

**Ministry of Higher Education and
Scientific Research
University of Baghdad
College of Science
Physics Department**



Curriculum Vitae

Personal :

Name : Wasan Rashid Saleh Al-Azawi
Date of Birth : 16/ 9 / 1969
Place of birth : Baghdad / Iraq
Address : Baghdad / Iraq
Address of Office : Department of Physics/ College of Science/
University of Baghdad/ Baghdad/ Iraq
Scientific Sobriquet : Professor
Current Citizenship : Iraqi
Sex : Female
Marital status : Married
Languages : Arabic – English



Educational Background:

- Degree: Ph. D.

Discipline : Physics of Laser and Electro-optics

Location : University of Baghdad / College of Science
/Physics Department / Iraq

Graduation Date : 14 December -2002

Name of Ph.D . Letter :“ Simulation Program for The Thermal Imaging Systems “

- Degree: M. Sc.

Discipline : Physics of Laser

Location : Al-Mustansiriah University / College of Science
/Physics Department / Iraq

Graduation Date :25 March -1995

Name of Ph.D. . Letter :“ Flashlamp Voltage and Light – Pulse Shifts
Caused By Arc Acoustic Interaction “

- Degree: B. Sc. (University Degree)

Discipline : Physics

Location : Al-Mustansiriah University / College of Science /
Physics Department / Iraq

Graduation Date : 15 August -1991

Years of Professional Working Experience: 23 years

Scientific Gradating :

Assistance Lecturer in date 1/4/1996

Lecturer in date 19/1/2002

Assistance professor in date 15/2/2005

Conferences:

No.	Conferences Title	Year	Place	Type
1	The 8th technology conference laser and electro-optics	2002	Alnahrain University/Iraq	Paper
2	42nd week of science, conference of laser and application	2002	Alepo University/ Syria	Paper
3	MESM'2004	2004	Philadelphia University/ Jordan	Paper
4	International conference on advanced remote sensing for earth observation; systems, techniques, and applications (ISPRS),	2005	King Abdulaziz city for science and technology/ Riyadh / KSA	Poster
5	Remote sensing Arabia for the betterment of people	2005	King Abdulaziz city for science and technology/ Riyadh / KSA	Paper
6	2nd conference for nanotechnology and it is applications	2010	University of Baghdad/Iraq	Paper
7	Conference of program for instructional excellence (PIE)	2011	Florida State University (FSU)/ USA	
8	Fotonica 2012, 14 th National Conference on Photonic Techniques in Telecommunications	2012	Florence/ Italy	Paper
9	The Advances in Applied Physics and Materials Science Congress (APMAS)	2011	Turkey	
10	The 26 th International Laser Radar Conference	2012	Porto Heli / Greece	Poster

11	The 2012 IEEE Gold Remote Sensing Conference بيغير المؤتمر 2012 IEEE First AESS European Conference on Satellite Telecommunications (ESTEL)	2012	Rome/Italy	Paper
12	National Conference on Physics	2012	University of Babylon/ Iraq	Paper
13	First International Conference on Remote Sensing	2012	University of Baghdad/ College of Science/ Iraq	Paper
14	3rd International Conference on Nanotechnology and advance material and its application ICNAMA	2013	University of Technology/ Nanotechnology center/ Iraq	Paper
15	International Conference on Physics and Engineering ICPE2013	2013	University of Baghdad/ College of AlKhawazimi Engineering/	Paper
16	4th International Conference on Nanotechnology and advance material and its application ICNAMA	2013	University of Technology/ Nanotechnology center/ Iraq	Paper
17	Solar TR-3/ Turkish Solar Energy Conference and Exhibition	2015	Ankara/ Turkey	Poster
18	5th International Conference on Nanotechnology and advance material and its application ICNAMA	2015	University of Technology/ Nanotechnology center/ Iraq	Paper
19	The Sixth Scientific Conference "Renewable Energy and its Applications"	2018	University of Karbala/ / Iraq	Paper
20	4th Conference on Low Dimensional Materials and its Applications (CLDMA2018)	2018	University of Baghdad/ College of Science/ Iraq	
21	The international Arab conference on information technology			

Work Address now:

- Lecturer and Researcher in the Department of Physics / College of Science/ University of Baghdad / Baghdad – Iraq
- Director of Scientific Affairs Unit in the College of Science 2016

Present employment:

- Lecturer for under graduate and post graduate students .
- Supervisor for projects of M. Sc. and Ph. D .
- Leader for sub-group of researches in Electro-Optics lab.
- Member of many scientific committees.

Courses Which Teach for undergraduate:

1. Laser and its application
2. Physics for non-physicists
3. Optics
4. Non linear optics

Courses Which Teach for post graduate:

1. Laser applications
2. Advance optics
3. Non linear optics and principle of surface Plasmon
4. Optoelectronics
5. Nanotechnology
6. Sensors

Supervision on Thesis:

Ph. D. Thesis:

1. **Improvement of ZnO and SnO₂ Hydrogen Gas Sensors, 2011.**
2. **Electroluminescence of white light from ZnO nanostructures/TPD hybrid, 2015.**
3. **Fabrication and Characterization of Copper- Based Nanoink Photovoltaic Device, 2015.**
4. **Electroluminescence Light Emitting Device Enhanced by TPD Polymer and Emissive Quantum Dots, 2017.**
5. **Chemical sensor based on multiwall carbon nanotubes network doped with metallic nanoparticles, 2019.**

Master Thesis:

1. **Studying the Optical and Electrical Properties of Buckypaper, 2014.**
2. **Conductive Polymer Dye Sensitive Solar Cell (DSSC) for Improving the Efficiency, 2014.**
3. **Fabrication of Carbon Nanotubes Detector for IR Laser, 2015.**
4. **CNT/Polymer Infrared Photoconductive Detector, 2017.**
5. **Organic-Inorganic Light Emitting Diode Based on Quantum-Dots, 2018.**

Contributions:

- **Enjoyed with the Fulbright exchange visitor program in USA/ Florida State University, 2011.**
- **Enjoyed in a fellowship in ENEA for training research in AbduSalam International Center for Theoretical Physics (ICTP) in Italy/Roma, 2012.**
- **Enjoyed in a fellowship in ENEA for training research in AbduSalam International Center for Theoretical Physics (ICTP) in Italy/Roma, 2017.**

Awards:

- Certificate of Appreciation from University of Baghdad/ Center of developing methods of teaching, 1997.
- Certificate of Appreciation, Supreme Council of Science / Syria, 2002.
- Post-doctoral visiting fellowship program in Science and Technology from Florida State University, 2011.
- Award of Iraqi Science Day 2014.
- Many thanks letters from the president's university of Baghdad and Dean's of College of Science

Researches and Publications:

1. "Parallel and Series Trigger for Flashlamp", Iraqi J. Sci., Iraq, Vol. 41C, No. 2, 2000.
2. "Study of electro-Optics Properties of InSb Detector", Eng. and Technology Journal, Vol. 20, No. 1, 2001.
3. "Atmospheric Transmission and Aerosols Modulation Transfer Function from Thermal Imaging Band", Ibn Al-Haitham Journal for Pure and Applied Science, Iraq, Vol. 15, No.3, 2002.
4. "The Range Calculation of the Night Vision Devices", Atti Della, "Fondazione Giorgio Ronchi", Italy, Vol. LVIII, No.2, 2003.
5. "Noise Determination and Modulation Transfer Function (MTF) of the Infrared Detectors", Atti Della, "Fondazione Giorgio Ronchi", Italy, Vol. LIX, 2004.

6. **“The Effect on the Perception of a Thermal Image by a Human Observer”, Atti Della "Fondazione Giorgio Ronchi", Italy, Vol. LX, No. 3, 2005.**
7. **“Calculation of the Maximum Rotational Quantum Number of Diatomic Molecules as a Function of the Temperature”, Atti Della "Fondazione Giorgio Ronchi", Italy, Vol. LX, No.5, 2005.**
8. **"Computer Simulation for the Atmosphere Effect on the Image Quality of the Thermal Camera", Accepted as a poster presentation at the international conference on advanced remote sensing for earth observation; systems, techniques, and applications (ISPRS), hold in Riyadh, KSA, May 8-11, 2005.**
9. **“Atmospheric Transmission in Thermal Imaging Band”, Atti Della, "Fondazione Giorgio Ronchi", Italy, Vol. LXI, No.2, 2006.**
10. **“Mathematical Model Used for Calculation of the Spectroscopic Properties of BrF Molecules”, Atti Della "Fondazione Giorgio Ronchi", Italy, Vol. LXI, No.2, 2006.**
11. **“Design Criteria of Flashlamp Pumping Nd-YAG Laser”, Iraqi Journal for Physics, Iraq, Vol. 1, No. 5, 2008.**
12. **"Palladium–Doped ZnO Thin Film Hydrogen Gas Sensor ", Applied Physics Research, Vol. 3, No. 1; May 2011.**
13. **"Synthesis Sol-Gel derived highly transparent ZnO thin films for optoelectronic applications", Advances in material physics and chemistry, Vol. 2, 2012.**

14. "Wavelength choice for lidar detection of carbon dioxide in volcanic emissions", Trends in applied spectroscopy, Original communication, Vol.9, 2012.
15. "PLATON: SATELLITE REMOTE SENSING AND TELECOMMUNICATION BY USING MILLIMETRE WAVES", Satalite telecommunications (ESTEL), 2012 IEEE First European Conference.
16. "Spectroscopic considerations on DIAL measurement of carbon dioxide in volcanic emissions", Journal of Optoelectronics and advanced materials, Vol. 15, No.3 - 4, 2013.
17. "Investigating the effect of aerosol droplets in a volcanic plume for increasing sensitivity of a CO₂ DIAL measurement", Proc. of SPIE Vol. 8894 889409-1, 2013.
18. "Carbon nanotubes on a spider silk scaffold", NATURE COMMUNICATIONS |4:2435|DOI: 10.1038/ncomms3435 |www.nature.com/naturecommunications, 2013.
19. " I-V Characteristics of ITO/CdTe/Al₂O₃/Si/Au Thin Film Solar Cell", International Journal of Current Engineering and Technology, Vol. 4, No. 3, 2014.
20. "Prepared SnO₂ Conductive Glass by Spray Pyrolysis and Enhancement Conductivity to Use as Substrate for Counter Electrode of DSSC", International Journal of Basic and Applied Science, Vol. 3, No. 2, 2014.

21. **"Fabrication of PANI by Electropolymerization Method on SnO₂ Conductive Glass as Counter Electrode for Dye sensitive Solar Cell", International Journal of Current Engineering and Technology, Vol. 4, No. 6, 2014.**
22. **"Far Infrared Photoconductive Detector Based on Multi-Wall Carbon Nanotubes", International Journal of Application or Innovation in Engineering and Management, Vol. 4, No. 1, 2014.**
22. **"Spray – casting CuInSe₂ nanoink onto Au and Mo coated substrates to fabricate photovoltaics", International Journal of Innovative Science, Engineering & Technology, Vol. 2 Issue 6, 2015**
23. **"Preparation CuInSe₂ (CIS) by arrested precipitation method as a light absorption layer of photovoltaic solar-cells", Nano Science and Nano Technology, Vol. 9 Issue 4, 2015.**
24. **"Synthesized Cu (In, Ga) Se₂ (CIGS) thin films and implementation as the active light absorbing material in photovoltaic devices (PVs)", Eng. & Tech. Journal, Vol. 33 part (B), No. 9, 2015.**
25. **"White Light Generation by Electroluminescence for ZnO Nanoparticle –Organic Hybrid Junction Device", International Journal of Engineering and Innovative Technology (IJEIT) Volume 4, Issue 9, 2015**

26. "Synthesis of ZnO Quantum Dot by Self Assembly Method and ZnO Nanorod by Hydrothermal Method", International Journal of Advanced Technology in Engineering and Science, Volume No.03, Issue No. 04, 2015.
27. "A carbon nanotubes photoconductive detector for middle and far infrared regions based on porous silicon and a polyamide nylon polymer", THE EUROPEAN PHYSICAL JOURNAL APPLIED PHYSICS, 70: 30401 DOI: 10.1051/epjap/2015150121, 2015.
28. "Synthesis of ZnS QDs with Different Values of pH and White Light Generation from Fabrication of TPD: PMMA/ZnS Hybrid Devices", Nano Hybrids and Composites, Vol. 14, 2017.
29. "White Light Generation from Electroluminescence Devices Using TPD:PMMA/QDs/Alq3", Nano Hybrids and Composites, Vol. 15, 2017.
30. "Electroluminescence Devices from Quantum Dots with TPD Polymer White Light Generation", Journal of Nano Research, Vol. 48 2017.
31. "Morphological and Optical Properties of CdS Quantum Dots Synthesized with different pH values", Iraqi Journal of Science, 2017, Vol. 58, No.3A, 2017.
32. "Near IR Photoconductive Detector Based on f-WCNTs/Polythiophen Nanocomposite", Iraqi Journal of Science, 2017, Vol. 58, No.2B, 2017.
33. "Photodetection of Near and Middle IR Lasers by f-MWCNTs/Polythiophen Nanocomposite Detector", Nano Hybrids and Composites, Vol. 18, 2017.

34. "Food Fraud Detection by Laser Photoacoustic Spectroscopy", RT/2017/41/ENEA, ISSN: 0393-3016, 2017.
35. " Synthesis of ZnS Quantum Dots for QDs-LED hybrid device with different cathode materials", IOP Conf. Series: Journal of Physics: Conf. Series 1032 (2018) 012010 doi:10.1088/1742-6596/1032/1/012010, 2018.
36. " OLED Hybrid Light Emitting Devices with ZnS QDs, TPBi and Alq3 Electron Transport Layers", Nano Hybrids and Composites, Vol. 21, 2018.
37. "Specific NH₃ Gas Sensor Worked at Room Temperature Based on MWCNTs-OH Network", Nano Hybrids and Composites, Vol. 23, 2018.
38. "QCL BASED PHOTOACOUSTIC SPECTROMETER FOR FOOD SAFETY", RT/2019/1/ENEA, ISSN: 0393-3016, 2019.
39. "A Specific NH₃ Gas Sensor of a Thick MWCNTs-OH Network for Detection at Room Temperature", Journal of Nano Research, Vol. 56, 2019.

Patents:

- 1." Building of natural dye sensitive solar cells based on carbon nanotubes and silver nanoparticles", patent No. 4711, 19/10/2016.
- 2." Photoconductive Detector Based on Multi-Wall Carbon Nanotubes and Conductive Polymer for Far Infrared Radiation", patent No. 4711, 19/10/2017.

Training Programs:

1. E-learning/ University of Baghdad/ College of Science, 2010
2. Virtual library/ University of Baghdad/ College of Science, 2010
3. Program for Instructional excellence/ FSU/ USA, 2011.
4. UN Department of Safety & Security (UNDSS)/ ENEA/ Italy, 2012

- a. **Basic Security in the Field II (BSITF II).**
- b. **Advance Security in the Field.**
- c. **UNESCO Field Security Awareness Training**
5. **Internet and computing core (IC3)/ University of Baghdad/
Computer centre, 2015**
6. **Password exam for English language, 2015**
7. **Internal auditor of quality according to specifications ISO 19011,
2016**

Membership In professional associations:

1. **Association of University Lecturers, Iraq, 2004.**
2. **Union of Teachers, Iraq, 1997.**
3. **Iraqi Physicist Society, Iraq, 1996.**

Date: 7th of July, 2019.

W. R. Saleh

Wasan Rashid Saleh