Issa**, KA Shehata," Low Power BCH Decoder Using Verification Algorithm and Two-Step Parallel Chien Search Architecture" Future of Information and Communication Conference, 31-39
2. H Eassa, I Adly, **HH Issa**, " RISC-V based implementation of Programmable Logic Controller on FPGA for Industry 4.0**",** 2019 31st International Conference on Microelectronics (ICM), 98-102
3. AA Zayed, **HH Issa**, KA Shehata, "FinFET Based Low Power Ring Oscillator Physical Unclonable Functions", 2019 31st International Conference on Microelectronics (ICM), 227-230
4. **H. H. Issa** and S. M. Eisa Ahmed, "FPGA Implementation of Floating Point Based Cuckoo Search Algorithm," in IEEE Access, vol. 7, pp. 134434-134447, 2019.doi: 10.1109/ACCESS.2019.2942205
5. **Hanady H.Issa**, Amani S. Elewa, Nabil Hamdy Shaker, K. A. Shehata, "Design and FPGA Implementation of One-Time- Key Cipher System Based on DNA", The 2019 International Conference on Security and Management (SAM'19), Las Vegas, USA, 2019.216-220
6. M. S. Badran, **H. H. Issa**, S. M. Eisa and H. F. Ragai, "Low Leakage Current Symmetrical Dual-k 7 nm Trigate Bulk Underlap FinFET for Ultra Low Power Applications," in IEEE Access, vol. 7, pp. 17256-17262, 2019. doi: 10.1109/ACCESS.2019.2895057.
7. Hassan, M.; Balbaa, A.; **Issa, H.H**.; El-Amary, N.H. Asymptotic Output Tracked Artificial Immunity Controller for Eco-Maximum Power Point Tracking of Wind Turbine Driven by Doubly Fed Induction Generator. Energies, 2018, 11, 2632.
8. ElAzab, H.-A.I.; Swief, R.A.; Issa, H.H.; El-Amary, N.H.; Balbaa, A.; Temraz, H.K. FPGA Eco Unit Commitment Based Gravitational Search Algorithm Integrating Plug-in Electric Vehicles. Energies 2018, 11, 2547.
9. M. R. Faragalla, M. A. Ewais, H. F. Ragai Mahmoud S. Badran, Hanady H. Issa, "Impact of process variability on FinFET 6T SRAM cells for physical unclonable functions (PUFs)", International Conference on Computer Engineering and Systems (ICCES), 19-20 Dec. 2017,Cairo, Egypt.
10. Mahmoud S. Badran1, Hanady H. Issa1, Saleh M. Eisa1 and Hani F. Ragai "Low power 7 nm FinFET based 6T-SRAM design",2nd International Conference on Advanced Technology and Applied Sciences (ICaTAS 2017),Cairo, Egypt.
11. **Hanady H. Issa,*, Ola Mostafa, Khaled A. Shehata, "Electrical characterization and fabrication of OLED",1st International Conference on Advanced Technology and Applied Sciences (ICaTAS2016), Malysia, 2016.**
12. M. A. El-Razek, M. B. Abdelhalim and H. H. Issa, "Dynamic power reduction of microprocessors for IoT applications," 2016 28th International Conference on Microelectronics (ICM), Cairo, 2016, pp. 297-300.
13. S. Mohamed, K. A. Shehata, H. H. Issa and N. H. Shaker, "Design and Implementation of on-board satellite encryption with SEU error detection & correction code on FPGA." Proceedings of the International Conference on Security and Management (SAM). The Steering Committee of The World Congress in Computer Science, Computer Engineering and Applied Computing (WorldComp), Las Vegas, USA, July 25 – 28,2016, pp 68-73.
14. **Ola Mostafa, , Hanady H. Issa, Khaled A. Shehata, "Electrical and Optical Characterization of SMOLED and PLED" 10th international Conference on Electrical Engineering ICEENG-10, Cairo,2016**
15. S. Mohamed; K. A. Shehata; H. H. Issa; N. H. Shaker, "FPGA implementation of a combined hamming-AES error tolerant algorithm for on board satellite", World Congress on Information Technology and Computer Applications Congress (WCITCA), 11-13 June 2015,pp.1-4.
16. Fadi S. Ayad, Hanady H. Issa , Mohamed S. El-Mahallawy , Khaled A. Shehata "Design and Implementation of a Real-time Sleep Stage Monitoring System for Narcolepsy Diagnosis", International Journal of Applied Mathematics, Electronics and Computers2015, vol. 3 No.3, pp.184–188.
17. Ismail Abdelwahab1, Hanady H.Issa1, Mostafa Farghaly2, Hani. F. Ragai," Multi-lead ECG using Two ZigBee Nodes", IEEE International Conference on Electronics, Circuits, and Systems (ICECS), Cairo, Egypt, 6-9 Dec. ICECS 2015, pp.21-24.
18. Fadi Sami Ayad, Hanady H. Issa, Mohammed S. EL-Mahallawy, Khaled A. Shehata, "Design and Implementation of a Real-time Sleep Stage Monitoring System for Narcolepsy Diagnosis",975-979. International Conference on Advanced Technology & Sciences (ICAT'14), Antalya, Turkey on 12-15 August, 2014.

19. Saleh M. Eisa, Hanady H. Issa, Khaled A. Shehata, and Hani F. Ragai, "Design and Analysis of a Low Power UWB Pulse Generators" International Journal of Computer and Electrical Engineering, Vol. 6, No. 3, June 2014, 244-247.

20. Khaled Shehata, Hanady Hussien, Sara Yehia, "FPGA Implementation of RSA Encryption Algorithm for E-Passport Application" World Academy of Science, Engineering and Technology Vol:8 2014-01-03,909-912.

21. Nabil H Shaker, Hanady H Issa, Khaled A Shehata, Somaia N Hashem "Design of F8 Encryption Algorithm Based on Customized Kasumi Block Cipher", International Journal of Computer and Communication Engineering, Vol. 2, No. 4, July 2013,pp398-402.

22. Hanady Hussien , Hussien Aboelnaga," Design of a Secured E-voting System," ICCAT'2013 International Conference on Computer Applications Technology, Sousse, Tunisia, January 2013.

23. Hanady H. Issa, Saleh M. Eisa, Khaled A. Shehata, Hani F. Ragai, "SRD-Based Pulse Generator for UWB Wireless Network Applications", ICCAT'2013 International Conference on Computer Applications Technology, Sousse, Tunisia, January 2013.

24. Hanady Hussien, khaled Ali Shehata, Mohamed Khedr, and Sherry Hareth, "Performance study on implementation of DVB-S2 Low Density Parity Check Codes on Additive White Gaussian Noise channel and Rayleigh fading channel" IEEE International Conference on Electronics Design, Systems and Applications (ICEDSA 2012)

25. Hanady Hussien, Khaled A. Shehata, Salwa El Ramly and Nihal M.S. Tawfik, "Design of a Merged Algorithm for Luby Transform Decoder", 3rd International Conference on Signal and Information Processing (ICSIP 2012), Paris, France, July 7-8, 2012.

26. Hanady Hussien , Khaled A. Shehata, Salwa El Ramly and Nihal M.S. Tawfik, "Design of a Merged Algorithm for Luby Transform Decoders", International Journal of Computer and Communication Engineering (IJCCE), Volume 1 No.3 Septembre 2012 pp.246-249.

27. Khaled Shehata, Atalla Hashad, Hanady Hussein, Hany Fahmy,"Design and Implementation of a video compression technique for High Definition videos implemented on a FPGA",the International Conference on Systems Engineering (ICSEng), Las Vegas, USA, August 16-18, 2011.

28. Ibrahim, A.H., Abdelhalim, M.B., Hussein, H.,& Fahmy, A. "An Analysis of x86-64 Instruction Set for Optimization of System Softwares" ,International Journal of Advanced Computer Science, Vol. 1, No. 1, Pp. 1-8, Jan. 2011.

29. Ibrahim, A.H. Abdelhalim, M.B. Hussein, H. Fahmy, A. "Analysis of x86 instruction set usage for Windows 7 applications", 2nd International Conference on Computer Technology and Development (ICCTD), Cairo, Egypt, 2-4 Nov. 2010,.

30. Shehata, Khaled Ali ; Hussein, Hanady ; Ragai, Hani Fekri " Design and implementation of 2.5 GBPS pipelined digital encoder for flash A/D Converters"; Signals, Circuits and Systems, 2008, SCS, pp 1-5, NOVEMBER 7-9, HAMMAMET, TUNISIA, 2008.

31. Shehata, K.A. ; Husien, H. ; Ragai, H.F., " 1.5 GSPS 4-bit flash ADC using 0.18 CMOS" Microelectronics, 2007. ICM 2007. Page(s):311 – 314. International Conference on 29-31 Dec, Cairo, Egypt, 2007.

32. Shehata, K.A , Husien, H. ; Ragai, H.F. " Design and implementation of a high speed low power 4-bit Flash ADC ", Design & Technology of Integrated Systems in Nanoscale Era, 2007. Page(s):200 – 203. DTIS. International Conference on 2-5 Sept, Rabat, Morocco, 2007.

33. Khaled Shehata, Hanady Hussien, Nabil Hamdy, "Design and implementation of a universal communication security unit on an FPGA", 46th IEEE International Midwest Symposium on Circuits and Systems, Cairo, Egypt, Dec 27-29, 2003.

34. Hanady Hussien, Khaled Shehata, Nabil Hamdy and Khairy Abo Elsoud, "Design and Simulation of a universal Communication Security Unit", IETA2001, Cairo, Egypt, Dec. 2001.