

Curriculum Vitae

Prof. Dr. Mohammed Abo-Zahhad, Ph. D., Senior Member, IEEE, ESCTA

**Professor Emeritus of Electronics and Communications Engineering
(Former Dean of School of Electronics, Communications and Computer Engineering. Egypt-Japan
University of Science and Technology (E-Just))**

(Former Vice Dean for Graduate Studies, Faculty of Engineering, University of Assiut, Assiut, Egypt)

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Google Scholar (Citation indices = 3215 , H-index = 30 and i10-index = 71)

<https://scholar.google.ca/citations?user=NNmlSAIAAAAJ&hl=en>

**Scopus Scholar (Citation indices = 1711, H-index = 22 and Total no. of Int. publications in
SCOPUS 122) ORCID ID Number 0000-0002-7926-0037**

<https://www.scopus.com/authid/detail.uri?authorId=55944940500>

Research Gate Profile (Publications=161, Reads=89,939, Citations = 2,639, H-index = 28, RG = 30.88)

https://www.researchgate.net/profile/M_Abo-Zahhad

Main Fields of Interest:

**Wireless Communications, Information Technology,
Digital Signal, Image and Video Processing, Biomedical and Bioinformatics**

September, 2022

Curriculum Vitae

1. Personal

Name: Prof. Mohammed Abo-Zahhad Abo-Zeid

Date and Place of Birth: December 18th. 1956, Sohag, Egypt

Affiliation: Former Dean of School of Electronics, Communications and Computer Engineering. Egypt-Japan University of Science and Technology (E-Just).

Nationality : Egyptian - **Marital Status :** Married (3 kids)



Current Address: School of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, E-Just, New Borg Al Arab, Alexandria 21934, Egypt.

Permiant Address: Electrical and Electronics Engineering Department, Faculty of Engineering, University of Assiut, Assiut 71516, EGYPT.

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Email: mohammed.zahhad@ejust.edu.eg, zahhad@aun.edu.eg and zahhad@yahoo.com

Mohammed Abo-Zahhad (Senior Member, IEEE, 2000) received the B.Sc. and M.Sc. degrees in electrical engineering from Assiut University (AU), Egypt in 1979 and 1983, respectively. In 1988, he received the Ph. D. degree from the University of Kent at Canterbury, UK and AU, Egypt through the channel system. He was promoted to the rank of professor of wireless communications and multimedia processing, in Jan.1999. He has been elected the positions of vice-dean for graduate studies, from August 2006 till June 2012 and the chair of department of electrical and electronics engineering from Nov. 2013 till Dec. 2016 both in the faculty of engineering, AU. During the period 1989-1992, he was with the department of telecommunications and media informatics, Budapest University of Technology and Economics, as a research fellow. From 1996 to 2003, he joined Yarmouk University, Jordan where he taught graduate and undergraduate courses in biomedical signal processing and electronic circuits. Currently, Prof. Abo-Zahhad is the Dean of school of electronics, communications and computer engineering, Egypt-Japan University of Science and Technology (E-JUST), Egypt since Jan. 2017. He acted also as the director of the information and communication technology centers at AU and E-JUST.

His research interests include: biomedical, and multimedia signal processing, genetic and immune algorithms, wireless sensor nodes, massive MIMO and millimeter wave communications, and internet of medical things (IoMT). He has earned many national and international research awards, among which is the Encouragement State Award in Engineering, from the Egyptian Academy of Scientific Research and Technology (ASRT). He is also a member of the national electronics and communication promotion committee, and an accredited reviewer of the national quality assurance and accreditation authority (NAQQA), Egypt. Prof. Abo-Zahhad has published more than 200 scientific papers in national and international conferences and impacted journals. He served as a referee for IEEE Transactions on Signal Processing, IEEE Transactions on Circuits and Systems, IEEE Access and numerous other professional publications. In addition, he was the chair of the last five rounds (2017-2021) of the international Japan-Africa conference on electronics, communications and computations (JAC-ECC), organized in cooperation between E-JUST, and Kyushu University, Japan and also chaired technical sessions in many nternational conferences. He has also served as an editor of the Journal of Engineering Sciences (JES), Egypt and as an associate editor of the Journal of Engineering and Applied Science (JEAS), Springer, and the Journal published by MDPI.

He has been the supervisor of more than 41 M. Sc. and PhD theses, from which 35 have been defended in the fields of: biomedical and genomic signal processing, multimedia processing, genetic and immune algorithms, wireless sensor nodes, massive MIMO and millimeter wave communications, and internet of medical things.

2. Academic Qualifications

1974-1979 B.Sc. in Electronics and Communications, University of Assiut, Assiut, Egypt.

1981-1983 M. Sc. in Electronic Engineering, University of Assiut, Assiut, Egypt.

Title of the Thesis: Improving the Characteristics of Floating Gytrators.

1985-1988 Ph.D. in Electronics and Communications, University of Assiut, Egypt and University of Kent, Canterbury, UK, Oct. 1988 (under the joint system between the two universities, where the candidate carries out his research in both countries with a supervisor in each).

Title of the Dissertation: Computer Aided Design of Switched-Capacitor Networks.

3. Positions Occupied and Professional Experience

March. 2022 – Present	Professor Emeritus of Electronics and Communications Engineering, School of Electronics, Communications and Computer Engineering. Egypt-Japan University of Science and Technology (E-Just).
Dec. 2016-Feb. 2022	Dean of School of Electronics, Communications and Computer Engineering. Egypt-Japan University of Science and Technology (E-Just).
Nov. 2013 –Dec. 2016	Chair of Electrical and Electronics Engineering Department, Faculty of Engineering, University of Assiut, Assiut, Egypt.
March 2011–Present	Certified Reviewer by National Authority for Quality Assurance and Accreditation in Education, NAQAAE; Egypt.
Jan. 2009–July 2011	Vice President of Faculty of Engineering Information Center, University of Assiut, Assiut, Egypt.
Jan. 2008– July 2011	Chief, Division of Information and Communication Technology, Education Development Center, Assiut University, Assiut, Egypt
Aug. 2006– July 2011	Chairman of the Coordination Committee between the Technical Institute for the Aluminum Company and University of Assiut, Assiut, Egypt.
Sept.2006– July 2011	Vice Dean for Graduate Studies, Faculty of Engineering, University of Assiut, Egypt.
Jan. 1999 –Dec. 2016	Professor at the Department of Electrical Engineering, University of Assiut, Egypt.
Jan. 1999 -Jan. 2004	Professor at the Department of Electronics, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan.
Sept. 1996-Dec. 1998	Associate Professor in the Department of Electronics, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan.
Jan.1994–Aug. 1996	Associate Professor at the Department of Electrical Engineering, Faculty of Engineering, University of Assiut, Assiut, Egypt.
Jan. 1990–Sept.1992	Research Fellow, Department of Telecommunications and Telematics, Technical University of Budapest, H-1111 Bp., Stoczek U.2, Hungary.
Oct.1988- Dec. 1993	Assistant Professor at the Department of Electrical Engineering, Faculty of Engineering, University of Assiut, Assiut, Egypt.
Oct.1987-Sept.1988	Research Assistant, Electronics Laboratories, University of Kent, At Canterbury, UK.

Dec. 1983-Sept. 1987	Assistant Lecturer, Faculty of Engineering, University of Assiut, Egypt.
Oct. 1979-Nov. 1983	Demonstrator (teaching and research assistant), Faculty of Engineering, University of Assiut, Assiut, Egypt.

4. Managerial Positions

1. Dean of School of Electronics, Communications and Computer Engineering. Egypt-Japan University of Science and Technology (E-Just), (since 29th of Dec. 2016 till 28th of Feb. 2022).
2. General Manager of E-JUST Information and Communication Technology (ICT) Center, (since 1st March 2017 until 30 November 2019).
3. Chair of Electrical and Electronics Engineering Department, Faculty of Engineering, University of Assiut, Assiut, Egypt (since 15th Nov. 2013 until 17th Dec. 2016).
4. Consultant on the development of Egyptian Universities' management information systems (MIS) project - the supreme council of universities, ministry of higher education and research since March 1, 2014 till December 28, 2016.
5. Vice Dean for Graduate Studies, Faculty of Engineering, University of Assiut, Assiut, Egypt (Sept.2006– July 2011).
6. Member of the executive teams for several higher education projects at Assiut university. These include: 1) The Developing the capacity of faculty members and leaders; 2) Quality assurance and accreditation; 3) electronic publishing; 4) Establishing a resource center of scientific tools and multimedia at faculty of science, and 5) The equipments and training of technicians.
7. Member of the management team of restructure the study plane of the Sugar Technology Institute for Studies and Research at the University of Assiut, one of the developed projects for higher education in Egyptian universities.
8. Project Manager of communication and information technology training project at the University of Assiut (One of the Ministry of Higher Education ICT Projects).
9. Principal investigator of the Management Information System (MIS) Project, Ministry of Higher Education ICT Projects, Egypt.
10. Project Manager of the Communication and Information Technology Training Project at Assiut University, Egypt; supported by the supreme council of universities, ministry of higher education and research since March 1, 2006 till June 2010.
11. Management Information System (MIS) Project at Assiut University, Egypt; supported by the supreme council of universities, ministry of higher education and research since March 1, 2006 till December 28, 2016.
12. Manger of the Engineering Center for Computer and Communication, ECOM, (Private Internet Provider and IBM Training Center-Assiut Branch).

13. Supervisor of Engineering Division at the Institute of Sugar Technology Research and Studies, University of Assiut, Assiut, Egypt, (for two years), 2004.
14. Supervisor of the maintenance center for scientific instruments, University of Assiut, Assiut, Egypt, (for one year), 2005.
15. Director of the University of Assiut Computer Center (Main Frame and Vax Mini-Computers) from Oct.1988 till Sept. 1989.
16. Founder of “Next Generation Wireless Communication Technologies Laboratory for Smart Cities” Research Lab funded by Science and Technology Development Fund (STDF), Egyptian Ministry for Scientific Research, June 2020 (Project #38285, 10,000,000 EGP).
17. Co- Founder of “Securing the Vehicular Internet-of-Things (VIoT) in Smart Cities,” Research Lab funded by Science and Technology Development Fund (STDF), Egyptian Ministry for Scientific Research, October 2021 (Project # 43273, 1,480,880 EGP).
18. Founder of Advanced Electronics Laboratory, Egypt-Japan University of Science and Technology (E-Just).

5. Scientific Missions Abroad

1. Member of the study mission at Electronics Laboratories - University of Kent, United Kingdom, from October 1987 to September 1988.
2. Research Fellow at the Department of Communications and Acoustics Engineering at the Technical University of Budapest - Hungary from October 1989 to September 1992.
3. Seconded Associate Professor at Yarmouk University in the Hashemite Kingdom of Jordan in September 1996.
4. An expert in the field of information technology at the Islamic Educational, Scientific and Cultural Organization - ISESCO, where he organized a workshop in Brunei on the use of information technology in interactive education - 2010.
5. Scientific visit to the University of Niigata, Japan, for a period of ten days, during the period from 11 to 21 October 2015.
6. A scientific visit to Japanese universities (Waseda - Kyushu - Tokyo Technology - Hiroshima) for two weeks during the period from February 1 to February 16, 2017.

6. Teaching and Learning Experiences:

6.1 Courses Taught

Undergraduate Courses	Graduate Courses
<ol style="list-style-type: none"> 1. Electrical Circuits I and II. 2. Electronic Systems. 3. Semiconductor devices. 4. Biomedical Electronics. 5. Electronic devices and Circuits. 6. Electronic Circuits I and II. 7. Electronic Instruments and Instrumentation. 8. Industrial Electronics and Their Applications. 9. Digital Signal Processing. 10. Theory and Principles of Communication Systems. 11. Digital and Analog Communication Systems. 12. Wireless Communication. 13. Network Analysis and Synthesis. 14. Analysis and Design of Communication Network. 15. Filter Design (lumped, sampled-data and digital). 16. Advanced Engineering Mathematics. 17. Numerical Analysis and Programming. 18. Operating Systems Design. 19. Computer Languages (Visual Basic, Fortran, Pascal, C++, Delphi and MatLab). 20. Biomedical Signal Processing. 21. Seminar on Electronics and Communications. 	<ol style="list-style-type: none"> 1. Internet of Biomedical Things. 2. Deep Learning Applications in Biomedical Engineering. 3. Biomedical Signal Processing. 4. Software Applications for DSP and Communications. 5. Project Based Learning in Biomedical Engineering. 6. Computer Aided Network Design. 7. Advanced Analog and Digital Filters Design. 8. Switched-Capacitor Circuits and their Implementations. 9. Computational Methods and Numerical Analysis 10. Numerical Techniques and Programming. 11. Database Management, Design and Implementations 12. Digital Speech Processing. 13. Genetic Algorithm. 14. Genomic Signal Processing 15. Wireless Sensor Networks. 16. Internet of Medical Things 17. Seminar on Communications Electronics Engineering 18. Project Based Learning in Biomedical Engineering. 19. Project Based Learning in Communications. 20. Project Based Learning in Electronics.

6.2 Projects Supervision for Final Year B.Sc. Students

1. Computer Aided Design of Wave-Digital Filters, 1993.
2. Filter Designer: A Software Package for the Design of Analog and Digital Filters, 1994.
3. A Wavelet Package for QRS Detection, 1995.
4. EPROM Programmer: Software Design and Hardware Implementation, 1996.
5. Storage Oscilloscope, 1997.
6. Micro-Controller Based Solar Energy Generating System, 1998.
7. Universal Remote Controller, 1998.
8. Home Automation: Security and Energy Saving, 1999.
9. Micro-controller Based AM Radio Receiver, 1999.
10. Micro-controller Based Digital Talking Multimeter, 2000.
11. Speech Analysis and Synthesis Matlab Toolbox, 2000.

12. Image Compression using Wavelet Transform, 2001.
13. Fractal Image Compression, 2002.
14. PC Based Data Scope Central Monitor, 2002.
15. Portable Heart Rate Meter, 2003.
16. Wireless Palm System: Interactive Feedback System, 2003.
17. Process Control for Industrial Applications, 2004.
18. Universal Digital Talking Multi-meter, 2005.
19. Emergency Biomedical Telecommunication System, 2006. (This project was awarded the best student Egyptian project in electronics and communication engineering area. The competition was organized by the Made in Egypt authority and the IEEE).
20. Cellular Phone Jammer, 2009.
21. System for Blind: Braille Printer and Scanner, 2011. (This project was awarded the best student project in Egyptian universities in Computer Engineering area. The competition was organized by the Made in Egypt authority and the IEEE).
22. Building Smart Private Mobile, Network financially supported by NTRA, 2013.
23. Smart Home Automation Control Unit, financially supported by NTRA, 2014.
24. Applications of Wireless Sensor Networks in Energy Management, financially supported by NTRA, 2015.
25. Cloud-based Smart Home and Energy Management System, financially supported by NTRA and Cemex Company, 2016.
26. Patient Monitoring System for COVID-19, 20220.
27. Smart Wearable Monitoring and Diagnosing eHealth System, 2021.
28. Intelligent IoT Based Tracking System for Constant Supervision of Health Status and Daily Activities of Children, financially supported by ITIDA and ASRT, 2022.

6.3 Computer Experience and Software Knowledge

1. Experienced with Visual Basic, Fortran-90, Pascal, Delphi and C++ Computer Languages and Familiar with Java Programming.
2. Experienced with DSP, MatLab and Simulink, LabView, Pspice Software Packages.
3. Experienced with Many Graphics and Spread Sheets Software Such As Quattro-Pro, Louts, Harvard Graphics, Excel and Power Point.
4. Experienced with Many Data Base Design Packages: FoxPro, and Access.
5. Experienced with Many Word Processing Packages such as Microsoft Word and Word Perfect.
6. Experienced with Many Internet Utilities and Web Pages Design.

6.4 Training Experience and Training Courses Attended

a) Quality Assurance

1. Self-evaluation of higher education institutions.
2. Learning outcomes and curriculum maps - higher education
3. External auditing of higher education institutions.
4. Intensive external auditing course of higher education institutions.

b) Teaching Using Information Technology

1. Trainer of Multimedia Training Courses (Audio-Video, Flash, Photo Shop, PowerPoint & FrontPage).
2. Trainer of Management Information System (MIS), TOT Training Courses (Students Affairs, Staff Affairs, Postgraduate Affairs & Control Systems), Ministry of Higher Education, ICT Projects, 2012.
3. FLDP project trainer of using technology in teaching higher-education courses.

c) Attended the following Information Technology Courses

1. Attended TOT Training course in using technology in teaching.
2. Attended ICDL Microsoft courses and Completed the ICDL certification.
3. Attended a course in Project Management (Microsoft certification).
4. Attended Oracle Database Intensive Course (Introduction to SQL- Java Programming – Build Java EE Application – Oracle ADF for Forms/ 4GL Developers).

7. Fields of Research Interests

1. Internet of Biomedical Things.
2. Deep Learning Applications in Biomedical Engineering.
3. Biomedical Signal Processing.
4. Remote Monitoring and Diagnosing of Cardiac Patients .
5. Digital Signal and Image Processing.
6. Multi Resolution Analysis and Wavelet Transforms.
7. Electronic Systems.
8. Multi-Rate Filter Banks.
9. Biomedical Signal Processing.
10. CAD Tools for Designing Analog, Wave-Digital, FIR, IIR and Optical Filters.
11. Parallel Computations.
12. Genetic and Immune Algorithms.
13. Speech Synthesis and Recognition.
14. Genomic Digital Signal Processing.

15. Information and Communication Technologies.
16. Wireless Sensor Networks.
17. Biometric Authentication and Recognition.
18. 5G, Cognitive Radio and Mobile Communications.
19. Compressive Sensing.
20. Antenna Design for mmwave and Massive MIMO Applications.

8 –Science Dissemination Activities:

1. Editorial board member of Studies in Higher Education Journal, Assiut University Development Centre, from July 2009 to January 2017.
2. From August 2006 to August 2012, Editorial Manager of the Scientific Bulletin of the Faculty of Engineering, Assiut University.
3. From 2017, member in the editorial board of Journal of Engineering Sciences, Faculty of Engineering, Assiut University.
4. Associate editor for the international Journal of Engineering and Applied Science (JEAS): an international, multidisciplinary journal managed by the Faculty of Engineering, Cairo University published by the Nature Publishing Group, (June 2021 till now).
5. From 2017 to 2021, chair of The International Japan-Africa Conference on Electronics, Communications and Computations, (JAC-ECC) that is held annually in Egypt-Japan University of Science and Technology, Egypt and Kyushu University, Japan.
6. Reviewer for many international journals as, IEEE Transaction on Circuits and Systems, IEEE Transaction on Signal Processing, IEEE Internet of Things Journal, IEEE Access, IEEE Signal Processing Letters, Digital Signal Processing, Signal, Image, and Video Processing, Multimedia Tools and Applications....etc.
7. Reviewer for many international conferences as, European Conf. on Circuit Theory and Design (ECCTD), IEEE International Conf. on Circuits and Systems (ISCAS), European Conference on Signal Processing (EUSIPCO), Inter. Symposium on Signals, Systems & Electronics, IEEE International Conf. On Electronics, Circuits and Systems ICECS), IEEE Conf. on Signal Processing and Information Technology, International Midwest Symposium of Circuits and Systems (MWSCAS), IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)...etc.
8. Chair of the organization committee of the Middle East Power Systems Conference (MEPCON-96), Luxor, Egypt, Jan. 1996.
9. Technical Committee Member, Jordanian International Conference on Electrical Engineering and Electronics, Amman, Jordan; 15 - 17 Nov. 2005.
10. Technical Program Co-Chair, 2020 International Conference on Innovative Trends in Communication and Computer Engineering (ITEC'2020), Aswan, Egypt.

11. Co-chair of Special Session titled “Coronavirus (COVID-19), pandemics challenges and innovative solutions”, 2nd Novel Intelligent and Leading Emerging Sciences Conference, (NILES2020 – IEEE#50944), Nile University, Cairo, Egypt.
12. From 2017 to 2021, chair of The International Japan-Africa Conference on Electronics, Communications and Computations, (JAC-ECC) that is held annually in Egypt-Japan University of Science and Technology, Egypt and Kyushu University, Japan.
13. Co-chair of the 10th Japan-Africa Conference on Electronics, Communications and Computers (JAC-ECC), IEEE Explore, 2022.

9. Membership in Scientific and Professional Societies

Member in the following professional societies:

1. The Institute of Electrical and Electronic Eng. IEEE (*Senior IEEE member*) since 2000, and member of Circuits and Systems; and Signal Processing Societies.
2. Member of the New York Academy Sciences, 2001.
3. European Society of Circuit Theory and Applications (ESCTA), since 1995.
4. The Egyptian Engineering Association, since 1979.
5. Consultant of Projects Management Unit (PMU) of Ministry of Higher Education (MOHE), Egypt, 2011.
6. Member of National Egyptian Promotion Committee for Professors and Associate Professors (Electronics and Communication), SCU, Egyptian Ministry of Higher Education and Research, 2012-2021.
7. Acted as an arbitration committee member of Professors and Associate Professors, for the following:
 - ✓ Promotion Committee of the University of Taif - Kingdom of Saudi Arabia, since 2018 until now.
 - ✓ Promotion of the National Egyptian Committee (Computer Engineering), SCU, Egyptian Ministry of Higher Education and Research, since 2019 until now.
 - ✓ Promotion Committee of Arab Academy for Science, Technology and Maritime Transport, since 2019 until now.
 - ✓ Promotion Committee of Council of Institutes and Scientific Research Centers, Egyptian Ministry of Higher Education and Research, since 2020 until now.
 - ✓ Promotion of the National Egyptian Committee (Electronics and Communication Engineering), SCU, Egyptian Ministry of Higher Education and Research, since 2005 until now.
 - ✓ Jordanian and Palestinian Universities Promotion Committee since 1997 until now.

10. Other Scientific Activities

1. Establishment of the Basic Electronic Engineering and Computer Laboratories, Department of Electrical and Electronic Engineering, University of Assiut, through the National Project for Engineering Education Development, 1995.
2. Establishment of the Digital Signal Processing Laboratory, Department of Electrical and Electronic Engineering, University of Assiut, through the National Project for Engineering Education Development, 1995.
3. Development of the Study Plan (including courses description), Department of Electrical
4. and Electronic, Engineering, Faculty of Engineering, University of Assiut, Egypt, 1995.

5. Development of the Study Plan (including courses description), Electronics Department, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan, 1997.
6. Member in the faculty council in both Faculty of Engineering, University of Assiut, Egypt and Hijjawi Faculty for Engineering Technology, Yarmouk University, Jordan.
7. Member of the Consultative Centre for Engineering, Assiut University since December 1988.
8. Member of the Technical Committee of the Centre for Scientific Computing (PC), Assiut University, 1988.
9. Chairman of the Committee of forming the study plan and setting the content of scientific subjects for the Department of Industrial Engineering and Management, Institute of Sugar Technology for Research and Studies. University of Assiut, 2004.
10. Member of the Committee for writing the Academic Standards and program' specifications of the Computing and Control Engineering Division, Faculty of Engineering - Assiut University, 2004.
11. Member of the Committee to modernize and develop a Graduate Study Plan, Department of Electrical Engineering - Faculty of Engineering - Assiut University, 2004.
12. Member of the Committees for refereeing Masters and PhD theses at Alexandria, Assiut, Aswan, Helwan, Mansoura, Menia, Menofia, Tanta, Zagazeq Universities and Arab Academy of Science and Technology, 1995 until now.
13. Arbitrator for National Permanent Promotions Scientific Committee (the tenth session of 2008-2011) - Committee for electronics, computers and systems.
14. Member of the Higher Committee Project for developing the College of Engineering - Assiut University, the project (UDFP) is funded by the Development of Egyptian Universities Education Development Fund Council of Ministers.
15. Chairman of the Academic Standards Committees to prepare Specifications, and reports of graduate programs, National Authority for Quality Assurance and Accreditation for the adoption of the Faculty of Engineering - Assiut University, 2009-2010.
16. Board member of the software and communications, technical unit at the University of Assiut, since January 1, 2008 till December 2016.
17. Reporter of the Conference of Higher Education between reality and visions of the challenges of development - Education Development Center, Assiut University – Dec. 2009.
18. Reporter of the Commission on the Status of vision, mission and work of the SWOT analysis (strengths, weaknesses, threats and opportunities) for graduate studies at the University of Assiut.
19. Organizer of a workshop entitled "Technology and modern management in university teaching," the State of Brunei commissioned by the Organization of the Islamic Educational, Scientific and Cultural Organization - ISESCO - as an expert in the field of Information Technology, January 2010.
20. Vice Chairman of the Committee of Implementation of the strategic plan for graduate studies sector at the University of Assiut, March 2010.
21. Vice Chairman of the committees developing the five-years research plan (2010-2015) - Faculty of Engineering - Assiut University - May 2011.
22. Chairman of the committees to develop a graduate credit hours study plan - Faculty of Engineering - Assiut University - January 2011.
23. An external evaluator for communications and electronics engineering program - Modern Academy for Engineering and Technology - Maadi - National Authority for the quality of education and accreditation, Cairo, 2010.

24. External program evaluator, institutes and technical colleges - Ministry of Higher Education - National Authority for the quality of education and accreditation, Cairo, 2010.
25. Responsible for Graduate Studies and Research File, Faculty of Engineering - Assiut University, (The College has gained accreditation in June 2011).
26. A major participant in a research project by the European Union Tempaus collaboration with five universities from Germany, Jordan, Palestine, Tunisia, and Egypt, May 2011.
27. General Supervisor of the Student Union Faculty of Engineering - Assiut University, 2010-2011.

11. Awards and Prizes

1. Prof. Suliman Huzayen Award for the Excellent Publications in Electronics and Communication Engineering, Assiut University, Egypt, 1996.
2. Hesham Adeeb Hajjawi Award for Excellence in Scientific Research at Yarmouk University, Jordan, 2003.
3. Encouragement State prize in Engineering, from Egyptian Research and Technology Academy, Ministry of Higher Education, Egypt, 2005.
4. Promoted to the *Senior member* of American Institute of Electrical and Electronic Engineers, (*Senior IEEE member*), 2000.
5. Assiut University Award for Excellence in Engineering Sciences for the year 2005.
6. Selected as one of the pioneers in the field of engineering by the Marquise Who's Who in Science and Engineering, in its 11th Anniversary Edition in 2008.
7. The information and communication technology training in the Egyptian universities best project manager prize, Ministry of Higher Education and Scientific Research, March 2007.
8. Holds a Distinction Award for the best scientific research in engineering sciences for the year 2011.
9. The development of management information systems in the Egyptian universities best project manager prize, Ministry of Higher Education and Scientific Research, January 2012.
10. Assiut University Award for Excellence in Engineering and Computer Science for the year 2013.
- During holding the position chair of the department the Department of Electrical Engineering, Assiut University, received a rank order of 301-400 at the Shanghai World ranking of universities in 2016. (<http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/Electrical-Electronic-Engineering-2016.html>).

12. Supervision of Postgraduate Students

Granted Master and Doctoral Theses

1. Modeling of an Arbitrarily Doped Metal-Tunnel Insulator-NP Semiconductor Device as Solar Cell, M. Sc. Thesis, by Mohamed Abbas, Faculty of Engineering, Assiut University, Egypt, 1996.
2. Design of Perfect Reconstruction M-Channel Multi-Rate QMF Banks, M. Sc. Thesis, by Hesham Zaref, Faculty of Engineering, Assiut University, Egypt, 1999.
3. Incorporating unified Power Flow Controller Flexible AC Transmission Systems FACTS in Power Studies, M. Sc. Thesis, by Hany Esaa Zedian, Faculty of Engineering, Assiut University, Egypt, 2007.
4. Design of Digital Filters using Artificial Immune Algorithm, M. Sc. Thesis, by Nabil Sabor, Faculty of Engineering, Assiut University, Egypt, 2011.
5. Future Location Prediction of Mobile User in Cellular Network Platform: Intra-Cell Approach, M. Sc. Thesis, by Mohamed Mourad, Faculty of Engineering, Assiut University, Egypt, 2013.
6. ECG Signal Compression using Wavelet Transform, M. Sc. Thesis, by Ahmed Zakaria, Faculty of Engineering, Assiut University, Egypt, 2013.
7. A Wireless Emergency Telemedicine System for Patients Monitoring and Diagnosis, M. Sc. Thesis, by Osama Elnahas, Faculty of Engineering, Assiut University, Egypt, 2013.
8. Prediction of Gene Locations in DNA using Digital Signal Processing Techniques, M. Sc. Thesis, by Shimaa Adly, Faculty of Engineering, Assiut University, Egypt, 2014.
9. Biometric Authentication Based on Heart Sounds And Electroencephalography Signals, M. Sc. Thesis, by Sherif Nagib Abbas Seha, Faculty of Engineering, Assiut University, Egypt, 2015.
10. Brain Images Compression Using Spatial Transformation Techniques, M. Sc. Thesis, by Mahmoud Khaled, Faculty of Engineering, Assiut University, Egypt, 2015.
11. Edge Detection of Medical Images Using Spatial Transformation, M. Sc. Thesis, by Ahmed A. Donkol, Faculty of Engineering, Assiut University, Egypt, 2015.
12. A Vision Based System for Vehicle Monitoring and Classification, M. Sc. Thesis, by Emad Saleh Sayed, Faculty of Engineering, Assiut University, Egypt, 2017.
13. A new hybrid localization technique in wireless sensor network, M. Sc. Thesis, by Jozef Vector, Faculty of Engineering, Assiut University, Egypt, 2017.
14. Modeling of Wireless Sensor Networks with Maximum Lifetime and Minimum Energy Consumption, M. Sc. Thesis, by Abdelhay Mohammed Ali, Faculty of Engineering, Assiut University, Egypt, 2017.
15. Energy Saving in Wireless Sensor Networks, Ph. D. Thesis, by Nabil Sabor, Faculty of Engineering, Assiut University, Egypt, 2016.
16. Improving Spectrum Sensing Performance of Cognitive Radio Using Compressed Sensing Technique, Ph. D. Thesis, by Khaled Ali Ahmed Ba Ali, Faculty of Engineering, Assiut University, Egypt, 2019.
17. Legalizing training loads using modern mobile phone software and its impact on the digital level for 1500-meter runners, Ph. D. Thesis, by Mohammed Shamandi Yassen Mahmoud, Faculty of Physical Education, Assiut University, Egypt, 2015.
18. The design of an electronic device to measure the ability of muscle building and a proposed strategy for some of the training methods and their impact on the digital level of long jump racers, Ph. D. Thesis, by Al-Amer Abdel-Satar Hassan, Faculty of Physical Education, Assiut University, Egypt, 2018.

19. Time-Frequency Analysis of Aluminum Extrusion Processes, M. Sc. Thesis, by Samer Ayash, Hijawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan, 2007.
20. Design and Implementation of Improved Performance Ku and K Bands Voltage, Ph. D. Thesis, by Islam Mansour Abdel Fattah al-Jalb, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2019.
21. Design and Development of Rectennas for Microwave Energy Harvesting, Ph. D. Thesis, by Muhammad Abu Al-Alaa Muhammad Ali, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2019.
22. Design, analysis, and simulation of a silicon photonic device, Ph. D. Thesis, by Umniah Mohammed Nasif, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2019.
23. Object Detection and Tracking in Traffic Monitoring, Ph. D. Thesis, by Ahmed Gomaa Maryah Mohammed, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2020.
24. Performance Enhancement of the Dielectric Resonator Antenna, Ph. D. Thesis, by Ahmed Abdel Razek Ahmed Mohammed, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2020.
25. Design and Implementation of SOI photonics Integrated Circuit Components, M. Sc. Thesis, by Gidover Henry Ambrose, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2018.
26. A Secure-Energy Aware Routing Selection Scheme for Internet of Things, M. Sc. Thesis, by Sas Tomba Tony, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2019.
27. Mobility-Aware Dynamic Collaborative Spectrum Sensing in Cognitive Radio Networks, M. Sc. Thesis, by Oakalo Kenneth, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2019.
28. Less Energy Transfer System for Implantable Medical Devices, Ph. D. Thesis, by Manal Mahmoud Mohamed Mahmoud, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered 2014.
29. Microwave Hyperthermia for Breast Cancer Treatment, Ph. D. Thesis, by Maha Raouf Abdel Halim Mohamed, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.
30. Detection and Recognition of Diseases in Horticultural Crops Using Image Processing Techniques, Ph. D. Thesis, by Lawrence Shigeo Naguji, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.
31. Game Theory and artificial intelligent for cognitue radio in 5G, M. Sc. Thesis, by Mennat Allah Ahmed Ibrahim, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.
32. Model Predictive Control Strategies of Smart Grids having High Penetration of Renewable Energy, M. Sc. Thesis, by Abdul Rahman Subhy Abdul Qader, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.
33. New Methods for Face Recognition and Facial Expressions Interpretation, M. Sc. Thesis, by Islam Aldafrawi, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.

34. Deep learning for massive MIMO channel estimation and feedback, M. Sc. Thesis, by Basant Tolba El-Sayed Tolba, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2021.
35. Performance Analysis Of Full-Duplex Intelligent Reflecting Surfaces-Aided NOMA, M. Sc. Thesis, by Mustafa Samy Mahmud, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, 2022.

Master and Doctoral Theses in Progress

36. Design and Implementation of Augmented Reality Smart Glasses for Patients with Visual Impairment and Alzheimer's, M. Sc. Thesis, by Aya Mohamed Taghian, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2021.
37. Resource Allocation for 6G Heterogeneous Networks, M. Sc. Thesis, by Boniface Uwizeyimana, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2022.
38. In postgraduate courses phase, Image and Video Processing Deep Learning Applications Track, M. Sc. Thesis, by Abraham Kibitok, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2022.
39. In postgraduate courses phase, Biomedical Engineering Track, Ph. D. Thesis, by Kyrillos Fouad, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2022.
40. In postgraduate course phase, Wireless Communications Track, Ph. D. Thesis, by Mostafa Samy, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2022.
41. In postgraduate course phase, Wireless Communications Track, Ph. D. Thesis, by Bassant Tolba, Faculty of Electronics, Communications and Computer Engineering, Egypt-Japan University of Science and Technology, Egypt, Registered Spring 2022.

13. Funded Research Projects to Serve the University/Industry/Community**13.1 Funded research projects**

No.	Project Name	Donor	Role in the Project		Execution Place	Budget
			PI	Co-PI		
1	Construction of Next Generation Wireless Communication Technologies Laboratory for Smart Cities	Science and Technology Development Fund (STDF)	✓		E-JUST	10,000,000 Egyptian Pounds (EGP)
2	Securing the Vehicular Internet-of-Things (VIoT) in Smart Cities	Science and Technology Development Fund (STDF)		✓	E-JUST	1,480,880 Egyptian Pounds (EGP)
3	Securing the Vehicular Internet-of-Things (VIoT) in Smart Cities	Science and Technology Development Fund (STDF)	✓		E-JUST	80,000 Egyptian Pounds (EGP)
4	Integration and connectivity between the Management Information Systems Applications	ICTP project, Management Unit at the Ministry of Higher Education, Egypt	✓		Assiut University	2,992,000 Egyptian Pounds (EGP)
5	Emergency Biomedical Telecommunication System. 2008	National Telecom Regulatory Authority (NTRA) (awarded the best student Egyptian project by the Made in Egypt authority & IEEE)		✓	Assiut University	10,000 Egyptian Pounds (EGP)
6	System for Blind: Braille Printer and Scanner	National Telecom Regulatory Authority (NTRA)		✓	Assiut University	10,000 Egyptian Pounds (EGP)
7	Building Smart Private Mobile	National Telecom Regulatory Authority (NTRA) (awarded the best student Egyptian project award by the Made in Egypt authority and the IEEE)		✓	Assiut University	10,000 Egyptian Pounds (EGP)
8	Smart Home Automation Control Unit	National Telecom Regulatory Authority (NTRA)		✓	Assiut University	10,000 Egyptian Pounds (EGP)
9	Applications of Wireless Sensor Networks in Energy Management	National Telecom Regulatory Authority (NTRA)		✓	Assiut University	10,000 Egyptian Pounds (EGP)
10	Cloud-based Smart Home and Energy Management System	Information Technology Industry Development Agency (ITIDA) and Cemex Company		✓	Cemex Company	30,000 Egyptian Pounds (EGP)
11	Smart Wearable Monitoring and Diagnosing eHealth System	Information Technology Academia Collaboration (ITAC)	✓		E-JUST	10,000 Egyptian Pounds (EGP)
12	Intelligent IoT Based Tracking System for Constant Supervision of Health Status and Daily Activities of	Academy of Scientific Research and Technology (ASRT)	✓		E-JUST	20530 L.E. +

No.	Project Name	Donor	Role in the Project		Execution Place	Budget
			PI	Co-PI		
	Children	+ Information Technology Academia Collaboration (ITAC)				10000 L.E.

13.2 Funded projects to serve University/Community

No.	Project Name	Donor	Role in the Project		Execution Place	Budget
			PI	Co-PI		
1	Construction of embedded systems and design of integrated circuits specialized Labs for the preparation of the trainers, students and graduates to the Labor market	The Ministry of Communications and Information Technology in coordination with the Institute of Information Technology (ITI)	✓		Upper Egypt and Assiut University (AU)	1,000,000 Egyptian Pounds (EGP)
2	Development of management information systems at the University of Assiut	ICTP project, Management Unit at the Ministry of Higher Education, Egypt	✓		Colleges & institutes of AU	1714984 Egyptian Pounds (EGP)
3	Communications and Information Technology Training at the University of Assiut	ICTP project, Management Unit at the Ministry of Higher Education, Egypt	✓		Colleges & institutes of AU	412278 Egyptian Pounds (EGP)
4	Integration and connectivity between the Management Information Systems Applications	ICTP project, Management Unit at the Ministry of Higher Education (MOHE), Egypt	✓		Egyptian Universities	2,992,000 Egyptian Pounds (EGP)
5	Establishment of Quality Assurance and Accreditation Centre, Faculty of Engineering QAAP 1	Quality Assurance and Accreditation Project (QAAP 1), Project Management Unit at the MOHE, Egypt		✓	Faculty of Engineering, AU	150,000 Egyptian Pounds (EGP)
6	A System for Automating Questionnaires	Continuous Development and Rehabilitation Project (PCIQA), Project Management Unit, MOHE, Egypt		✓	Faculty of Engineering, Assiut University	75,000 Egyptian Pounds (EGP)
7	Development of the Faculty of Engineering for the Adoption of Accreditation	Development of Egyptian Universities Project, Council of Ministers, Education Development Fund		✓	Faculty of Engineering, AU	7,200,000 Egyptian Pounds (EGP)
8	Maintenance of Equipment and the Training of Technicians	HEEPF, Project Management Unit, MOHE, Egypt		✓	All Colleges & institutes of AU	350,000 Egyptian Pounds (EGP)

13.3 Act as An arbitrator for the Following Research and Industrial Projects


- 1) An arbitrator to the Egyptian IT Authority (ITIDA), since 2010.
- 2) An arbitrator for Science and Technology Development Fund (STDF) research projects, Egyptian Ministry for Scientific Research, Egypt, (ID 4243-5), April 2011.
- 3) An arbitrator for a research proposal # 012508-F12 titled “Object Detection from Thermography Images Based on Deep Learning for Civilian and Military Applications”, Vice Presidency for Graduate Studies and Scientific Research, the Princess Nora bint AbdulRahman University, Kingdom of Saudi Arabia, 2018.
- 4) An arbitrator for a research proposal # PRP2020.R28.16 titled “SPHMTD: A Secure Portable Healthcare Monitoring and Tracking Device,” Information Technology Academia Collaboration (ITAC) Research Fund, Ministry of Information and Communication Technology, Egypt, 2020.
- 5) An arbitrator for a research proposal # PDP2020.R28.22 titled “TELESON: A Point-of-Care Ultrasound System with an Integrated Telemedicine Platform and a COVID-19 Lung Ultrasound Triage Tool,” ITAC, Egypt, 2020.
- 6) An arbitrator for a research proposal # 012520-F12 titled “Fully automated, auto-sterilized reusable suit with embedded remote healthcare system for daily life use in the era of covid-19”, Vice Presidency for Graduate Studies and Scientific Research, the Princess Nora bint AbdulRahman University, Kingdom of Saudi Arabia, 2020.
- 7) An arbitrator for a research proposal # ESITIP2021.R5.4, titled “Computer aided diagnosis for anatomical pathology based on artificial intelligence”, ITAC, Egypt, 2021.
- 8) An arbitrator for a research proposal # GP2021.R16.125, titled “Smart Wearable Monitoring and Diagnosing eHealth System” , ITAC, Egypt, 2021.
- 9) An arbitrator and prepared the panel report for the research project # ESITIP2021.R6.1 titled “Computer aided diagnosis for anatomical pathology based on artificial intelligence”, ITAC, Egypt, 2021.
- 10) An arbitrator and prepared the panel report for the research project # ARP2021.R31.4 titled “Imperio: a smart agriculture ecosystem for automated irrigation and diseases detection” , ITAC, Egypt, 2022.
- 11) An arbitrator for a research proposal # ARP2022.R32.22, titled “Decision Support System for Farm Management using IoT and AI” , ITAC, Egypt, 2022.
- 12) An arbitrator for a research proposal # PDP2022.R32.5, titled “Tproctor -proctoring platform” , ITAC, Egypt, 2022.

14. Publications

Total No. of publications > 200 (with total impact points > 216)

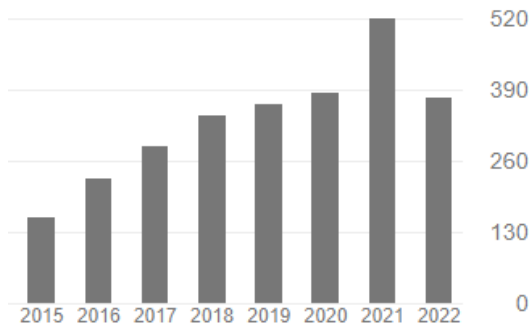
Google Metrics (Citation indices = 3201, H-index = 30 and i10-index = 71)

<https://scholar.google.ca/citations?user=NNmISAIAAAAJ&hl=en>



Prof. Mohammed Abo-Zahhad
Former Dean of School of Electronics,
Communications & Computers, Egypt-Japan
E-just and Assiut Universities

Cites by	VIEW ALL	
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Citations	3215	2283
h-index	30	26
i10-index	71	53



Scopus Metrics (Citation indices=1703, H-index =22 and Total Inter. publications in SCOPUS = 122)

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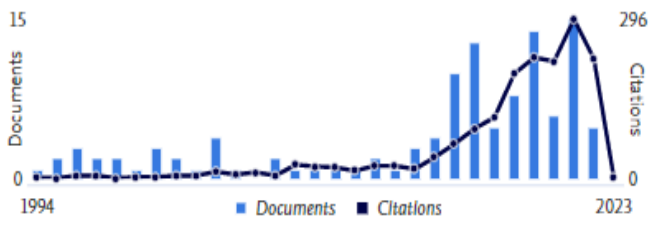
Metrics overview

122 Documents by author

1711 Citations by 1482 documents

22 h-index [View h-graph](#)

Document & citation trends



Publications of Books and Book Chapters**a. Published Book**

- 1- Mohammed Abo-Zahhad, "Communication Networks," Assiut University Publishing Center, 1913.
- 2- Mohammed Abo-Zahhad, " Introduction to Electronic Circuits," Assiut University Publishing Center, 1913.
- 3- Mohammed Abo-Zahhad, " Digital Logic Design," Assiut University Publishing Center, 1914.
- 4- Mohammed Abo-Zahhad, "Electronic Circuits," An interactive Electronic book published by Information and communication technology electronic publishing project, Projects Management Unit, Ministry of Higher Education, Egypt, 2015.
- 5- Mohammed Abo-Zahhad and Ahmed Fekry, "The Simple and Useful Windows Vista: Microsoft International in operating systems," Al-Gomhoria Book Series, 2016.

b. Published Book Chapters

- 1- Mohammed Abo-Zahhad, "ECG Signal Compression Using Discrete Wavelet Transform," Book Chapter published in international book titled: Discrete Wavelet Transforms - Theory and Applications, pp. 1-10, 2011. ISBN: 978-953-307-185-5. (<https://www.intechopen.com/books/discrete-wavelet-transforms-theory-and-applications/ecg-signal-compression-using-discrete-wavelet-transform>).
- 2- Sherif. N. Abbas and M Abo-Zahhad, "Eye Blinking EOG Signals as Biometrics," Book Chapter published in international book titled: Biometric Security and Privacy, Springer International Publishing, pp. 121-140, 2017. (<http://shsalmani.ir/wp-content/uploads/2017/03/Eye-Blinking-EOG-Signals-as-Biometrics.pdf>).
- 3- Nabil Sabor and Mohammed Abo-Zahhad, "A Comprehensive Survey of Intelligent-Based Hierarchical Routing Protocols for Wireless Sensor Networks," Book Chapter published in international book titled: Nature Inspired Computing for Wireless Sensor Networks, pp.197-257, Feb 2020. (<https://link.springer.com/content/pdf/10.1007%2F978-981-15-2125-6.pdf>).

Refereed International Journals Publications (with total impact points > 216)

- 1) M. F. Fahmy, **M. Abo-Zahhad** and M. I. Sobhy, "Design of Selective Linear Phase Bandpass Switched-Capacitor Filters with Equiripple Passband Amplitude Response" IEEE Trans. on Circuits and Systems, vol. 35, no. 10, pp. 1220-1229 Oct. 1988.
- 2) M. F. Fahmy, **M. Abo-Zahhad** and M. I. Sobhy, "Design of Odd Degree Linear Phase Sampled-Data Bandpass Filters with Equiripple Amplitude Response" International Journal of Circuit Theory and Applications, vol.17, pp. 87-101, Jan. 1989.

- 3) **M. Abo-Zahhad**, "Odd-Degree Selective Bandpass Digital Filters Interpolating Linear Phase and Constant Group Delay" *International Journal of Circuit Theory and Applications* vol.19, pp.375-387, 1991.
- 4) **M. Abo-Zahhad**, "Switched-Capacitor Circuits with Reduced influences on Parasitic Capacitances, Switch Resistances and Amplifier Non-idealities" *Periodica Polytechnica, Elec. Eng.*, vol. 36, No. 1, pp. 19-37, Budapest, Hungary, 1992.
- 5) **M. Abo-Zahhad** and M.F. Fahmy, "Computerized Method for the Time and Frequency Domain Analysis of Non-Ideal Switched-Capacitor Circuits" *Journal on Communications*, vol. XLIV, pp. 27-33, Jan. 1993.
- 6) T. Henk and **M. Abo-Zahhad**, "Comments on: Simultaneous Amplitude and Phase Approximations for Lumped and Sampled Filters" *International Journal of Circuit Theory and Applications*, vol. 21, pp. 558-561, 1993.
- 7) M.F. Fahmy, **M. Abo-Zahhad** and G. M. Abdel-Raheem "Design of Two-Dimensional Scaled State Space Filters with Fixed Point Arithmetic" *International Journal of Circuit Theory and Applications*, vol. 22, pp. 467 - 477, 1994.
- 8) **M. Abo-Zahhad** and T. Henk, "Design of Selective Low-pass Sampled-Data and Digital Filters Exhibiting Equiripple Amplitude and Phase Error Characteristics" *International Journal of Circuit Theory and Applications*, vol. 23, pp. 59 - 74, 1995.
- 9) M. F. Fahmy, G. M. Abdel-Raheem and **M. Abo-Zahhad**, "Synthesis of Fixed Point Limit-Cycle Free Digital Filters with Low Roundoff Noise" *International Journal of Circuit Theory and Applications*, vol. 23, pp. 253-255, May-June 1995.
- 10) **M. Abo-Zahhad** and T. Henk, "On the Optimal Filters with Maximum Number of Constraints on Amplitude and Phase Characteristics" *International Journal of Circuit Theory and Applications*, vol. 24, pp. 165-181, 1996.
- 11) **M. Abo-Zahhad**, M. Yaseen and T. Henk, "Arbitrary Amplitude and Linear Phase Approximations for Non-Prototype Ladder and Lattice Wave-Digital Filters" *International Journal of Circuit Theory and Applications*, vol. 24, pp. 605-620, Dec. 1996.
- 12) **M. Abo-Zahhad**, G .M. Abdel-Raheem and M. F. Fahmy, "Synthesis of IIR Digital Filters Exhibiting Simultaneous Amplitude and Phase Responses for VLSI Implementations" *Inter. Journal of Circuit Theory and Applications*, vol. 25, pp. 1-14, Jan. 1997.
- 13) **M. Abo-Zahhad** and M. F. Fahmy, "Synthesis of Low Sensitivity Orthogonal Digital Filters" *International Journal of Circuit Theory and Applications*, vol.25, pp.503-520, Dec.1997.
- 14) **M. Abo-Zahhad**, "Simultaneous Amplitude and Phase Approximation Methods for Non-Recursive Half-Band Filters Using Weighted Least Squares and Generalized Decomposition Techniques," *Dirasat, Inter. J. Pure and Applied Sciences*, University of Jordan, pp. 104-112, April 1999.

- 15) Sabah, M.A., and **M. Abo-Zahhad**, "FIR Half-Band Filters Satisfying Prescribed Amplitude and Phase Specifications in Weighted Least Squares Sense" Mu'tah Journal for Research and Studies (Natural and Applied Sciences Series), Mu'tah University, 1999.
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- 20) **M. Abo-Zahhad** and M. Bataineh, "A Unified Approach for Suppressing Sidelobes Arising in the Spectral Response of Rugate Filters" Dirasat, International. Journal of Pure and Applied Sciences, University of Jordan, vol. 27, no. 2, pp. 328-338, Oct. 2000.
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- 23) K. Al-Talaq, A. Dahab, and **M. Abo-Zahhad**, "Impedance-Based Algorithm for the Discrimination between Inrush and Short-Circuit Currents in Single-Phase Transformers", Electric Power Components and Systems, vol. 31, no. 6, pp. 593-604, June 2003.
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- 28) A. Al-Smadi, **M. Abo-Zahhad**, and S. M. Ahmed, "A New Order Determination Technique Based On the Determination of Singularity of Principal Submatrices" International Journal of Engineering Simulation (IJES), vol. 5, no. 2, pp. 81-89, April 2004.
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- 36) **M. Abo-Zahhad**, S. M. Ahmed, N. Sabor and A. F. Al-Ajlouni, "Digital Filters Design Educational Software Based on Immune, Genetic and Quasi-Newton Line Search Algorithms", Int. J. of Innovation and Learning, vol. 9, no. 1, pp. 35-62, 2011.
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- 39) **M. Abo-Zahhad**, Sabah M. Ahmed and Shima A. Abd-Elrahman, "Genomic Analysis and Classification of Exon and Intron Sequences Using DNA Numerical Mapping Techniques," I. J. of Information Technology and Computer Science, 2012.
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- 43) **M. Abo-Zahhad**, Sabah M. Ahmed and M. Mourad, "New Technique for Mobile User's Location Detection, Future Prediction and Their Applications," International Journal of Engineering and Innovative Technology, pp. 1-15, Nov. 2013.
- 44) **M. Abo-Zahhad**, Sabah M. Ahmed and Sherif N. Abbas, "Biometric Authentication Based On PCG and ECG Signals: Present Status and Future Directions," Signal, Image, and Video Processing, vol. 8, no. 4, pp 739-751, 2014.
- 45) **M. Abo-Zahhad**, Sabah M. Ahmed, Nabil Sabor and S. Sasaki, "A New Energy-Efficient Adaptive Clustering Protocol Based on Genetic Algorithm for Improving the Lifetime and the Stable Period of Wireless Sensor Networks," International Journal of Energy, Information and Communications, vol. 5, no. 3, pp.47-72, 2014.
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- 156) Ahmed Gomaa, Moataz Abdelwahab, and M. Abo-Zahhad, Tsubasa Minematsu and Rin-ichiro Taniguchi, "Traffic Information Analysis using UAV videos," The 22nd Meeting on Image Recognition and Understanding, Kyushu, Japan, 2020.

- 157) Abdelrahman Sobhy, Tamer F. Megahed and Mohammed Abo-Zahhad, "Enhancing Power Flow with Dynamic Line Rating Effect Using Model Predictive Control," 18th International Conference on Renewable Energies and Power Quality (ICREPQ'20) Granada (Spain), 2-4 September 2020.
- 158) Bassant Tolba, Ahmed H. Abd El-Malek, **M. Abo-Zahhad** and Maha Elsabrouty, "A Meta Learner Autoencoder for Channel State Information Feedback in Massive MIMO Systems," 28th Inte. Conference on Telecommunications (ICT): ICT 2021, pp. 1-5, London , UK, June 2021.
- 159) Islam Eldifrawi, **M. Abo-Zahhad**, M. Abdelwahab and A. H. Abd El-Malek, "Deep Fast Embedded CapsNet: Going Faster with DeepCaps ," IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), pp. 187-191, August 9-11, 2021.
- 160) Mostafa Samy, **M. Abo-Zahhad**, Osamu Muta, Adel Bedair, Maha Elsabrouty, "Performance Analysis of Intelligent Reflecting Surface Selection for Orthogonal and Non-Orthogonal Multiple Access" 17th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), 2021, pp. 271-276, doi: 10.1109/WiMob52687.2021.9606359.
- 161) Aya Taghian, **M. Abo-Zahhad**, M. S. Sayed and A. Abdel-Malek, "Virtual, Augmented Reality, and Wearable Devices for Biomedical Applications: A Review," The 9th International Japan-Africa Conf. on Electronics, Communications and Computations (JAC-ECC'2021), Alexandria, Egypt, Dec.13-14, 2021.
- 162) **M. Abo-Zahhad**, M. S. Sayed, A. Abdel-Malek, A. Fawaz, A. A. Zakaria, A. E. Wahdan, M. Elsayed and A. Taghian, "An IoT-based Smart Wearable System for Remote Health Monitoring," The 9th International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC), Alexandria, Egypt, Dec.13-14, 2021.
- 163) Shahd Thabet, Abdelhamied A. Ateya, and **M. Abo-Zahhad**, "Mobile Edge Computing-Based Radio Access Network for Tactile Internet," The 9th International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC'2021), Alexandria, Egypt, Dec.13-14, 2021.
- 164) Lawrence C. Ngugi, **M. Abo-Zahhad** and Moataz Abdelwahab, "Towards Leaf Disease Recognition from Individual Lesions Using Deep Learning Techniques," The 9th International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC), Alexandria, Egypt, Dec.13-14, 2021.
- 165) Islam Eldifrawi, **M. Abo-Zahhad**, Moataz Abdelwahab and Ahmed Abdelmalek, "New Face Recognition Algorithm Adopting Wide Fast Embedded Capsule Networks with Reduced Complexity and Preserved Accuracy," The 9th International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC'2021), Alexandria, Egypt, Dec.13-14, 2021.

- 166) **M. Abo-Zahhad**, Aya Taghian, Mayar Hossam, Nora Atef, and Sarah Reda, "Remote Monitoring System Dedicated to COVID-19 Patients Healthcare," The 9th International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC), Alexandria, Egypt, Dec.13-14, 2021.
- 167) Mostafa Samy, **M. Abo-Zahhad**, Osamu Muta, Adel Bedair, Maha Elsabrouty, "Intelligent Reflecting Surface Joint Uplink-Downlink Optimization for NOMA Network" IEEE 95th Vehicular Technology Conference (VTC2022-Spring), pp. 1-5, 2022.

Refereed National Conferences Publications

- 168) **M. Abo-Zahhad**, T. Henk and M.F. Fahmy, ""Design of FIR Digital Filters with Arbitrary Amplitude and Phase Characteristics" Al-Azhar Second International Conference AEC'91, Cairo, Egypt, pp. 76-96, Dec. 1991.
- 169) **M. Abo-Zahhad**, T. Henk and M.F. F, "Design of Digital, Sampled-Data and Non-Reciprocal Lumped Lowpass Filters with Constant Amplitude and Linear Phase Characteristics" Al-Azhar Second International Conference AEC'91, Cairo, Egypt, pp.121-132, Dec. 1991.
- 170) **M. Abo-Zahhad** and T. Henk, "Simultaneous Amplitude and Phase Approximation for Sampled-Data Low-pass Filters" Al-Azhar Second International Conference AEC'91, Cairo, Egypt, pp.109-120, Dec. 1991.
- 171) **M. Abo-Zahhad** and Sabah M. A., "Design of Lattice Wave Digital Filters Through Phase Equalization" 3rd IASTED International Conf. in Computer Applications in Industry, pp. 76 -79, Cairo, Egypt, Dec. 1994.
- 172) M. A. A. Rahman and **M. Abo-Zahhad**, "Design and Realization of IIR Filters Suitable for VLSI Technology" 3rd IASTED International Conf. in Computer Applications in Industry, pp. 9 -12, Cairo, Egypt, Dec. 1994.
- 173) **M. Abo-Zahhad**, Sabah M. A., and M. Yaseen, "Interactive Software Development for the Design and Synthesis of Lattice and Bireciprocal Wave-Digital Filters", Proc. of the Second International Conference on Engineering Research, pp. 199-216, Port-Said, Egypt, Dec. 1995.
- 174) **M. Abo-Zahhad**, Sabah M.A., and M. F. Fahmy, "Selective Bandpass Digital Filters with Maximally Flat Amplitude and Group Delay" Proc. of the Second International Conference on Engineering Research, ICER-95, pp. 268-278, Port-Said, Egypt, Dec.1995.
- 175) **M. Abo-Zahhad**, "Optimal Design for Selective Linear Phase Bandpass Sampled-data and Digital Filters" Proc. of Al-Azhar Fourth International Engineering Conference, AEIC'95, pp. 112-122, Cairo, Egypt, Dec. 1995.
- 176) **M. Abo-Zahhad**, Sabah M. A., "Filter Designer: A Complete Design and Synthesis Package for Lumped, Wave-Digital, FIR and IIR Filters" Proc. of the 13th National Radio Science Conference, Cairo, Egypt, March 1996.

- 177) **M. Abo-Zahhad**, "FIR Half-Band Filters Exhibiting Approximately Linear Passband Phase and Arbitrary Stopband Selectivity" 4th IEEE conf. on Electronics, Circuits, and Systems, ICECS'97, Cairo, Egypt, pp. 1432-1436, Dec. 1997.
- 178) **M. Abo-Zahhad**, "Theory and Design of Two-Channel, Perfect Reconstruction, IIR Quadrature Mirror Filter Banks" Proc. of the 15th National Radio Science Conference, Cairo, Egypt, C17, pp. 1-8, Feb. 1998.
- 179) M. Bataineh, and **M. Abo-Zahhad**, "A Synthesis Algorithm for Reflectance Curve of Non-Absorbing Multilayer Dielectric Films" The First Minia International Conference for Advanced Trends in Engineering, Minia, Egypt, pp. 228-233, March 1999.
- 180) M. Z. El-Sadek, **M. Abo-Zahhad**, A. Ahmed, H. E. Zidan, "Effect of Load Representation on UPFC Performance and Optimal Placement", MEPCON 2006, El-Minia, pp.213-220, December 19-21, 2006.
- 181) **M. Abo-Zahhad**, "Developing the Information and Communication Technology Sector in Higher Education Institutions," 1st Conf. on Higher Education between reality challenges and visions of development, The Centre for Development of Higher Education at Assiut University, Dec. 2009.
- 182) **M. Abo-Zahhad**, S. M. Ahmed, N. Sabor and A. F. Al-Ajlouni, "Design of Immune Algorithm Based Two-Dimensional Recursive Digital Filters Using Multi-Level Orthogonal Arrays", 28th National Radio Science Conference NRSC 2011, April 26-28, 2011, National Telecommunication Institute, Cairo, Egypt. 2011.
- 183) **M. Abo-Zahhad**, Sabah M. Ahmed and Shima A. Abd-Elrahman, "A New Numerical Mapping Technique for the Recognition of Exons and Introns in DNA Sequences," The 30th National Radio Science Conference, NRSC, Cairo, Egypt, pp. 573-580, April 2013.
- 184) **M. Abo-Zahhad**, Sabah M. Ahmed, and Sherif N. Abbas, "A New Biometric Modality for Human Authentication Using Eye Blinking," in Proc. IEEE 7th Cairo Int. Biomedical Engineering Conf. (CIBEC), Giza, Egypt, pp. 174-177, 2014.
- 185) **M. Abo-Zahhad**, Mohammed Farrag and Abdelhay Ali, "Modeling and Minimization of Energy Consumption in Wireless Sensor Networks", IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2015, pp. 697-700, Cairo, Egypt, December 06-09, 2015.
- 186) **M. Abo-Zahhad**, Sabah M. Ahmed, and Sherif N. Abbas, "A New Biometric Authentication System Using Heart Sounds Based on Wavelet Packet Features," IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2015, Cairo, Egypt, December 06-09, 2015.
- 187) **M. Abo-Zahhad**, S. M. Ahmed, N. Sabor and S. Sasaki, "Immune Node Deployment Algorithm for Mobile Wireless Sensor Networks with Limited Mobility based on Probabilistic Sensing Model", 32nd National Radio Science Conference, IEEE, Cairo, Egypt, pp. 259 – 267, March 2015.

- 188) **M. Abo-Zahhad**, Mohammed Farrag, Abdelhay Ali and Osama Amin, "Energy Consumption and Lifetime Analysis for Wireless Sensor Networks", Proc. of National Radio Science Conference (NRSC 2015), Cairo, Egypt, pp. 268-276, March 2015.
- 189) **M. Abo-Zahhad**, Osama Amin, Mohammed Farrag and Abdelhay Ali, "An Energy Consumption Model for Wireless Sensor Networks", 5th Annual International Conference on Energy Aware Computing Systems and Applications (ICEAC), pp. 1-4, Cairo, Egypt, March 2015.
- 190) **M. Abo-Zahhad**, Mohammed Farrag and Abdelhay Ali, "Modeling and Optimization of Energy Consumption in Wireless Sensor Networks", 10th IEEE International Conference on Computer Engineering and Systems, (ICCES), pp. 295-300, Cairo, Egypt, December 23-24, 2015.
- 191) **M. Abo-Zahhad**, Sabah M Ahmed, Mohammed Farrag, Mohammed F. A. and Abdelhay Ali, "Design and Implementation of Building Energy Monitoring and Management System based on Wireless Sensor Network", 10th IEEE International Conference on Computer Engineering and Systems, (ICCES), pp. 230-233, Cairo, Egypt, December 23-24, 2015.
- 192) **M. Abo-Zahhad**, Mohammed Farrag and Abdelhay Ali, "A Fast Accurate Method for Calculating Symbol Error Probabilities for AWGN and Rayleigh Fading Channels," 33rd National Radio Science Conference, (NRSC 2016), pp. 241-248, Feb 22-25, Aswan, Egypt.
- 193) **M. Abo-Zahhad**, Sabah M Ahmed, Mohammed Farrag, Khaled Ali BaAli. "Detection of primary user signal in wideband cognitive radio networks exploiting DCT as sensing matrix," Radio Science Conference (NRSC), IEEE Explore, 2017 34th National, pp. 152-159, March 2017.
- 194) **M. Abo-Zahhad**, Sabah M. Ahmed, Mohammed Farrag, and Khaled Ali BaAli., "Primary User Detection in Cognitive Radio Networks over Fading Channel using Compressed Sensing," In the Proceedings of the International Japan-Africa Conference on Electronics, Communications and Computations, (JAC-ECC 2018), IEEE Explore, 16-18 Dec. 2018.
- 195) Manal M. Mohamed, Ghazal A. Fahmy, Adel B. Abdel-Rahman, Ahmed Allam, Adel Barakat, **M Abo-Zahhad**, Hongting Jia, and Ramesh K. Pokharel, Enhancing Dynamic Range of RF-to-DC Rectifier using Leakage Current Reduction Technique," In the Proceedings of the International Japan-Africa Conference on Electronics, Communications and Computations, (JAC-ECC 2019), IEEE Explore, 15-16 Dec. 2019.

Papers Submitted to Journals and Conferences

- 196) **M. Abo-Zahhad**, Sabah M. Ahmed and O. Elnahas, "A Remote Patient Monitoring: Survey of Current State" Submitted to the International Journal of Communication, 2020.
- 197) Islam Eldifrawi, **M. Abo-Zahhad**, Moataz Abelwahab, Ahmed Abdelmalek, "Shallow, Wide and Deep Fast Embedded CapsNets: Going Faster with CapsNets and Deep-Caps," Submitted to the Analog Integrated Circuits and Signal Processing, 2021.

- 198) Eman I. Elhefnawy, Hanaa S. Ali and M. Abo-Zahhad, “Efficient Cancelable Palmprint Recognition System via Multi-Level Transformations and Ranking Based Hashing,” Submitted to the Signal, Image, and Video Processing, 2022.
- 199) Bassant Tolba, Ahmed H. Abd El-Malek, **M. Abo-Zahhad** and Maha Elsabrouty, “Meta Transfer Learning for Super-Resolution Channel Estimation,” 33rd Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), June 2022.
- 200) Bassant Tolba, Ahmed H. Abd El-Malek, **M. Abo-Zahhad** and Maha Elsabrouty, “Meta-transfer Learning for Massive MIMO Channel Estimation for Millimeter-Wave Outdoor Vehicular Environments,” Submitted to the 2023 IEEE 20th Consumer Communications & Networking Conference (CCNC), August 2022.
- 201) Aya Taghian, **M. Abo-Zahhad**, M. S. Sayed and A. Abdel-Malek, “Virtual Virtual and Augmented Reality in Biomedical Engineering: A Review,” Submitted to the Annals of Biomedical Engineering, 2022.

List of Impacted Journals and Their Impact Factors (Total Impact Points=216.182)

NO.	Journal Title	# Published in each Journal	Impact Factor for Journal	Sum of Impact Factors
1	IEEE Transactions on Circuits and Systems	1	4.310	4.310
2	International Journal of Circuit Theory and Applications	10	1.581	15.810
3	Electronics Letters	1	1.680	1.680
4	Medical Engineering & Physics	3	1.737	5.211
5	Physical Review	1	8.385	8.385
6	Digital Signal Processing	4	2.871	11.484
7	Electrical Engineering	1	1.180	1.180
8	Signal, Image, and Video Processing	2	2.270	4.540
9	IEEE Signal Processing Letters	1	3.268	3.268
10	IET Biometrics	2	2.550	5.100
11	IET Wireless Sensor Systems	1	2.580	2.580
12	Electric Power Components and Systems	1	1.160	1.160
13	IEEE Sensors Journal	1	3.076	3.076
14	Journal of Medical Engineering and Technology	3	1.400	4.200
15	Electrical Engineering	1	1.180	1.180
16	International Journal of Engineering	1	0.400	0.400
17	Pattern Recognition Letters	1	3.255	3.255
18	An International Journal on Multi-Sensor, Multi-Source Information Fusion	1	13.669	13.669
19	Sensors	1	3.275	3.275
20	Periodica polytechnica Electrical engineering and computer science	1	0.510	0.510
21	Journal on Communications	1	3.753	3.753
22	International Journal of Telemedicine and Applications	1	0.222	0.222
23	Signal Processing – An International Journal (SPIJ)	2	3.894	7.788
24	International Journal of Signal and Imaging Systems Engineering	1	0.418	0.418
25	International Journal of Innovation and Learning	1	0.810	0.810
26	Journal of Signal and Information Processing	3	0.740	2.220
27	International Journal of Communications, Network and System Sciences	2	0.180	0.360
28	Modelling and Simulation in Engineering	2	1.826	3.652

NO.	Journal Title	# Published in each Journal	Impact Factor for Journal	Sum of Impact Factors
29	Journal of Signal and Information Processing	2	0.740	1.480
30	ACM Transactions on Wireless Sensor Network	1	3.400	3.400
31	International Journal of Engineering Trends and Technology IJETT	1	2.88	2.88
32	International Journal of Signal Processing, Image Processing and Pattern Recognition	1	0.10	0.10
33	International Journal of Grid and Distributed Computing	1	0.310	0.310
34	International Journal of Microwave and Wireless Technologies	1	0.939	0.939
35	IEEE Microwave and Wireless Components Letters	3	2.862	7.586
36	Computers and Electronics in Agriculture	1	3.858	3.858
37	Multimedia Tools and Applications	2	2.600	5.200
38	Information Processing in Agriculture	2	3.110	6.220
39	Signal, Image and Video Processing	2	2.270	4.540
40	IEEE Internet of Things Journal	1	9.936	9.936
41	IEEE Access	3	3.745	11.235
42	IEEE Transactions on Circuits and Systems II: Express Briefs	1	3.43	3.43
43	Pervasive and Mobile Computing	1	2.725	2.725
44	Wireless Personal Communications	1	1.170	1.170
45	Arabian Journal for Science and Engineering	2	1.474	2.948
46	Wireless Communications and Mobile Computing	1	1.819	1.819
47	Information Fusion	1	13.200	13.200
48	Simulation Modelling Practice and Theory	1	3.270	3.270
49	Pattern Recognition Letters	1	3.255	3.255
50	Computers and Electrical Engineering	1	2.663	2.663
51	Applied Soft Computing Journal	1	2.81	2.81
52	IEEE Transactions on Very Large Scale Integration (VLSI) Systems	1	2.775	2.775
53	Energy Reports	1	4.937	4.937
Total Impact Factor for All International Journals				216.182

14. Quality Assurance and Accreditation Experiences

1. Attended the following Quality Assurance Courses:
 - ✓ Self-evaluation of higher education institutions.
 - ✓ Learning outcomes and curriculum maps - higher education
 - ✓ External auditing of higher education institutions.
 - ✓ Intensive external auditing course of higher education institutions.
2. Certified Reviewer by National Authority for Quality Assurance and Accreditation in Education, NAQAAE; Egypt; since March 2011.
3. Executive team member of Quality Assurance and Accreditation Project of Faculty of Engineering, Assiut University, Egypt; 2010-2012; where it has been accredited by the Egyptian Quality Assurance and Accreditation Authority in June 2012, when I was the Vice-Dean for graduated studies.
4. Nominated by NAQAAE, as a chair of the higher technical accreditation committee of the following:
 - ✓ Faculty of Engineering, Cairo University, 2016.
 - ✓ Faculty of Electronics Engineering, Menofia University, 2016.
5. Nominated by NAQAAE, as a chair of accreditation committee of the following:
 - ✓ Faculty of Engineering, Faros Private University, Alexandria, 2nd visit, 2016.
 - ✓ Faculty of Engineering at Shebeen-Elkom, Menofia University, 2nd visit, 2015.
 - ✓ Faculty of Engineering, Mansoura University, 2nd visit, 2015.
 - ✓ Faculty of Engineering, Delta Private University, 2017.
 - ✓ Al-Salab Higher Institute of Engineering, 2018.
 - ✓ Al-Obour Higher Institute of Management and Computers, 2018.
 - ✓ Faculty of Engineering, Kafer-Elshek University, 2019.
 - ✓ Six of October Higher Institute of Engineering, 2020.
 - ✓ Faculty of Engineering, Mansoura University, 2 visits (2021 and 2022).
 - ✓ Faculty of Engineering, Russian Private University, 2022.
6. Nominated by NAQAAE, as a member of accreditation committee of the
 - ✓ Faculty of Engineering at Shebeen-Elkom, Menofia University, first visit, 2013.
 - ✓ Faculty of Engineering, Ain-Shams University, 2014.
 - ✓ Faculty of Electronics Engineering, Menofia University, 2014.
 - ✓ Faculty of Engineering at Helwan, Helwan University, 2015.
 - ✓ Faculty of Engineering, Delta Private University, 2016.
 - ✓ Al-Obour Higher Institute for Engineering, 2019.
 - ✓ Faculty of Engineering, Cairo University, 2020.
7. External reviewer of the following undergraduate and postgraduate programs:
 - ✓ Electronics and Communication Technology Engineering, Modern Academy for Engineering & Technology, Maadi, Cairo, 2013 (Nominated by the Academy).

- ✓ Electronics and Communications Engineering, B. Sc. Program; and Graduate (Diploma, M. Sc. and Ph. D.) Programs, College of Engineering & Technology, Arab Academy for Science, Technology & Maritime Transport; Cairo branch, 2014. (Nominated by the College).
 - ✓ Electrical Engineering B. Sc. Program (Electronics and Communications) High Institute for Engineering & Technology, Al-Obour, Cairo, 2014. (Nominated by the Institute).
 - ✓ Electrical Engineering B. Sc. Program (Electronics and Communications) Al-Madina High Institute for Engineering & Technology, Cairo, 2014. (Nominated by the Institute).
8. Chair of the reviewing committee of the Academic Reference Standard (ARS) of the following B. Sc. programs nominated by NAQAAE; Egypt
- ✓ Electronics and Electrical Communications, Faculty of Engineering, Tanta University, Egypt, 2015.
 - ✓ Electronics and Communication Technology and Computer Engineering and Information Technology, for Modern Academy for Engineering and Technology in Maadi, Cairo, 2015.
 - ✓ Electronics and Electrical Communications Engineering, Computer Science and Engineering and Industrial Electronics and Control Engineering, for the Faculty of Electronics Engineering, Menofia University, 2015.
 - ✓ Electronics and Communication Engineering, Industrial Engineering, and Manufacturing Engineering for the Canadian Higher Institute for Engineering and Business Technology, New Cairo and the Canadian Higher Institute for Engineering Technology, 6th of October, 2016.
9. Chair of the reviewing committee of the Academic Reference Standard (ARS) of the following B. Sc. programs nominated by NAQAAE; Egypt
- ✓ Computer and Control Engineering, for the Higher Institute of Engineering, El-Shorouk Academy, 2016.
 - ✓ Informatics and Computer Science, for the Faculty of Informatics and Computer Science, The British University in Egypt, 2016.
 - ✓ Communications Engineering for the Faculty of Engineering, Delta University for Science and Technology, 2016.
 - ✓ Electronics and Communications Engineering, and Biomedical Engineering for the Faculty of Engineering, Banha University, 2018.
 - ✓ Electronics and Communications Engineering for the Faculty of Engineering, Russian Private University in Egypt, 2018.
10. Chair of the committee for approving the regulations for undergraduate programs commissioned by the Engineering Education Sector Committee at the Supreme Council of Universities for the following programs:
- ✓ Biomedical Engineering Program, Faculty of Engineering - Alexandria University, 2018.

- ✓ Health Care Engineering and Management Program at the Faculty of Engineering - Cairo University, 2019.
11. Revising the academic bylaws, the human resources and the lab facilities of the following E-JUST undergraduate programs approved by the SCU Computer Sciences and Information Technology Sector and Mistrrial decree issued by minister of higher education and scientific research, 2020-2021:
 - ✓ Computer Software and Programming
 - ✓ Artificial Intelligence & Data Science
 - ✓ Information Systems & Cyber Security
 - ✓ Bioinformatics.
 12. Revising the academic bylaws, the human resources and the lab facilities of the Pharm-D E-JUST undergraduate programs approved by the SCU Pharmaceutical Sciences Sector and Mistrrial decree issued by minister of higher education and scientific research, 2020-2021.
 13. Revising the academic bylaws, the human resources and the lab facilities of the following E-JUST postgraduate programs approved by the SCU Engineering Sector and Mistrrial decree issued by mister of higher education and sucientific research, 2020-2021:
 - ✓ Sustainable Cities and Passive Building Technologies Diploma.
 - ✓ Air Pollution Management and Control Diploma.
 14. Revising the academic bylaws, the human resources and the lab facilities of the following E-JUST postgraduate programs approved by the SCU Sciences Sector and Mistrrial decree issued by mister of higher education and sucientific research, 2020-2021:
 - ✓ Food Safety and Quality Management Diploma.
 - ✓ Climate Change Monitoring and Management Diploma.
 - ✓ Space Environment Diploma.

15. Reviewing Activities

Served as a referee for the following Journals, Conferences and Workshops:

15.1 Reviewer of the following International Journals

1. IEEE Transaction on Circuits and Systems.
2. IEEE Transaction on Signal Processing.
3. IEEE Internet of Things Journal.
4. IEEE Access.
5. IEEE Signal Processing Letters.
6. IEEE Microwave and Wireless Components Letters.
7. IEEE/ACM Transactions on Computational Biology and Bioinformatics.
8. IEEE Trans. Circuits System II, Express Briefs.
9. IEEE Sensors Journal.
10. IET Signal Processing.
11. IET Circuits, Devices and Systems.
12. IET Biometrics,.
13. IET Wireless Sensor Systems.
14. Electronics Letters (IEE Publication).
15. Digital Signal Processing.
16. Signal, Image, and Video Processing.
17. Signal Processing – An International Journal (SIPIJ).
18. International Journal of Signal and Imaging Systems Engineering.
19. Journal of Signal and Information Processing.
20. Sensors Journal.
21. Multimedia Tools and Applications.
22. Arabian Journal for Science and Engineering (AJSE).
23. International Journal of Communication Systems.
24. Journal of Medical Engineering and Technology.
25. Medical Engineering and Physics.
26. Biomedical Signal Processing and Control.
27. International Journal of Circuit Theory and Applications.
28. Applied Soft Computing Journal.
29. Pattern Recognition Letters.
30. Computers and Electrical Engineering.
31. Wireless Communications and Mobile Computing.
32. Wireless Personal Communications.
33. International Journal of Distributed Sensor Networks.
34. Modeling and Simulation in Engineering.
35. International Journal of Innovation and Learning.
36. International Journal of Computers & Electrical Engineering.

37. An International Journal on Multi-Sensor, Multi-Source Information Fusion.
38. Journal of Communications.

15.2 Reviewer of the following National Journals

1. Bulletin of Faculty of Engineering, University of Assiut, Egypt.
2. Journal of Engineering Science, Assiut University.
3. Journal of Engineering Science, Ain-Shams University.
4. Journal of Electronic Engineering Research, Tanta University
5. Menoufia J. of Electronic Engineering Research (MJEER).
6. Research Journal (ERJ), Faculty of Engineering, Tanta University.
7. Alexandria Engineering Journal, Faculty of Engineering, Alexandria University.
8. Abhath Al-Yarmouk, Yarmouk University, Jordan.
9. Dirasat, International Journal of Pure and Applied Sciences, University of Jordan
10. Mu'tah Journal for Research and Studies (Applied Sciences Series), Mu'tah University.

15.3 Reviewer for the following International and National Conferences

1. 9th European Conf. on Circuit Theory and Design, ECCTD'87, Paris.
2. IEEE International Conf. on Circuits and Systems (ISCAS), Portland, USA, May 1989.
3. 10th European Conf. on Circuit Theory and Design, ECCTD'89, England.
4. IEEE International Conf. on Circuits and Systems (ISCAS), Orleans, USA, 1990.
5. PCH Workshop on Circuit Theory and Applications, Budapest, Hungary, 1991.
6. Sixth European Conference on Signal Processing, EUSIPCO-92, Brussels, Belgium, 1992.
7. 1992 URSI, Inter. Symposium on Signals, Systems & Electronics, ISSSE'92, Paris, France, 1992.
8. PCH Workshop on Circuit Theory and Applications, Kiry, Poland, 1992.
9. European Conference on Circuit Theory and Design, ECCTD'95, Istanbul, Turkey, 1995.
10. Inter. Conf. On Computational Aspects and Their Applications in Electrical Engineering, 2nd CATAEE'97, Amman, Jordan, 1997.
11. European Conference on Circuit Theory and Design, ECCTD'97, Budapest, Hungary, 1997.
12. 1998 IEEE Inter. Symposium & USNC/URSI National Radio Science Meeting, Atlanta, 1998.
13. Inter. Conf. On Computational Aspects and Their Applications in Electrical Engineering, 3rd CATAEE'99, Amman, Jordan, 1999.
14. The 3rd Jordanian Conference on Electrical Engineering, Karak, Jordan, 1999.
15. International Energy Conference (IEC 2000), UAE, 2000.
16. The 7th IEEE International conf. on Electronics, Circuits & Systems, Beirut, Lebanon, 2000.
17. The 8th IEEE International Conf. On Electronics, Circuits and Systems, Malta, 2001.
18. The 4th CATAEE'01, pp. 308-308, Amman, Jordan, March 2002.
19. Workshop on the "Acquisition and Processing Tools for Biomedical Signal Monitoring", Jordanian University of Science and Technology, JUST, Irbid, Jordan, 10-14 March 2002.
20. Workshop on "Multimedia Applications" Marrakech, Morocco, Dec. 2002.
21. The 2nd IEEE Conf. on Signal Processing and Information Technology, Marrakech, Morocco, 2002.
22. Workshop on "Radio Frequency Integrated Circuits for Modern Wireless Communication" Sharjah, United Arab Emirates, Dec. 2003.

23. The 10th IEEE International Conference on Electronics, Circuits and Systems, ICECS'03, Sharjah, United Arab Emirates, 2003.
24. European Conference on Circuit Theory and Design, ECCTD'03, Poland, 2003.
25. The 1st Taibah University International Conference on Computing and Information Technology, Al-Madinah Al-Munawwarah, Saudi Arabia, 2012.
26. International Conf. on Communications, Signal Processing, and Their Applications, Sharjah, 2012.
27. The 27th Annual IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2014), Toronto, Ontario, Canada, 2014.
28. International Conference on Microelectronic, Beirut, Lebanon, 2017.
29. The 12th European Conference on Antennas and Propagation, London, UK, 2018.
30. The 2018 Asia-Pacific Microwave Conference (APMC), 2018.
31. The MTT-S Wireless Power Transfer Conference, Montreal, Canada, 2018.
32. The 61st International Midwest Symposium of Circuits and Systems (IEEE MWSCAS 2018), Windsor, Ontario, Canada, 2018.
33. European Microwave Conference (EUMC2018), 2018.
34. The 14th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Limassol, Cyprus, 2018.
35. The IEEE IFIP Wireless Days (WD'18), Manchester, UK, 2018.
36. The 15th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob'19), Barcelona, Spain, 2019.
37. From 2017 to 2021, chair of The International Japan-Africa Conference on Electronics, Communications and Computations, (JAC-ECC) that is held annually in Egypt-Japan University of Science and Technology, Egypt and Kyushu University, Japan.

15.4 Reviewer for the following Workshops and Scientific Meetings

1. Workshop on Circuit Theory and Applications, Budapest, Hungary, Sept. 1991.
2. Workshop on Circuit Theory and Applications, Kiry, Poland, Sept. 1992.
3. Workshop on the "Intelligent Systems Solution for Industry", Jordanian University of Science and Technology, JUST, Irbid, May 1999.
4. Workshop on the "Maintenance of Medical Instruments: Reality and Ambitions", Jordanian University of Science and Technology, JUST, Irbid, March 2000.
5. Colloquium on the "Science and Technology in the Arab World: The Reality and Ambition", Showman Institution, Amman, Jordan, 20-21 Oct. 2001.
6. Workshop on the "Acquisition and Processing Tools for Biomedical Signal Monitoring", Jordanian University of Science and Technology, JUST, Irbid, Jordan, 10-14 March 2002.
7. Workshop on "Multimedia Applications" Marrakech, Morocco, Dec. 2002.
8. Workshop on "Radio Frequency Integrated Circuits for Modern Wireless Communication" Sharjah, United Arab Emirates, Dec. 2003.
9. Workshop on "Organized Development: performance enhancement programs for academic staff and leaderships" Higher Education Enhancement Project Fund (HEEPF), Dec. 2004.

16. Philosophy of Teaching Statement

My semester begins by introducing myself in some detail. I trace my professional progress starting with the level of the students. Then, I outline my major projects and interests. I often ask my students to reciprocate by answering a few personal questions; their name, their major, their career aspirations, and their favorite hobby. I try to identify with each student and his or her personal situation in order to begin building trust. To learn, students must feel comfortable to ask questions and participate in the class, to trust in my knowledge of the subject, and to trust that I will correctly evaluate their performances.

My philosophy of teaching is informed by the material I teach, relevant scholarship, and the lessons I have learned from personal teaching successes and failures. I believe that learner-oriented teaching promotes learning that is both purposeful and continuing. As a teacher, it is my responsibility to know who my learners are, what kinds of knowledge and experience they bring to the group, and what they want to achieve so that I can tailor a curriculum that fits their needs and yet leaves enough room to accommodate topics that emerge from group discovery. Over many years, I have paid great attention to expanding my teaching skills. My teaching assignment consists of undergraduate and graduate courses in the electrical engineering department with specialty courses in the signals and systems area (digital signal processing (DSP), biomedical engineering and communication systems). These courses emphasize:

- applying mathematical models for describing relationships between information and signals,
- designing systems for generating and processing information bearing signals,
- solving related engineering problems in the application areas of biomedical engineering, communications, and signal processing.

I believe students that ultimately become good engineers and make valuable contributions to their profession and society are self learners. Therefore, as an instructor, I seek to challenge students to achieve what they think is just beyond their reach and coach them in their efforts. While I work on better ways to present information related to the basic knowledge and skill sets, I tend to put more effort into activities to develop motivation and confidence. This includes activities such as telling stories that show the importance of human creativity and initiative in significant engineering achievements, and developing assignments where I can observe their problem solving and design skills and give direct feedback. I also take advantage of students' ability to teach and challenge each other by using team activities.

My philosophy guides most of the activities I do as an instructor; however, in practice my faith in students as self-learners are often shaken. Therefore, I am still trying different approaches in teaching, and improving my story, project, and special problems range. In addition, I have implemented systematic methods for analyzing student feedback and performance in my classes using self-assessments of the course outcomes, overall performances on test problems and assignments. In fact, I use student feedback in my course management and teaching methods.

My classroom activities are strongly influenced by student feedback, which I get directly from the students or through the official teacher/course evaluations administered by the university. As a result of student feedback over the years, the characteristics of my classroom are as follows. I give many quizzes throughout the course rather than a few midterms. The quizzes are graded by me and are returned promptly with comments. I assign, collect, and grade homework assignments. I give some projects and problems that involve students working in groups, and I make class materials available on my web page. Whenever possible, I make students orally present project results, or explain homework solutions to the rest of the class.

In lab courses I emphasize experimental design skills and written explanations (how to write and communicate technical information). Therefore, I try not to provide a lot of detail in the lab assignment on how making a measurement. I have them focus on measurement principles and the main functions of the instrument. They are free to read tutorials on the instrument and the manual. However, rather than learning a particular instrument, I am hopeful that they will learn instrumentation skills applicable to broader setting (and learn how to read manual). I encourage writing more concisely through the use of figures, graphs, and equations. I think by now most of my students see the value in developing their writing skills and appear to be improving at it.

In order to determine how well students are achieving the course outcomes, I have started a system for grading each assignment according to the outcomes listed for the course. Scores are then averaged over all students and a class grade assigned for each outcome. This way I can track student outcome achievements vs. what I do in the classroom from semester to semester. I assess student performance relative to the course outcomes through several ways, including student self-assessments of outcome achievement, as well as my assessments through assignments and tests.

As a professor, I have tried to help students overcome difficulties that I experience: matching the quantity of information delivered in a class to its time duration and the level of the students, writing quality exam questions that test concrete goals, and improving interactions with students by leading by example and assuring that student expectations match teaching plans. In my own case, I continually try to correct these pitfalls by improving with iterative sessions of self-evaluation, critical interviews with both outstanding and under-performing students, and attending professional development workshops. My experience has helped form an approach to teaching that efficiently and meaningfully transmits information to students in the laboratory, lecture, and one-on-one interactions.

17. Research Statement of Prof. Mohammed Abo-Zahhad

My research focus in electronics and communication is on the critical aspects of communication and information technologies, digital and signal processing, Bioinformatics and electronic systems. This work encompasses improving the cooperation between the hardware and software. I believe that this direction is the key to enabling new levels of performance, and efficiency. Early in my research career, I worked on designing analog, wave-digital, switched-capacitor and digital filters. I am currently the leader of many research projects in biomedical and genemoic signal processing as well as wireless sensor networks. My past and current research work are centered on the following research topics:

- Digital Signal and Image Processing.
- Multi Resolution Analysis and Wavelet Transforms.
- Electronic Systems.
- Multi-Rate Filter Banks.
- CAD Tools for Designing Analog, Wave-Digital, FIR and IIR Filters.
- Optical Filters.
- Parallel Computations.
- Speech Synthesis and Recognition.

Recently, I have published a good research work on the following topics:

- Deep Learning for Biomedical Applications.
- Physical Layer Security Enhancement for Internet of Things.
- Reconfigurable Dielectric Resonator Antenna for Millimeter-Wave Applications
- Information Processing in Agriculture.
- Genetic and Immune Algorithms.
- Analysis of Power Systems.
- Medical Signal Processing.
- Remote Monitoring and Diagnosing of Cardiac Patients.
- Genomic Digital Signal Processing.
- Information and Communication Technologies.

Recently, future research work is centered on the following topics:

- Wireless Sensor Networks.
- Biometric Authentication and Recognition.
- Wireless Communications and 5G Mobile Communications.
- Compressive Sensing.

Research Plans For The Next 3-5 Years

1) Brain-Computer Interface (BCI)

BCI systems build a communication bridge between human brain and the external world. This includes recent BCI applications; for example:

- a) Early detection of epilepsy seizures, brain tumors, dyslexia (affects learning and reading ability in children), peripheral neuropathy (relationship between human gait cycle and EEG)
- b) Determination of the decrease or loss of alertness level resulting from smoking or alcohol drinking.
- c) BCI-based rehabilitation training of stroke patients.

2) Medical image registration and fusion.

Image registration: is the process of mapping or aligning some input images with respect to a reference image. Its goal is to match the corresponding images based on certain features to assist in the image fusion. Image fusion: is the process that aims to produce a more representative image through merging the input images with each other.

- a) Combinations of different imaging modalities (multi-modal fusion) are recently used to produce medical fused images.
- b) MRI-CT fusion is the most known due to its usability in clinical settings.
- c) Multi-modal fusion is still an open area for research to overcome difficulties in registering/fusing different modalities.

3) Wearable sensors and systems

Recent developments in this area have led to remote health monitoring systems based on wearable technology. A conceptual representation of such systems is centered on the following three main building blocks:

- a) Sensing and data collection hardware
- b) Communication hardware and software: to transmit data to a remote site
- c) Data analysis techniques to extract clinically-relevant information

Applications of wearable sensors and systems:

- a) Fitness & wellness monitoring during exercise.
- b) Safety monitoring and early detection of disorders.
- c) Home rehabilitation: Combination of sensing technology and interactive gaming or virtual reality environments.

My research results are summarized in 4 book chapters and 195 articles published in prestigious international refereed journals and conferences.