

# Ass.Prof.Dr. Talib Zeedan Al-Mosawi



## EDUCATION:

- Bachelor of Physical Science, College of Science, Al-Mustansiriya University, 1992
- Master of Applied Sciences - Laser Technology at the University of Technology 2005
- PhD in Laser Physics and Optical Electronics, College of Science, Al-Mustansiriya University 2016

## STUDY AT:

- University of Mosul, College of Science, 1987
- Al-Mustansiriya University, College of Science, 1990
- University of Technology and Applied Sciences 2002
- Al-Mustansiriya University, College of Science 2012-2017

## CONTRIBUTION IN ESTABLISHING:

- Imam Jafar al-Sadiq University (peace be upon him) / Secretary of the Board of Directors 2004-2012
- Faculty of Fundamentals of Religion University Advisor and Member of the Directors Board 2016-2017
- Al Kut University College, Chairman of the Directors Board 2012
- Al-Mustafa (PBUH) International University / Consultant 2007-2008
- Contributing to the opening of scientific and humanity departments at Kut University College (dentistry, pharmacy, anesthesia techniques, nursing, medical laboratory techniques, medical device techniques, medical physics, laser and optoelectronic engineering, chemical engineering and oil refining, electrical engineering techniques, law, accounting Business Administration, Physical Education and Sports Sciences, Arabic Language, Qur'anic Sciences and Islamic Education, English Language)

## INFORMATION

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### ADDRESS:

Baghdad - Iraq

Al-Kut - Wasit

### LANGUAGE

**Arabic**

**Mother tongue**

**English**

**Fluent**

### SOCIAL MEDIA



- <https://drtalib-almosawi.com/>
- <https://youtube.com/@talibalmosawi1448>
- <https://www.facebook.com/talib.almosawi>
- <https://www.facebook.com/profile.php?id=100029576329274&mibextid=LQQJ4d>
- <https://www.facebook.com/profile.php?id=100003805333056&mibextid=LQQJ4d>

## SCIENTIFIC AND ADMINISTRATIVE COURSES, SEMINARS, CONFERENCES AND SCIENTIFIC WORKSHOPS:

- Advanced course in English.
- Course in IC3.
- A course in teaching methods, university training, and computer learning/University of Technology.
- Advanced course in meteorology and remote sensing.  
An advanced course in computers for the academic promotion of university professors.
- International Certificate for Training and Education (IC3) from Certiport International Training Company.
- TOEFL test certificate. TOFE
- Certificate from the World Health Organization.
- Certificates from multiple Iraqi scientific societies.
- Leadership and Innovation Conference, United Arab Emirates.
- Islamic Universities Association Conference / Kingdom of Saudi Arabia / Mecca.
- Conference of the Association of Islamic Universities / Al-Azhar University / Egypt / Alexandria University.
- Conference of the Universities of Iran and the Arab World / Ferdowsi University in Mashhad.
- Many scientific conferences in Iraqi public and private universities.
- Participation in management and leadership courses at Kut University College.
- Lecturer at the art of management and leadership.
- Lecturer at the principles of scientific research.
- Lecturer at the mechanism of scientific publishing.
- Lecturer at how to obtain international classifications of international universities and compare them.
- Lecturer at how to obtain quality certificates.
- Application of laser in nanotechnology.
- Measuring the age of antiquities using half equations for radioactive isotopes.
- The second compatibility in lasers and their applications, SHG.
- Examining the listed materials, the degree of purity of some of their elements and their compositions using LIBS technology.
- Detecting traces using a laser.
- University professor's identity/scientific identity.
- Indexed scientific journals.
- International and national classifications.
- ISO certificates for academic educational institutions.
- Drugs and the health and societal effects of their abuse in Iraq. Solutions and treatments.
- Detection of TNT and C4 bystanders using the LIBS system
- The modern technology used in the second harmonic technique in the solid state Nd:YAG laser
- Modern laser systems to measure the degree of pollution in the Tigris River water and treatments.
- Types of pollution in the air and its impact on the environment.
- Head of the Department of Laser Engineering and Optoelectronics from 14/11/2023 and continuing in service
- Head of the Department of Medical Physics from 25/11/2023 to 23/1/2024 and I was assigned as an administrative supervisor of the above department as of 23-1-2024 and continues to serve.
- Uses of lasers in measurements, quality control, and material inventory using the LIBS system
- - Chairman of the Committee for the preparation of the job description guide at Al-Kut University College, Chairman of the Committee for Completing the Requirements of Institutional Accreditation Standards at Al-Kut University College, Committee of the Third International Conference on Modern Technologies in Oil and Gas Industries at Al-Kut University College.

## MEMBERSHIPS

- Member of the Iraqi Physics and Mathematics Society.
- President of the Iraqi Laser Association/Scientific Societies, Ministry of Higher Education and Scientific Research.
- Member of the University Teachers Syndicate Association.
- Member of the University Teachers Association.
- Member of the Nanotechnology Society.
- Member of the American Chemistry Society.
- Member of the Supreme National Curricula Committee, Ministry of Education/General Directorate of Curricula, Security.
- Member of the National Committee for Natural Sciences of the Ministry of Education, General Directorate of Curricula.
- Member of the Physics Curricula Vocabulary Composition Committee/Ministry of Education.
- Member of the Physics subject composition committee/Ministry of Education.
- Chairman of the Board of Directors and Editor-in-Chief of Al-Jami newspaper.
- Chairman of the Board of Directors of Al-Kut University College Magazine.
- President of the Association of Private Universities and Colleges - Mesopotamia Association for the Development of Private Higher Education in Iraq.
- Member of the International Universities Association.
- Member of the Association of Afro-Asian Universities.
- Member of the Executive Council of the Association of Islamic Universities.
- Executive Director of the International Friendship Organization branch in Iraq.
- Honorary Director of the Wasit Governorate Sports Association.
- Founder of the Football Academy for age groups in Wasit Governorate.
- Member of the Union of Arab Academics.
- Member of the Iraqi Publishers Union.
- Member of the Iraqi Journalists Syndicate.

## BOOKS OF THANKS AND APPRECIATION.

- Shield of the Technical Institute / Essaouira
- Shield of Mesopotamia University College
- Chinese Convention Shield
- Shield of the Iranian Al-Khwarizmi University
- Shield of Azad University/Iran
- Shield of Ferdowsi University / Mashhad
- Al-Mustafa University Shield/Iran
- Shield of the Ministry of Science and Technology/Department of Materials Research
- Shield of the University of Modern Sciences/Yemen
- Amirkabir University of Technology Shield
- Shield of Sadr Al-Iraq University College
- Shield of Al-Nisour University College
- Shield of the University of Agricultural Sciences and Natural Resources in Sari/Iran
- Distinguished Leaders Medal / Free Asia Organization / Civil Society Organization..
- Thanks and appreciation from the President of Al-Mustansiriya University / (No. 2).
- Thanks and appreciation from the Dean of the College of Science / Al-Mustansiriya University / (No. 3).
- Thanks and appreciation from the Minister of Education (No. 2).
- Thanks and appreciation from the Director General of Curricula, Ministry of Education (number 2).
- Thanks and appreciation from Imam Jaafar Al-Sadiq (peace be upon him) University.
- Thanks and appreciation from the Dean of the College of Education/Al-Mustansiriya University.
- Thanks and appreciation from the Governor of Wasit (No. 3).
- Thanks and appreciation from the Chairman of the Wasit Governorate Council (No. 3).

- Thanks and appreciation from the University of Technology, Department of Laser Engineering and Optoelectronics.
- Thanks and appreciation from Wasit University (8 times).
- Thanks and appreciation from His Excellency the Minister of Higher Education (5 times).
- Al-Kitab University Shield
- Shield of Al-Kunoz University College
- Shield of the Islamic University/Lebanon
- Persian Gulf University Shield
- Shield of the University of Religions and Sects
- Shield of Al-Mustafa University College
- Philadelphia University Shield
- University of Technology Shield
- Wasit University Shield
- Shield of Al-Sham Private University
- Al-Karkh University of Science Shield
- National University of Science Shield
- Shield of Al-Salam University College
- Shield of Samarra University/Faculty of Education
- Shield of the Hashemite University / Jordan
- Philadelphia University Shield - Jordan
- Shield of Ahl al-Bayt University
- Lebanese University Shield
- Shield of the Lebanese University of Sciences and Arts
- Shield of the American University of Culture and Education / Republic of Lebanon
- University Shield, Imam Jaafar Al-Sadiq (peace be upon him), distinguished professors (3 times).
- Shield of the Political Prisoners Foundation.
- Shield from the Iraq Center for Studies.
- A shield from Al-Nisour University College.
- A shield from Al-Mustafa (may God bless him and grant him peace) International University.
- Shield of Al-Farabi University College.
- Shield of Kut University College.
- Wasit Provincial Council called.
- Shield of the Islamic University of Lebanon / Khaldeh.
- Albanian Lebanese Government Shield.
- Shield of the Modern University of Management and Science
- Sumer University Shield
- Shield of the College of Health and Medical Technologies/Baghdad
- Shield of the College of Health and Medical Technologies/Baghdad

## PUBLISHED RESEARCH:

- 1- Study of the thermal effects of the high power GLASS ND laser.
- 2- Second harmonic generation from YAG ND laser
- 3- Study the effect of cooling on the output power characteristics of a continuous longitudinal excitation carbon dioxide laser system.
- 4- A comparative study of thermal self-focusing of a GLASS laser rod using the beam scattering and interference methods.
- 5- A mathematical model to calculate the threshold values of the laser power entering the eye.
- 6- Structural properties of cadmium telluride (CdTe) crystal
- 7- Numerical model of radiation transmission in fine optical fibers.
- 8- Using a Nd YAG laser to pump optically active crystals.
- 9- Study of the spectroscopic and thermal properties of its molecule (F2 CCL2) and study of the (CF) endowment of sulfur.
- 10- Study of the optical and mechanical properties of flow glass materials in the MUIT spectral range.
- 11- Medical applications of low power lasers.
- 12- Study of self-focusing of high energy laser beams.
- 13- Generating the bone output power of the pulsed (YAGNd) laser system.
- 14- Study of the effect of thickness on the optical properties of aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) thin films prepared by thermochemical decomposition.
- 15- Using ion implant technology to improve surfaces and produce new materials by grafting arcon ions onto silicon chips and using them as an optical detector.
- 16- Study of the restoration of artifacts using lasers.
- 17- Studying the possibility of eliminating cancer cells using lasers and nanomaterials without surgery. Analysis of laser beam pulses to photovoltaic a Si/c-Si heterojunction by using the wavelength 532nm.
- 18- Study the compositional structure of Artifacts and Determine their Ages by used laser Induced.
- 19- Breakdown spectroscopy-Ultimate Beam Expansion Ratios for Nd: YAG laser Harmonics.
- 20- Remote sensing for Nd: YAG laser Harmonics propagation in polluted Atmosphere – Tribological.
- 21- potential of Aluminum Alloy Reinforced with Graphite and zinc particles preparation by powder Metallurgy.
- 22- Heavy Metal Ions Fiber Optic Sensor.
- 23- FREE-SPACE OPTICAL SYSTEM BASED ON VERTICAL TRANSCEIVERS LINK UNDER VARYING SMOKE DENSITY.
- 24- Optical Design Optimization for Indoor Solar Illumination Using Truncated Tetrahedral Pyramid Concentrator.
- 25- Design and Implementation of optical fiber sensor for Ammonia gas Study the Optical Distortion Generated Inside the Nd: YAG Laser Rod Affected by Thermal Lancing.
- 26- Effect of incident wavelength on the optical conductivity skin depth and carrier concentration of the sputtered CdO thin film.
- 27- Spectroscopy study for fuorescent spectrum with optnum parameter and their applications.
- 28- Dual solar cells with collection of medalist reflectors and comparison with photodetector.
- 29- Design of five-bit digital phase shifter X-Ray analysis of photodetector (Cdse) for optical microscope photography's and structure analysis.
- 30- First Principle Study on Sensing Properties of quasi-planer born (B36 borophene) Towards COS, SO<sub>2</sub>, H<sub>2</sub>S and CS<sub>2</sub> gases

- 32- Perception of Mg adsorption on the BC<sub>2</sub>N nanotube as an anode for rechargeable Mg ion batteries
- 33- A computational study on the potential application of Ca<sub>12</sub>O<sub>12</sub> cluster for sensing of fungicide molecule
- 34- Al-, Ga- and In-decorated BP nanotubes as chemical sensors for 2-chloroethanol
- 35- Exploring the application of AlN graphyne in calcium ion batteries
- 36- Study to molecular insight into the role of Aluminum nitride nanotubes on to deliver of Fluorouracil (5FU) drug in smart drug delivery
- 37- Potential application of some noble metal decorated AlP nano-sheet for detection of boron trichloride
- 38- Study to amino acid-based inhibitors as an effective anti-corrosion material
- 39- Improving the reactivity and electronic sensitivity of BC<sub>3</sub> nanotubes toward phenylpropanolamine drug by Au-decoration
- 40- A theoretical survey on the F<sub>2</sub>, Br<sub>2</sub>, and Cl<sub>2</sub> detection by the AlP nanosheet in presence of environmental gases
- 41- A molecular modeling on the sensing behavior of pristine and Stone-Wales defected ZnO monolayers toward PH<sub>3</sub> and AsH<sub>3</sub> gases
- 42- The effect of Si and Cu doping on the sensing performance of BN nanotube toward diazomethane
- 43- Application of pure and Au-decorated YN (Y = B, Al, and Ga) nanotubes as good media for toxic phosgene oxime gas adsorption
- 44- Application of zinc oxide nano-tube as drug-delivery vehicles of anticancer drug
- 45- Introducing a new type of drug delivery system based on the silicon carbide monolayer
- 46- Inhibitory behavior and adsorption of amino acids based anticorrosion material on the Fe (111) surfaces
- 47- Study the role of halide counterions to potential corrosion inhibitor in imidazolium based ionic liquid
- 48- Evaluation the removal of edifenphos molecule by aluminum carbide monolayer: A DFT study
- 49- Application of pure and Sc-decorated GaN nanotube in the 5-fluorouracil anti-cancer drug delivery: DFT calculations
- 50- Carbon-like BeO nanotube as a promising material for anticancer drugs delivery system
- 51- Aluminium carbide nano-sheet as a promising adsorbent for removal of carbendazim
- 52- Application of Ir, Pt, and Au decorated carbon nitride nanosheets for amantadine drug recognition
- 53- Serotonin adsorption on Cu, Ag, and Au decorated BN nanosheets: Solvent effect, energy decomposition, and sensing response studies
- 54- Application of pure and Ti-decorated AlP nano-sheet in the dacarbazine anti-cancer drug delivery: DFT calculations
- 55- Sensing behavior of pure and Cu-doped boron carbide graphene-like nanosheet to carbonyl sulfide: a computational survey
- 56- Potential of pristine, Ga-, Ag-, and Pt-decorated aluminum nitride nanotube in detection of chloroform: A density functional theory study
- 57- A computational investigation on the cyclohexylamine recognition by the pure and Cu-doped BN nanotube
- 58- Evaluation of the potential of silicon carbide monolayer as a promising anode for rechargeable Mg-ion batteries
- 59- Exploring eley-rideal mechanism for CO oxidation over metal doped gallium nitride nanosheet
- 60- Thermodynamical and theoretical modeling to adsorption of arsenic gas on the aluminum pdhosphorus nanotube
- 61- Fe decorated silicon carbide nanosheet as an adsorbent for toxic molecules (SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub>): A dispersion-corrected density functional theory study
- 62- B<sub>3</sub>O<sub>3</sub> monolayer an emerging 2Dmateriaial in as carrier for anticancer delivery system
- 63- Chlormethine drug adsorption on the zinc oxide nanotube surface for drug delivery system B<sub>3</sub>O<sub>3</sub> monolayer an emerging 2D material in as a carrier for anticancer delivery system

- 64- Inspection the potential of B<sub>3</sub>O<sub>3</sub> monolayer as a carrier for flutamide anticancer delivery system
- 65- Investigation the electrical Sensing behavior of Aluminum carbide (C<sub>3</sub>Al) monolayer toward Cyclophosphamide drug
- 66- Acetyl-terminated PAMAM dendrimers as pH controlled carriers for the co-delivery of irinotecan and fluorouracil chemotherapeutics: A molecular dynamics simulation study
- 67- A First-Principles study of B<sub>3</sub>O<sub>3</sub> monolayer as potential anode material for calcium -ion batteries
- 68- Removal of As<sub>2</sub>O<sub>3</sub> gaseous by using C<sub>3</sub>N monolayer adsorbent: DFT study
- 69- Serotonin adsorption on Cu, Ag, and Au decorated BN nanosheets: Solvent effect, energy decomposition, and sensing response studies
- 70- Application of pure and Ti-decorated AIP nano-sheet in the dacarbazine anti-cancer drug delivery: DFT calculations
- 71- Sensing behavior of pure and Cu-doped boron carbide graphene-like nanosheet to carbonyl sulfide: a computational survey
- 72- Potential of pristine, Ga-, Ag-, and Pt-decorated aluminum nitride nanotube in detection of chloroform: A density functional theory study
- 73- A computational investigation on the cyclohexylamine recognition by the pure and Cu-doped BN nanotube
- 74- Evaluation of the potential of silicon carbide monolayer as a promising anode for rechargeable Mg-ion batteries
- 75- Exploring eley-rideal mechanism for CO oxidation over metal doped gallium nitride nanosheet
- 76- Thermodynamical and theoretical modeling to adsorption of arsenic gas on the aluminum pdphosphorus nanotube
- 77- Chlormethine drug adsorption on the zinc oxide nanotube surface for drug delivery system
- 78- B<sub>3</sub>O<sub>3</sub> monolayer an emerging 2D material in as a carrier for anticancer delivery system
- 79- Fe decorated silicon carbide nanosheet as an adsorbent for toxic molecules (SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub>): A dispersion-corrected density functional theory study
- 80- Inspection the potential of B<sub>3</sub>O<sub>3</sub> monolayer as a carrier for flutamide anticancer delivery system
- 81- Investigation the electrical Sensing behavior of Aluminum carbide (C<sub>3</sub>Al) monolayer toward Cyclophosphamide drug
- 82- Acetyl-terminated PAMAM dendrimers as pH controlled carriers for the co-delivery of irinotecan and fluorouracil chemotherapeutics: A molecular dynamics simulation study
- 83- A First-Principles study of B<sub>3</sub>O<sub>3</sub> monolayer as potential anode material for calcium -ion batteries
- 84- Removal of As<sub>2</sub>O<sub>3</sub> gaseous by using C<sub>3</sub>N monolayer adsorbent: DFT study
- 85- Aluminum carbide sheet-like materials as promising drug delivery systems for anticancer drug
- 86- First-principles studies on two-dimensional aluminum carbide as potential nanocarriers for drug delivery systems
- 87- Application of BeO carbon-like nanotube for hydroxyurea anticancer drugs delivery; ab initio calculations
- 88- Isoniazid drug detection by palladium decorated aluminum phosphide semiconductors: a molecular modeling study
- 89- POCl<sub>3</sub> vapor detection by pure and Au-decorated AlN and AIP nanosheets
- 90- A brief review on pharmaceutical applications of deep eutectic solvents as green solvents
- 91- Analysis of the protection of copper corrosion by using amino acid inhibitors
- 92- Pristine and Pt-decorated AIP and BP nanotubes as potential chemical sensors for phosphine

- 93- Development of hybrid machine learning model for simulation of chemical reactors in water treatment applications: Absorption in amino acid.
- 94- B<sub>3</sub>O<sub>3</sub> monolayer an emerging 2D material in as a carrier for anticancer delivery system
- 95- Engineering promising A- $\pi$ -D type molecules for efficient organic-based material solar cells
- 96- Anticancer Drug-Loading Capacity of Green Synthesized Porous Magnetic Iron Nanocarrier and Cytotoxic Effects Against Human Cancer Cell Line
- 97- Waste heat recovery of an UAV propulsion system based on PEM fuel cell by a novel transcritical CO<sub>2</sub> - LNG hybrid cycle; thermodynamic and multiple linear regression analyses
- 98- Sarin chemical warfare agent detection by Sc-decorated XN nanotubes (X = Al or Ga)
- 99- Thermodynamic and density functional theory study the removal of different forms of gas arsenic by using aluminum nitride nanotube
- 100- A first principle study on sensing properties of quasi-planer born (B<sub>36</sub> borophene) towards COS, SO<sub>2</sub>, H<sub>2</sub>S and CS<sub>2</sub> gases.
- 101- Theoretical Sensing Performance for Detection of Cyclophosphamide Drug by Using Aluminum Carbide (C<sub>3</sub>Al) Monolayer: a DFT Study
- 102- Design new D- $\pi$ -A materials for sensitizers for dye-sensitized solar cells: Quantum chemical study
- 103- Retraction Note: Oxygen reduction reaction on metal-doped nanotubes and nanocages for fuel cells (Ionics, (2022), 28, 7, (3409-3419), 10.1007/s11581-022-04564-w)
- 104- A first-principles study of B<sub>3</sub>O<sub>3</sub> monolayer as potential anode materials for calcium-ion batteries
- 105- Chlorine trifluoride gas adsorption on the Fe, Ru, Rh, and Ir decorated gallium nitride nanotubes
- 106- Determining the parameters of noise pollution in the central area of the Almaty city in Kazakhstan
- 107- Word of Mouth's (WOM) Impact on Students B-School Selection.
- 108- A density functional study on the sensing behavior of copper doped BC<sub>3</sub> nanosheet toward.
- 109- The effect of Stone–Wales defect on the sensitivity of a ZnO monolayer in detection of PH<sub>3</sub> and AsH<sub>3</sub> gases: a DFT study



## AUTHORIZATION:

- .Renewable energy - prospects and future
- .Renewable energy - management and storage
- .Building the second harmonic system in solid-state lasers and its application
- .Nanomaterials and their industrial applications
- .Building a spectroscopic analysis system for laser-induced plasma and its application
- Laser fundamentals and technology
- .Superconducting materials and their industrial uses
- .The art of leadership and management
- .Electrical energy in Iraq: reality and future
- .Understand laser technology

## CONTRIBUTION:

- Educational philosophy of Iraq.
- Curriculum Development Committee of the Ministry of Education.
- The internal regulations of the Association of Iraqi Universities and Private Colleges, and the Association of the Valley of Mesopotamia for the Development of Higher Education.
- Internal regulations of the Association of Islamic Universities.
- Law of Higher Education and Scientific Research for Private Education in Iraq.
- More than (70) scientific and cultural cooperation and twinning agreements with reputable local and international universities.
- Preparing recommendations with the World Bank and UNESCO to develop private higher education in Iraq.
- Preparing recommendations with the Board of Advisors of the Council of Ministers of the Education Committee on developing private education in Iraq.
- A workshop with the Ministry of Planning on developing private education in Iraq.

## ACADEMIC WEBSITES

- <https://scholar.google.com/citations?user=upYIWTMAAAAJ&hl=ar>
- <https://www.researchgate.net/profile/Talib-Zeedan-Taban/unconfirmed>
- <https://www.scopus.com/authid/detail.uri?authorId=57795455100>