



The curriculum Vitae
Prof.Dr.Kadhim A.Hubeatir

Date of Birth: - Iraq- Waist 1958

Marital status: Married

Place of work: - Laser &optoelectronics Eng. Department / University of
Technology. Baghdad-Iraq

Languages spoken: Arabic, English.

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Academic Record

B.Sc. In physics science, college of science, university of Mosul 1980-Iraq

M.Sc. Applied physics / School of Applied science / University of
Technology, 1986. Baghdad-Iraq

Ph.D. Laser technology, AL-Rasheed College of engineering & Science,
University of Technology 2001.Iraq

Science Degrees

Professor: 19/11/2019

Researches

1. Researches: - 55

1. Laser induced damage in c-silicon and a-silicon V: 5 No: 1
P: 112 2001 AL-Nahrain University. College of Engineering Journal.
2. One stage Nd-glass oscillator - amplifier Design a speeds .V:7 No:1
P:106 2003 AL-Nahrain University. College of Engineering Journal.
- 3- Amorphous/crystalline (n-n)Si Heterojunction photo detector made by Q-switched 0.532 nm laser pulse with novel technique. Chines physics letter
Vol:23 No:2,2006
- 4- Cdse/si Heterojunction photo detector made by rapid thermal alloying
technique. مؤتمر افاف البحث العلمي والتطوير التكنولوجي في الوطن العربي دمشق-سوريا 11-
2006/12/14
- 5- Low resistance non alloyed in ohmic contact to n-si irritated by Nd-Yag
laser pulse.Opto-electronic and advanced material-rapid communication
Vol:2 No:12, 2008
- 6- Theoretical analysis of coupling constant, longitudinal modes and
threshold gain for coupled-cavity semiconductor laser engineering and
development journal of Engineering college of Engineering – University of
Al Mustanserya.Vol:13 No:3,2009
- 7- Study of mechanical properties of porcelain restored material by using
CO₂ laser Eng.& Tech. Journal.Vol:28 No:7,2010

8.دراسة الخصائص الميكانيكية لمواد متراكبة هجينة من الياف الكربون-كفلر

- 9-** Front-wall illumination of spray-deposited pbs-si HJ detector.
Eng.&Tech. Journal Vol:30 No:12. 2012
- 10-** One dimensional finite Element solution of moving boundaries in far IR tissue ablation Iraqi J.Laser ,part A Vol:11,2012
- 11-** Analytical model of transient thermal effect on convention cooled end-pumped laser rod .PRAMANA Journal of physics Vol:81 No:4,2013
- 12-** Study the effect of Gamma radiation an some mechanical and structure properties of glass and glass-ceramic immobilized nuclear waste.
Asian Academic Research Journal of Multidisciplinary.(ARJMD) vol:1
issue:21
May 2014
- 13-** Investigation of Laser Assisted Etching for preparation Silicon Nanostructure and Diagnostic physic properties .Eng. & Tech. Journal. V .33 (B) No.4.2015
- 14-** Laser surface Alloying of 316L and 321 Stainless steel with chromium.
المؤتمر الدولي الاول لتطبيقات الليزر والمواد المتقدمة 16-18/October/2014
- 15.** Polymeric Solar Cells: A Mini-Review of Fabrication Techniques.
Journal of Iraqi Industrial Research. Vol. 2, No. 2 (2015) 26-30.
- 16.** Spiking control in semiconductor laser with Ac- coupled optoelectronic device. Australian Journal of Basic and Applied Sciences 9(33) October 2015, 417-426.
- 17.** Synthesis of Aluminum and Titanium Oxides Nanoparticles via Sol-Gel Method: Optimization for the Minimum Size. Journal of Nanoscience and Technology 2(1) (2016) 37–39.
- 18.** Ultraviolet photo detector based on TiO₂ Nano particles/porous silicon heterojunction .Optik 127 (2016) 2806–2810.

- 19.** Studying the effect of simultaneous variation in both of the bias current and feedback strength on the output dynamics of semiconductor laser with optoelectronic feedback.
IJSET - International Journal of Innovative Science, Engineering & Technology Vol. 3 Issue 2, February 2016.
- 20.** Preparation and Characterization Study of ZnS Thin Films with Different Substrate Temperatures. Eng. & Tech. Journal, Vol.34, Part (A), No.1 2016.
- 21.** Characterization of TiO₂ nanoparticles on porous silicon for optoelectronics application. Materials Technology **Advanced Performance Materials**. Published online: 29 Jan 2016.
- 22.** Microwave- assisted solvent-free synthesis of new polyamine. Cogent Chemistry (2015), 1:1075853 page 1-7.
- 23.** Polymer solar cells with enhanced power conversion efficiency using nonmaterial and laser techniques. Materials Technology/ Advanced performance materials 2016,
<http://dx.doi.org/10.1080/10667857.2016.1215080>,
- 24.** Chaotic spiking and mixed mode oscillations by optoelectronic feedback. AUSTRALIAN JOURNAL OF BASIC AND APPLIED SCIENCES Vol. 10, No. 16 (November ISSUE), 2016.
- 25.** Synthesis of copper oxide nanoparticles via sol-gel method International Journal of Research in Engineering and Innovation (IJREI). Vol-1, Issue-4 (2017), 43-45.
- 26.** The Impact of CO₂ Laser and Hydroxyapatite Nano Particles on Dental Enamel. International Journal of Science and Research (IJSR) . Volume 6 Issue 8, August 2017.
- 27.** Effect of CO₂ Laser and Casein Phosphopeptide- Amorphous Calcium Phosphate paste on Morphological and Chemical Changes of Initial Caries-Like Lesion of Permanent Teeth. International Journal of ChemTech Research, 2017,10(6): 937-944.

- 28.** Effect of Laser Energy on the Structure of Ni₄₆–Ti₅₀–Cu₄ Shape-memory Alloy. *International Journal of Nano electronics and Materials Volume 11, No. 4, Oct 2018* [481-498].
- 29.** EFFECT OF CO₂ LASER ON SOME PROPERTIES OF NI₄₆Ti₅₀CU₄ SHAPE MEMORY ALLOY. *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*. Vol. 8, Issue 2, Apr 2018, 451-460.
- 30.** Improvement of Corrosion Resistance of Dental Alloys in oral environment at different temperatures by laser irradiation. *Australian Journal of Basic and Applied Sciences*, 10(18) December 2016, Pages: 162-170.
- 31.** Deep Engraving Process Of PMMA Using CO₂ Laser Complemented By Taguchi Method. *IOP Conf. Series: Materials Science and Engineering* **454** (2018) 012068 doi:10.1088/1757-899X/454/1/012068.
- 32.** Effect of CW green laser parameters on welding width and strength of PMMA. *The 2nd International Conference on Materials Engineering and Science* [25/09/2019 -University of Technology Baghdad-Iraq].
- 33.** Laser transmission welding of PMMA using IR semiconductor laser Complemented by the Taguchi method and grey relational analysis. *Materials Today: Proceedings* 20 (2020) 466 – 473
<https://doi.org/10.1016/j.matpr.2019.09.167>.
- 34.** Effect of CW Green Laser Parameters on Welding Width and Strength of PMMA Polymer. *2nd International Conference on Materials Engineering & Science (IConMEAS 2019)* AIP Conf. Proc. 2213, 020192-1–020192-7; <https://doi.org/10.1063/5.0000276>. Published by AIP Publishing. 978-0-7354-1964-3 pp. 020192-1.
- 35.** Influence of titanium oxide additions with co₂ laser treatment on the microstructural properties of glazes layer-dental zirconia ceramics. 1st International Conference in Physical Science and Advance Materials IOP Conf. Series: Materials Science and Engineering 757 (2020) 012026 .IOP Publishing .doi:10.1088/1757-899X/757/1/012026.
- 36.** Preparation Methods and Classification Study of Nanomaterial: A Review: Iraqi Academics Syndicate International Conference for Pure and Applied Sciences, *Journal of Physics: Conference Series* 1818 (2021) 012127; IOP Publishing. doi:10.1088/1742-6596/1818/1/012127.

37. A surface Plasmon temperature sensor based on E7 liquid crystal using angle interrogation method. *Journal of Electromagnetic waves and applications*. <https://doi.org/10.1080/09205071.2021.1960901>.
38. The Effect of Laser Energy on the Rate of Corrosion for Ni46-Ti50-Cu4 Shape Memory Alloy. *INTCSET 2020 .IOP Conf. Series: Materials Science and Engineering* 1094 (2021) 012135; IOP Publishing doi:10.1088/1757-899X/1094/1/012135.
39. Characterization of Bulk BaTiO₃ Material for Optical Modulator Applications: *Materials Science Forum*, Vol. 1002, pp 132-139 .2020 Trans Tech Publications Ltd, Switzerland.
40. Study the Effect of Laser Wavelength on ZnO Nanoparticle Characteristics Synthesized by Pulse Laser Ablation as an Antibacterial Application. *Engineering and Technology Journal* 40 (10) (2022). <https://etj.uotechnology.edu.iq>.
41. Laser Transmission Welding is a promising joining technology technique – A Recent Review: IICESAT Conference, College of Material Engineering, University of Babylon, Iraq *Journal of Physics: Conference Series* 1973 (2021) 012023, IOP Publishing doi:10.1088/1742-6596/1973/1/012023.
42. Effect of CO₂ laser parameters on redwood engraving process complemented by Taguchi method. *Materials Today: Proceedings* 42 (2021) 2566–2572.
43. Analysis of Thermal Effects within Cylindrical Shape Solid-State Laser Rod. *Materials Science Forum*. Vol. 1002, pp 264-272, 2020 Trans Tech Publications Ltd, Switzerland.
44. Parametric Optimization of Laser Conduction Welding between Stainless Steel 316 and Polyethylene Terephthalate Using Taguchi Method. *Engineering and Technology Journal* 40 (12) (2022).
45. Characterization and antibacterial activity of silica-coated bismuth (Bi@SiO₂) nanoparticles synthesized by pulsed laser ablation in Liquid. *Optik - International Journal for Light and Electron Optics* 273 (2023) 170453. www.elsevier.com/locate/ijleo.
46. A novel method for ZnO@NiO core-shell nanoparticle synthesis using pulse laser ablation in liquid and plasma jet techniques. *Scientific Reports* | (2023) 13:5441 | <https://doi.org/10.1038/s41598-023-32330-z> www.nature.com/scientificreports.
47. Full-wave Multiphysics model for simulation and investigation of Tera hertz photoconductive antenna using LUMERICAL and CST soft wares. *Results in Optics* 10 (2023) 100344. www.sciencedirect.com/journal/results-in-optics.
48. Two-step pulsed laser ablation for preparation NiO@ZnO core-shell

- nanostructure and evaluation of their antibacterial activity. *Adv. Nat. Sci.: Nanoscience. Nanotechnology*. 14 (2023) 045003 (9pp) IOP.Publishing. <https://doi.org/10.1088/2043-6262/ad010c>
- 49.** Temperature Effects on the Optical Properties of Bismuth Nanoparticles Prepared by PLAL for Antibacterial Activity. *International Journal of Nano electronics and Materials* Volume 16 January 2023 [81-91].
 - 50.** Optimization of CO₂ Laser Parameters for Hole Micro drilling of PMMA: An Experimental and Theoretical Study. *Defect and Diffusion Forum* Submitted: 2022-06-14, Vol. 421, pp 53-62. Trans Tech Publications Ltd, Switzerland.
 - 51.** Synthesis and Characterization of ZnO Nanoparticles by Pulsed Laser Ablation in Liquid Using Different Wavelengths for Antibacterial Application. *International Journal of Nano electronics and Materials*. V.16, No. 2, April 2023 [339-352].
 - 52.** Design and performance enhancement of terahertz photoconductive antenna based on Nano-crossline contacts. *Optik - International Journal for Light and Electron Optics* 287 (2023) 171057. www.elsevier.com/locate/ijleo
 - 53.** comparative study on the effect of CO₂ laser parameters on drilling process of polycarbonate and PMMA polymers complemented by design expert: *Eng. Res. Express* 4 (2022) 045029. <https://doi.org/10.1088/2631-8695/aca319>. IOP Publishing.
 - 54.** Optimization of PC micro-drilling using a continuous CO₂ laser: an experimental and theoretical comparative study: *Journal of Engineering and Applied Science* (2022) 69:98 <https://doi.org/10.1186/s44147-022-00151-y>.
 - 55.** Effect of CO₂ Laser and Selected Nanoparticles on The Micro hardness of Human Dental Enamel In vitro Study: *Journal of Medicinal and Chemical Sciences* 6 (2023) 1487-1497. <http://www.jmchemsci.com/>.
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Supervision for students in Laser Technology and Materials Science.

Supervision on different thesis for M.Sc. and Ph.D. students. Some of them are listed below: - **29**

Year	Title	Name of student	
2004 M.Sc.	Study of Mechanical and Thermal Behavior of Hybrid Composite from Carbon and Kevlar Fiber.	Munshid Hattab Muhammad	1
2004 M.Sc.	Fabrication and study of the electrical and photolytic characteristics of a-si/c-si heterojunction detector by 532 nm laser pulses.	Abdullah K.Abass	2
2004 M.Sc.	Ohmic contact fabrication on a n-Type silicon using a Nd-Yag pulsed laser.	Nihaya Hashim Khalaf	3
2004 M.Sc.	Design and construction of laser detection system to limit the direction of radiation.	Mudhafar Hussen Ali Albufairi	4
2005 M.Sc.	Design and implementation of an optical communication system between two computers for data transmission.	Shatha Mizhir Hasan	5
2006 M.Sc.	Preparation and characterization of n-Cdse/si photo detector using rapid thermal alloying technique.	Hussian T.Khamees	6
2006 M.Sc.	Design and constructing nitrogen laser system type(TEA).	Raid Abdul-Hussein Diab	7
2008 M.Sc.	Simulation study of carbon steel phase transformation using Nd-Yag Laser pulse.	Alaa Fathel Edan	8
2008 M.Sc.	Development of porcelain restorative material by using CO ₂ Laser.	Nawras Mohsin Kadhim	9

2008 M.Sc.	Design and implementation of marx generator for laser application.	Sarmad Fawzi Hamza	10
2008 M.Sc.in Dentistry	A comparative study on surface treatment with air abrasion and Nd-Yag laser beam on shear bond strength of aged repaired composite with two bonding systems. (in vitro study)	Maha Adnan Habeeb	11
2015 M.Sc.	Enhancing of surface properties of super Alloys Using Laser Surface Treatment by two Techniques.	Marwa Ramadhan Ahmed	12
2015 M.Sc.	Properties of TiO ₂ Nanoparticles and Porous Silicon for optoelectronics applications	Zahraaa Jameel Abdulkareem	13
2016, M.Sc.	Chaos control in optoelectronics devices	Hassan Ghasan jaber	14
2016 M.Sc.	Preparation and characterization of polymeric solar cell properties complemented with efficiency enhancement by laser	Furkan Kamil Mohammad	15
2017 M.Sc.	Synchronization of Unidirectional 2x2 Chaotic Optoelectronic Network.	Farah Farman Abass	16
2017 M.Sc.	Investigation of Laser treatment effects on corrosion behavior and surface hardness of dental stainless steel AISI 316L.	Nada Kadhim Rashid	17
2017 M.Sc.	Enhancement of electrical conductivity of polyaniline solar cell by using of some organic compounds and laser radiation	Hadeel Kalid Thanoon	18
2017 M.Sc.	Effect of laser irradiation and CPP-ACP on the microhardness and structural changes of initial caries-Like Enamel Lesions.	Shahad Laith Mohammad	19

2017 M.Sc.	Effect of Laser parameters for Modification of the NiTiNol alloy for biomedical applications	Abeer Ramzi	20
2017 Ph.D. in Dentistry	The Effect of CO2 Laser and selected Nano particles on Human Dental Enamel and Salivary Mutans streptococci (In Vitro study).	Farah Abul-Razzak Al-Bazaz	21
2018 M.Sc.	Optimization of Laser parameters on Engraving process for different materials.	Hadeel Jameel Imran	22
2020 M.Sc.	Effect of some laser parameters on laser transmission welding process (LTW) for PMMA polymer	Farah Mothana Shaker	23
2020 M.Sc.	Improvement of dental zirconia by using CO ₂ laser and some Nano materials	Zahra Amer Salman	24
2022 M.Sc.	Effect of Laser Parameters for Joining Stainless Steel AISI 316 to PET Using Laser Conduction Welding Process	Marwa Aubaid Khaiun	25
2022 M.Sc.	Optimization of hole drilling process in different polymer materials (PMMA and PC) by laser radiation	Ansam Essa Abdulwahab	26
2023 M.Sc.	Hot Metal Nanoparticles Prepared by Laser Radiation for Antibacterial Effect	Sally Salah Hasan	27
2023 Ph.D.in Laser Eng.	Preparation of Nanomaterials by Laser Ablation and Plasma Jet Techniques for Antibacterial activity	Hadeel Jameel Imran	28

2023 Ph.D.in Laser Eng.	Performance enhancement of photoconductive antenna-based terahertz generation and detection using nanotechnology.	Ahmed Saleem Faleh	29
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Current membership in professional organizations:

1. Member. Iraqi Laser society , 2004 –present
2. Member. Iraqi Nanotechnology society, 2011-present.
3. Member. Iraqi Academics community. present

Additional Activities

1. Head of Laser engineering branch from **27-2-2007-30/1/2012** and from **4/12/2012 to 27/7/2017** University of Technology. Baghdad- Iraq

2. Patent issued by the Ministry of Planning / Republic of Iraq

International Classification: H01L31/00, Y02E40/00

Invention Naming: **Increment of polymer solar cell efficiency doped with Nano material using laser irradiation.25/7/2016.**

Second patent from Ministry of Planning/Republic of Iraq.

International Classification: B41M5/24, B41M5/262, Y10S430/148, B23K26/088.

Invention Naming: **Engraving Method on Gypsum board using Laser. 2/5/2021.**

3. Acknowledgement from the Minister of Higher Education and Scientific Research. Number (1).

4. Acknowledgement from the President of the University of Technology. Number (32).
5. Acknowledgement from the governor of Waist. No. (1).
6. Acknowledgement from the Dean of Laser and optoelectronics Engineering Dept. number (15).
7. Acknowledgement from the University College-Kut Waist- Iraq .number (1).
8. Acknowledgments from the heads of departments and research centers at the University of Technology. Number (8).
9. Authored a book Title: Polymer solar cell / LAMBERT 2015