

CURRICULUM VITAE

PERSONAL DATA

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| Name | Mamduh Jamil Aljaafreh |
| Nationality | Jordanian |
| Position | Assistance professor. Physics department |
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| Phone | |

EDUCATION

| Year | Academic Degree | Institution |
|-------------|------------------------|---|
| 2015-2021 | Ph.D. | Department of Physics and Astronomy, College of Science, King Saud University. |
| 2002-2005 | M.Sc. | Department of Physics, University of Mu'tah /Jordan. |
| 1997-2001 | B.Sc. | Department of Physics, University of Mu'tah /Jordan. |
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WORK EXPERIENCE

| Period | Position | Address |
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| 2022-2023 | Assistance professor. | Department of Physics, Imam Mohammad Ibn Saud Islamic University (IMISU). |
| 2015-2021 | Researcher. | Department of Physics and Astronomy, College of Science, King Saud University. |
| 2012-2015 | Lecturer. | Preparatory Deanship and Department of Physics, Imam Mohammad Ibn Saud Islamic University (IMISU). |
| 2001-2012 | Physics Teacher. | Ministry of Education, Jordan. |

RESEARCH INTERESTS

Spectroscopy measurements of materials in solution and thin film, Fluorescence, Absorption, refractive index, and bandgap. And Density functional theory (DFT) calculations for molecules.

Laser studies include Conjugated polymers laser, Quantum dots laser, and amplified spontaneous emission, and Femtosecond laser studies.

Photonics and nanomaterial science, thin film preparation, and characterization. (Excellent knowledge in analysis AFM, TEM, XRD, and SEM results)

PUBLICATIONS

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| 1. | 1- Conjugated polymer laser with temperature-controlled power output. Inventors Saradh Prasad Rajendra, Mohamad Saleh Alsalhi, Mamduh Jamil Aljaafreh . US Patent 10,541,506.2020. |
| 2. | 1-Solid state laser with conjugated oligomer active material. Inventors Mohamad Saleh Alsalhi, Mamduh Jamil Aljaafreh , Saradh Prasad Rajendra US Patent 10,879,668. 2020. |

PAPERS

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| 1. | Investigating the effect of gamma irradiation on the structural, optical, and electrical properties of bismuth-modified strontium titanate ceramics H Kassim, MJ Aljaafreh , S Prasad, MS AlSalhi, NN Asemi, E Manikandan Journal of Materials Science: Materials in Electronics 34 (7), 617.2023, Impact factor of 2.779 . |
| 2. | TD-DFT and optical properties of 9, 9-dioctyl-9Hfluorene-based oligomer in a thin film and design of DFB laser using ellipsometry studies MJ Aljaafreh , MM Osman, S Prasad, MS AlSalhi, O Aldaghri, Mou'ad A Tarawneh Journal of Materials Science: Materials in Electronics 33 (29), 22913-22925.2022. Impact factor of 2.779 . |
| 3. | Mixed perovskite (MAPbI ₃ -xCl _x) solar cells using light-emitting conjugated polymer DMP end-capped MDMO-PPV as a hole transport material S Prasad, MJ Aljaafreh , A Alshammari, MAS Almutairi, J Madhavan, Journal of King Saud University-Science 34 (7), 10226.2022 Impact factor of 3.829 . |
| 4. | Efficient liquid scintillator loaded with a light-emitting conjugated oligomer for beta- and gamma-ray spectroscopic measurements NN Asemi, MJ Aljaafreh , S Prasad, S Aldawood, MS AlSalhi, O Aldaghri Radiation Measurements 156, 106826. 2022. Impact factor of 1.743 . |

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| 5. | Development of a gamma-ray scintillation detector based on blue-emitting oligomers and ZnO nanoparticles. NN Asemi, MJ Aljaafreh , S Prasad, S Aldawood, MS AlSalhi Journal of King Saud University-Science 34 (4), 101967. 2022 Impact factor of 3.829. |
| 6. | Chitosan magnetic graphene grafted polyaniline doped with cobalt oxide for removal of arsenic (V) from water MA Gabris, S Rezania, M Rafieizonooz, E Khankhaje, S Devanesan, Mamduh J Aljaafreh , Arvin Shadravan. Environmental research 207, 112209.2022. Impact factor of 8.431 |
| 7. | Estimation of optical properties and design of a flexible tunable laser from a green conjugated copolymer. S Prasad, Mamduh J. Aljaafreh , MS AlSalhi. Journal of Luminescence 244, 118721.2022. Impact factor of 3.599. |
| 8. | TD-DFT Simulation and Experimental Studies of a Mirrorless Lasing of Poly [(9, 9-dioctylfluorenyl-2, 7-diyl)-co-(1, 4-diphenylene-vinylene-2-methoxy-5-{2-ethylhexyloxy}-benzene)]. MJ Aljaafreh , S Prasad, MS AlSalhi, RH Alhandel, RA Alsaigh. Polymers 13 (9), 1430.2021. Impact factor of 3.426. |
| 9. | Design of tunable liquid laser based on presence of the conjugated-polymer counter influencing the spectral properties of the oligomer. MJ Aljaafreh , MS AlSalhi, S Prasad. Optical Materials 111, 110575.2021. Impact factor of 2.779. |
| 10. | Ultrafast dynamics of laser from green conjugated-oligomer in solution. MJ Aljaafreh , S Prasad, MS AlSalhi, ZA Alahmed. Polymer 169, 106-114. 2019. Impact factor of 3.771. |
| 11. | Emission dynamics of conjugated oligomer (BECV-DHF)/quantum dot perovskite (CsPbBr ₃) composites in solutions. MJ Aljaafreh , S Prasad, MS AlSalhi, U Lemmer, ZA Alahmed, MA Baloch. Colloids and Surfaces A: Physicochemical and Engineering Aspects 610, 125911.2021 Impact factor of 3.99. |
| 12. | Encapsulated passivation of perovskite quantum dot (CsPbBr ₃) using a hot-melt adhesive (EVA-TPR) for enhanced optical stability and efficiency. S Prasad, MJ Aljaafreh , MS AlSalhi, A Alshammari. Crystals 11 (4), 419. 2021. Impact factor of 2.404. |
| 13. | Time-resolved excited state dynamics of super-exciple in the coumarin dye laser. S Prasad, MJ Aljaafreh , V Masilamani, MS AlSalhi, WM Mujamammi. Journal of Molecular Liquids 315, 113814.2020. Impact factor of 5.065. |
| 14. | Temperature activated mirror-less laser action from a hole-transport conjugated-polymer. S Prasad, MJ Aljaafreh , MS AlSalhi. Optics & Laser Technology 127, 106209.2020. Impact factor of 3.233. |
| 15. | Optically pumped intensive light amplification from a blue oligomer. MJ Aljaafreh , S Prasad, MS AlSalhi, ZA Alahmed, MM Al-Mogren. Polymers 11 (10), 1534 .2019. Impact factor of 3.426. |
| 16. | Time-resolved spectroscopy of radiative energy transfer between a conjugated oligomer and polymer in solution. S Prasad, MJ Aljaafreh , MS AlSalhi. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 232, 118151.2020. Impact factor of 3.232. |
| 17. | Cancer screening by fluorescence spectra of blood and urine—A double blind study.S Sandhanasamy Devanesan, Vadivel Masilamani, Mohamad S AlSalhi, Saradh Prasad, Mashael M Alshebly, Fatmah S Alqahtany, Mamduh J Aljaafreh . Journal of King Saud University-Science 33 (5), 101456.2021. Impact factor of 2.835. |

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| 18. | Carbon supported Ni ₃ N/Ni heterostructure for hydrogen evolution reaction in both acid and alkaline media. D Balaji, J Madhavan, MS AlSalhi, MJ Aljaafreh , S Prasad, PL Show. International Journal of Hydrogen Energy 46 (60), 30739-30749.2021. Impact factor of 3.99. |
| 19. | N-doped carbon embedded Ni ₃ S ₂ electrocatalyst material towards efficient hydrogen evolution reaction in broad pH range B Dhandapani, M Jagannathan, MS AlSalhi, MJ Aljaafreh , S Prasad Colloids and Surfaces A: Physicochemical and Engineering Aspects 603, 125194.2020. Impact factor of 3.99. |
| 20. W | Ultra-efficient, low-cost and carbon-supported transition metal sulphide as a platinum free electrocatalyst towards hydrogen evolution reaction at alkaline medium. K Premnath, J Madhavan, S Prasad, MJ Aljaafreh , MS AlSalhi, SP Loke. International Journal of Hydrogen Energy 2021. Impact factor of 5.816. |
| 21. | Metagenomic analysis of microbial community and its role in bioelectrokinetic remediation of tannery contaminated soil. Arumugam Arul Prakash, Aruliah Rajasekar, Raja Kumaresan Sarankumar, Mohamad S AlSalhi, Sandhanasamy Devanesan, Mamduh J Aljaafreh , Journal of Hazardous Materials . Muthusamy Govarthanam, Shaban RM Sayed. 412, 125133.2021. Impact factor of 9.038. |
| 22. | A straightforward synthesis of visible light driven BiFeO ₃ /AgVO ₃ nanocomposites with improved photocatalytic activity. T Bavani, J Madhavan, S Prasad, MS AlSalhi, MJ Aljaafreh . Environmental Pollution 269, 116067.2021. Impact factor of |
| 23. | Rod-Shaped Carbon Aerogel-Assisted CdS Nanocomposite for the Removal of Methylene Blue Dye and Colorless Phenol. Saradh Prasad, P Shanmugam, K Bhuvaneshwari, G Palanisamy, T Pazhanivel, T Arunkumar, Mohamed Saleh AlSalhi, Mamduh J Aljaafreh . Crystals 10 (4), 300.2020. Impact factor of 2.404. |
| 24. | Narrowband Spontaneous Emission Amplification from a Conjugated Oligomer Thin Film. MS AlSalhi, MJ Aljaafreh , S Prasad. Polymers 12 (1), 232.2020. Impact factor of 3.426. |
| 25. | Environmental friendly synthesis of carbon nanoplates supported ZnO nanorods for enhanced degradation of dyes and organic pollutants with visible light driven photocatalytic performance. Kavin Micheal, A Ayeshamariam, Sandhanasamy Devanesan, K Bhuvaneshwari, T Pazhanivel, Mohamad S AlSalhi, Mamduh J Aljaafreh . Journal of King Saud University-Science 32 (1), 1081-1087.2020. Impact factor of 2.835. |
| 26. | Antimicrobial and catalytic activities of biosynthesized gold, silver and palladium nanoparticles from Solanum nigrum leaves. C Vijilvani, MR Bindhu, FC Frincy, Mohamad S AlSalhi, S Sabitha, K Saravanakumar, Sandhanasamy Devanesan, M Umadevi, Mamduh J Aljaafreh , Muhammad Atif. Journal of Photochemistry and Photobiology B: Biology.202, 111713.2020. Impact factor of 4.383. |
| 27. | Fabrication of novel AgVO ₃ /BiOI nanocomposite photocatalyst with photoelectrochemical activity towards the degradation of Rhodamine B under visible light irradiation. T Bavani, J Madhavan, S Prasad, MS AlSalhi, M ALJaffreh , S Vijayanand Environmental Research 200, 111365.2021. Impact factor of |
| 28. | Implementation of MPPT for Flexible Solar Cells embedded on Unmanned Aerial Vehicles S Prasad, M Ulaganathan, D Durairaj, MJ Aljaafreh , MS AlSalhi.2019 IEEE International Conference on Intelligent Techniques in Control.Optimization and Signal Processing (INCOS) p1-6. IEEE 219. |

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| 29. | A temperature-tunable thiophene polymer laser. MS AlSalhi, AR Almotiri, S Prasad, MJ Aljaafreh , AHS Othman, <i>Polymers</i> 10 (5), 470.2018. Impact factor of 3.164. |
| 30. | Broadband Frequency-Tunable Whispering-Gallery-Mode Superradiant Light from Quantum Dots in Colloidal Solution. MS AlSalhi, S Prasad, MJ Aljaafreh , AHS Othman. <i>Journal of Nanomaterials</i> 2018. Impact factor of 2.233. |
| 31. | Using a spectrofluorometer for resonance raman spectra of organic molecules V Masilamani, HM Ghaithan, MJ Aljaafreh , A Ahmed, R al Thagafi. <i>Journal of Spectroscopy</i> . Volume 2017. 2017. Impact factor of 1.376. |

CONFERENCES

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| 1 | ALJAAFREH, MAMDUH JAMIL; Rajendra, Saradh Prasad; AlSalhi, Mohamad Saleh AlSalhi "Green Mirror-less laser from Conjugated Polymer (PFO-co-PPV-MEHB) in Film" AAAFM-UCLA International Conference on Advances in Functional Materials, Los Angeles, USA, 2021. |
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