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Dr. Lazhar Khriji

1. Personal Information

Lazhar KHRIJI, Associate Professor,
Department of Electrical and Computer Engineering
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2. Education and Employment Information

(a) Education

- 2005 HDR (*Habilitation in Electronics*), National Engineering School of Sfax (ENIS), University of Sfax, Tunisia.
- 2002 Doctor of Technology (*Information Technology*), Institute of Signal Processing, Tampere University of Technology, TUT, Finland, <http://www.cs.tut.fi>
- 1999 PhD (*Electrical Eng.*), Cooperation between the College of Science, University of Tunis El-Manar, and Tampere University of Technology, TUT, Finland.
- 1992 Master of Science (*Electrical Eng.: Automation & Control*), ESSTT, "Higher School of Sciences and Techniques of Tunis", University of Tunis, Tunisia. <http://www.esstt.rnu.tn/>
- 1990 Bachelor of Science (*Electronics*), College of Science, University of Tunis El-Manar. <http://www.fst.rnu.tn/>

(b) Employment Information

- May 2008 to Present: Associate Professor, Department of Electrical and Computer Engineering, College of Eng., Sultan Qaboos University, Oman.
- Jan. 2002 - May 2008: Assistant Professor, Department of Electrical and Computer Engineering, College of Engineering, Sultan Qaboos University, Oman.
- July 2000 – Jan. 2002: Assistant Professor, Department of Electrical Engineering, National Engineering school of Monastir, University of Monastir, Tunisia.
- Feb. 1997- Sept. 2000: Researcher, Institute of Signal Processing, Tampere University of Technology TUT, Tampere, Finland. On leave from National Engineering school of Monastir (ENIM), Tunisia. <https://www.tuni.fi/en>
- Sept.1993 - July 2000: Lecturer, Department of Electrical Engineering, National Engineering school of Monastir (ENIM), University of Monastir, Tunisia. <http://www.enim.rnu.tn>

(c) Awards and Recognition

1. Awards

- 2021 : IEEE MGA Outstanding Small Section Award - Contributed actively with IEEE Oman section as chair of the technical activities to receive this award.
- 2014 : National Research Awards in the research area Environmental and Biological Resources, Article entitled "Detecting Surface Cracks on Dates Using Color Imaging Technique".
- 2000 : Best paper award, in the Int. Conf. on Artificial and Computational Intelligence for Decision, Control and Automation in Eng. and Industrial Applications ACIDCA2000, Monastir, Tunisia, March 22-24 2000. The extended paper has been selected and published in a special issue of the Int. Journal on Fuzzy Sets and Systems, 128(1), 35-46, 2002.

2. Awards for Supervised Student's Thesis/Senior Design Projects

- Sept. 2021: Student project funded by the College of Engineering under IR4 program: “*Intelligent Spraying Robot for Weed Control_2*”; Fall 2021-Spring 2022; Mentor
- Sept. 2019: Student project funded by the Research Council Oman (TRC) under their FURAP program: “*Design and Realization of Intelligent Spraying Robot for Weed Control*”; Fall 2019-Spring 2020; Mentor
- May 2016: 3rd place in the 3 Minutes Thesis Competition for the academic year 2015/2016, organized by the Deanship of Postgraduate Studies, SQU. This Award was given to my PhD student *Asiya Al Bousaidi* on the work, *Heart Disease Detection using Compressed ECG in Wireless Telecardiology Applications*.
- Sept. 2014: Student project funded by the Research Council Oman (TRC) under their FURAP program: “*Design and Implementation of an Intelligent Sensory System for Unmanned Ground Vehicle*”; Fall 2014-Spring 2015; Mentor
- May 2011: 2nd Place in the first National Symposium for Engineering Final Year Project (1ST NSEFYP), “*Date Grading System*”. College of Engineering and Architecture, University of Nizwa, Sultanate of Oman. This award was given to the SQU student team from Mechatronics program, which I supervised.
- June 2003: 1st prize, Best FYP project “*Face detection based on Eigenfaces and Neuralnetworks*”, Department of Information Engineering, SQU. This prize was given to the FYP student team (Dawood Al Badaai and Khamis Al Barhi), which I supervised.

3. Appreciation/Recognition

- 2021 : Letter of Appreciation from the HoD of ECE department, Sultan Qaboos University for the efforts in leading the HSE committee in the department, December 2021.
- 2021 : Certificate of Appreciation from the Dean of College of Arts and Social Sciences, Sultan Qaboos University for the contribution to the 22nd International Arab Conference on Information Technology (ACIT'2021), December 2021.
- 2021 : Certificate of Appreciation from the General Chair of BASNet School at German Chemnitz University of Technology, for the contribution to “International School on Sensors for Body Area Networks (BASNet)”, Germany, June 2021.
- 2020 : Certificate of Recognition from IEEE Oman section for the efforts in supporting the section.
- 2020 : Letter of Appreciation from the HoD of ECE department, Sultan Qaboos University for the efforts in leading the HSE committee in the department, September 2020.
- 2019: Letter of Recognition from the Chief of Staff of the Armed Forces of Sultanate of Oman for contributing in the workshop of “Artificial Intelligence Applications”, Center for Defense Studies, Muscat, Sept. 2019.
- 2015 : Letter of Appreciation from the Chairman of IEEE Oman section for my efforts and contribution to the success of 8th IEEE-GCC Conference, February 2015.
- 2014 : Letter of Appreciation from the Vice Chancellor of Sultan Qaboos University for the efforts and contributions extended toward ABET Accreditation of ECE and MCTE Engineering Programs, December 2014. In Fall 2013, both programs were assessed and fully accredited by ABET.
- 2014 : Letter of Appreciation and encouragement from the Vice Chancellor of Sultan Qaboos University for contributing in attaining a remarkable milestone for SQU research on the platform of the Research Analytics Website - ResearchGate to mount SQU among the top three Universities in the GCC.
- 2010 : Letter of Appreciation from the Vice Chancellor of Sultan Qaboos University for the efforts and contributions extended toward ABET Accreditation of ECE and MCTE Engineering Programs, March 2010.
- 2007 : Certificate of Appreciation from the Vice Chancellor of Sultan Qaboos University for the contribution in the organization of the successful international conference ICCCP'07 hosted by SQU, February 2007.
- 2005 : Certificate of Appreciation from the Vice Chancellor of Sultan Qaboos University for the contribution in the organization of the successful Int. Conf. ICCCP'05, SQU, February 2005.
- 2005 : Certificate of Appreciation from the Dean of the College of Engineering, of Sultan Qaboos University for the contribution in the organization of the successful Int. Conf. ICCCP'05, SQU, February 2005.
- 2003 : Certificate of Recognition from the Vice Chancellor of Sultan Qaboos University for the contribution in the organization of the international conference Net-Con'2003, SQU, October 2003.

(d) Continuing Education: specialized seminars & workshops

- 2019: Workshop on “Improving journal standards and publishing quality”, Sultan Qaboos University, Muscat, Oman, 10-11 December 2019. Pippa Smart, PSP consulting, Oxford, UK. [Objective: *Provide participants with ideas, tools and solutions that will help them improve the quality of what they publish, and therefore have a greater impact*].
- 2019: Workshop on “Big Data and Artificial intelligence In Health Care”, College of Medecine, SQU, December 4, 2019.
- 2017: Fire drill training” by SQU Risk Management Office, Sultan Qaboos University, Oman, April 11, 2017. [Objectives: *Train university firefighters special evacuation plan*].

- 2016: Workshop on “Introduction to CDIO Initiative” presented by Dr. Juha Kontio (from Turku University of Applied Science, Finland), Sultan Qaboos University, Oman, 17-19 May 2016. [Objectives: *An Updated Statement of Goals to improve Engineering Education*].
- 2015: “Preparing Engineers for a Globalized Economy: How to Teach Engineering Students Process Skills”, Prof. Nikos J. Mourtos, Sultan Qaboos University, Oman, 26-28 May 2015. [Objectives: Components of education. Process skills. Driving forces. Traditional versus alternative methods. *Where do I want to take my students? What are instructional objectives? Why do we need them? Taxonomy of instructional objectives. Cognitive and affective domains. Importance in course design. Development of instructional objectives for each course*].
- 2014: “Smart Grids”, Prof. Peter Wolfs, ECE Department, SQU, 17-6-2014. [Objectives: *Give a brief overview of the range of technologies that will modernize the distribution network in Smart Grids*].
- 2014: “Certain Emerging areas of Mathematics for Challenging Problems of Science and Technology”, Prof. Abul Hassan Siddiqui, ECE Department, SQU, 21-5-2014. [Objectives: *Introduce some math concepts that have proven to be very useful in solving complex science and technology problems. Typical topics covered are wavelets, inverse problems, and compression sensing which have been used in the study of CT scans, MRI, national security biometrics, and magnitude graphs with application to big data*].
- 2012: ABET- Program Assessment Workshop, SQU, Muscat, Oman. February 2012. Animated by Michael Miligan and Dr. Ashley Ater Kranov, Managing Director, Professional Services, ABET. Email: akranov@abet.org . [Objectives: *Preparation of next ABET visit*].
- 2010: “Imaging Applications in Biological and Agricultural Sciences”, Sultan Qaboos University, Oman, April 28, 2010.
- 2010: “Optical Communication and Sensing Workshop”, organized jointly by the Communication & Information Research Center (CIRC) of Sultan Qaboos University and City University, London, 17 January 2010. [Objectives: *Overview of OmanTel optical network, photonics activity at CIRC, use of optical sensing in structures and civil infrastructure, overview of optical sensing*].
- 2008: “Regional Workshop on Nanotechnology”, organized by the Physics Department of Sultan Qaboos University, 13-14 January 2008. [Objectives: *Train participants on the use of available modern nanotechnology equipment. Establish regional links and collaboration among nanotechnology researchers. Raise awareness of the importance of nanotechnology and the strength of nanotechnology research in the region*].
- 2008: “E-Learning: Moodle”, College of Education, Sultan Qaboos University, March 2008. [Objectives: *How to design e-learning courses via WebCT. How to interact with students via WebCT*].
- 2007: “Membrane Desalination Technologies in Practice”, organized by the Middle East Desalination Research Center in collaboration with Water Research Center-Sultan Qaboos University, 11-13 November, 2007. [Objectives: *Present and discuss future water shortages and immediate action, as water supply is a matter of economic growth and national sustainability. Review and finalize missions, objectives and strategies*].
- 2007: “The Research Strategy for the Sultanate of Oman Project”, organized by The Sultanate Research Council, Sultan Qaboos University, 3-5 September 2007. [Objectives: *Present and discuss strategic scenarios by sector. Review and finalize missions, goals and strategies*].
- 2006: “Renewable Energy and its Applications”, organized by the Oman National Commission For Education Culture and Science (ONCECS), Sultan Qaboos University, 12-14 Nov. 2006. [Objectives: *State-of-the-art of renewable energy technologies. Prospects of renewable energy in developing countries*].
- 2005: “Instructional Skills Development”, Public Relation & Information, SQU, 26 September – 5 December (weekly), 2005. [Objectives: *Use IT in teaching/learning. Develop academic advising and supervision. How assess teaching outcomes*].
- 2004: “Smart Wells”, the PDO Ras Al-Hamra Club, Cinema Hall, Muscat, Oman, 22 March, 2004. [Objectives: *Keep abreast of last technologies and advancements in smart wells management of oil companies’ worldwide (sensors). Discuss with PDO representative possible partnership with SQU in that regard*].
- 2004: "Academic Advising for Staff", ECCE Dept., Coll. of Engineering, Dr. J. Jervase & Mr. D. Al-Habsi, Sultan Qaboos University, May 5, 2004. [Objectives: *Importance of a successful advising. Don'ts and Do's in order to carry out a successful advising of students*].
- 2004: “WebCT”, College of Education, Sultan Qaboos University, 10, 14 January, 2004. [Objectives: *How to design e-learning courses via WebCT. How to interact with students via WebCT*].
- 2004: “Fire, Safety& Health”, Organizers: SQU (Coll. of Agriculture & Marine Sciences), PDO, SQU Hospital, Sultan Qaboos University, Jan. 12, 2004. [Objectives: *How to operate safely in Labs, HSE regulations*].
- 2004: CISCO Certification: CCNA, SQU, Muscat, Oman. February 2004.
- 2003: “Health, Safety and Environmental”, HSE Partenaire of Oman (Mr. Kevin Doyle), Sultan Qaboos University, 23-25 May, 2003. [Objectives: *How to design a SQU HSE Management System and How to implement HSE regulations in*

the College of Engineering of SQU. Offering specific and practical suggestions on working safely in the physics laboratory (Electrical hazards, Lasers and light, Pressured Gases and Vacuum Systems, Ionizing Radiation, Fires, Toxic Materials, Mechanical Dangers)].

- 2000: TICSP Workshop on “Spectral Transforms and Logic Design for Future Digital Systems”, SPECLOG-2000, Tampere, Finland, June 2-3, 2000.
- 1998: TEMPUS Workshop and Summer School, Mangalia, Romania, August 3-8, 1998.
- 1998: Third European Course on “Recent advances in image processing and analysis”. Organizers: ESPRIT LTR 20229, Noblesse. University of Trieste, Italy, March 2-6, 1998.
- 1998: TICSP Workshop on “Transforms and Filter Banks”, Tampere, Finland, Feb. 23-25, 1998.
- 1997: HCM MAVI Course–Workshop “Model Based Analysis and Processing of Video Information”, Pori, Finland, April 17-18, 1997.
- 1996: “Spring School on Signal and Image Processing and their Applications”, Douz-Tunisia, March 25-29, 1996.
- 1994: “Spring School on Robust Control”, Douz-Tunisia, March 20-25, 1994.

3. Teaching and Learning

The following two sections present the course materials developed and taught at Sultan Qaboos University. Responsibilities include classroom instruction, lab/tutoring sessions, grading and maintaining office hours.

(a) Undergraduate Courses

- 1) Image and Video Processing (ECCE5142)
- 2) Advanced Digital Signal Processing (ECCE5143)
- 3) Digital Signal Processing (ECCE4142)
- 4) Signals & Systems (ECCE3142)
- 5) Electronics (MCTE3110)
- 6) Electronics 1 (ECCE3152)
- 7) Electronics 2 (ECCE4158)
- 8) Linear control systems (ECCE4416)
- 9) Sensors and Actuators (ECCE4455)
- 10) Digital Logic Design (ECCE3206)
- 11) Principle of Analogue and Digital Communications (ECCE4122)
- 12) Fortran Programming (ENGR2216)
- 13) Communications Lab. I (ECCE4125)
- 14) Circuits I (ECCE2016)
- 15) Computer Control (IENG3011)

(b) Postgraduate Courses

- 1) Directed Studies (ECCE6213)
- 2) Neural Networks and Intelligent Systems (ECCE6275)
- 3) Digital Signal Processing (ECCE6122)
- 4) Selected Topics in Computers (Image Processing) (ELEC6320)
- 5) Linear System Theory (ECCE6132)

(c) Administration of Large Courses Coordination

Coordinator of the following courses:

- ECCE4142- Digital Signal Processing (FI2020, FI2019, Sp2016, Sp2014, Sp2013).
- ECCE3142- Signals and Systems (Sp2003, FI2005, Sp2007, Su2007, Su2008, Su2010, Su2017, Su2018).
- ECCE 4122- Analog and Digital Communications (FI2004, FI2005).
- ECCE3152: Electronics I (FI2022, Sp2022, FI2020, Sp2017, FI2016, Sp2015, Sp2014).

(d) Educational/ Laboratory Development & Innovation in Teaching

- 2020-2022: Involved as a member in modernizing the Electrical and Computer Engineering program curriculum in 2020-2022 to cater emerging needs of local and regional industries.

- 2020: Due to the COVID'19 pandemic, managed to switch and lead all classes and lab sessions online. Integrated successfully ICT into courses, moving towards a blended learning model, which integrates online digital resources with virtual classroom teaching.
- 2018: Developed and introduced a new course “Neural Networks and Intelligent Systems” (ECCE6275) for the ECE master program.
- 2017: Developed and introduced a new course “Image and Video Processing” (ECCE5542) in the study plan of the Communications and Signal Processing track.
- 2015: Played a key role in introducing a new specialization track within the existing ECE program on "Biomedical Signals and Medical Devices" in collaboration with colleagues from the College of Medicine and Health Sciences.
- 2013: Actively contributed to the realization of a major revision of the communication courses within the discussion groups in the context of the preparation of the ECE program for ABET accreditation in fall 2013. Revised the content of the Digital Signal Processing (ECCE4142) and Signals and Systems (ECCE3142) courses. Ordered new textbooks and prepared new laboratory experiments.
- 2013: Presented and implemented, with the help of FYP committee members, a new FYP deliverable and its associated scoring system. All FYP proposals incorporate technical design elements to ensure that the ECE program meets ABET accreditation requirements.
- 2013: Launched a demo day for the FYP ECCE5099 course to allow students to demonstrate prototypes of end products.
- 2007: Contributed to the introduction of a new master's program in “geomatics engineering”. This program was approved by SQU University Council in spring 2007 and was carried out jointly by the Department of Civil and Architectural Engineering, the Center for Research in Remote Sensing and Geographic Information System and the ECE Department.
- 2006- now: Lead (contribute) the Course Focus Groups in developing following courses, which involves development of course outline, selection of text and reference books, design of lab experiments, preparation of lab manuals, software simulation tutorials and use of modern teaching tools (*Moodle, Google Meet, etc.*):
 - 1) Image and Video Processing (ECCE5142)
 - 2) Advanced Digital Signal Processing (ECCE5143)
 - 3) Digital Signal Processing (ECCE4142)
 - 4) Signals & Systems (ECCE3142)
 - 5) Electronics (MCTE3110)
 - 6) Electronics 1 (ECCE3152)
 - 7) Sensors and Actuators (ECCE4455)
- 2006: Developed and introduced a new Advanced Digital Signal Processing course (ECCE5143) in the Communications and Signal Processing study plan.

(e) Student Advising

- Student advisor for different cohorts, ECE Dept. (20+ students in each batch); 2002 to date.
- Active interaction with all final year ECE students as Final Year Projects coordinator or seminar presenter at the start of each academic year.
- Advising of students for SQU- IEEE Society about projects, lectures, events (2003-2004).

(f) Teaching Activities Outside the Classroom

- Supervising student`s seminars and reports (known as Directed Studies), ECE Dept., SQU
- Involve SQU students as research assistants in funded research projects.
- Animation (and assistance in the organization) of seminars for FYP students.
- Contribute to SQU University Day through poster presentations.
- Conducted following professional Short courses for the Omani army:
 - 1) Communications, Radars and Satellites, (5 times at SQU) [Nov. 30 - Dec. 4, 2014], [Oct. 27-31, 2013], [Nov. 3-7, 2012], [Nov. 5-9, 2011], [October 23-27, 2010].
 - 2) Electronics & Electrical Eng, (5 times at SQU) [Nov. 30 - Dec. 4, 2014], [Oct. 27-31, 2013], [Nov. 3-7, 2012], [Nov. 5-9, 2011], [October 23-27, 2010].
 - 3) Electromagnetic waves and applications, (4 times at SQU) [Nov. 2009], [Nov. 2008], [Nov. 2007], [Nov. 2006].

- Conducted seminar on “Color image processing”, ENIM, Department of Electrical Engineering, University of Monastir, Tunisia Jan. 2007.
- Conducted seminar on “Professional components”, Workshop on Self-Study Report, Department of Electrical and Computer Engineering, College of Engineering, SQU. December 8, 2005.
- Conducted seminar on “Multimedia: Representation and protection of audio-visual content”, ECE Department-SQU, March 2004.
- Conducted seminar on “Nonlinear rational-based filters for image processing”, Tampere University of Technology, Signal Processing Institute, Finland. December 14-18, 2002.
- Conducted seminar on “Video on Demand”, HCM MAVI Course–Workshop “Model Based Analysis and Processing of Video Information”, Pori, Finland, April 17-18, 1997.

4. University and Community Services

(a) Service to the University

- **Director of Virtual Clinics Project** (*Administrative Position*), part of the implementation of SQU’s Vision 2040 strategy; (2022-2025).
 - Project’s Objective: Developing methods of medical education and health care through virtual clinics
 - Project’s Initiatives: Supporting the implementation of the virtual clinics project in terms of financial, technical and logistical aspects, Establishing organized partnerships with healthcare institutions and private sector companies across the Sultanate, Educating patients about the benefits of virtual clinics and encouraging them to use such clinics, Training medical cadres and students on the use of the electronic system for virtual clinics in the process of teaching and learning, Enhancing students' acquisition of basic clinical skills through virtual clinics, Providing the human competencies necessary to adopt the virtual clinics, Finding ways to assess learning through virtual clinics,
- Associate Editor: SQU Journal of Engineering Research; (Oct 2008 - Present).
- Conducted Poster Presentations during SQU Open Days and Events
 - 2019: *Mobile Healthcare System for Monitoring and Diagnosis in Oman*, SQU Research Centers’ Open House Event, April 2019.
 - 2015: *Packet-Size-Controlled ECG Compression Algorithm Based on Discrete Wavelet Transform and Running Length Encoding*, SQU Open Day, May 2015.
 - 2014: *Wireless Biotelemetry for Ubiquitous Healthcare Applications*, SQU Open Day, May 2014.
 - 2010: *Wireless Biotelemetry System for Real-Time Healthcare Monitoring*, SQU Open Day, May 2010.
 - 2008: *Co-design Implementation of Wireless Bio-Implant Prototype for Bidirectional Real-time Control and Monitoring*, SQU Open Day, May 2008.
 - 2004: *Old Pictures Restoration*, SQU Open Day, May 2004.
 - 2003: *Human face detection and recognition in color images*, SQU Open Day, May 2003.

(b) Service to the College of Engineering

- Chair: Information and Communication Technology Committee, (Sept. 2019-present).
- Member: Risk Management Committee, ECE Dept representative, (2015-present).
- Member: Steering Committee for Mechatronics Engineering (MCE) Program, (2010-2020).
- Member: Industrial Training and Alumni Committee, representing MCE program, (2010-2011, 2014-2018).
- Member: College Publications Committee, (2008-2009 and 2005-2006)
- Member: ABET accreditation Committee, Mechatronics program. (Sept. 2007– present)
- Member: Ad-hoc committee to prepare a new specialisation in ECE department “Biomedical signals and Medical devices track”; (2013-2015)
- Member: Ad-hoc committee to prepare a new MSc program in “Geomatics Engineering”; (2006-2008)
- Advisor: Engineering Society Advisor (IEEE). Main Activities; (2003-2004)
- Advisor: Advising: The First gathering of IT-Student, SQU; (March 20-21, 2004)
- Advisor: Advising the First SQU-Engineering Student gathering; (April 24-25, 2004)
- Member : College Prospectus/Reports Editions
 - Prospectus of the College of Engineering, Sultan Qaboos University, February 2006, Oman.
 - Catalogue of the College of Engineering, Sultan Qaboos University, February 2006, Oman.
 - College of Engineering Annual Report, Sultan Qaboos University, January 2006, Oman.

(c) Service to the Department of Electrical and Computer Engineering

- Chair: Health-Safety-Risk Management Committee (Sept. 2015 – present)
- Chair: MCE Final Year Project Committee (Sept. 2014 – Sept.2016)
- Chair: ECE Final Year Project Committee (Sept. 2010 – Sept. 2014)
- Chair: Publications & Web Committee (Sept. 2005 – Sept. 2006)
- Chair: Student Society & Social Activities Committee (2003–2004)
- Deputy Chair: ECE Final Year Project Committee (Sept. 2018 – present)
- Member: Research and Post Graduate Studies Committee (2002 – 2004, 2017- present)
- Member: MCE program staff-student liaison committee (Sept. 2016 – 2018)
- Member: MCE program steering committee (Sept. 2008 – sept. 2018)
- Member: IEEE SQU-Student Branch Counselor at SQU (Sept. 2003 – 2006)
- Member: ABET accreditation Committee, ECE program* (Sept. 2007– present)
- Member: ABET accreditation Committee, MCE Program* (Sept. 2006– present)
- Member: ABET accreditation Committee (CSP track) (Sept. 2005-Aug.2006)
- Member: Final Year Project Committee (Sept. 2006 – 2009)
- Member: Publications & Web Committee (Sept. 2002 – Aug. 2007)
- Member: Strategic Planning Committee (2003 – 2006)
- Member: Department Board (2002- present)

(d) Service to the Profession and Community

1. Membership

- Member, Institute of Electrical and Electronics Engineering, IEEE-Oman section, since 2000.
- Member, KES, since 2011.
- Member, IAENG, since January 2022.

2. Keynote/Invited speaker

- 2021: Plenary speaker (online), Int. School on Sensors for Body Area Networks (BASNet), Chemnitz University of Technology, Germany. From 31st of May to 4th of June 2021. The lecture entitled “Wireless Body Area Network for Healthcare Application: Design and Implementation of a Mobile Monitoring System for Sleep Apnea Disease”.
- 2020: Invited speaker, Int. Symposium for Telemedicine and Artificial Intelligence in Medicine, SQU, Muscat, Oman, February 16-18, 2020, (the talk was on: *Telemedicine Platform in Oman*).
- 2019: Invited speaker, 5th ISESCO-COMSATS-INIT Int. Conference on Agriculture, Biotechnology and Food Security: Role of ICTs, Monastir-Tunisia, November 4-6, 2019. The talk was on: *Artificial Intelligence Based Techniques for Omani's Dates Classification*).
- 2019: Invited speaker, Symposium on AI and its future applications, Center of Military defense studies, Muscat - Oman, September 25, 2019. The talk was on: *The use of Artificial Intelligence Techniques in agriculture*).
- 2015: Invited speaker, Electrical Engineering Department, Qatar University. March 13, 2015. The talk was on: *Co-design Implementation of Real-Time Acquisition and processing of Bio-signals*).
- 2014: Invited speaker, Electrical Engineering Department, Qatar University. May 1, 2014. The talk was on: *Some advances in U-Health*).
- 2014: Invited speaker, Workshop on Computer Vision Technology for Agricultural and Food Industries, College of Agricultural and Marine Sciences, SQU, March 30, 2014. The talk was on: *Overview of computer vision techniques*).
- 2010: Invited speaker, Workshop on Imaging Applications in Biological and Agricultural Sciences, College of Agricultural and Marine Sciences, SQU, April 28, 2010. The talk was on: *Basics of Color Imaging and Applications in Food Industries*).
- 2008: Keynote speaker, 8th Journées Scientifiques des jeunes chercheurs en Génie Électrique et Informatique, GEI'2008, Sousse, 17-19 Mars, 2008. The talk was on: *Conception et Implémentation des Filtres Non linéaires Applications au traitement d'images numérique*).
- 1998: Invited speaker, TEMPUS Workshop and Summer School, Mangalia, Romania, August 3-8, 1998. The talk was on: *Nonlinear filtering based on rational functions*).

- 1998: Invited speaker, Third European Course on “Recent advances in image processing and analysis”: March 2-6, 1998, University of Trieste, Italy. Organisers: ESPRIT LTR 20229, NOBLESSE. The talk was on: *Higher order statistic filters*).

3. *International Conference/Workshop Service*

Organizing committee member

- ACIT'2021; ISTAIM2020; ATSIP'2018; SSD'2013; ICCCP'09; ICCCP'07; ACIDCA-ICMI'2005; ICCCP'05; ISCCSP'2004; ICM'2004; Net-Con'2003.

Technical program committee member

- FRUCT32; BEST 2022; FRUCT31; SETIT 2022; ACIT'2021; SCS'21; FRUCT30; FRUCT29; FRUCT28; DASA'20; IEMTRONICS 2020; FRUCT27; FRUCT26; SCS 2019; ICMSAO'2019; IEEE-GCCE 2019; VMS2019; FOSSC'2019; IEEE-GCC 2017; IEEE-GCC 2015; ISCAS 2014; ISCAS 2013; SSD 2013; ISCAS 2012; iiSC-2011; ICCIS'2010; ICCCP'09; DTIS'08; ICCCP'07; ACIDCA-ICMI'2005; ICCCP'05; EUSIPCO 2004; WOCN'2004; ISCCSP04; ICM'04; JSF'03; GlobeCom 2003; ISSPA 2003; NSIP'2003; EUSIPCO-2002.

4. *Reviewer/Editorial Services*

1) Journal Editorial Boards Service

- Associated Editor: The Journal of Engineering Research, TJER, Indexed in SCOPUS (2008- present).
- Editor: VLSI Design Journal, Hindawi Publishing Corp. (2014- 2018), (this journal has ceased publication and is no longer accepting submissions).
- Associated Editor: International Journal of Computing and Digital Systems (2017-2019).

2) Reviewed Research Proposals

- The Office of Assistant Vice President for Postgraduate Studies and Research, SQU.
- The Research Council (TRC), Sultanate of Oman.
- Qatar National Research Fund (QNRF), Qatar Foundation.

3) Reviewer for Regional and International Conferences.

4) Reviewer for International Journals

- MDPI : Sensors, Micromachines,
- Elsevier: Digital Signal Processing, Ocean Engineering.
- IEEE: Transactions on Signal Processing, Transactions on Image Processing, Signal Proc. Letters;
- IOP- Measurement Science and Technology
- International Journal of Electrical Engineering Education (IJEED)
- VLSI Design Journal;
- TJER The Journal of Engineering Research.
- IJSP International Journal on Signal Processing;
- Springer: Signal, Image and Video Processing.
- Journal of Engineering Research of Kuwait University.
- International Journal of Computing and Digital Systems.

5) Edited Conference Proceedings

- Proceedings of ICCCP'09: International Conference on Communication Computer and Power, (on CD-ROM), Muscat, OMAN, Feb.15-18, 2009.
- Proceedings of ICCCP'07, IEEE-IEE International Conference on Communication Computer and Power, (on CD-ROM), Muscat, OMAN, Feb.19-21, 2007.
- Proceedings of ICCCP'05, IEEE-IEE International Conf. on Communication Computer and Power, (on CD-ROM), Muscat, OMAN, Feb.14-16, 2005.
- Proceedings of Net-Con'2003, IFIP-IEEE Conf. on Network Control and Engineering for QoS, Security and Mobility with focus on Policy-based Networking, Muscat, OMAN, Oct. 11–15, 2003.

6) Edited Book

- D. Gaiti, Guy Pujolle, A. Al-Naamany, H. Bourdouden, and **L. Khriji**, (Editors) « *Network Control and Engineering for QoS, Security and Mobility II* », Kluwer Academic Publishers, (Boston, USA, **2003**), IFIP 133, ISBN: 1-4020-7616-9.

5. Examiner for M.Sc. Projects

- 2022: *Ziyad Mohammed Al Subhi* (ID # 69594), “Development of Aluminum Based Nanocomposites Through Stir Casting Approach”, Department of Mechanical and Industrial Engineering, SQU, June 15, 2022. (Role: Chair examination committee)
- 2021: *Hanady AL Hadi* (ID # 125223), “An IOT and Machine Learning based solution for detecting trapped kids inside unattended vehicules”, Department of Computer Science, College of Science, SQU, June 8, 2021. (Role: External examiner and examination committee member)
- 2021: *Ufuah Donald Ehikioya*, “A Data Augmentation Approach using Style-Based Generative Adversarial Networks for Date Fruit Classification”, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, Canada, May 12, 2021. (Role: External examiner and examination committee member, *online*)
- 2021: *Ghaniya Zahran AL Hinai* (ID # 92635), “Classification Adaptation Model for Network Intrusion Detection”, Department of Computer Science, College of Science, SQU, January 27, 2021. (Role: External examiner and examination committee member)
- 2021: *Sumaya Al -Sawafi* (ID # 69612), “Clustering Models for Predicting Disease Activity of Systemic Lupus Erythematosus in Omani Patients”, Department of Computer Science, College of Science, SQU, January 26, 2021. (Role: External examiner and examination committee member)
- 2021: *Masha'al Al Bahry* (ID # 87633), “Developing and Testing of Full-Scale Lightweight Sandwich Wall Panels with High Thermal Insulation Properties”, Department of Civil Engineering, College of Engineering, SQU, January 01, 2021. (Role: Chair examination committee)
- 2019: *Saira Al Zadjali* (ID # 38267), “Wind Speed Nowcasting for Wind Farm Operation using Artificial Neural (NAR/NARX) Networks”, ECE Department, SQU, May 21, 2021. (Role: Examination committee member)
- 2018: *Aisha Ali Alfudhili* (ID#11406), “Multi-face Recognition using Viola-Jones Algorithm and a Convolutional Neural Network: Application to Automatic Student Attendance Taking”, Department of Computer Science, College of Science, SQU, May 24, 2018. (Role: External examiner and examination committee member)
- 2012: *Nusaiba Ali Al-Azri* (ID#45857), “Design and Simulation of Antenna Array for Vehicle Collision Avoidance Radar System”, ECE department, SQU, June 5, 2012. (Role: Examination committee member)
- 2012: *Zahran Saif Al-Kamyani* (ID#66416), “Potential Use of Spent Catalyst Generated by Sohar and Mina Al-Fahl Refineries in Concrete”, College of Engineering, SQU, June 6, 2012. (Role: Chair examination committee)
- 2012: *Dawood Khalfan Al-Brashdi* (ID# 23971), “Radio resource Management for Wireless Networks using Power Control Algorithms”, College of Engineering, SQU, March 14, 2012. (Role: Examination committee member)
- 2003: *Mohamed Abdullah Al Hadhrami*, College of Engineering, SQU, June 4, 2003. (Role: Chair examination committee)

6. External Examiner for Ph.D. Thesis evaluation

- 2022: *Arunadevi Karuppasamy* (SQU ID# 121293), “Feed-forward Filter Learning for Histopathological Image Classification”, Department of Computer Science, College of Science, SQU, Oman. (The defense took place on June 13, 2022)
- 2015: *Narayana Swamy Ramaiah* (Reg.No: 091010087), “Design of an Intelligent Power Saving Device to Save Stand BY Power in a Networked Environment”, PRIST University, Vallam, Thanjavur, Tamilnadu-613 403, India.
- 2015: *Krishnareddy K.R.* (Reg.No: 080913901), “A Low Complexity Prediction Techniques for Video Decoding in Multimedia Applications Over Heterogeneous Networks”, PRIST University, Vallam, Thanjavur, Tamilnadu-613 403, India.
- 2015: *Teena Ann Mathew* (SQU ID# 95715/11), “Imaging Techniques for Detection of Aspergillus Flavus Infection in Omani Dates”, College of Agriculture & Marine Sciences, Sultan Qaboos University, Oman. (The defense took place on June 1, 2015)
- 2014: *Sheela, D.* “Mobile Agent Based Enhancement Security for Wireless Sensor Networks”, Faculty of Information & Communication Engineering, ANNA University, Chennai, India.
- 2012: *S. PRIYA.* “Defect Detection in Woven Fabric using Bitplane Slicing and Morphological Image Processing”, Faculty of Information & Comm. Engineering, ANNA University, Chennai, India.

5. Thesis/Projects Supervision

#	Completed	In progress
Ph.D. (Supervisor and Co-Supervisor)	05 (01 SQU student)	01 (SQU student)
Master's Thesis (Supervisor and Co-Supervisor)	22 (15 SQU students)	
Final Year Projects (B.Eng.) - SQU	31 (90 students)	01 (4 students)

The result of this supervision of SQU PG students, in terms of publication, was 10 indexed journal articles and 10 international conference papers.

(a) PhD Students Supervision at SQU

#	Thesis Title	Supervisors	Student Name	Year
1)	Development of Highly Sensitive Metamaterials-Based Sensors for Oil and Gas Field Applications	Dr.Mohammed Bait-Suwailam* Dr. Lazhar Khriji	Haitham Al Ajmi (121507)	<i>In progress</i> , started June 2021
2)	<i>Real-Time QRS Detection and Electrocardiogram Signal Compression Using Wavelet-Based Subbands</i>	Dr. Lazhar Khriji* Prof. Abdunaser Hussain	Asiya Al-Busaidi (m051849)	<i>Graduated</i> , December 2016

“*” Main Supervisor

(b) MSc. Thesis/Project Supervision at SQU

#	Thesis Title	Supervisors	Student Name	Graduation Year
1)	Characterization of Vegetation Land Cover Nearby Water Dams in Oman Using Remote Sensing Technology and Image Processing Algorithms	Dr.Mohammed Bait-Suwailam* Dr. Lazhar Khriji	Abdulrahim Al Maskari (121507)	<i>Graduated</i> , June 2022
2)	An intelligent healthcare checker for COVID-19 using Deep Learning Techniques	Dr. Ahmed Ammari* Dr. Lazhar Khriji	Ahmed Al-Alawi (67225/18)	<i>Graduated</i> , June 2021
3)	Automatic Atrial Fibrillation Detection using Machine Learning Techniques	Dr. Lazhar Khriji* Prof. Abdunaser Hussain	Ahood Al-Darmaki (85066/17)	<i>Graduated</i> , May 2021
4)	Facial Expression Recognition system using ANN	Dr. Lazhar Khriji* Dr. Ahmed Ammari	Amani Jasim AlRaisi (S108749)	<i>Graduated</i> , December 2019
5)	Classification of Omani's Dates Varieties using Artificial Intelligence Techniques	Dr. Lazhar Khriji* Dr. Ahmed Ammari	Salima Al Abri (S92461)	<i>Graduated</i> , September 5, 2019
6)	Automatic Detection of Fatigue in the Workplace using an EEG Sparse Representation based Technique	Dr. Mostefa Mesbah* Dr. Lazhar Khriji	Muna Tageldin (m088444)	<i>Graduated</i> , January 2018
7)	Identification of Obstructive Sleep Apnea Using Packet Wavelet Decomposition of ECG Signals and Artificial Neural Networks	Prof. Abdunaser Hossain* Dr. Lazhar Khriji	Sarah Kassim Al-Asadi (m091381)	<i>Graduated</i> , September 2017
8)	Mathematical Morphology in Image processing applications	Prof. Afaq Ahmed* Dr. Lazhar Khriji	Neeraja Mohanar (m100202)	<i>Graduated</i> , August 2016
9)	Early Identification Of Pregnant Patient with Preeclampsia in Oman Using Different Digital Signal Processing Algorithms on Heart Rate Variability	Prof. Abdunaser Hossain* Dr. Lazhar Khriji	Alaa Hamdan Barhoum (m091428)	<i>Graduated</i> , October 2014
10)	Vision-Based Vehicle Tracking for Traffic Management	Dr. Amer Al-Habsi* Dr. Lazhar Khriji	Marwa Al Hinai (m070079)	<i>Graduated</i> , October 2014
11)	Non-destructive measurement of total	Dr. A. Manickavasagan*	Ganeshmoorthy K.	<i>Graduated</i> , January 2013

	sugar content in Khalas dates using NIR imaging technique	Dr. Lazhar Khriji	(m091844)	
12)	X-ray imaging to detect infestation in stored dried dates by saw-toothed beetle	Dr. A. Manickavasagan* Dr. Lazhar Khriji	Nawal Al-Mezeini (m052935)	<i>Graduated, March 2013</i>
13)	Detecting surface cracks on dates using RGB imaging technique	Dr. A. Manickavasagan* Dr. Lazhar Khriji	Sawsana Al-Rahbi (m057583)	<i>Graduated, January 2013</i>
14)	Personal Identification using Hand Geometry and Palmprint	Dr. Abdelhamid Abdesselam* Dr. Lazhar Khriji	Amira Abdullah Said Al-Busaidi (m035153)	<i>Graduated, August 2012</i>
15)	Restoration of old motion pictures using nonlinear digital image processing techniques	Dr. Lazhar Khriji* Prof. Abdalnaser Hossain	Mohamed Al-Badi (7551/99)	<i>Graduated, March 02, 2004</i>

“*” Main Supervisor

(c) Undergraduate Student Supervision:SQU Final Year Project

<u>2022-2023</u>	1) Design & Implementation of an Intelligent Pharmacy; 4 students (Supervisor)
<u>2021-2022</u>	2) Design and Realization of Intelligent Spraying Robot for Weed Control II; 3 students (Supervisor)
<u>2020-2021</u>	3) Design and implementation of a Healthcare Monitoring Framework Using Wearable Sensors and Social Networking Data; 3 students (Supervisor)
<u>2019-2020</u>	4) Design and Realization of Intelligent Spraying Robot for Weed Control; 3 students (Supervisor)
<u>2018-2019</u>	5) Design and implementation of IoT based Automated Lighting System; 3 students (Supervisor)
	6) Design and implementation of Smart Water Metering System; 3 students (Supervisor)
<u>2017-2018</u>	7) Design and implementation of a Gas, oil and water flow meter based on Electrical Capacitance Tomography (ECT) ; 2 students (Supervisor)
<u>2016-2017</u>	8) Electrical Submersible Pump Cable Damage Detector system; 3 students (Supervisor)
	9) Design and Implementation of a fully Automated Fruit Grading System; 3 students (Supervisor)
<u>2015-2016</u>	10) Design and Implementation of an Indoor Air quality monitoring system; 3 students (Supervisor)
<u>2014-2015</u>	11) Design and Implementation of an Intelligent Sensory System for Unmanned Ground Vehicle; 4 students (Supervisor)
	12) Noninvasive Glucose Level Testing in Diabetic Patients; 4 students (Co-Supervisor)
	13) Omni Wheel Control Using Wireless Systems; 4 students (Co-Supervisor)
<u>2013-2014</u>	14) Design and Implementation of Water Quality Monitoring System; 2 students (Supervisor)
<u>2012-2013</u>	15) Design and development of a Digital Hearing Aid; 3 students (Supervisor)
<u>2011-2012</u>	16) Design of Air-pollution Monitoring System using ZigBee Wireless Sensor Network; 4 students (Supervisor)
	17) Date Grading System; 3 students (Supervisor)
<u>2010-2011</u>	18) Design and Implementation of a smart Omani License Plate Recognition for Barrier-Gate system; 4 students (Supervisor)
	19) Design and Implementation of Communication Laboratory using DSP Platform TMS320C6713 DSK; 3 students (Supervisor)
	20) Design of Wireless EEG Acquisition System; 3 students (Supervisor)
<u>2009-2010</u>	21) Design and implementation of Video face Detection technique; 2 students (Supervisor)
	22) Wi-Fi Technology Based Co-design Implementation of Wireless Bio-Telemetry System; 5 students (Supervisor)
<u>2008-2009</u>	23) Design & Realization of an Orthogonal frequency division multiplexing (OFDM) communication system; 3 students (Co-Supervisor)
<u>2007-2008</u>	24) Design of Intensive Care Patients Monitoring Systems with Wireless Communication Link Support; 3 students (Supervisor)
	25) Design of an Implantable Medical System for Wireless Transcutaneous Power and Data Transfer with Reverse Telemetry; 3 students (Co-Supervisor)
<u>2005-2006</u>	26) Audio-Visual Speech Recognition System; 3 students (Co-Supervisor)
<u>2004-2005</u>	27) Design of Smart Wireless telemetry system; 3 students (Supervisor)
<u>2003-2004</u>	28) Medical Image Compression; 2 students (Supervisor)

- 29) Design of a General Packet Radio Service (GPRS) Network and creation of a new application; 3 students (Supervisor)

2002-2003

- 30) Nonlinear signal and image processing; 2 students (Supervisor)
 31) Design and Implementation of Prototype Parking System; 2 students (Supervisor)
 32) Face detection based on Eigen Faces and Neuralnetworks; 2 students (Supervisor)

6. Scholarship

My research focuses on Artificial Intelligence, Healthcare systems, Telemedicine, Digital signal and image processing and analysis, Biomedical engineering, Design and implementation of intelligent signal processing systems.

(a) Research Groups

Contributed actively to the creation of two multidisciplinary research groups at Sultan Qaboos University:

1. Biomedical Signal Processing and Artificial Intelligence in Medicine, **DG/RG/01**.
2. Smart Cities Research Group (SCRG), **DG/RG/08**.

(b) Faculty Mentor of funded student's projects

<i>Granting Body (Period)</i>	<i>Amount USD</i>	<i>Title of Project, & Outcomes</i>	<i>Students (ID#)</i>
CoENG IR4 FYP Fund (2021-2022)	~ \$2600	Intelligent Spraying Robot for Weed Control_2 1/09/2021 To 30/05/2022	Abdul Rahman Al Hinaai (124190) Al Muatasim Al Rawahi (125561) Mohammed Al Saqlaw (124598)
TRC- Oman FURAP Grant (2019-2020)	~ \$4000	Design and Realization of Intelligent Spraying Robot for Weed Control RC/URG-ENG/ECED/19/02 1/12/2019 To 30/11/2020	Khalfan Taleb Albedwawi (112419) Omar Hamed Alweshahi (113410) Haitham Rasheed Almktoumi (110733)
TRC- Oman FURAP Grant (2014-2015)	~ \$7000	Design and Implementation of an Intelligent Sensory System for Unmanned Ground Vehicle.	Ahmed Al Mahrouqi (93009) Majda Said Juma Al Falahi (93569) Rawana Hassan Yakan (94945) Khalid Gamal Sallam (94691)

(c) Grants, Research Contracts and Consultancies at SQU

PI: Principal Investigator; Co-PI: Co-Principal Investigator; I: Investigator

	<i>Granting Body (Period)</i>	<i>Amount USD</i>	<i>Title of Project & Outcomes</i>	<i>Role</i>
With SQU	SQU- Grant (2021-2022)	\$10000	Clinical Cloud System for Healthcare in Oman (IG/ENG/ECED/21/02)	PI
	TRC (COVID'19) 12 Months From May 2020	\$50000	Emergency response to COVID-19 by Forward Triaging and Clinical Consultation using Telehealth Clinics (RC/COVID-MED/ANAT/20/01)	Co-PI
	OMANTEL (2020-2021)	\$35000	Artificial Neural Networks for Early Identification of Heart Rate Variability Changes in Offspring of Individuals with Genetic Predisposition to Hypertension in Oman (OMANTEL, EG/SQU-OT/20/02)	Co-PI
	OMANTEL (2018-2020)	\$39000	Mobile Healthcare System for Monitoring and Diagnosis in Oman (OMANTEL, EG/SQU-OT/18/01)	PI
	SQU- Grant (2016-2017)	\$20000	An Online Automated Alertness State Classification System for Improved Hearing Assessment	Co-PI
	Qatar Foundation QNRF (2011-2014)	~\$1Million	Wireless Biotelemetry for Ubiquitous Healthcare Monitoring (NPRP 4- 1207- 2- 474) SQU share is \$80000+	PI
	TRC-Oman (2010-2013)	\$282.00	RC/AGR/SWAE/11/01-Development of Computer Vision Technology for Quality Assessment of Dates in Oman	Co-PI
	SQU- Grant (2009-2010)	~\$10233	Wireless biotelemetry system for real time healthcare monitoring, (IG/ENG/ECED/09/07)	PI
	SQU- Grant	~ \$20200	Artificial Intelligence Techniques-Based Autonomous Mobile	Co-PI

	(2008-2009)		Robot Navigation (IG/ENG/ECED/08/02)	
	SQU- Grant (2007-2008)	~ \$12700	Design of high-Performance UWB Receivers for Smart-Traffic Control Systems (IG/ENG/ECED/07/02)	PI
	SQU- Grant (2005-2007)	~ \$7000	A Fuzzy Logic Based Navigation of a Remotely Operated Vehicle: (IG/ENG/MIED/05/04)	Co-PI
	SQU- Grant (2004-2006)	~ \$2400	Image authentication (IG/ENG/ECED/04/02)	PI
	SQU- Grant (2003-2005)	~ \$9500	Old Movies Restoration (IG/ENG/ECED/03/05)	PI

(d) Journal Publications (2010-present)

- [1] Khriji, L. (2022). ECG pattern recognition technique for atrial fibrillation detection. *Revue d'Intelligence Artificielle*, Vol. 36, No. 2, pp. 215-222. <https://doi.org/10.18280/ria.360205>. (Scopus indexed, Q4)
- [2] S. Bouaafia, S. Messaoud, A. Maraoui, A. Ammari, Lazhar Khriji, M. Machhout (2022), "Deep CNN-Based Hardware-Software Designing for Computer Vision Application on FPGA-SoC", *Journal of Computers and Electrical Engineering*, Elsevier, Volume 98, March 2022, 107671. <https://doi.org/10.1016/j.compeleceng.2021.107671> (Scopus indexed, Q1)
- [3] S. Messaoud, S. Bouaafia, A. Maraoui, L. Khriji, A.C. Ammari, M. Machhout (2022), *Virtual Healthcare Center for Patient COVID-19 Detection based on Artificial Intelligence Approaches*, Hindawi, *Canadian Journal of Infectious Diseases and Medical Microbiology*, Volume 2022, Article ID 6786203, 15 pages, <https://doi.org/10.1155/2022/6786203> (Scopus indexed, Q3)
- [4] M. Fradi, L. Khriji, M. Machhout (2021), *Real-time arrhythmia heart disease detection system using CNN architecture based various optimizers networks*. Springer, *Multimedia Tools and Applications*. <https://doi.org/10.1007/s11042-021-11268-2>. (Scopus indexed, Q1)
- [5] M. Fradi, L. Khriji, M. Machhout, A.Y. Hossen (2021), Automatic heart disease class detection using convolutional neural network architecture-based various optimizers-networks. *IET Smart Cities* 3(1), 3-15, <https://doi.org/10.1049/smc2.12003>.
- [6] A. Hossen, L. Khriji, B. Al Ghunaimi, S. Al Barwani, D. Jaju (2020), *Wavelet Analysis for Early Identification of HRV Changes in Offspring with Genetic Predisposition to Hypertension in Oman*. *Journal of Technology and Health Care*, IOS Press, vol. 29, no. 5, pp. 869-879, 2021. DOI: [10.3233/THC-202469](https://doi.org/10.3233/THC-202469) (Web of Science and Scopus indexed, Q3)
- [7] L. Khriji, A. Ammari, M. Awadalla (2020), *Hardware/Software Co-Design of a Vision System for Automatic Classification of Date Fruits*. IGI Global, *International Journal of Embedded and Real-Time Communication Systems, IJERTCS*: Volume 11, Issue 4 (050120-082715). DOI: [10.4018/IJERTCS.2020100102](https://doi.org/10.4018/IJERTCS.2020100102) (Scopus indexed, Q2)
- [8] L. Khriji, A.C. Ammari, M. Awadalla, S. Al-Abri (2020), *Artificial Intelligent Techniques for Palm Date Varieties Classification*, *International Journal of Advanced Computer Science and Applications (IJACSA)*, Volume 11 No 9 September 2020. <https://dx.doi.org/10.14569/IJACSA.2020.0110958> (Web of Science and Scopus, Q4)
- [9] L. Khriji, M. Awadalla, A. Al-Busaidi (2020), *Low-Power e-Health Systems using Modified Data Compression Technique*. *Journal of Critical Reviews (JCR)*, 7 (19), 8589-8598 (Scopus indexed).
- [10] M. Awadalla, L. Khriji, A.C. Ammari, A. Al Raisi (2020), *Soft Computing Techniques for Facial Expression Recognition*. *Journal of Critical Reviews (JCR)*, 7 (19), 8599-8610 (Scopus indexed).
- [11] N. Mohanan, A. Ahmad, S.S. Al-Busaidi, L. Khriji, A. Abdulghani, M.A. Nadabi (2018), *Use of Mathematical Morphology in Vehicle Plate Detection*, *Orient. J. Comp. Sci. and Technol*, 11(4), 195-200. <http://dx.doi.org/10.13005/ojcs11.04.04> (indexed).
- [12] A. Al-Busaidi, L. Khriji, F. Touati, M.F. A. Rasid, A. Ben Mnaouer (2017), *Wavelet-based Encoding Scheme for Controlling Size of Compressed ECG Segments in Telecardiology Systems*, *Journal of Medical Systems*, Springer, 41 (10). <https://doi.org/10.1007/s10916-017-0817-1> (Web of Science and Scopus indexed, Q2)
- [13] N. Hamza, L. Khriji and R. Tourki, (2017), *Interference reduction and Common mode Rejection in ECG signal by removing the Ground Electrode*, *Journal of Clinical Engineering*, Publisher: Lippincott Williams & Wilkins. January/March 2017 - Volume 42 - Issue 1 - p 21–27. doi: [10.1097/JCE.0000000000000189](https://doi.org/10.1097/JCE.0000000000000189) (Scopus indexed, Q4).
- [14] N. Al-Mezeini, A. Manickavasagan, R. Al-Yahyai, A. Al-Wahaibi, A. Al-Raeesi, and L. Khriji, (2016), *X-ray imaging of stored dates to detect infestation by saw-toothed beetles*, *International Journal of Fruit Science*, Taylor & Francis, 16 (1), 42-56. <https://doi.org/10.1080/15538362.2015.1044692> (Web of Science and Scopus indexed, Q3).

- [15] SAB N. Mohanan, A. Ahmad, A. Abdul Ghani, M. Al-Nadabi, L. Khriji, (2016), *A Brief Description of Pattern Recognition Techniques*, Imperial Journal of Interdisciplinary Research (IJIR), 2 (8), 717-722 (indexed by SJIF).
- [16] T. Saidani, M. Atri, L. Khriji and R. Tourki, (2016), *An Efficient Hardware Implementation of Parallel EBCOT Algorithm for JPEG2000*, Journal of Real-Time Image Processing© Springer-Verlag Berlin Heidelberg, 2016. 11 (1), pp. 63-74. <https://doi.org/10.1007/s11554-013-0322-9> (Web of Science and Scopus indexed, Q2).
- [17] F. Touati, O. Erdene-Ochir, W. Mehmood, A. Hassan, A. BenMnaouer, B. Gaabab, M.F.A. Rasid, and L. Khriji, (2015), *An Experimental Performance Evaluation and Compatibility Study of the Bluetooth Low Energy Based Platform for ECG Monitoring in WBANs*, Hindawi Publishing Corporation, International Journal of Distributed Sensor Networks, Volume 2015, <https://doi.org/10.1155/2015/645781> (Web of Science and Scopus indexed, Q2).
- [18] A. Manickavasagan, K. Ganeshmoorthy, M. R. Claereboudt, R. Al-Yahyai, L. Khriji, (2014), *Non-destructive measurement of total soluble solid (TSS) content of dates using near infrared (NIR) imaging*, Emirates Journal of Food and Agriculture (EJFA). 26 (11): 970-976. <https://doi.org/10.9755/ejfa.v26i11.18102> (Scopus indexed, Q3).
- [19] A. Al-Busaidi, L. Khriji, (2014), *Wearable Medical Sensor Nodes Toward Standards, Safety and Intelligence: A Literature Review*, Int. Journal of Biomedical Engineering and Technology (IJBET) 14 (2), 119-147, Inderscience. <https://www.inderscienceonline.com/doi/pdf/10.1504/IJBET.2014.059343> (Scopus indexed, Q4).
- [20] H. Bouchech, S. Foufou and L. Khriji, (2014), *Date fruit sorting using appearance based information and Neural Network classifier*, Acta Horticulturae, 1054, 271-277, DOI: 10.17660/ActaHortic.2014.1054.32. <http://dx.doi.org/10.17660/ActaHortic.2014.1054.32> , (Scopus indexed, Q3).
- [21] Thomas, G., Manickavasagan, A, Al-Yahyai, R. and L. Khriji, (2014), *Contrast Enhancement using Brightness Preserving Histogram Equalization Technique for Classification of Date Varieties*, The Journal of Engineering Research 11 (1), 55-63. <https://doi.org/10.24200/tjer.voll1iss1pp55-63> (Scopus indexed, Q3).
- [22] S. Al-Rahbi, A. Manickavasagan, R. Al-Yahya, L. Khriji and P. Alahakoon, (2013), *Detecting Surface Cracks on Dates Using Color Imaging Technique*, Food Science and Technology Research 19 (5), 795-804. <https://doi.org/10.3136/fstr.19.795> (Web of Science and Scopus indexed, Q3).
- [23] A. Ben Atitallah, A. Boudabous, L. Khriji, N. Masmoudi, (2013), *Reconfigurable Architecture of VDF filter for Multidimensional Data*, Int. Journal of Circuit Theory and Applications, Wiley Science. Vol. 41, pp. 1047–1058. <https://doi.org/10.1002/cta.1815> (Web of Science and Scopus indexed, Q2).
- [24] N. Hamza, F. Touati and L. Khriji, (2011), *Wireless Healthcare Monitoring System with ZigBee communication link support*, Int. J. Networking and Virtual Organisations, Vol. 9, No. 2 pp. 169-183, Inderscience. <https://doi.org/10.1504/IJNVO.2011.042417> (Scopus indexed, Q3).
- [25] L. Khriji, F. Touati K. Benhmed and A. Al-Yahmadi, (2011), *Mobile robot Navigation Based on Q-Learning Technique*, International Journal of Advanced Robotic Systems. Vol. 8, No. 1 , ISSN 1729-8806, pp 45-51. <https://doi.org/10.5772/10528> (Scopus indexed, Q2).
- [26] A. Boudabous, A. Ben Atitallah, L. Khriji, P. Kadionik, N. Masmoudi, (March 2011), *FPGA implementation of vector directional distance filter based on HW/SW environment validation*, AEU – International Journal of Electronics and Communications, Elsevier, Vol. 65, Issue 3, pp. 250-257. <https://doi.org/10.1016/j.aeue.2010.02.012> (Web of Science and Scopus indexed, Q2).
- [27] L. Khriji, F. Touati and N. Hamza, (2010), *ZigBee-Based Telemetry System*, The Journal of Engineering Research, (TJER), Vol. 7 No. 2 (2010) 32-39. <https://doi.org/10.24200/tjer.vol7iss2pp32-39> (Scopus indexed, Q3).
- [28] N. Hamza, L. Khriji and F. Touati, (2010), *Multi-purpose HealthCare monitoring System based on ISM band communication link support*, International Journal of Healthcare Technology and Management (IJHTM), Inderscience Enterprises Ltd, Vol. 11, No.3 pp. 176 – 192, 2010. DOI: [10.1504/IJHTM.2010.034088](https://doi.org/10.1504/IJHTM.2010.034088) (Scopus indexed, Q4).
- [29] M. Machhout, Z. Guitouni, T. Kholdoun, L. Khriji and R. Tourki, (April 2010), *Coupled FPGA/ASIC implementation of elliptic curve cryptoprocessor*, International Journal of Network Security & Its Applications (IJNSA), Vol.2, No.2. <https://doi.org/10.5121/ijnsa.2010.2208> (indexed).
- [30] A. Boudabous, L. Khriji, N. Masmoudi, (April 2010), *Implementation of Vector Directional Distance Rational Hybrid Filter using TMS320C6416*, Intern. Arab Journal of Information Tech., IAJIT , Vol. 7, No. 2, pp. 117-122, (Scopus indexed, Q2).
- [31] Z. Medien, M. Machhout, B. Bouallegue, L. Khriji, A. baganne, and R. Tourki, (2010), *Design and Hardware Implementation of QoS-AES Processor for Multimedia applications*, Transactions on Data Privacy, 3, 1-22. DOI: [2-2.0-78651582305](https://doi.org/10.2200/1S2.0-78651582305) (Scopus indexed, Q3).

- [32] A. Boudabous, A. Ben Atitallah, L. Khriji, P. Kadionik, N. Masmoudi, (January 2010), *HW/SW Design-Based Implementation of Vector Median Rational Hybrid Filter*, The International Arab Journal of Information Technology, Vol. 7, No. 1, pp.1-5, (Scopus indexed, Q2).

(e) Book Chapter

- [33] L. Khriji, M. Fradi, M. Machhout and A. Hossen (2020), *Deep Learning-based Approach for Atrial Fibrillation Detection*, Springer book chapter in *The Impact of Digital Technologies on Public Health in Developed and Developing Countries*, LNCS 12157, pp.100–113. (Web of Science and Scopus indexed, Q2) <https://link.springer.com/book/10.1007/978-3-030-51517-1>

(f) Articles in Conference Proceedings (2010-present)

- [1] L. Khriji, A.C. Ammari, S. Messaoud, S. Bouaafia, A. Maraoui, M. Machhout, “COVID-19 Recognition Based on Patient’s Coughing and Breathing Patterns Analysis: Deep Learning Approach”, Proceedings of the FRUCT’29, Tampere, Finland, 12-14 May 2021.
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