

## PERSONAL INFORMATION

Ghassan Nihad Jawad



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Sex Male | Date of birth 05/01/1984 | Nationality Iraqi

## WORK EXPERIENCE

Sep. 2008 – Jan. 2013  
June 2017-Now

### Assistant Professor

The University of Baghdad, Iraq

- From 2008 to 2013, I taught different subjects such as C++ programming for the Second year, and Microwave Engineering for the Fourth year. I have changed the curriculum of both subjects and enhanced them each year in terms of theoretical lectures and hands-on laboratory experiments. These curricula are still being taught till now in the same department.
- I am currently teaching Microwave Engineering for fourth year and Antennas and Propagation for third year. I am also teaching RF Circuits for postgraduate M.Sc. students.
- I am also Department Administrator for postgraduate studies. This role involves monitoring the students' attendance, the undergraduate curricula and timetabling.
- I am supervising many Fourth year graduation projects. Despite the limited resources, all of these projects involved practical hardware based work. Most of the students I have supervised are now holding high profile engineering jobs in and out of Iraq.

▪ Business or sector Education

June 2016 – June 2017

### Research Associate on Microwave Non-Destructive Testing (NDT)

The University of Manchester, UK

- I was responsible of the technology transfer for a newly-developed material testing and inspection technique using microwaves. My job involved performing millimetre-wave measurements using Keysight's various types of Vector Network Analysers (VNAs) as well as data extraction and analysis using Matlab, Python and C#.
- By working closely with Sonomatic Ltd., one of the major inspection companies in the UK, I have made theoretical microwave techniques viable for many scanning jobs for various clients in the UK and abroad.
- My work has recently resulted in an optimised method to inspect hidden air gaps in oil pipe wrappers using advanced microwave and signal processing techniques for the first time.

▪ Business or sector Research, Material Inspection

Sep. 2013 – Sep. 2016

### Teaching Assistant and Tutor

The University of Manchester, UK

- As a Tutor, I was responsible of providing the students of the pre-undergraduate foundation program with an insight into some of the basic physics principles. My three years' experience in this job was rewarded with many positive feedbacks from the students in my groups.
- I also worked as a Teaching Assistant in many undergraduate and postgraduate laboratories. I was responsible of interacting with the students whilst they conduct their experiments. I have also organised the marking schemes for their lab. reports.

▪ Business or sector Education

June 2006 – June 2009

## Network Switching Engineer

Zain Mobile Telecommunication, Iraq

- As a member of the Operation and Maintenance (O&M) team, my duties included constant supervision of the Mobile Network Switching System (NSS) besides maintaining and updating it when necessary. During my work at Zain, my team and I were up to the challenge of maintaining the reliability of the mobile network during the civil unrest in Iraq between 2006 and 2007.
- While working on Alcatel-Lucent and Nokia-Siemens mobile switches, I have developed scripts used for automatic monitoring and updating the switch. I also developed a code for extracting provisional data from the daily log extracted from the switches, which highly facilitated my team's daily tasks.

Business or sector Telecommunication

## EDUCATION AND TRAINING

Jan. 2013 – Oct. 2016

### Doctor of Philosophy

The University of Manchester, Manchester, UK.

Thesis Title: "Exploitation of Gyroelectric Behaviour in Designing Millimetre -Wave Nonreciprocal Microwave Devices". Supervisor: Prof. Robin Sloan

Sept. 2005 – March 2009

### Master of Science

Baghdad University, Baghdad, Iraq

Dissertation Title: "A Hybrid Nonlinear Decision based Equaliser". Supervisor: Dr. Sarcout N. Abdullah.

Sept. 2001 – July 2005

### Bachelor of Science

Baghdad University, Baghdad, Iraq

(Ranked the first out of 55 students)

4th Year Graduation Project: "Extending the Connections of a Computer Network using Optical Fibres".

## LANGUAGE SKILLS

Mother tongue(s)	Arabic				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Excellent	Excellent	Excellent	Excellent	Excellent
	IELTS GENERAL TRAINING CERTIFIED (Listening: 9.0, Reading: 9.0, Writing: 8.0, Speaking: 8.5) CEFR Level: C2				
German	Intermediate	Intermediate	Beginner	Beginner	Intermediate
	Goethe B.1 Certified				
Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user <a href="#">Common European Framework of Reference for Languages</a>					

## SOFTWARE SKILLS

C++	I have deep theoretical knowledge, and have conducted many project using Turbo C and Visual C++. I have also taught the subject at the university level for more than 4 years.
Visual Basic	I have good working knowledge, have written many codes in Visual Basic for Application (VBA) for Nokia-Siemens mobile switch during my job as a Network Switching Engineer.
Matlab	I have more than 15 years of experience, and have programmed many project during my M.Sc. and Ph.D. studies for simulation and solving electromagnetic equations.
CST Microwave Studio	I have been dealing with the various solvers of this package for more than six years, and am still using it for research and teaching purposes. The validations of my PhD thesis were based on the CST outcomes in addition to practical measurements.
Keysight ADS	I worked with ADS when tutoring postgraduate students at The University of Manchester. We were using this software for designing prototype amplifiers, mixers and oscillators.

## Publications

**Jawad, G.N.**; Sloan, R.; Missous, M., "On the Design of Gyroelectric Resonators and Circulators Using a Magnetically Biased 2-D Electron Gas (2-DEG)," in *IEEE Transactions on Microwave Theory and Techniques*, , vol.63, no.5, pp.1512-1517, May 2015

**Jawad, Ghassan Nihad**, and Sloan, Robin. "Bandwidth Optimisation for Semiconductor Junction Circulators." *Progress In Electromagnetics Research C* 56 (2015): 125-135.

**G. N. Jawad**, C. I. Duff and R. Sloan, "A Millimeter-Wave Gyroelectric Waveguide Isolator," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 65, no. 4, pp. 1249-1256, April 2017.

**Jawad, G.N.**; Duff, C., Sloan, R., "A New Class of Millimetre-Wave Nonreciprocal Devices Utilising Gyroelectrically Loaded Waveguide Cavities," Submitted for publication in the Proceedings of the Royal Society A (March 2017).

**Jawad, G.N.**; Sloan, R., "A low magnetic bias sub-millimetre wave semiconductor junction circulator," in 2014 9th European Microwave Integrated Circuit Conference (EuMIC), vol., no., pp.640-643, 6-7 Oct. 2014

**G. N. Jawad** and R. Sloan, "Millimetre wave semiconductor based isolators and circulators," in *IET Colloquium on Millimetre-Wave and Terahertz Engineering Technology 2015*, March 2015, pp. 1–8  
**Jawad, G.N.**; Duff, C., Sloan, R., "A Q-Band Gyroelectric Waveguide Isolator ," *Asia Pacific Microwave Conference*, New Delhi, India, December 2016.

**Jawad, Ghassan Nihad**, Christopher Duff, and Robin Sloan. "A semiconductor based millimeter-wave waveguide junction circulator." *European Microwave Conference (EuMC)*, 2017 47th. IEEE, 2017.

Muhammad F. Akbar, **Ghassan N. Jawad**, Laith R.Danoon, and Robin Sloan. " Delamination Detection in Glass-Fibre Reinforced Polymer (GFRP) Using Microwave Time Domain Reflectometry." *European Radar Conference (EuRAD)*, 2018.

Akbar, Muhammad F., **Ghassan N. Jawad**, Christopher I. Duff, and Robin Sloan. "Porosity evaluation of in-service thermal barrier coated turbine blades using a microwave nondestructive technique." *NDT & E International* 93 (2018): 64-77.

Ridha, Oday ALA, **Ghassan N. Jawad**, and Sadeq F. Kadhim. "Modified Blind Source Separation (BSS) for Securing End-to-End Mobile Voice Calls." *IEEE Communications Letters* (2018).

Akbar, Muhammad F., **Ghassan N. Jawad**, Laith D. Rashid, and Robin Sloan. "Nondestructive Evaluation of Coatings Delamination using Microwave Time Domain Reflectometry Technique." *IEEE Access* (2020).

Akbar, Muhammad F., **Ghassan N. Jawad**, Laith D. Rashid, and Robin Sloan. "Nondestructive Evaluation of Coatings Delamination using Microwave Time Domain Reflectometry Technique." *IEEE Access* (2020).

Hadi, Mearhan H., and **Ghassan N. Jawad**. "A Miniaturization Approach for Microstrip Parallel Coupled Lines Filters." *Solid State Technology* 63, no. 1 (2020): 1674-1686.

Ridha, Oday ALA, and **Ghassan N. Jawad**. "Design Considerations for a Microprocessor-based Doppler Radar." *Microprocessors and Microsystems* (2020): 103182.

Shrifan, Nawaf HMM, **Ghassan Nihad Jawad**, Nor Ashidi Mat Isa, and Muhammad Firdaus Akbar. "Microwave nondestructive testing for defect detection in composites based on K-means clustering algorithm." *IEEE Access* 9 (2020): 4820-4828.

**Jawad, Ghassan Nihad**, and Muhammad Firdaus Akbar. "IFFT-based microwave non-destructive testing for delamination detection and thickness estimation." *IEEE Access* 9 (2021): 98561-98572.

Siang, Teng Wei, Muhammad Firdaus Akbar, **Ghassan Nihad Jawad**, Tan Shin Yee, and Mohd Ilyas Sobirin Mohd Sazali. "A past, present, and prospective review on microwave nondestructive evaluation of composite coatings." *Coatings* 11, no. 8 (2021): 913.

Ridha, Oday Ala, and **Ghassan Nihad Jawad**. "A Low Latency Scheme For Securing OFDM-Based Communications." *Journal of Engineering Science and Technology* 17, no. 4 (2022): 2602-2614.

Ridha, O. and **Jawad, G.** (2022) "Scheme for Generating True Random Numbers using Electro-mechanical Switches", *Journal of Engineering*, 28(3), pp. 73–85. doi: 10.31026/j.eng.2022.03.06.

Tan, Shin Yee, Muhammad Firdaus Akbar, Nawaf H. M. M. Shrifan, **Ghassan Nihad Jawad**, and Mohd Nadhir Ab Wahab. 2022. "Assessment of Defects under Insulation Using K-Medoids Clustering Algorithm-Based Microwave Nondestructive Testing" *Coatings* 12, no. 10: 1440. <https://doi.org/10.3390/coatings12101440>