PERSONAL

Ali Sadeq Abdulhadi Jalal

Contact Address:
Al-Karrada Al-Sharqiya, Hay Babil
Q.925, Str. No.25, House 95, 10069, Al-Rusafa, Baghdad, IRAQ
Cell: +964 790 1750151
E-mail: asajalal@yahoo.com

Nationality: IRAQI
Passport no.: A7660254

Work:
Professor, PhD
College of Information Engineering, Al-Nahrain University, Al-Jadriya, 10070, Baghdad, IRAQ
ali.sadeq@coie-nahrain.edu.iq
http://www.coie-nahrain.edu.iq/
Senior Member IEEE, asaj@ieee.org
Google Scholar: https://scholar.google.com/citations?user=4AI4K-EAAAAJ
Scopus Preview: https://www.scopus.com/authid/detail.uri?authorId=14019752200
ORCID iD: https://orcid.org/0000-0003-3260-8267

ACADEMIC QUALIFICATIONS

Ph.D., Wireless Communication Engineering (Distinction), Jan. 2010-Sept. 2013
Department of Computer and Communication Systems, Faculty of Engineering, University Putra Malaysia (UPM), Serdang, 43400, Selangor, Malaysia.

Areas of Concentration:
Antenna Design, Radio Frequency Identification (RFID).

Graduate Courses:
Microwave Engineering, Wireless Sensor Networks (WSN), Sensor Design and Applications, Research Methodology.

PhD Thesis Title:
Minkowski Fractal Tag Antennas Integrated With Split Ring Resonators And Complementary Split Ring Resonators For Radio Frequency Identification Applications.
Advisor: Associate Professor Alyani Binti Ismail, PhD

M.Sc., Electronics and Communications (Honors), Jan. 1984-May 1986
Department of Electrical Engineering, Al-Rasheed College, University of Technology, Baghdad, Iraq.

Areas of Concentration:
Digital Communication Systems, Ciphering and Deciphering Techniques.
Graduate Courses:
Engineering Analysis, Micro-Electronics, Microwave Engineering, Radar Theory and Systems, Advanced Digital Electronics, Advanced Numerical Analysis, Communication Theory and Systems, Advanced Electronics Lab., Advanced Communications Lab.

Master Thesis Title:
Investigations on Non-Linear Feedback Shift Registers and their Application on Stream Ciphering Systems.
Advisor: Professor Sameer M. Saeed, Professor S.C. Saxena

B.Sc., Electrical and Electronics, Sept. 1976- June 1980
Department of Electrical Engineering, Al-Rasheed College, University of Technology, Baghdad, Iraq.

RESEARCH INTERESTS

Design, Analysis, Fabrication and Measurement of RFID Tag Antennas; Handsets and GPS Antenna Design; Wireless Sensor Networks (WSN); Design, Analysis, Implementation and Testing of Switched-mode Power Supply; The Design and Implementation of a DC/AC Converter for 6W, 8W, 10W and 20W Fluorescent Tubes; The Design and Implementation of a Remote Control and Monitoring System for Radio Transmitters; The Design and Implementation of a Precision Detector and Rectifier for Very Low Signals (as Low as 10 mV).

PROFESSIONAL EXPERIENCE

ACADEMIC

September 2017- Present
Director of the Engineering Consultancy Bureau
College of Information Engineering, Al-Nahrain University

January 2019- Present
Professor Dr.
Department of Information and Communication Engineering, College of Information Engineering, Al-Nahrain University, Al-Jadriya Complex, 10070, Baghdad, Iraq.

November 2014- 2018
Associate Professor Dr.
Department of Information and Communication Engineering, College of Information Engineering, Al-Nahrain University, Al-Jadriya Complex, 10070, Baghdad, Iraq.

September 2014- October 2016
Deputy Dean
College of Information Engineering, Al-Nahrain University, Al-Jadriya Complex, 10070, Baghdad, Iraq.

December 2013- August 2014
Associate Professor, Dr.
Department of Information and Communication Engineering, College of Information Engineering, Al-Nahrain University, Al-Jadriya Complex, 10070, Baghdad, Iraq.

January 2010- September 2013
Senior Researcher, Microwave and Antenna Design, PhD Student.
Department of Computer and Communication Systems, Faculty of Engineering, University Putra Malaysia, Serdang, 43400, Selangor Malaysia

February 2009- December 2009
Assistant Professor (Equivalent to Associate Professor in the North American System)
College of Information Engineering, Al-Nahrain University, Baghdad, Iraq

November 2007- January 2009
Lecturer,
College of Information Engineering, Al-Nahrain University, Baghdad, Iraq

July 2006- October 2007
Lecturer, Deputy Dean (Academic)
College of Information Engineering, Al-Nahrain University, Baghdad, Iraq

September 1994- June 2006
Lecturer,
Electrical Engineering Department, Al-Rasheed College, University of Technology, Baghdad, Iraq.

June 1986- August 1994
Assistant Lecturer,
Electrical Engineering Department, Al-Rasheed College, University of Technology, Baghdad, Iraq.

January 1984- May 1986
Research and Teaching Assistant, M.Sc. Candidate, Department of Electrical Engineering, Al-Rasheed College, University of Technology, Baghdad, Iraq. Instructed labs and assisted in teaching courses in Electronics, Electric Circuits, Antennas, and Electromagnetic Fields.

INDUSTRIAL

March 1997-March 2003
Senior Consultant, Digital Electronics and Design,
Al-Milaad Company, Al-Karama Company, and Al-Battany Company, Baghdad, Iraq.

May 1998- March 2003
Senior Consultant, Digital Electronics and Design, TV Transmission,
Ministry of Information, Baghdad, Iraq.

TEACHING

Al_Rasheed College / University of Technology and College of Information Engineering / Al-Nahrain University,Baghdad,Iraq

Courses Developed and Taught

- *Basic Electronics*
- *Basic Logic Circuits*
- *Basic Circuit Theory*
- *Electrical and Electronic Measurement and Instrumentation*
- *Digital Electronics*
- *Digital System Design*
- *Microprocessor Architecture and Programming*
- *Digital and Analog Communication*

Laboratory Development

- Analog Electronics Laboratory
- Electric Circuits Laboratory
- Digital Electronic Laboratory
- Microprocessor Laboratory
- Communication Systems Laboratory
- Antennas and Wireless Systems Research Laboratory

Student Recruitment

- Played a very active role in recruiting undergraduate students at Al-Rasheed College of Engineering and Science / University of Technology.
- Recruited several undergraduate students at the College of Engineering / Babylon University.

PROFESSIONAL SKILLS

- In-depth knowledge of the design, characterization, manufacturing, and testing of passive microwave and millimeter wave devices.
- Excellent background in metamaterials, artificial magnetic conductors, microwave photonics, and electromagnetic band gap structures applied to antenna design.
- Excellent background in anechoic chamber design, antenna testing and measurement.
- Excellent experience in CST's Microwave Studio.
- In-depth knowledge Analogue circuit design and analysis.
- In-depth knowledge of smart antenna technology.
- In-depth knowledge of digital system design with synchronous and asynchronous FSM.
- Excellent experience in teaching and curriculum development.
- Excellent organizational, management, supervision and leadership capabilities.
- Continued high-level of research activities and publications.

RESEARCH AND INDUSTRIAL EXPERIENCE

- Design and implementation of microwave chambers for antenna and filter measurements.
- Design and analysis of dipole antennas for RFID applications.
- Design of miniaturized metal mount microstrip RFID tag antennas.
- Measurements of the electromagnetic constitutive parameters at microwave and millimeter wave frequencies.
- The design and implementation of the modified switched-mode power supply for the 1KW TV transmitter type LGT-1K designed by Thomson CFA.
- The design and implementation of a remote control and monitoring system for radio transmitters.
- The design and implementation of the Studio Master Control of radio transmissions for all working frequencies.
- The design and implementation of a precision detector and rectifier for very low signals (as low as 10 mV).
- The design and implementation of a regulated charging circuit for Ni-Cd, Ni-Mh, and lead-acid rechargeable batteries to work with the above DC/AC Converter.
- The design and implementation of car burglar-alarm system together with vibration sensing.
- The design and implementation of an electronic insect killer.

RESEARCH

Ongoing Research Projects

- Applications of Artificial Magnetic Conductors in Antenna and Filter Design
- Applications of Metamaterials in EMI/EMC Problems
- Integration of Split Ring Resonators and Complementary Split Ring Resonators in RFID Tag Antenna Design
- Design of Miniature RFID Tag Antennas for Metallic Objects Identification
- Design of Multi-Band Filters

SERVICE ON COMMITTEES

Al-Nahrain University

- Advisor for transfer undergraduate students
- Curriculum Committee
- Annual Performance Evaluation
- Systems Engineering Faculty Search
- Member of Information and Comm. Engineering Department Assembly
- Member of Information and Comm. Engineering Department Scientific Committee
- Undergraduate Curriculum
- Leader of Education for the Working Professional
- Research and Teaching Methodology bi-annual Course Lecturer
- Scientific Committee Member ICFCN'14
- Member of the Iraqi Engineers Union
  Degree: Consultant
  Specialty: Electronics and Communication

COMPUTER/SOFTWARE SKILLS

Programming Languages:
Basic, FORTRAN, Assembly, C, C++, JAVA

Operating Systems:
MS-DOS, Macintosh, UNIX, WINDOWS, IBM Mainframes

Engineering Software Packages:
CST Studio Suite (Microwave Studio, Design Studio, EM Studio), Computer Simulation Technology GmbH, Germany (Advanced level)

PUBLICATIONS

1. **Ali S. A. Jalal**, S. M. Saeed, and S. C Saxena. "A New Algorithm for the Evaluation of Complexity of a Self-Synchronous Cryptosystem with Non-Linear Feedback Shift Registers," *Proceedings of second International Conference on Computer Technology and Applications* , March 24-26, 1986, Baghdad, Iraq, pp c4.6(1-6).

2. **Ali S. A. Jalal**, S. M. Saeed, and S. C Saxena. **"**Investigations on Non-Linear Feedback Shift Registers", Fourth Scientific Research Council, Oct. 23-28, 1986, Baghdad, Iraq.

3. **Ali S. A. Jalal**, and M.K. Mahmood. The English to Arabic translation of the book entitled: "Modern Communication Systems", by R.F. Coats, 1989.

4. **Ali S. A. Jalal**, and M.K. Mahmood. The English to Arabic translation of the book entitled: "Modern Communications and Spread Spectrum", by George R. Cooper and Clare D. McGillem , 1992.

5. Ali, J. K., and **Ali S.A. Jalal**. "A Miniaturized Multiband Minkowski-Like Pre-Fractal Patch Antenna for GPS and 3g IMT-2000 Handsets," *Asian Journal of Information technology*, Vol. 6(5), 2007, pp 584-588.

6. Kadhim A. K., and **Ali S. A. Jalal**. "The Use of Spread Spectrum to Improve Information Hiding in Images," in *Proceeding of the IEEE MIC-CCA*, Aug. 2008, pp 32-36.

7. **Ali S. A. Jalal,** "A New Compact Patch Antenna Design for Circular Polarization Applications Based on 3rd Iteration Minkowski-Like Pre-Fractal Geometry," *Journal of Engineering and Applied Sciences*, vol. 3(9), 2008, pp 729-734.

8. **Ali S. A. Jalal**, Alyani Ismail, Adam R. H. Alhawari, Mohd F. A. Rasid, Nor K. Noordin, and Mohd A. Mahdi, "Miniaturized Metal Mount Minkowski Fractal RFID Tag Antenna with Complementary Split Ring Resonator," *Progress In Electromagnetics Research C,* Vol. 39, 25-36, 2013.

9. **Ali S. A. Jalal**, Alyani Ismail, Adam R. H. Alhawari, Mohd F. A. Rasid, Nor K. Noordin, and Mohd A. Mahdi, "Metal Mount Fractal RFID Tag Antenna with Complementary Split Ring Resonator," in *Proceeding of the 2013 IEEE International Conference on RFID Technologies and Applications,* 04–05 September 2013 Johor Bahru, Malaysia.

10. Adam R. H. Alhawari, Alyani Ismail, **Ali S. A. Jalal**, Raja S. A. R. Abdullah, Mohd F. A. Rasid, "U-Shaped Inductively Coupled Feed RFID Tag Antennas for Gain Enhancement," *Electromagnetics,* Vol. 34, 487-496, 2014.

11. NH Daud, A Ismail, ARH Alhawari, A Sali, MF Rasid, **Ali S. A. Jalal**, "Integration of split ring resonators (SRRs) to UHF RFID tag antenna for size reduction," in *proceeding*

of the IEEE 4th International Conference on Engineering Technology and Technopreneuship (ICE2T), 2014.

12. **Ali S. A. Jalal**, "Passive RFID Tags," Wulfenia Journal, Vol. 22, No. 12, pp. 415-435, DEC. 2015.

13. Marwa Haleem Jwair, **Ali Sadeq Abdulhadi Jalal, "** A Gain Enhanced Circularly Polarized Microstrip Antenna for RFID Readers Applications," International Journal of Scientific & Engineering Research, Volume 7, Issue 9, September-2016.

14. Neamet Akeel Fawzi, **Ali Sadeq Abdulhadi Jalal,** "Design and Implementation of Smart Irrigation System Using Wireless Sensor Network Based on Internet of Things ," International Journal of Scientific & Engineering Research, Volume 8, Issue 4, April-2017.

15. Mohammed Fadhel Hasan**, Ali Sadeq Abdulhadi Jalal** and Emad Shehab Ahmed**, "** Compact Dual-band Microstrip Band Pass Filter Design Based on Stub Loaded Resonator for Wireless Applications," in *Proceeding of the IEEE 2017 Progress In Electromagnetics Research Symposium* — Spring (PIERS), St Petersburg, Russia, 22–25 May, 2017.

16. **A.S.A. Jalal,** M.H. Jwair, "On the Performance of a Microstrip Antenna based UC-PBG structures for UHF RFID Readers," *Engineering and Technology Journal*, Vol. 36, Part A, No. 5, pp. 480-487, 2018.

17. Taha A. Elwi, Ali J. Salim, Aya N. Alkhafaji, Jawad K. Ali and **Ali S. A. Jalal**, "Complex Constitutive Characterizations of Materials in the X-Band Using a Non-Destructive Technique," in *Proceedings of the 8th International Advances in Applied Physics and Materials Science Congress & Exhibition*, 24-30 April 2018 in Fethiye - Mugla, Turkey.

18. Rana H. Saloom, Amer S. Elameer and **Ali S. Jalal**, " A New Style of an Academic Institutions in Iraq: e-University," in *Proceeding of the IEEE 2018 1st Annual International Conference on Information and Sciences (AICIS)*, Iraq, Nov. 2018.

19. Rana H. Saloom, Amer S. Elameer and **Ali S. Jalal**, " Establishment An Iraqi E-University System Using Object Oriented Analysis And Design Based On The Uml," The Turkish Online Journal of Educational Technology -December 2018, Special Issue for IETC&ITEC, pp. 150-160.

20. Noor Qusay Abdulmohsen AlShaikhli, **Ali Sadeq Abdulhadi Jalal,** "Miniaturized Double-patch Antenna Design for WLAN Communication with CSRR DGS," in *Proceeding of the IEEE 2018 Third Scientific Conference of Electrical Engineering (SCEE)*, Iraq, pp. 226-229, Publication Date APR. 2019.

21. Saba S Ibraheem, Ali H Hamad, **Ali Sadeq Abdulhadi Jalal**, " A Secure Messaging for Internet of Things Protocol based RSA and DNA Computing for Video Surveillance System," in *Proceeding of the IEEE 2018 Third Scientific Conference of Electrical Engineering (SCEE)*, Iraq, pp. 280-284, Publication Date APR. 2019.

22. **Ali Sadeq Abdulhadi Jalal** and Alyani Ismail, "A Compact Fractal-Based Asymmetrical Dipole Antenna For RFID Tag Applications," in *Proceeding of the IEEE 2018 Third Scientific Conference of Electrical Engineering (SCEE)*, Iraq, Publication Date APR. 2019.

23. Taha A. Elwi, Ali J. Salim, Aya N. Alkhafaji, Jawad K. Ali and **Ali S. A. Jalal**, "Complex Constitutive Characterizations of Materials in the X-Band Using a Non-Destructive Technique," *ACTA PHYSICA POLONICA A*, Vol. 135, No. 4, pp. 567-570, April 2019.

24. H. Hammas, M. F. Hasan, and Ali S. A. Jalal, " Compact Multiband Microstrip Printed Slot Antenna Design for Wireless Communication Applications," ADVANCED ELECTROMAGNETICS, Vol.9, No. 2, OCTOBER 2020.