

CV

Professor Dr. Walid K. Hamoudi



Department of Optics Techniques
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Education:

PhD, University of Essex (England), Year 1985
MSc, University of Essex (England), Year 1982
BSc, University of Almustansiriya (Iraq), Year 1977

Profile:

I joined the department of Applied Sciences at the University of Technology in 1985/ Baghdad-Iraq as a full time faculty. I took part in academic teaching, postgraduate student supervision and research work. In 1994 I joined a research work at Oxford/ Cambridge and Liverpool-UK to develop new approaches in laser welding/drilling/ and cutting of metallic and nonmetallic materials. In 2005 and 2006 I worked for Eidam diagnostics (Canada) to develop laser aesthetic treatment protocols. Between 2007 and 2009 I joined the University of Nizwa in Oman as a full time professor. Currently I am a professor at Al-Farabi University College. My current research activities are directed to laser aesthetic applications, laser dentistry, Nanoscience and optoelectronics.

Current teaching activities

1. Optical Instruments used to diagnose eye disorders and diseases.
2. Laser medical applications,
3. Laser design,
4. English skills and research methodology.

Research Focus

- Laser industrial applications
- Laser design
- Laser aesthetic applications,
- laser dentistry,
- Nanoscience and optoelectronics.

Publications

99 published articles

1. *Combined laser - nanoparticles treatment for enhanced enamel protection: In vitro study*, J Lasers Med Sci, accepted for publication.
2. *Temperature rise control for safe treatment of varicose vein by Nd:YAG laser*, 2nd International Conference in Physical Science & Advanced Materials (American Institute of Physics), AIP Conf. Proc. 2372, 080007-1–080007-8; <https://doi.org/10.1063/5.0066065> Published by AIP Publishing (Nov-2021). 978-0-7354-4170-5/\$30.00
3. *Efficient Fabrication of SERS Plasmonics Pesticides Sensors by Pulsed Laser Etching*, 2nd International Conference in Physical Science & Advanced Materials (American Institute of Physics), AIP Conf. Proc. 2372, 080019-1–080019-11; <https://doi.org/10.1063/5.0066052> Published by AIP Publishing (Nov-2021). 978-0-7354-4170-5/\$30.00

4. Sensing Performance of Mono and Bimetallic Nano Photonics Surface Enhanced Raman Scattering (SERS) Devices, *Engineering & Technology Journal*, Vol. 39, PP. 1174-1184 (2021)
5. Enhanced pesticides' limit of detection using bimetallic alloys nanoparticles, *Mater Sci: Mater Electron*, Springer – published on-line 04 July 2021, <https://10.1007/s10854-021-06381-9>
6. Histological analysis of tattoo removal by water cavitation bubbles and jet formation using Nd: YAG nanosecond laser pulses, accepted for publication in *Journal of Physics Q3, Conference Series (JPCS)-IOP Publication,, UK* . Indexed by Scopus, IF (0.54) and H- index (70)
7. Pre-calculated relevant Nd: YAG Laser parameters for optimized varicose veins treatment, accepted for publication in *Journal of Physics Q3, Conference Series (JPCS)-IOP Publication, UK*. Indexed by Scopus, IF (0.54) and H- index (70)
8. Controllable formation of plasmonic gold nanoparticles by pulsed laser–induced etching; accepted for publication in *Optical and Quantum Electronics* (2020) 52:351, <https://doi.org/10.1007/s11082-020-02466-7>
9. Modifications of Hydroxyapatite properties by nanosecond Nd: YAG laser pulses, accepted in *Lasers in Manufacturing and Materials Processing - LMMP-D-20-00012R1*, June 2020.
10. Efficient fabrication of SERS Plasmonics pesticides sensors by pulsed laser etching, accepted in 2nd International Conference in “Physical Science & Advanced materials” 23-25 October 2020 Istanbul / Turkey
11. Temperature rise control for safe treatment of varicose vein by Nd: YAG laser, accepted in 2nd International Conference in “Physical Science & Advanced materials” 23-25 October 2020 Istanbul / Turkey
12. Acid resistance enhancement of human tooth enamel surface by Nd:YAG laser and incorporating silver nanoparticles: in vitro study, *Lasers in Dental Science – Springer*, e-ISSN 2367-2587, DOI 10.1007/s41547-019-00082-7, 4: 7-16 (2020)
13. Secure optical communication based on new hyper-chaotic map “ 3rd International conference of mathematical sciences (ICM2019), *AIP Conference Proceeding* 2183(1)P090006, DOI: 10.1063/1.5136206 (2019)
14. Hybrid CdS nanowires/Si heterostructure photodetector fabricated by intense pulsed light assisted - laser ablation in liquid; *Optical and Quantum Electronics* (2019) 51:126 <https://doi.org/10.1007/s11082-019-1840-x>
15. The effect of laser hardening and embedding nanoparticles on tooth resistance against carries, *International Journal of Dental Research & Development (IJDRD)*, ISSN (P): 2250-2386; ISSN (E): 2321-0117 Vol. 9, Issue 1, Jun 2019, 5-14

Affiliations/Activities

- Iraqi Scholars council - translation committee (1997-2003).
- Scientific Research council member – Ministry of higher education 1998-2003
- Editing board member of *Iraqi Journal of Applied Physics* (2005 - 2016).
- Executive Committee of Nanotechnology Center at UoT/Iraq, (2010-2015).
- Editing board of *Journal of Engineering-University of El-Nahrein*, (2016-2019).
- Executive Committee of English Center at UoT/Iraq, (2017-2019).
- UoT Scientific and Academic Committee, (2017-2019).