

Curriculum Vitae



Personal Details

Name: Dr. Uday Muhsin Nayef

Graduate Degree: Ph.D. Laser and Optoelectronics (Nanotechnology)

Position: Professor

Address: University of Technology, Department of Applied Science, Baghdad, IRAQ.

Mobile Phone: 00964 771 815 2561

E-mail Address: unayef@yahoo.com or 100105@uotechnology.edu.iq

Date of Birth: August 16, 1975

Place of Birth: Baghdad, IRAQ

Nationality: Iraqi

Marital Status: Married (Three Child)

Academic Qualifications

1. Ph. D. Laser Physics and optoelectronics (Nanotechnology)

University of Technology,

Department of Applied Science, Baghdad - IRAQ (2010).

2. M. Sc. Solid State Physics

Al-Mustansiriyah University, College of Science, Department of Physics, Baghdad - Iraq (2001).

3. B. Sc. Physics

Al-Mustansiriyah University, College of Science, Department of Physics, Baghdad - Iraq (1998).

Title of M.Sc. Dissertation:

(A Study of Charge Carriers Transport Mechanism in $Pb_{1-x}Sn_x$ Se Thin Films)

Supervisor: Dr. Ali AL- Sharbaty, Ph.D. from Dundee University, Scotland, UK.

Title of Ph.D. Dissertation:

(Characteristics Study of Silicon Nanoparticles Produced by Laser Ablation)

Supervisor: Dr. Bassam G. Rasheed, Ph.D. from IIT Delhi, INDIA.

Employments

(February 2, 2002 – January 3, 2005)

- I have appointed as an *assistant lecturer* in the University of Technology, School of Applied Sciences, Baghdad – IRAQ.

(February 17, 2002 – August 18, 2003)

- *Supervisor Scientific*, University of Technology - Training and Workshops Centre - Unit of Electricity.

(January 3, 2005 – January 3, 2008)

- I promoted the scientific degree of *Lecturer*.

(January 3, 2008 – June 9, 2016)

- I promoted the scientific degree of *Assistant Professor*.

(June 9, 2016 – present)

- I promoted the scientific degree of *Professor*.

Teaching Experiences

Undergraduate:

- Measurements (1st class).
- Vacuum Technology and Thin Films (2nd class).
- Optics (3rd class).
- Mechanics and Matter (1st class).
- Laser Fundamental (3rd class).

Laboratory Experience:

- *Undergraduate laboratory* in vacuum technology, laser, optics and semiconductor.
- *Postgraduate laboratory* in vacuum and thin films.

Experimental technique:

- Thin Films Technique.
- *UV-Vis-NIR* Spectroscopy.
- Nanostructure Technique.

Postgraduate:

- **Electrodynamics (M.Sc.)**
- **Nanotechnology (M.Sc.)**
- **Semiconductor (Ph.D.)**

Research Interests

- Nanoparticles materials
- Porous silicon
- Thin Films Devices.
- Analytical Spectroscopy.

EXPERIMENTAL SKILLS

Characterization

Raman, Photoluminescence, UV-Vis-NIR Spectrophotometer, Atomic Force Microscopy (AFM), Scanning Electron Microscopy (SEM).

Fabrication

Thermal Evaporation Deposition, Laser Ablation (LA), Porous silicon (PS).

Computers

- Software: Excel, Origin, MATLAB.

Membership

- Iraqi Physics Society (1998).
- Iraqi Society for Alternative and Renewable Energy Source and Techniques (2004).
- Editorial Board Member in journal Plastic and Polymer Technology (PAPT), [Science and Engineering Publishing Company](#).

Supervision of postgraduate (M. Sc. in Applied physics)

- Ayoub H. Jaafar, **Fabrication and Characterization of Porous Silicon Thin Devices**, University of Technology-Applied Science Department 2011-2012
- Mohammed J. Jasim, **Preparation and Characteristics Study of Photovoltaic Properties ZnO/Si Heterojunction**, University of Technology-Applied Science Department 2011-2012
- Ali J. Hadi, **Preparation and Characterization Study of Sn nanoparticles**, University of Technology-Applied Science Department 2012-2013
- Mohammed W. Muayad, **Synthesis and Characteristics of ZnO/Porous Silicon Heterojunction**, University of Technology-Applied Science Department 2012-2013

- Zahraa J. Abdulkareem, **Some Properties of TiO Nanoparticles on Porous Silicon for Optoelectronics Applications**, University of Technology- Department of Laser and Optoelectronics Engineering 2013-2014
- Haider A. Khalaf, **Physical Properties of ZnS Films Chemically Deposited on Nanostructure Silicon for Photodetectors**, University of Technology-Applied Science Department 2013-2014
- Abdulrasool Jabbar Kata, **Preparation and Characteristics Study of Cu and Ag Doped Porous Silicon**, University of Technology-Applied Science Department 2014-2015

Supervision of postgraduate (Ph.D.in Applied physics)

Supervision of postgraduate (Ph.D in Applied physics)

- Intisar AlBadrani, **Compare Between Doping and Deposition Gold (Au) Nanoparticles with Porous Silicon for Gas Sensing (CO₂ gas) Application**, University of Technology-Applied Science Department 2015-2016 (continuous)
- Karim H Jawad, **Preparation and Characterization of Porous Silicon and its Medicals Applications**, University of Technology-Applied Science Department 2015-2016 (continuous)

Publications

1. **Uday M. Nayef**, Ali M. Al-Sharbaty and Adawiya J. Haider, "Influence of Annealing and Composition Percentage on the Activation Energies and Mobility of Pb_{1-x}Sn Se Thin Films", *Eng. & Tech. J.*, Vol.23, No.2, **2004**.
2. **Uday M. Nayef**, "Influence of Polarity of the Solvent on the Absorption and Fluorescence Spectra of the Rhodamine 110 Laser Dye", *Eng. & Technology*, Vol.23, No.7, **2004**.
3. **Uday M. Nayef**, Khalil I. Hassoun & Khalid Z. Yahia, "Electrical And Photovoltaic Properties of Cd-nSi Contact", *Eng. & Tech. J.*, Vol.23, No.8, **2004**.
4. **Uday M. Nayef**, "Electrical And Optoelectronic Properties Of p-PbSe/n-Si Heterojunction", *Eng. & Tech. J.*, Vol.24, No.1, **2005**.
5. **Uday M. Nayef**, "Spectroscopic Study for Energy Transfer and Competing Processes in Laser Dyes (Coumarin 522 and Rhodamine 101)", *Eng. & Technology*, Vol.24, No.1, **2005**.
6. Rafid A. Ali, **Uday M. Nayef** & Rafah A. Nasif, "Spectroscopic Study for the Gelbstoff in Diyala River and its effect on Raman spectrum", *Eng. & Tech. J.*, Vol.24, No.4, **2005**.
7. Khalid Z. Yahya, Ammar H. Jraiz, & **Uday M. Nayef**, "Preparation and the study optical and electrical properties of thin films for optoelectronic applications", *Eng. & Tech. J.*, Vol.24, No.1, **2005**.

8. **Uday M. Nayef**, Rafid A. Ali & Mukhlis M. Ismail, "Study of Spectroscopy and Thermodynamic Properties for CHCl_2 Molecular and Influence Study of Bonds (C-H) and (C-Cl) on Spectroscopy Properties", *Eng. & Tech. J.*, Vol.25, No.3, **2007**.
9. **Uday M. Nayef**, "Study of Electrical Properties of $p\text{-PbSe}/p\text{-Si}$ Heterojunction", *Eng. Tech. J.*, Vol.25, No.5, **2007**.
10. **Uday M. Nayef**, "Photonic Devices Based on Porous Silicon Layers", *Eng. & Tech. J.*, Vol.25, No.5, **2007**.
11. **Uday M. Nayef**, "Omnidirectional Mirrors for Porous Silicon Multilayer by Electrochemical Etching", *Eng. & Technology*, Vol.29, No.15, **2011**.
12. Aanna A. Salman, Fatima I Sultan and **Uday M. Nayef**, "Fabrication, Structural, Chemical and Morphological of Porous Silicon by Electrochemical Etching", *Eng. & Tech. J.*, Vol.30, No.5, **2012**.
13. Amna A. Slman, Fatima I. Sultan & **Uday M. Nayef**, "Structural, Chemical and Morphological of Porous Silicon Produced by Electrochemical Etching", *Eng. & Tech. J.*, Vol.30, No.5, **2012**.
14. Fatima I. Sultan, Amna A. Slman & **Uday M. Nayef**, " I -V and C -V Characteristics of Porous Silicon Nanostructures by Electrochemical Etching", *Eng. & Tech. J.*, Vol.31, No.3, **2013**.
15. **Uday M. Nayef**, "Fabrication and Characteristics of Porous Silicon for Photoconversion", *International Journal of Basic & Applied Sciences*, Vol:13 No:02, **2013**.
16. **Uday M. Nayef** & Mohammed Waleed Muayad, "Typical of Morphology Properties of Porous Silicon", *International Journal of Basic & Applied Sciences*, Vol:13 No:02, **2013**.
17. **Uday Muhsin Nayef**, Mohammed Waleed Muayad, Haider Amer Khalaf, "Effect of ZnO Layers on Porous Silicon Properties", *Int. J. Electrochem. Sci.*, **9** **2014** 2278 – 2284.
18. **Uday Muhsin Nayef**, Mohammed Waleed Muayad, and Haider Amer Khalaf, "ZnO/PS/p-Si heterojunction properties", *Eur. Phys. J. Appl. Phys.*, **2014** 66: 20104.
19. **Uday M. Nayef** & Ali J. Hadi, Study of the Effect of laser Pulses on Synthesis of SnO_2 Nanoparticles by Laser Ablation in Methanol", *Eng. & Tech. J.*, Vol. 32, Part (B), No.6, **2014**.
20. **Uday M. Nayef** & Mohammed Waleed Muayad, "Structural, Morphology and PL Properties of ZnO Film Deposition on Porous Silicon", *Eng. & Tech. J.*, Vol. 32, Part (B), No.6, **2014**.
21. **Uday M. Nayef**, Kadhim A. Hubeatir & Zahraa J. Abdulkareem, "Ultraviolet photodetector based on TiO_2 nanoparticles/porous silicon heterojunction", *Optik* **127** **2016**, 2806–2810.
22. **Uday M. Nayef**, Kadhim A. Hubeatir & Zahraa J. Abdulkareem, "Characterisation of TiO_2 nanoparticles on porous silicon for optoelectronics application", *Materials Technology: Advanced Functional Materials* 31 (14) **2016**, 884-889.
23. **Uday M. Nayef**, "Improve the efficiency of UV-detector by modifying the Si and porous silicon substrate with ZnS thin films", *Optik* **130** **2017**, 41- 447.

24. **Uday M. Nayef** & Intisar M. Khudhair, “Study of porous silicon humidity sensor vapors by photoluminescence quenching for organic solvents, *Optik*135 **2017**, 169- 173.
25. **UDAY M. NAYEF** & HAIDER A. KHALAF, “OPTIMIZATION PHOTODETECTORS FROM ZINC SULFIDE DEPOSITED ON POROUS SILICON WITH DIFFERENT DOPING METALS”, **Surface Review and Letters**, Vol. 24, No. 7 (2017) 1750086.

Book:

1. **Uday Nayef** and Bassam Rehssed, “**Characterstics of Si Nanoparticles by Laser Ablation**”, LAMBERT Academic Publishing GmbH & Co. KG 66121, Saarbrücken, Germany, 2012.
2. Mohammed Waleed Muayad and **Uday Nayef**, “**Synthesis and Characterstics of ZnO/Porous Silicon Heterojunction**”, LAMBERT Academic Publishing GmbH & Co. KG 66121, Saarbrücken, Germany, 2014.

Grant

1. Research scholarship for Ph.D study in Department of physics – Nanoscience lab. University of Trento – ITALY (2009 for 6 months).
2. Training course for faculty staff about (**Nonlinear Dynamics in Optics and Applications**), Istituto Nazionale di Ottica (INO) CNR, Largo E. Fermi 6, 50125, Firenze – ITALY (October 2012).
3. Workshop in Erbil, **Problem-Based Learning (PBL)**, IREX grant, Missouri University, Columbia, United States, Iraq, February 8-10, 2015.

Referees:

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