



## Curriculum Vitae

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### PERSONAL SUMMARY:

*Since I graduate from physics department, Mustansiriyah University in 1999, I was working as administrator, then assistance lecturer after getting my MSc degree in 2002. Then I finished my PhD degree from Russia in 2012. I'm working now with a team in optoelectronics and thin films lab., physics department, Mustansiriyah University. I supervised MSc and PhD students. I like the academic work in university. I'm looking forward to do more work.*

### EDUCATION:

- **Ph.D.** *Dagestan State University, Makhachkala, Russia, 2012*  
*in thin films by using electronic applications. Thesis entitled: (Dependence of electrical and luminescent properties of epitaxial layers of zinc oxide on deposition conditions and the level of doping with atoms of gallium).*
- **M.Sc.** *Mustansiriyah University, Baghdad, Iraq, 2002*  
*Thesis entitled: (Kinetic, free electron gas and harmonic oscillator theories of particle stopping in medium).*
- **B.Sc.** *Mustansiriyah University, Baghdad, Iraq, 1999*  
*Project entitled: (Laser systems and their applications)*

### Professional Experience

- *Professor, Department of Physics, Mustansiriyah University, 2020*
- *Assistant Professor, Department of Physics, Mustansiriyah University, 2014-2020*
- *Lecturer, Department of Physics, Mustansiriyah University, 2005-2014*
- *Assistant Lecturer, Department of Physics, Mustansiriyah University, 2002-2005*
- *Associate Physicist, Department of Physics, Mustansiriyah University, 2001-2002*

## ACADEMIC HONORS AND AWARDS:

- *International conference on environment and natural science (ICENS) held in Dubai, UAE on 15th August 2016.*
- *The 5th International Scientific Conference for Nanotechnology and Advanced Materials and Their Applications ICNAMA held in Baghdad, Iraq (3-4Nov.2015).*
- *The Seventh Jordan International Chemical Engineering (JICHE07) Conference, 4-6 Nov, 2014, Amman – Jordan.*
- *XRF and XRD- Workshop , Physics Department, Faculty of Science and Science Education, School of Science, University of Sulaimani, Iraq, (2-3 Oct.-2013).*

## ACADEMIC /TEACHING EXPERIENCE:

### ***Supervised projects entitled:***

1. *Thin films of WO<sub>3</sub> nanoparticles, Synthesis and characterization for using in gas sensor applications deposited by pulsed laser deposition technique (2020).*
2. *Gallium oxide nanoparticles thin films, synthesis, characterization and their applications (2020).*
3. *Laser deposition of extracted hydroxyapatite from animal bones (2019).*
4. *Structural and optical properties zinc telluride nanoparticles thin films prepared by pulsed laser technique (2018).*
5. *Synthesis and characterization of zinc sulfide nanoparticles thin films and its applications (2017).*
6. *Zinc selenide nanoparticles prepared by pulsed laser deposition and its applications (2017).*
7. *Synthesis and characterization of Cadmium telluride nanoparticles prepared in liquids (2016).*
8. *Synthesis and characterization of CdSe thin films undoped and doped by gallium atoms with their applications (2015).*
9. *Effect of pulsed laser flounce and substrate -target distance on optical properties of zinc selenide nanoparticles thin films.(2017)*
10. *Preparation of Ag nanoparticles by pulsed laser ablation in distilled water. (2016).*
11. *Influence of pulse repetition rate on optical properties of ZnS nanoparticles thin films. (2016).*
12. *Preparation of Au /Pt core/shell nanoparticles by pulsed laser ablation in DDD water. (2015).*
13. *Fabrication and Study the structural and Optical Properties of thermally evaporated CdS Nanostructure thin Films. (2014).*
14. *Study of optical and electrical properties of zinc oxide thin films preparing by thermal evaporation method. (2013).*
15. *Classical and quantal treatment of electronic stopping of cluster ions. (2007).*

## COURSES TAUGHT:

- *Pulsed laser ablation* *Postgraduate.*
- *Photoluminescence by laser excitation* *Postgraduate.*
- *Laser and Optics* *3d year course*
- *Electrodynamics,* *4th year course.*
- *Material Science,* *Postgraduate.*
- *Electrical Physics,* *2nd year course.*
- *Material Science,* *2nd year course.*

## PROFESSIONAL AFFILIATIONS:

- *Chairman of the entrepreneurial projects Committee at the Mustansiriyah University.*
- *Chairman of prices evaluation Committee at the college of science-Mustansiriya University*
- *Chairman of the purchases Committee at the college of science-Mustansiriyah University*

## PUBLICATIONS:

1. *Mohammed H. Mohammed, Hadeel A. Majeed, Nadheer J. Mohammed/ Effect of ZrO<sub>2</sub> nanoparticles on liver tissue of infected mice of visceral leishmaniasis/ Azerbaijan Medical Journal (AJM) 62 (7), 3233-3244 (2022)*
2. *Mohammed H. Mohammed, Hadeel A. Majeed, Nadheer J. Mohammed/ Effect of Zirconium oxide nanoparticles (ZrO<sub>2</sub> NPs) on liver function in mice infected with Leishmania donovani/ Azerbaijan Medical Journal (AJM) 62 (6), 5539-5547 (2022)*
3. *Abd, Mertah N., Ali, Mazin Ali A. and Mohammed, Nadheer J.. "Performance of hybrid LD/LED system for UWOC link in Baltic Sea" Journal of Optical Communications, 2022. <https://doi.org/10.1515/joc-2022-0185>*
4. *Baraa T Falih, Sabaa T Mohammed, Nadheer J Mohammed/ Effects of the silver nanoparticle synthesis from the leaves of the Capparis spinosa plant on the liver of mice infected with visceral leishmaniasis/Caspian Journal of Environmental Sciences 20 (4), 785-791 (2022).*
5. *Ali Jaafar Hwaidi, Nadheer Jassim Mohammed/ Tuning Structural and Optical Properties of WO<sub>3</sub> NPs Thin Films by the Fluency of Laser Pulses/ Al-Mustansiriyah Journal of Science 33 (3), 94-100(2022).*
6. *Abd, Mertah N., Ali, Mazin Ali A. and Mohammed, Nadheer J.. "Investigation of hybrid LD/LED system for UWOC link with depth variations" Journal of Optical Communications, 2022. <https://doi.org/10.1515/joc-2022-0207>.*

7. *Nehal Raad Manee; Nadheer Jasim Mohammed/ Employing the increase in the number of laser pulses to improve the optical properties of SnTe nanoparticle thin films/ J Nanostruct /Articles in Press, Accepted Manuscript, Available Online from 04 July 2022.*
8. *Ali Jaafar Hwaidi, Nadheer Jassim Mohammed/ The Improvement of Structural and Optical Properties of WO<sub>3</sub> Nanoparticles by Regulation Substrate-Target Distance in Pulsed Laser Deposition Technique/ Al-Mustansiriyah Journal of Science 32 (2), 103-107 (2022).*
9. *Khalid H. Jebur, Nadheer J. Mohammed/ Dependence of the Structural and Optical Properties of Gallium Oxide Nanostructures on Laser Fluency/ Al-Mustansiriyah Journal of Science 32 (4), 60-66 (2021).*
10. *O. S. Mahdi, Nadheer J. Mohammed/ Wetting Property of Tin Nanoparticles Thin Films/ Al-Mustansiriyah Journal of Science 32 (4), 57-59 (2021).*
11. *Khalid H. Jebur, Nadheer J. Mohammed/ Cactus-like Gallium oxide nanostructure for gas sensor applications/ Al-Mustansiriyah Journal of Science 32 (4), 67-71 (2021).*
12. *O. S. Mahdi, Nadheer J. Mohammed/ Enhancement of SnO<sub>2</sub> for gas sensing applications/ Al-Mustansiriyah Journal of Science 32 (3), 63-66 (2021).*
13. *Nadheer J. Mohammed, Emad H Hussein, Jasim S Alikhan, Khaldoon N Abbas, Anwar H Ali Al-Fouadi, Ksenia Maksimova, Uliana Koneva, Olga Dikaya, Andrey Zyubin, Petr Shvets, Alexander Yu Goikhman / Bandgap engineering of low-temperature CdS nanocrystalline prepared on Si (1 1 1) without post-thermal annealing/ Materials Today Communications Vol. 25, December, 101297, (2020).*
14. *Nadheer J. Mohammed, Hala F. Dagher / Synthesis and Characterization of Mercuric Sulfide Nanoparticles Thin Films by Pulsed Laser Ablation (PLA) in Distilled Water (DW) / IJMSE Vol. 17 (3), 11-16 (2020).*
15. *Emad H. Hussein, Nadheer J. Mohammed, Anwar H. AliAl-Fouadi, Khaldoon N.Abbas, Jasim S.Alikhan, Ksenia Maksimova and Alexander Yu.Goikhman/ Impact of deposition temperature on the structural properties of CdS/Si nanoparticles for nanoelectronics/ Materials Letters Vol. 254, 1 November, Pages 282-285 (2019).*
16. *A. A. Ridha, NF Kadhim, N. J. Mohammed/ Correlation between the Track Density and Absorbance of Alpha Particles using CR-39 Detectors from UV-Visible Spectrum/ Journal of Physical Science, Vol. 30 (2), 37-49 (2019)*
17. *N. J. Mohammed/ Substrate temperature dependence of optical and morphological properties of ZnTe nanoparticles thin films/ Al-Mustansiriyah Journal of Education 2 (3), 22-27 (2019).*
18. *N. J. Mohammed, HA Mahdi, SF Madlul, AK Hasan/ Effect of substrate temperature on structural and optical properties of cadmium sulfide thin films prepared by evaporation thermal deposition/ Al-Mustansiriyah Journal of Science 30 (1), 205-209 (2019).*
19. *Nadheer J. Mohammed/ Effect of laser fluence on structural transformations and photoluminescence quenching of Zinc Selenide nanoparticles thin films/ Al-Mustansiriyah Journal of Science 29 (4), 122-127 (2019).*

20. A. A. Al-Rubaiee, Hassan Abdullah Mahdi, Nadheer J. Mohammed/ *Laser Applications in Some Clinical Blood Constituents Analysis (Bilirubin, Triglyceride and Hemoglobin) Indian Journal of Public Health Research & Development* 10 (5), 435-439 (2019).
21. M. NASER, M. SH. ALHILFI, Nadheer J. Mohammed / *The effects of targets preparation conditions on the bioactivity and physical properties of ablated hydroxyapatite by pulsed laser/ Digest Journal of Nonmaterial's and Biostructures* 14 (2), 447-461 (2019).
22. AZ Mohammed, Nadheer J. Mohammed, IK Khudhair/ *Effect of the Number Shots of Laser on Structural Transformations and Optical Properties of ZnS Nanoparticles Thin Films/ Arab J. Nucl. Sci. Appl., Vol. 51, 4, 108-117 (2018).*
23. Nadheer J. Mohammed, ASH, Zahraa S. Rasheed/ *Improvement Optical Properties of PVA/ TiO<sub>2</sub> and PVA/ ZnO Nanocomposites/ Al-Mustansiriyah Journal of Science* 29 (No 3), 118-123 (2018).
24. Ibrahim R. Agool, Nadheer J. Mohammed/ *The Effects Of Ga-Doped CdSe Thin Films On The Electrical Properties Prepared By Thermal Evaporation Technique, Journal of Multidisciplinary Engineering Science and Technology (JMEST), Vol. 4 Issue 3, March – 2017.*
25. Sahira Nsayef Muslim, ZiyadAbbas DhamaD and Nadheer J. Mohammed/*Synthesis and characterization of nanoparticles conjugated tannase and using it for enhancement of antibacterial activity of tannase produced by Serratia marcescens/ Microbial Pathogenesis Vol. 110, 484-493 (2017).*
26. Ibrahim R. Agool, Nadheer J. Mohammed, and Harth M. Abd AL-Meer/*Synthesis and Characterization of CdTe NPs Induced by Laser Ablation in Liquids. J. Adv. Phys. 6, 241–247 (2017).*
27. Sahira Nsayef Muslim, Saba Saadoon Khazaal, Nadheema Hammood Hussein, Buthainah Mohammed Taha, Nadheer J. Mohammed/ *Improving of Antibacterial Activity For Antibiotics by Extracted Chitosan From Aspergillus Flavus. International Journal of Advances in Science, Engineering and Technology (IJASEAT), Vol.4, (4), 1-3(2016).*
28. Nadheer Jassim Mohammed, Marwa Abdul Muhsien Hassan, Ibrahim R. Agool and Nisreen Zaid/ *Synthesis of Nanostructure Zinc Oxide Formation from Zinc Acetate and Deposited on Sapphire Substrate using Pulsed Laser Deposition for NO<sub>2</sub> Gas Sensor. Elixir Nanotechnology, 81 (2015) 31835-31839.*
29. Nadheer Jassim Mohammed, Walid Ibrahim Hamad, Reem Sami Ali, Raghad Saadon Mohammed, Sundus Yasser Helyel. *Synthesis of Metallic Nanowires Using Hydrothermal Method. Eng. &Tech. Journal, Vol.33, Part (B), No.7, 2015.*
30. Marwa Abdul Muhsien Hassan, Evan Tareq Salem, Nadheer Jassim Mohammed, Ibrahim Ramadan Agool/ *Tin dioxide nanostructure using rapid thermal oxidation method and hydrothermal synthesis of CuO-SnO<sub>2</sub>-ZnO Nano composite oxides. International Journal of Nanoscience and Nanoengineering. Vol. 1, No. 2, 2014, pp. 22-33.*
31. Al-Obaidy, N. J. *Electrical and cathode-luminescence properties of epitaxial ZnO, doped with gallium / N. J. Al-Obaidy, M. Kh. Rabadanov, I. Sh. Aliev, A.M. Ismailov // Compilation.: Proceedings of the VII National Conference "Physical Electronics". - Makhachkala, Dagestan State University, 2012. \_\_ p.35\_\_39.*
32. Al-Obaidy, N. J. *Activation of the own band for photoluminescence in ZnO / N. J. Al-Obaidy, R. Kh. Rabadanov, I. Sh. Aliev, A.M. Ismailov // Compilation.: Proceedings of the VII National*

- Conference "Physical Electronics". - Makhachkala, Dagestan State University, 2012. \_\_ p.43\_\_46.
33. Al-Obaidy, N. J. *The influence of the deposition conditions on the structure and electrical properties of zinc oxide films* / N. J. Al-Obaidy, R.A. Rabadanov, I.Sh. Aliev, A.M. Ismailov // *Proceedings of the International Correspondence Scientific Conference "Physics and mathematics and information technology: challenges and trends"*. - Novosibirsk. \_\_ 2012. \_\_ p.137\_\_142.
  34. Al-Obaidy, N. J. *Cathode-luminescence of epitaxial ZnO films, obtained by chemical transportation* / N. J. Al-Obaidy, R.A. Rabadanov, I. Sh. Aliev, A.M. Ismailov, K.M. Giraev // *Proceedings of Academies. North-Caucasian region. Natural sciences.* \_\_ 2012. \_\_ 6. \_\_ p.54\_\_57.
  35. Rabadanov, M. Kh. *Effect of hydrogen on electrical and luminescent properties of zinc oxide layers* / M. Kh. Rabadanov, N. J. Al-Obaidy, I. Sh. Aliev, A.M. Ismailov // *Natural and Techn. Sciences.-M.: pub." Sputnik+"*. \_\_ 2012. \_\_ No-2(58). \_\_ p.52\_\_55.
  36. Al-Obaidy, N. J. *Luminescence of ZnO:Ga epitaxial layers* / N. J. Al-Obaidy // *News of the FSBEI HPE "Dagestan State University". Natural and exact sciences.* \_\_ 2012. \_\_ No-2(19). \_\_ p.5\_\_9.
  37. Al-Obaidy, N. J. *Influence of synthesis conditions on electrical and luminescent properties of zinc oxide layers* / N. J. Al-Obaidy, R.A. Rabadanov, I. Sh. Aliev, A.M. Ismailov // *The DSU Herald, Natural sciences.* \_\_ 2012. \_\_ Issue 1. \_\_ p.22\_\_27.
  38. Al-Obaidy, N. J. *The dependence of the cathode-luminescence of a single crystal of zinc oxide on the energy and density of the electron beam* / N. J. Al-Obaidy, I.M. Shapiev // *Proceedings of the XVI Scientific and Practical Conference "Nanomaterials, Nanotechnologies, new energetic"*. \_\_ Tomsk. \_\_ 2010. \_\_ p.301\_\_302.
  39. Altukheli, S.A. *The dependency of ZnO films conductivity on conditions of obtaining via ion sputtering method* / S.A. Altukheli, N. J. Al-Obaidy // *Proceedings of Young Scientists.* \_\_ Makhachkala: Dagestan State University, 2010. \_\_ p.35\_\_38.
  40. Al-Obaidy, N. J. *The dependence of zinc oxide cathode-luminescence on the accelerating voltage* / N. J. Al-Obaidy, S.A. Altukheli // *Proceedings of Young Scientists.* \_\_ Makhachkala: Dagestan State University, 2010. \_\_ p.33\_\_35.
  41. Al-Obaidy, N. J. *The dependence of the perfection of the zinc oxide structure on conditions of synthesis* / N. J. Al-Obaidy, R.A. Rabadanov // *II All Russian National Scientific and Practical Conference "Nanomaterials, Nanotechnologies, new energetics"*. \_\_ Tomsk: Tomsk Polytechnic University. \_\_ 2009. \_\_ p.225\_\_227.
  42. Nadheer Jassim Mohammed, Khalid Abdel Wahab Ahmed, Abdullah Ahmed Rashid/ *Stopping parameters (L, -C/Z<sup>2</sup>) of heavy charged particles using the kinetic theory, harmonic Oscillator and the free electron gas. Mustansiriya journal Science, Volume 14, Issue 1. P. 23-26. 2001.*
  43. Nadheer Jassim Mohammed, Khalid Abdel Wahab Ahmed, Abdullah Ahmed Rashid/ *Range straggling for protons and alpha particles in gas targets using the kinetic theory harmonic Oscillator and the free electron gas. Mustansiriya journal Science, Volume 14, Issue 3. P. 44-47. 2001.*
  44. Nadheer Jassim Mohammed, Khalid Abdel Wahab Ahmed, Abdullah Ahmed Rashid/ *Energy straggling of heavy ions by using the kinetic theory, harmonic oscillator and free electron gas model. Mustansiriya journal Science, Volume 14, Issue 7. P. 17-21. 2001.*

45. *Nadheer Jassim Mohammed, Khalid Abdel Wahab Ahmed, Abdullah Ahmed Rashid/ Range of protons and alpha particles in gas targets using the kinetic theory harmonic Oscillator and the free electron gas. Mustansiriya journal Science, Volume 14, Issue 7. P. 33-36. 2001.*

#### **PROFESSIONAL DEVELOPMENT**

- *Design and fabrication of pulsed laser deposition system working with low and high temperatures.*
- *Design and fabrication of system for measuring optical properties of thin films at room and liquid nitrogen temperatures.*