



# Abdelkrim Abdullah Zitouni

**POSITION: Associate Professor**

## Personal Data

Nationality | Tunisian

Date of Birth |

Department | Physics (College of Sciences and humanities' studies –Jubail)

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Office Phone No. | 38558 CISCO

## Language Proficiency

Language	Read	Write	Speak
Arabic	✓	✓	✓
English	✓	✓	✓
French	✓	✓	✓

## Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
December 2009	Habilitation	Faculty of Sciences of Monastir-Tunisia	University of Monastir, 5000 Tunisia
July 2001	PHD	Faculty of Sciences of Monastir-Tunisia	University of Monastir, 5000 Tunisia
July 1996	Master	Faculty of Sciences of Monastir-Tunisia	University of Monastir, 5000 Tunisia
June 1994	BA	Faculty of Sciences of Monastir-Tunisia	University of Monastir, 5000 Tunisia

## PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

<b>PhD.</b>	Communication Synthesis for Distributed Systems
<b>Master</b>	Study, design and simulation of interfaces circuits
<b>Fellowship</b>	-



### Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Professor	Faculty of Sciences of Monastir-University of Monastir 5000, Tunisia	2015
Associate Professor	College of Education/ College of Sciences and humanities' studies –Jubail, 12020 University of Dammam, KSA	2012
Associate Professor	Faculty of Sciences of Monastir-University of Monastir 5000, Tunisia	2009
Assistant Professor	Faculty of Sciences of Monastir-University of Monastir 5000, Tunisia	2001
Lecturer	Faculty of Sciences of Monastir-University of Monastir 5000, Tunisia	1999

### Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
-	-	-

### Scientific Achievements

#### Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

Name of Investigator(s)	Research Title	Publisher and Date of Publication	#
R. Dalbouchi, C. Trabelsi, M. Elhaji, A. Zitouni,	" A Model-Driven platform for dynamic partially reconfigurable architectures: a case study of a watermarking system",	Micromachines Journal, 2023, 14(2), 481.	1
A. Zitouni, N. Jarray, M. Elhaji,	"Case Study of Vision Systems: Optimized Compression Architecture for Wireless Endorobot ",	Book Chapter (Chapter 12), Endorobotics, Design R&D and Future Trends, ISBN: 978-0-12-821750-4.00012-8, 2022, pp. 275–293.	2
A. Zitouni, B. Chemli,	"Asynchronous Dynamic Arbiter for Network on Chip",	International Journal of Computer Applications in Technology, Vol. 67, no. 4, 2021, pp. 370–382.	3
R. Dalbouchi, S. Dhahri, M. Elhaji, A. Zitouni,	"New Hardware Static and Reconfigurable Architectures for Video Watermarking System",	International Journal of Circuits, Systems, and Computers, 2020, Vol. 29, No. 8, (31 pages).	4
S. Dhahri, A. Zitouni,	"Low power adaptive Motion Estimator for real time applications H.264/AVC Codec",	International Journal of Materials and Electronic Devices, Vol. 1, 2019, pp. 7-11.	5
N. Jarray, M. Elhaji and A. Zitouni,	"Eifficient Hardware Architecture of DCT Cordic based Loeffler Compression Algorithm for Wireless Endoscopic Capsule",	De Gruyter Oldenbourg, ASSD – Advances in Systems, Signals and Devices, Vol. 8, 2018, pp. 23–36.	6



Bouraoui Chemli, and Abdelkrim Zitouni. "Low Cost Network on Chip Router Design for Torus Topology." International Journal of Computer Science and Network Security, VOL.17 No.5, 2017.	7
Bouraoui Chemli, Abdelkrim Zitouni, Alexandre Coelho and Raoul Velazco. "Design of efficient pipelined router architecture for 3D Network on Chip." International Journal of Advanced Computer Science and Applications, Vol.8 No.7, 2017.	8
Asma, ben Hamida., Salah Dhari & Abdelkrim Zitouni, (2017). Real-Time H. 264/AVC Entropy Encoder Hardware Architecture in Baseline Profile. INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS, 8(3), 281-289.	9
Asma ben Hamida., Nedra Jarray & Abdelkrim Zitouni, (2017). Low-Power Hardware Design of Binary Arithmetic Encoder in H. 264. INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS, 8(7), 412-416	10
Nedra Jarray, Asma ben Hamida, Elhajji, M., & Zitouni, A. (2017). High quality and Efficient Image Compression used for Wireless Capsule Endoscopy. IJCSNS, 17(7), 106.	11
N. Jarray, M. Elhaji and A. Zitouni, " An optimized DCT compressor based on Cordic-Loeffler approach for Wireless Endoscopic Capsule.", published by JAAS, The International Journal of Advanced and Applied Sciences, 2017, pp:1-8.	12
A. Zitouni, A. Almimouni, M. Elhajji, "Low power design of wireless endoscopy compression communication architecture", International Journal: Electrical Systems and Information Technology, Elsevier, Vol. 4, No. 1, 2017.	13
N. Abid and A. Zitouni, "TLM Platform Based on SystemC for Hybrid MSR Topology", International journal of science and Issue (IJCSI), Vol. 13, No. 5, 2016.	14
N. Abid, B.ATTIA, and A. Zitouni, "HMSR: A Hybrid Network-on-Chip Topology Synthesis Based on Star-Ring-Mesh at System Level", International Journal of Computer Science and Information Security (IJCSIS), Vol. 14 No. 8, 2016.	15
B. Chemli and A. Zitouni, "A Turn Model Based Router Design for 3D Network on Chip", World Applied Sciences Journal, Vol. 32, N. 8, pp. 1499-1505, 2014.	16
M. Elhaji, A. Zitouni, S. Meftali, J.L. Dekeyser and R. Tourki, «A low power oriented architecture for H.264 variable block size motion estimation based on resource sharing scheme», Integration, the VLSI Journal, Elsevier, 2012.	17
B. Attia, A. Zitouni, W. Chouchenn, K. Torki and R.Tourki, «A modular network interface design and synthesis outlook», International Journal of Computer Science (IJCSI), Vol. 9, No 2, pp. 470-482, 2012.	18
B. Attia, A. Zitouni and Rached Tourki, «A new approach for network interface sharing with area and power optimizations», International Journal of Programmable Devices Circuit and Systems (PDCS), Vol. 12, No. 1, 2012.	19
S. Dhahri, A. Zitouni and K. Torki, «A stoppable clock based four step search block-matching motion estimation architecture», Journal of Computer Technology and Application (CTA), Vol. 2, No.7, pp. 570-574, 2011.	20
B. Attia, A. Zitouni, K. Torki and R.Tourki, «A low latency and power ASIC design of modular network interfaces for network on chip», International Journal of Computer Sciences and Engineering Systems (IJCSES), Vol.5, No.4, 2011.	21
M. Elhaji, A. Zitouni, R. Tourki, «A low power ASIC design of a FSBM motion estimator for H.264AVC», International Journal of Programmable Devices Circuit and Systems (PDCS), Vol. 9, No. 1, pp. 53-58, 2009.	22



B. Attia, W. Chouchenn, A. Zitouni and R. Tourki, «A Stoppable clock based Approach for low power network interface design in a network on chip», International Journal of Computer Science (IJCSI), Vol. 10, No 2, pp. 70-79, 2013.	23
M. Elhaji, P. Boulet, A. Zitouni, S. Meftali, J.L. Dekeyser and R. Tourki, «System level modeling methodology of NoC design from UML-MARTE to VHDL», International Journal of Design Automation for Embedded Systems, Springer, 2012.	24
S. Dhahri, L. Kabbai, A. Zitouni, K. Torki and Rached, «A low power VLSI ASIC design of a GS motion estimator», International Journal of Computer Sciences and Engineering Systems (IJCSSES), Vol. 6, No. 2, 2012.	25
A. Zitouni, M. Abid, K. Torki, R. Tourki, «Communication synthesis techniques for multiprocessor systems», International Journal of Electronics, Vol. 89, No. 1, pp. 55-76, 2002.	26
A. Zitouni, S. Badrouchi, R. Tourki, «Communication architecture synthesis for multi-bus SoC», Journal of Computer Science, 2(1), pp. 63-71, 2006.	27
A. Zitouni, M. Zid, M. Kerkeni, S. Badrouchi, and R. Tourki, «A new generic GALs router with multiple QoS for NoC», International Journal of Soft Computing, 2(1), pp. 249-256, 2007.	28
A. Zitouni, M. Zid, S. Badrouchi, and R. Tourki, «A generic and extensible spidergon NoC», International Journal of Electronics, Circuits and Systems, Vol. 1, No. 3, pp. 197-202, 2007.	29
A. Zitouni, R. Tourki, «Arbiter synthesis approach for SoC multiprocessor systems», Computers and Electrical Engineering Journal (C&EE), Vol. 34, pp. 63-77, 2008.	30
A. Zitouni, R. Tourki, «Race-free state assignment technique for asynchronous circuits», International Journal of Electrical and Power Engineering 2(3), pp. 134-146, 2008.	31
M. Zid, A. Zitouni, A. Beganne, R. Tourki, «Nouvelles architectures génériques de NoC», Journal International, Techniques et Sciences Informatiques (TSI), Vol. 28, No. 1, pp. 101-133, 2009.	32
S. Dhahri, A. Zitouni, H. Chaouch, R. Tourki «Adaptive motion estimator based on variable block size scheme», International Journal of Computers, Systems and Signals, (IJCSS), Vol. 9, No. 9, 2009.	33
M. Hajji, A. Zitouni, S. Dhahri, R. Tourki, «A stoppable clock based full search motion estimator design», International Journal of Computer Sciences and Engineering Systems (IJCSSES), Vol. 2, No. 4, pp. 275-280, 2008.	34
S. Badrouchi, A. Zitouni, K. Torki, R. Tourki, «Asynchronous NoC router design», Journal of Computer Science 1(3), pp. 429-436, 2005.	35
A. Zitouni, C. Souani, M. Abid, K. Torki, R. Tourki, «Approche de synthèse de communication pour les systèmes distribués», Journal, TECHNIQUE ET SCIENCE INFORMATIQUES (TSI), Vol. 19, No. 4, pp. 515-547, 2000.	36
A. Zitouni, M. Abid, R. Tourki, «Design of an asynchronous VME bus controller for heterogenous systems», Journal, DEDICATED SYSTEMS, 3rd quarter (Q3: 1375-6753), 2000.	37
<b>Published Books</b>	
ISBN:978-9973-37-403-5 2007 من منشور من طرف المركز القومي للنشر البيداغوجي بتونس – Communication controllers for embedded systems	1
كتاب منشور / Information theory and coding - Generis Publishing House - ISBN: 9789975153591 - 2020	2



## Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date

## Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

Name of Investigator(s)	Research Title	Conference and Publication Date	#
A. Ben Hamida, S. Dhahri and A. Zitouni,	"A low-cost Exp_Golomb hardware architecture for H.264/AVC entropy coder",	30 <sup>th</sup> International Conference on Microelectronics (ICM2018), December, Tunisia, IEEE 2018.	1
N. Jarray, M. Elhaji and A. Zitouni,	"Efficient Hybrid DWT-DCT Architecture For Wireless Capsule Endoscopy",	15th International Multi-Conference on Systems, Signals & Devices (SSD), Tunisia, IEEE 2018.	2
R. Dalbouchi, M. Elhaji, A. Zitouni,	"A design platform for reconfigurable architecture and its application to watermarking system",	15th International Multi-Conference on Systems, Signals & Devices (SSD), Tunisia, IEEE 2018.	3
I. Derbali, S. Dhahri, R. Dalbouchi, and A. Zitouni,	"Software implementation of a hybrid method for copyright protection and video authentication 19 <sup>th</sup> ",	Annual International Symposium on Stabilization, Safety, and Security of Distributed Systems, Hammamet, Tunisia, 2018.	4
B. Chemli and A. Zitouni,	"Architecture and Performances comparison of Network on Chip router for Hierarchical Mesh Topology",	The International Conference on Engineering & MIS (ICEMIS) 2017, Tunisia, IEEE 2017.	5
R. Dalbouchi, S. Dhahri, M. Elhaji, A. Zitouni,	"Software/Hardware implementations of a video watermarking scheme based on motion vectors",	The International Conference on Engineering & MIS (ICEMIS) 2017, Tunisia, IEEE 2017.	6
B. Chemli and A. Zitouni,	"Design and Evaluation of Optimized router pipeline stages for Network on Chip"	accepted in the IEEE 16th International Image Processing Applications and Systems Conference, November 2016, in Tunisia.	7
B. Chemli and A. Zitouni,	"Design of a Networkon Chip router based on turn model",	16th international conference on Sciences and Techniques of Automatic control & computer engineering – STA'2015, pp. 85-88, December 2015, in Tunisia.	8
A. Ben Hmida, S. Dhahri, A. Zitouni,	"A Hardware Architecture Binarizer Design for the H.264/ AVC CABAC Entropy Coding",	International Conference in Sciences and Electrical Technologies in Magreb (CISTEM2014), November 2014, in Tunisia.	9



N. Jarray, M. Elhaji and A. Zitouni, "Low complexity and efficient architecture of 1D-DCT based Cordic-Loeffler for Wireless Endoscopy Capsule", 12th International Multi-Conference on Systems, Signals & Devices, Mars 2015, in Tunisia.	10
S. Dhahri and A. Zitouni, «Implementation of a fast and low power 3SS algorithm for H.264 video coding», IEEE Int. Conf. on Control Decision and Information Technologies (CODIT'13), Hammamet, Tunisia, 2013.	11
M. Elhaji, A. Zitouni, P. Boulet, R. Tourki, J.L. Dekeyser and S. Meftaly, «Modeling networks-on-chip at system level with the MARTE UML profile», IEEE Int. Conf. on Design Automation and Test in Europe (DATE'2011), Grenoble, France, 2011.	12
S. Dhahri, A. Zitouni and R. Tourki, «A parallel processing architecture for FSS block-matching motion estimation», IEEE Int. Conf. on Communications, Computing and Control Applications (CCCA'11), Hammamet, Tunisia, 2011.	13
M. Elhaji, A. Zitouni, S. Meftali, J.L. Dekeyser and R. Tourki, «A low power and highly parallel implementation of the H.264 8x8 transform and quantization», IEEE Int. Conf. on Signal Processing and Information Technology (ISSPIT'10), pp. 528-531, Luxor, Egypte, 2010.	14
B. Attia, A. Zitouni and R. Tourki, «Design and implementation of network interface compatible OCP for packet based NoC», 5th IEEE Int. Conf. on Design and Technology of Integrated Systems in Nanoscale Era (DTIS'10), Hammamet Tunisia, 2010.	15
A. Ben Hmida, S. Dhahri and A. Zitouni, «A high performance architecture design of CAVLC coding suitable for real-time applications», IEEE Int. Conf. on Computer Science and Applications (ICCSA'13), Hammamet, Tunisia, 2013.	16
M. Elhaji, B. Attia, A. Zitouni, S. Meftaly, J.L. Dekeyser and R. Tourki, «FeRONoC: Flexible and extensible router implementation for diagonal mesh topology», IEEE Int. Conf. on Design and Architectures for Signal and Image Processing (DASIP'11), Finland, 2011.	17
B. Attia, W. Chouchene, A. Zitouni and R. Tourki, «Network interface sharing for SoC based NoC», 11th IEEE Int. Conf. on Communications, Computing and Control Applications (CCCA'11), Hammamet, Tunisia, 2011.	18
B. Attia, W. Chouchene, A. Zitouni, N. Abid and R. Tourki. «A modular router architecture design for network on chip». 8th IEEE Int. Multi-Conf. on Systems, Signals & Devices (SSD'11), Sousse, Tunisia, 2011.	19
W. Chouchene, B. Attia, A. Zitouni, N. Abid and R. Tourki, «A low power network interface for network on chip», 8th IEEE Int. Multi-Conf. on Systems, Signals & Devices (SSD'11), Sousse, Tunisia, 2011.	20
W. Chouchene, B. Attia, A. Zitouni, N. Abid and R. Tourki, «A low latency router architecture for QoS network on chip», 6th IEEE Int. Conf. on Sciences of Electronic, Technologies of Information and Telecommunications (SETIT'11), Hammamet, Tunisia, 2011.	21
B. Attia, W. Chouchene, A. Zitouni, N. Abid and R. Tourki, «Design and implementation of low latency network interface for network on chip». 5th IEEE Int. Conf. on Design and Test Workshop (IDT'10), pp. 37-42, Abu Dahbi, UAE, 2010.	22
H. Chaouch, S. Dhahri, A. Zitouni and R. Tourki, «Low power architecture of motion estimation and efficient intra prediction based on Hardware design for H.264», IEEE Int. Conf. on Design & Technology of Integrated Systems in Nanoscale Era (DTIS'10), Hammamet, Tunisia, 2010.	23





L. Kabbai, S. Dhahri, A. Zitouni and R. Tourki, «A low power oriented gradient search motion estimator for the H264AVC coder», 6th Int. Conf. on Electrical Systems and Automatic Control (JTEA'10), Hammamet, Tunisia, 2010.	24
N. Jarray, S. Dhahri, M. Elhaji and A. Zitouni, «A high level hardware architecture binarizer for H.264/AVC CABAC encoder», IEEE Int. Conf. on Control, Engineering & Information Technology (CEIT'13), Sousse, Tunisia, 2013.	25
W. Chouchene, B. Attia, N. Abid, A. Zitouni and R. Tourki, «A quality of service network on chip based on a new priority arbitration mechanism», 23th IEEE Int. Conf. on Microelectronics (ICM'11), Hammamet, Tunisia, 2011.	26
N. Abid, W. Chouchene, B. Attia, A. Zitouni and R. Tourki, «Design and performance evaluation of on chip network with transaction level modeling», 23th IEEE Int. Conf. On Microelectronics (ICM'11), Hammamet, Tunisia, 2011.	27
B. Attia, W. Chouchene, N. Abid, A. Zitouni, K. Torki and R. Tourki, «A new pipelined network interface for network on chip with latency and jitter optimization», (Best paper Award) 23th IEEE Int. Conf. on Microelectronics (ICM 2011), Hammamet Tunisia, 2011.	28
M. Elhaji, P. Boulet, S. Meftali, A. Zitouni, J.L. Dekeyser and R. Tourki, «An MDE approach for modeling network on chip topologies», 5th IEEE Int. Conf. on Design & Technology of Integrated Systems in Nanoscale Era (DTIS'10), Hammamet, Tunisia, 2010.	29
A. Zitouni, M. Abid, Rached Tourki, «Interfacing incompatible protocols in SoC by using RTR of FPGAs», Second International Conference on Signals, Systems, Decision (SSD03), Sousse, Tunisie, IEEE, pp. 129-134, Mars 2003.	30
S. Badrouchi, A. Zitouni, Mohamed Abid, Rached Tourki, «Etude de l'implantation d'un adaptateur multi bus en vue d'intégration sur un SoC», 3ème Journées Scientifiques des Jeunes Chercheurs (GEI03), pp. 181-184, Mehdiya, Mars 2003.	31
K. Mejdi, A. Zitouni, R. Tourki, «Synthèse des contrôleurs de communication en vue de résoudre des conflits dans les SoC», 8ème Colloque National de Recherche en Physique, Sousse, Décembre 2005.	32
A. Zitouni, K. Mejdi, R. Tourki, «Conception d'un routeur asynchrone pour NoC» 8ème Colloque National de Recherche en Physique, Sousse, Décembre 2005.	33
O. Bouraoui, A. Zitouni, A. Mtibaâ, M. Abid, «Communication between SDF blocks for SoC interface synthesis», Second International Conference on Signals, Systems, Decision (SSD03), Sousse, Tunisie, IEEE, pp. 84-88, Mars 2003.	34
O. Bouraoui, A. Zitouni, A. Mtibaâ, M. Abid, «Verification techniques for deadlock and real time constraint violation», First Annual Northeast Workshop on Circuits and Systems, NEWCAS'03, pp. 49-52, Montreal, Canada, Juin 2003.	35
M. Zid, A. Zitouni, A. Baganne, R. Tourki, «New generic GALS NoC architectures with multiple QoS», IEEE Int. Conf. on Design & Test of Integrated Systems in Nanoscale Technology (DTIS06), Tunis, Tunisie, September 2006.	36
S. Dhahri, A. Zitouni, M. Elhaji, R. Tourki, «Adaptive motion estimator for the H264 coder», IEEE Int. Conf. on Design & Test of Int. Systems in Nanoscale Technology (DTIS08), Tozeur, Tunisie, Mars 2008.	37
S. Dhahri, M. Hajji, A. Zitouni, R. Tourki, «Conception d'un estimateur de mouvement configurable pour le codec H264», JTEA08, pp. 806-812, Hammamet, Tunisie, Mai 2008.	38
M. Hajji, S. Dhahri, A. Zitouni, R. Tourki, «Conception d'un estimateur de mouvement GALS pour le Codec H264», JTEA08, pp. 801-805, Hammamet, Tunisie, Mai 2008.	39



M. Hajji, A. Zitouni, R. Tourki, «A low power ASIC design of a FSBM motion estimator for H.264AVC», 5th Int. Conf. on Sciences of Electronic, Tech. of Inf. And Telecomm. (SETIT09), Hammamet, Tunisie, Mars 2009.	40
Dhahri, A. Zitouni, Haithem Chaouech, R. Tourki, «Adaptive motion estimator based on variable block size scheme», Proc. of World Academy of Science, Engineering and Technology, Vol. 38, pp. 394-394, February 2009.	41
A. Zitouni, M. Abid, A. Mtibaa, R. Tourki, "Conception des interfaces à partir des spécifications comportementales", Proc. of the Conf. on Modeling and Simulation of Electrical Systems (CMSES'97), Saida, Algeria, pp. 86-92, May 1997.	42
A. Zitouni, M. Abid, R. Tourki, "Round-robin arbiter generation and synthesis algorithms for system communication synthesis", Proc. of the 4th IEEE Int. Conf. on Electronics Circuits, and Systems (ICECS'97), Cairo, Egypt, pp. 888-894, December 1997.	43
A. Zitouni, M. Abid, R. Tourki, "Interface synthesis techniques for system communication design", Proc. of the 2nd IEEE Int. Conf. on Comp. Eng. In Sys. App. (CESA'98), Tunisia, pp. 460-465, April 1998.	44
A. Zitouni, M. Abid, K. Torki, C. Souani, R. Tourki, "Communication synthesis approach for distributed systems and its application during the design of a communication controller", Proc. of the 10th IEEE Int. Conf. on Microelectronics, (ICM'98), Monastir, Tunisia, pp. 249-252, December 1998.	45
A. Zitouni, M. Abid, R. Tourki, "An arbiter synthesis approach based on arbitration scheme generation/selection for HW/SW co-design", Proc. of the 5th IEEE Int. Conf. on Electronics Circuits and Systems, (ICECS'98), Lisboa, Portugal, pp. 521-526, 1998.	46
A. Zitouni, M. Abid, R. Tourki, "Arbitration synthesis approach for multiprocessor systems", Proc. of the IEEE Int. Wshop. On Signal Processing Systems (SIPS'98), Cambridge, MA, USA 1998.	47
A. Zitouni, M. Merzougui, M. Abid, R. Tourki "A toolbox-based communication synthesis environment", Proc. Smart Systems and Devices (SSD), pp. 318-322, Hammamet-Tunisie, Mars 2001.	48
A. Zitouni, M. Abid, R. Tourki, "Modélisation et synthèse d'un arbitre en vue d'une implantation sur un FPGA", (JTEA'97), Nabeul, Tunisie, pp. 128-137, November 1997.	49
A. Zitouni, M. Abid, S. Gnanna, R. Tourki, "Génération automatique des unités de communication pour les systèmes temps réel", 5th Colloque d'Informatique Industrielle (CII98), Djerba, pp. 65-71, February 1998.	50
M. Marzougui, A. Zitouni, M. Abid, R. Tourki, "Processor model for co-simulation of heterogeneous software/hardware systems", Fuzzy Logic ANNIE, ST Louis, Missouri, USA; ISBN 0-7918-0161-6, Vol. 10, pp. 977-982, November 2000.	51
A. Ben-Rabaa, A. Zitouni, M. Abid, R. Tourki, "Implementation of an acoustic echo canceller based on NLMS-recurrent neural networks structures," Proc. of the 2nd IEEE Int. Conf. on Comp. Eng. In Systems App. (CESA'98), Tunisia, pp. 525-528, April 1998.	52
A. Ben-Rabaa, A. Zitouni, M. Abid, R. Tourki, "Hardware implementation of an acoustic echo canceller based on NLMS-recurrent neural networks structures," 4th Journées Adéquation Algorithme Architecture, CEA/LET, France, pp. 83-89, January 1998.	53
A. Ben-Rabaa, A. Zitouni, M. Abid, R. Tourki, "Implementation of an acoustic echo canceller based on NLMS-neural networks structures by using the VHDL", Proc. of the IEEE Int. Conf. on Communications (ICC'98), Atlanta, GA, USA, pp. 1789-1793, June 1998.	54





C. Souani, M. Abib, A. Zitouni, M. Atri, R. Tourki, "A heterogeneous multiprocessor system with dedicated communication controller", Proc. of the 4th IEEE Int. Conf. on Electronics Circuits, and Systems (ICECS'97), Cairo, Egypte, pp. 310-314, December 1997.	55
S. Dhahri, Y. Salah, A. Zitouni, "Adaptive Motion Estimator for real time applications H.264 video encoding", International Conference on Multifunctional Materials and their Applications (2MAP-2016), May 6-8, 2016, Sousse, TUNISIA.	56
B. Attia, N. Abid, W. Chouchen, A. <u>Zitouni</u> , & R. Tourki, "VCRBCM: A low latency virtual channel router architecture based on blocking controller manger", 2013, <i>10th International Multi-Conference on Systems, Signals and Devices, SSD 2013</i> .	57
N. Abid, B. Attia, A. <u>Zitouni</u> , & R. Tourki, "A modular and generic router TLM model for speedup network-on-chip topology generation", 2013, <i>10th International Multi-onference on Systems, Signals and Devices, SSD 2013</i> .	58

### Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
1	A Zitouni, A. Almimouni, M. Elhajji	Design of a low power compressor for capsule endoscopy system	2014/2015

### Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	International Conference on Computational and Network Technologies	2013	Reviewing scientific paper
2	International Conference on design and test	2014-2013-2012	Reviewing scientific paper
3	The 7 <sup>th</sup> International Conference on Network and System Security	2013	Reviewing scientific paper
4	Eleventh International Conference on Microelectronics	1999 Tunisia	Member of the organization committee
5	6 <sup>th</sup> International Conference on Control, Decision and Information Technologies (CODIT'19)	2019	Reviewing scientific paper
6	Workshop on Mobile exhibition of innovation axis i-hub / National Academy of Energy in cooperation with the company Steyholder Schneider	National Academy of Energy/Dammam 2019/01	Presence
7	Scientific meeting with the members of Clarivix Analytic	College of Sciences and humanities' studies –Jubail 2019/01	Presence
8	Workshop of Visual learning and its applications in university learning	College of Sciences and humanities' studies –Jubail 2018/10	Presence



9	Jubail second conference for energy administration	King Abdullah Center - under the supervision of the Royal Commission in Jubail 2019/01	Presence
10	Introduction to social Project (on the corner of a dream)	College of Sciences and humanities' studies –Jubail 2019/08	Presence
11	Program to develop basic competencies in teaching and learning for the university teachers	College of Education –Jubail 2017 /09	Presence
12	Searching in the SpringerLink base	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2018/03	Presence
13	Searching in the Passport base	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2018 /02	Presence
14	First Solar and Wind Energy Symposium and Exhibition	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2018/04	Presence
15	Second Solar and Wind Energy Symposium and Exhibition	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2019/03	Presence
16	First scientific meeting titled: (School violence between reality and hope)	College of Education –Jubail 2018 /03	Presence
17	How to inscribe and use the information resources for DAMMAM UNIVERSITY teachers.	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2016	Presence
18	Searching in the IEEE base	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2016 /11	Presence
19	Electronic reviewing of scientific search: Skills and international benchmarks	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2016 /12	Presence
20	Learning outcomes presented by Dr. Abdulmajid Galeb	College of Education –Jubail 2016 /10	Presence
21	Searching in the medical bases	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY 2016 /11	Presence
22	Publishing methods and characteristics of knowledge bases of Thomson Reuters	College of Education –Jubail 2017 /01	Presence
23	1 <sup>st</sup> Regional Virtual Symposium on Physics Advances 2020	Symposium Online 2020	Presence
24	Symposium: The First Online Arab Science Week - The Environmental Applications and Implications of Nanotechnology.	Computer sciences department Collage of Science & Humanities - Jubail 2020	Presence
25	Symposium: The First Online Arab Science Week	Computer sciences department Collage of Science & Humanities - Jubail 2020	Presence



	- COVID-19: What should we learn		
26	Symposium: The First Online Arab Science Week - Building Smart Roadways Through Energy Harvesting Innovation.	Computer sciences department Collage of Science & Humanities - Jubail 2020	Presence
27	Online lecture :RESEARCHER PROFILES AND NETWORKS	Computer sciences department Collage of Science & Humanities - Jubail 2020	Presence
28	Online lecture: HOW TO BECOME A PEER REVIEWER: TIPS FOR EARLY CAREER RESEARCHERS	Computer sciences department Collage of Science & Humanities - Jubail 2020	Presence
29	Plagiarism detection tools	Collage of Science & Humanities - Jubail 2020	Presence
30	Case study strategy	Collage of Science & Humanities - Jubail 2020	Presence
31	QM tool	Collage of Science & Humanities - Jubail 2020	Presence
32	Using One Drive	Collage of Science & Humanities - Jubail 2020	Presence
33	Basic techniques for virtual learning	Collage of Science & Humanities - Jubail 2020	Presence
34	Creation and reviewing of study program	Imam Abdulrahman bin Faisal University 2020	Presence
35	Presentation of the strategic plane and programmes	Collage of Science & Humanities - Jubail 2020	Presence
36	Virtual lectures	Collage of Science & Humanities - Jubail 2020	Presence
37	Electronic signing	Imam Abdulrahman bin Faisal University 2020	Presence
38	Excel program level-2	Imam Abdulrahman bin Faisal University 2020	Presence
39	Question Pro	Imam Abdulrahman bin Faisal University 2020	Presence
40	Art of preparation of the administrative letters	Collage of Science & Humanities - Jubail 2020	Presence
41	Reviewing papers presented by scientific search comities in Collage of Science & Humanities - Jubail 2020	Collage of Science & Humanities - Jubail 2020	Reviewing scientific paper
42	Isolation matrix infrared spectroscopy: A new Approach to probe Molecular structure	Dr. Wthek Bechir, King Fahd University of Petroleum & Minerals 2021	Presence
43	Improvement of Bismuth Incorporation into InAs Films Grown by MOCVD for Solar Cells Applications	Collage of Science & Humanities - Jubail 2021	Presence



44	Internet of things	Collage of Science & Humanities - Jubail 2021	Presence
45	Performance Improvement of PV using Nanotechnology	Collage of Science & Humanities - Jubail 2021	Presence
46	Scientific publishing and funded projects: research developments	Collage of Science & Humanities - Jubail 2021	Presence

### Membership of Scientific and Professional Societies and Organizations

- Member of materials committee in Physics Department - College of Education in Jubail/College of Sciences and humanities' studies
- Member of scientific committee in Physics Department - College of Education in Jubail/College of Sciences and humanities' studies
- Director of scientific search committee in Physics Department - College of Education in Jubail/College of Sciences and humanities' studies
- Member of program committee College of Sciences and humanities' studies
- Supervisor of Electronic Laboratory
- Supervisor of Phys 2 Laboratory
- Organizer of the Electronics Course
- Organizer of the Phys 3 Course
- Organizer of the Electromagnetism Course
- Organizer of the Classical mechanics Course
- Member of the Tunisian Physics Society
- Member of the internal consulting scientific search committee in IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY (2015-2016).
- Member of training bags reviewer's, College of Sciences and humanities' studies
- Supervision of Electronic projects concerning the Magic of Physics since 1435 – 36 – 37-38.
- Member of Master and PhD advise, Faculty of Sciences of Monastir, Tunisia
- Director of a research group in the electronic and microelectronic laboratory in faculty of sciences of Monastir, Tunisia
- Supervisor of the laboratory of automatic and signal processing, Physics Department, Faculty of Sciences of Monastir, Tunisia
- Member of the committee of project selection in technology pole in Sousse, Tunisia
- Chairman of the selection committee of lecturers in the electronics and communication, University of Monastir, Tunisia
- Examiner and a member of the committees of 9 PhD and 10 master theses at the Faculty of Science of Monastir, Tunisia and one PhD thesis at the Faculty of Computer Science, King Saud University
- Member of the Scientific Committee for the development of programs, Department of Physics, Faculty of Education in Jubail
- Member of the Scientific Reviewing Committees of many international journals (reviewing papers).



## Teaching Activities

### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	General physics 1	802143	Theoretical conferences (teaching) – preparation of the course files
2	General physics 2	800161	Lab. Supervisor, Theoretical conferences (teaching) – preparation of the course files
3	General physics 3	800163	Theoretical conferences (teaching) – preparation of the course files
4	Electromagnetism	802244	Theoretical conferences (teaching) – preparation of the course files
5	Classical mechanics	925745	Theoretical conferences (teaching) – preparation of the course files
6	Electronics	802247	Lab. Supervisor, Theoretical conferences (teaching) – preparation of the course files
7	Statistical Physics	802249	Theoretical conferences (teaching) – preparation of the course files
8	Electromagnetism (Physics and Energy program)	PHRE 306	Theoretical conferences (teaching) – preparation of the course files
9	Electronic (Computer science)	CS 222	Lab. Supervisor, Theoretical conferences (teaching) – preparation of the course files
10	Phys 3 (Physics and Energy program)	PHRE 303	Lab. Supervisor, Theoretical conferences (teaching) – preparation of the course files

### Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

1	General physics 1 – 802143 -This course covers Survey of fundamentals of physics including identify the physical quantities, units, coordinates, and dimensions. Vector and their characteristics the kinematic equations, and laws of motion including Newton's laws.
2	General physics 2 – 800161 - This course describes the electric and magnetic topics. Based on superposition and Coulomb's Laws, the case of various discrete distributions of charges is studied by calculating the electric forces, electric field and electric potential.
3	General physics 3 – 800163/ PHRE 303 - this course interests on the study of oscillations and waves motions including travelling and standing waves in Cord and Air Columns, the study of sound waves characteristics and Doppler effect in different applications cases.
4	Electromagnetism – 802244/ PHRE 306 - This course interests on the study of electrical & magnetic fields from differential and integral point of view in both vacuum and matter based





	on continued distribution of electrical charges. The used methods are based on studying the Maxwell's equations and electromagnetic waves.
5	Classical mechanics – 925745 - this course study the most important foundations of classical mechanics and its applications on the motion of objects through the application of Newton's laws. The course covers also the non-inertial reference frames and the fictitious forces in addition to the study of central forces and its applications on the motion of celestial bodies.
6	Electronics – 802247 - This course describes the principal analog electronic devices such as diodes, bipolar transistors and operational amplifier and studies their principal's applications (amplification, stabilization, etc.) starting from semiconductor characteristics.
7	Electronics (Computer sciences)/CS 222 - This course describes the principal DC and AC electric circuits and their laws and the analog electronic devices such as diodes, bipolar transistors and operational amplifier and studies their principal's applications (amplification, stabilization, etc.) starting from semiconductor characteristics.

## Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Signal processing,- has been teaches in university of Monastir Tunisia	-	Theoretical lecturer and practical
2	Microelectronics - has been teaches in university of Monastir Tunisia	-	Theoretical lecturer and practical
3	Digital integrated electronics- has been teaches in university of Monastir Tunisia electronics	-	Theoretical lecturer and practical
4	Automatism - has been teaches in university of Monastir Tunisia electronics	-	Theoretical lecturer and practical

## Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

1	Signal processing,- Study the techniques and logarithms of signal processing
2	Microelectronics – Study the microelectronics circuits based on CMOS transistors
3	Digital integrated electronics – Study the sequential and logic integrated circuits and their applications in processing systems
4	Automatism – study the automatism circuits and their application in the industrial power oriented systems



## Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	to
1	Electronics PHYS-306	✓		✓		2013	2021
2	Electronics Computer Sciences / CS 222	✓		✓		2019	Until now
3	General physics 3 / PHRE 303	✓		✓		2013	Until now
4	Electromagnetism PHRE 307	✓		✓		2015	Until now
5	Classical mechanics PHRE 304	✓		✓		2021	Until now

## Student Academic Supervision and Mentoring

#	Level	Number of Students	From	to
1	6	8 (Magic of physics projects)	February 2014	June 2014
2	6	8 (Magic of physics projects)	February 2015	June 2015
3	6	10 (Magic of physics projects)	February 2016	June 2016
4	6	6 (Magic of physics projects)	February 2016	June 2017

## Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	PHD	Design of a configurable entropy's encoder CABAC/CAVLC	University of Monastir - Tunisia	Discussed in 2018
2	PHD	Development of embedded architectures and techniques for Endoscopy with low power dissipation	University of Monastir - Tunisia	Discussed in 2018
3	PHD	Communication synthesis of heterogeneous Network on Chip	University of Monastir - Tunisia	Discussed in 2017
4	PHD	Development of a design and verification methodology for 3D reconfigurable NoC	University of Monastir - Tunisia	Discussed in 2017
5	PHD	Development of an adaptive motion estimation approach: Implementation of the H264 Coder on a SoC	University of Monastir - Tunisia	Discussed in 2013



6	PHD	Synthesis of communication wrappers for NoC	University of Monastir - Tunisia	Discussed in 2013
7	PHD	Co-Design of the H264 application for integration on a GALS SoC	University of Monastir - Tunisia	Discussed in 2012
8	Master	Hardware synthesis of a H264AVC CAVLC (Context Adaptive Variable Length Coding)	University of Monastir - Tunisia	Discussed in 2012
9	Master	A reduced power-oriented design of a CABAC (Context Adaptive Based Entropies Coding)	University of Monastir - Tunisia	Discussed in 2012
10	Master	Design and formal verification of a Globally Asynchronous Locally Synchronous (GALS)	University of Monastir - Tunisia	Discussed in 2012
11	Master	Medialization and performance study of a GALS NoC at system level	University of Monastir - Tunisia	Discussed in 2011
12	Master	medialization of a gradient search algorithm for ASIC implementation	University of Monastir - Tunisia	Discussed in 2009
13	Master	Design of a GALS Motion Estimator for H.264	University of Monastir - Tunisia	Discussed in 2008
14	Master	Modelisation of communication interfaces for SoC	University of Monastir - Tunisia	Discussed in 2007
15	Master	Modelisation of a configurable motion estimateur for H264 Codec	University of Monastir - Tunisia	Discussed in 2007
16	Master	Modelisation and VHDL simulation of a generic router in order to design new NoC architectures	University of Monastir - Tunisia	Discussed in 2006
17	Master	Synthesis of asynchronous controller for system on chip (SoC)	University of Monastir - Tunisia	Discussed in 2005
18	Master	Study and system on chip (SoC) design of adaptation between busses with incompatibles: Case study	University of Monastir - Tunisia	Discussed in 2004

### Ongoing Research Supervision

#	Degree Type	Title	Institution	Date
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1	PHD	Design and medialization of a platform for dynamically and parallels reconfigurable architectures: application to video watermarking.	University of Monastir - Tunisia	Discussed programmed in June 2022
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## Administrative Responsibilities, Committee and Community Service

(Beginning with the most recent)

### Committee Membership

#	From	To	Position	Organization
1	2018	2018	Member of the Committee for reviewing 12 projects performed in the primary schools in KSA	Department of Physics, College of Education in Jubail
2	2017	OPEN	Director of the scientific search committee	Department of Physics, College of Education in Jubail/College of Sciences and humanities' studies
3	2016	OPEN	Member of the Scientific Committee for the program's development	Department of Physics, College of Education in Jubail/College of Sciences and humanities' studies
4	2016	OPEN	Member of the materiel Committee	Department of Physics, College of Education in Jubail/College of Sciences and humanities' studies
5	2015	2016	Member of the Scientific consultant committee	College of Education in Jubail – IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY
6	2005	OPEN	Member of the Tunisia Society of Physics	University of Monastir - Tunisia
7	2013	2014	Member of the reviewing committee of 16 research projects and innovation	4 <sup>th</sup> and 5 <sup>th</sup> scientific conferences in Riyadh and Makkah
8	2010	2011	Chairman of the committee of lecturers selection in the electronics and communications	University of Monastir - Tunisia
9	2019	OPEN	Member of the Scientific consultant committee	College of Sciences and humanities' studies
10	2022	OPEN	Member of training bags reviewer's, College of Sciences and humanities' studies	College of Sciences and humanities' studies
11	2019	OPEN	Member of the Scientific Committee for programs Development	College of Sciences and humanities' studies
12	2021	OPEN	Member of Committee of the Joint-Committees	IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY
13	2019	OPEN	Independent Reviewers Committee:	College of Sciences and humanities' studies-Jubail/Faculty of Sciences - Dammam

### Volunteer Work

#	From	To	Type of Volunteer	Organization
1	2019	2019	Participation to the social Project (on the corner of a dream)	The corner of a dream project – Saudi Arabia



2	2018	2018	Participation in the exhibition of electronic games and their damages / Dangers of electromagnetic radiation	Physics Department/ College of Sciences and humanities' studies- Jubail
3	2019	2019	Participation in exhibition /Enrich the talent	Physics Department/ College of Sciences and humanities' studies- Jubail
4	2015	2016	Presentation of a workshop and a lecture concerning sensors systems for the 5 <sup>th</sup> and 6 <sup>th</sup> Scientific Conference in Saudi	Secondary schools in Deffi and Omm Koura in Jubail industrial
5	2009	2011	Presentation of pedagogical training Lectures for lecturers in physics	University of Monastir - Tunisia
6	2021	2021	Participation in the social Project: Development of an electronics book: Electrical circuits.	Physics Department/ College of Sciences and humanities' studies- Jubail

**Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)**

1	Using of family's informatics tools (Microsoft): Word, Excel, Powerpoint, OneNote, ...
2	Using of computer aided design tools (CAD) Orcad, Protel, ISIS, Pspice, ModelSim, Xilinx, Synopsys...
3	Using of the programming languages C, C++, VHDL, SystemC, Matlab, Pascal

Last Update

16/ 06/2022

Dr. Abdelkrim Zitouni 