Ahmad Ali Abushattal

Date of Birth: 08/04/1987
Marital Status: Married
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Business Email[2]: ahmad.absuahttal@usc.es
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Researchgate: www.researchgate.net/Abushattal
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Google Scholar: H-index [**11**], Citations [**328**]
Scopus : 57193381791

PROFESSIONAL SUMMARY

Astrophysicist and **Renewable Energy** specialist with dual PhDs from the University of Santiago de Compostela, Spain, and over a decade of academic, research, and administrative leadership. **Certified Quality Assurer for higher education institutions** and **holder of a Higher Leadership Preparation Certificate**. Currently Associate Professor of Physics and Director of the Renewable Energy Research Center at Al-Hussein Bin Talal University. My interdisciplinary expertise bridges astrophysics, astroinformatics, artificial intelligence, and renewable energy engineering, advancing innovation in space sciences, CubeSat systems, and sustainable energy for space missions. My research aligns with seven laboratories, covering meteorite analysis, radio astronomy, space weather modeling, high-energy astrophysics, AI-driven space data systems, and propulsion energy solutions. Author of 40+ Q1–Q3 publications, reviewer and editor for leading international journals, and collaborator with institutions across Europe, Asia, and the Middle East — committed to advancing AI-based orbital analysis and next-generation space exploration

RESEARCH INTERESTS

∗ **Astrophysics and Space Sciences:** Binary star systems, The Galactic disk formation and evolution, Extra-solar planets, The Habitability and Stability. Theoretical and Observational Astrophysics, Visual and Spectroscopic, Meteorites.

∗ **Renewable Energy Engineering:** Modelling of Solar cell, Perovskite Solar Cell, Multijunction solar cell, Solar cell for Space and Terrestrial Applications.
∗ **Material Sciences:** renewable Energy Material, Astromaterials
Interdisciplinary Collaboration between material scientists, astrophysicists.

∗ **Combining expertise in space sciences with renewable energy engineering:** develop sustainable energy solutions for space missions, satellites.

EDUCATION

July 2025 **Ph.D. Renewable Energies and Energy Sustainability**
University of Santiago de Compostela

Santiago de Compostela, Galicia, Spain.
Dissertation Title: III-V Multijunction Solar Cells Contributions in the Renewable Energy Engineering .

July 2017 **Ph.D. Astrophysics and Space Sciences- Astrodynamics** (**Cum Laude "The Highest Honor"**)
University of Santiago de Compostela
Santiago de Compostela, Galicia, Spain.
Dissertation Title: The Modeling of the Physical and Dynamical Properties of Spectroscopic Binaries with an Orbit.

Jan 2013 **MS. Physics**
Mutah University
AlKarak, Jordan.
Thesis Title: Physical and Geometrical Elements of the Visually Close Binary System HIP64838

Jun 2009 **B.Sc. in Physics**
Al-Hussein Bin Talal University
Maan, Jordan.

WORK EXPERIENCE

Sep 2022 - Present Al-Hussein Bin Talal University
Associate professor *- Department of Physics*

May 2024 - Present INTI International University **(Malaysia)**
Visiting Researcher *- Faculty of Data Science and Information Technology*

March 2024 - Universiti Kebangsaan Malaysia (UKM) (**Malaysia**)
Present ***Visiting Researcher*** *- Department of Physics*

Sep 2017 - Sep 2022 Al-Hussein Bin Talal University
Assistant Professor *- Department of Physics (5 years)*

July 2012 Sep 2017 Al-Hussein Bin Talal University
Physics Laboratory Supervisor *- Department of Physics (+1 year)*

Feb 2010 July 2012 Al-Hussein Bin Talal University
Physics laboratory Technologist *- Department of Physics (2.5 years)*

Sep 2009 Feb 2010 Ministry of Education
Physics Teacher *(6 months)*

UNIVERSITY LEADERSHIP AND ADMINISTRATIVE ROLES

Sep 2025 Present Al-Hussein Bin Talal University
Director, Renewable Energy Research Center *(+1 year)*

Nov 2021 Al-Hussein Bin Talal University
Nov 2022 ***Chair, Department of Physics*** *(+1 year)*

Sep 2018 Al-Hussein Bin Talal University
Apr 2020 ***Chair, Department of Radiology*** *(+1.5 year)*

REFEREED JOURNAL ARTICLES

Summary: [10] Q1 Journals, [9] Q2 journals, [5] Q3 Journals, and [5] Q4 Journals.

1. **Abushattal, A. A.**, Nikolaos Georgakarakos, Mashhoor A. Al-Wardat *"Precise Physical Parameters, Habitability, and Orbital Stability of Sun-like SB2 Systems: HD 130669, HD 184467, HD 191854, and HD 214222*" Astronomical Journal **Published 2025 October 14,(Q1, I.F: 5.1)**

2. Hassan B. Haboubi, Mashhoor A. Al-Wardat, **Abushattal, A. A.**, Maximiliano Dirk, Hatem Widyan, Naufa Nazar, Joshua V. Thomji and Suhail Masda *"Revised Orbital, Physical, Stability, and Habitability Parameters of the Binary System HD 25811 Using Gaia Observations*" Research in Astronomy and Astrophysics **Published 23 October 2025,(Q2, I.F: 1.6)**

3. **Abushattal, A. A.**, Mashoor Al-wardat, Khaldun G. Al-Moghrabi,‡ , Deshinta Arrova Dewi , and Ali M. Al-Ghonmein. *"HyperAutomation the Orbital Analysis of Single-Lined Spectroscopic Binaries (SB1s)*" **Under review R2.**

4. SUHAIL MASDA,*, MASHHOOR AL-WARDAT , **Abushattal, A. A.**, and AWNI KASAWNEH. *"Spectrophotometric and Dynamical Parameters of the Two Close Binary Systems: HIP 51360 and HIP 53206 Based on Gaia Observations*" **Under review R2.**

5. Mohammad K. Mardini*, **Abushattal, A. A.**, Ali Taani and Mashhoor A. Al-Wardat *"A Clean Thick Disk Sample Selected from The Galactic Archaeology with HERMES Survey"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023. Springer Nature Switzerland. (**Under review R2**).

6. **Abushattal, A. A.**, H. Widyan, M. Dirk, A. Hussein4, 02M. Al-Mashaqbeh , E. Abu-Alrob, R. A. Mendez and M. A. Al-Wardat *"12 Persei in the Eyes of Hipparcos and Gaia12 Persei in the Eyes of Hipparcos and Gaia"* **Under review R2.**

7. Laith M. Arrfou, A. Cano, P. Ar´evalo, **Abushattal, A. A.**, and F. Jurado . *"Applications of Artificial Intelligence Techniques in Hybrid Renewable Energy Systems," Chapter in Book: Advances in AI for Simulation and Optimization of Energy Systems,*", Qasem Abu Al-Haija, Omar Mohamed, and Wejdan Abu Elhaija (eds.), CRC Press, March 20, 2025, ISBN: 9781032858173..

8. Nour El I. Boukortt, Antonio Garc´ıa Loureiro, **Abushattal, A. A.**, . *"Efficiency Improvement of Ultrathin CIGS Solar Cells,*", Solar Energy, vol. 282, pp. 112935, 2024. (Q1, I.F: 2.9).

9. **Boukortt, N.E.I.,Loureiro, A.G., Abushattal, A. A.**, . *"Upper Subcell Properties Effects on 2T–Perovskite/PERT C-Si Tandem Solar Cell Performance.*", IEEE Transactions on Electron Devices (Q2, I.F: 2.9).

10. **Abushattal, A. A.**, Loureiro, A.G., Boukortt, N.E.I., Sattam Almatarneh . *"Simulation-Enhanced Insights for HighConcentration Solar Cells for Nano-Satellites.*", IEEE, 2023 2nd International Engineering Conference on Electrical, Energy, and Artificial Intelligence (EICEEAI), Zarqa, Jordan, 27-28 Dec 2023.

11. **Abushattal, A. A.**, Loureiro, A.G., Boukortt, N.E.I., . *"Ultra-High Concentration Vertical Homo-Multijunction Solar Cells for CubeSats and Terrestrial Applications* .", Micromachines (Q2, I.F: 3.2).

12. **Abushattal, A. A.**, Suzan. Alnaimat , Raid Jameel , Mashhoor Al-wardat, Mustafa H Ahmed *"The Jewel in the Crown: Archiving and Analyzing Astronomical Spectro-Visual Binaries Big Data,"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023. Springer Nature Switzerland. (**Q4**).

13. **Abushattal, A. A.**, A.A. Abushattal, Ala'a A. A. Azzam, Mashhoor A. Al-Wardat , Hatem Widyan, Mohammad Mardini, Ali Taani , Mohammed Talafha *"Astronomy and Space Sciences in Jordan Between Specialists and Amateurs"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023. Springer Nature Switzerland. (**Q4**).

14. Mohammed Talafha and **Abushattal, A. A.**,*"Surface Inflows in Solar Dynamo Models"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023. Springer Nature Switzerland. (**Q4**).

15. M Rah, M Yatman, A Taani, **Abushattal, A. A.**, MK Mardini *"Unraveling the Origins and Development of the Galactic Disk through Metal-Poor Stars,"* Communications of BAO 70 (2), 206-309, 2023.

16. **Abushattal, A. A.**, Mashhoor A Al-Wardat, Elliott P Horch, Nikolaos Georgakarakos, Hatem A Al-Ameryeen, Enas M Abu-Alrob, Abdallah M Hussein, . *"The 24 Aqr triple system: A closer look at its unique high-eccentricity hierarchical architecture* .", Advances in Space Research : (Q2, I.F: 2.6).

17. Boukortt, N.E.I., Patanè, S., Loureiro, A.G., AlAmri, A.M., Abdulraheem, Y.M., Lenka, T.R., Paul, R. and, **Abushattal, A. A.** . *"Electrical and Optical Investigation of 2T-Perovskite/u-CIGS Tandem Solar Cells With 30% Efficiency..*", IEEE Transactions on Electron Devices (2022): 182. (Q2, I.F: 3.22).

18. E Yaylaci, E Oner, M Yaylaci, M Ozdemir, **Abushattal, A. A.**, A Birinci . *"Application of artificial neural networks in the analysis of the continuous contact problem* .", Structural Engineering and Mechanics: (Q1, I.F: 2.998).

19. Hussein, A. M., Mashhoor A. Al-Wardat, **Abushattal, A. A.**, Hatem S. Widyan, Enas M. Abu-Alrob, Oleg Malkov, and Martin A. Barstow.. *"Atmospheric and Fundamental Parameters of Eight Nearby Multiple Stars.*", The Astronomical Journal 163, no. 4 (2022): 182. (Q1, I.F: 6.2).

20. **Abushattal, A. A.**, AF Kraishan, O. S. Alshamaseen *"The Exoplanets Catalogues and Archives: An Astro-statistical Analysis,"* Communications of BAO 69 (2), 235-241, 2022.

21. **Abushattal, A. A.**, AA Alrawashdeh, AF Kraishan *"Astroinformatics: The Importance of Mining Astronomical Data in Binary Stars Catalogues,"* Communications of BAO 69 (2), 251-255, 2022.

22. BS Algnamat, **Abushattal, A. A.**, AF Kraishan, MS Alnaimat AA Alrawashdeh, AF Kraishan *"The Precise Individual Masses and Theoretical Stability and Habitability of some Single-lined Spectroscopic Binaries,"* Communications of BAO 69 (2), 223-230, 2022.

23. HA Alameryeen, **Abushattal, A. A.**, AF Kraishan *"The Physical Parameters, Stability, and Habitability of some Double-lined Spectroscopic Binaries,"* Communications of BAO 69 (2), 242-250, 2022.

24. **Abushattal, A. A.**, José A. Docobo, and Pedro P. Campo,. *"The Most Probable 3D Orbit for Spectroscopic Binaries*". The Astronomical Journal, (Impact factor: 5.6, Q1) 2020.

25. Yamam M. Al-Tawalbeh, Abdallah M. Hussein,Ali A. Taani, **Abushattal, A. A.**, Nihad A. Yusuf, Mohammad K. Mardini, Hamid M. Al-Naimiy, Awni M. Khasawneh, Mashhoor. A. Al-Wardat. *"Precise masses, ages and orbital parameters of the binary systems HIP 11352, HIP 70973, and HIP72479*". Submitted, Astrophysical Bulletin. (Q3) 2020

26. A. Taani, M. Mardini, **Abushattal, A. A.**, A. Khasawneh and M. Al-Wardat. *"Probability Distribution of Magnetic Field Strengths through the Cyclotron Lines in High-Mass X-ray Binaries*". The Jordan Journal of Physics, (Q4) 2020.

27. **Abushattal, A. A.**, Al-Wardat, M. A., Taani, A. A., Khassawneh, A. M., Al-Naimiy, H. M. *"Extrasolar Planets in Binary Systems (Statistical Analysis*". In Journal of Physics: Conference Series (Vol. 1258, No. 1, p. 012018). IOP Publishing. (Q3) 2019.

28. Ali Taani, **Abushattal, A. A.**, Mohammad K Mardini *"The regular dynamics through the finite-time Lyapunov exponent distributions in 3D Hamiltonian systems*".Astronomische Nachrichten . (Impact factor 1.06 Q2) 2019

29. Ali Taani,Shigeyuki Karino, Liming Song, Mohammad Mardini, Mashhoor Al-Wardat, **Abushattal, A. A.**, Awni Khasawneh, and Hamid Al-Naimiy *"On the wind accretion model of GX 301-2*". Journal: Journal of Physics: Conference Series . (Q3) 2019.

30. M.A. Al-Wardat, J.A. Docobo, **Abushattal, A. A.**, and P.P. Campo.*"Physical and Geometrical Parameters of CVBS. XII. Fin 350 (HIP 64838)*". Journal: Astrophysical Bulletin . (Impact factor 1.02, Q2) 2017.

31. J.A.Docobo, R.G. Griffin, P.P. Campo, and **Abushattal, A. A.**. *"Precise orbital elements, masses and parallax of the spectroscopic interferome- tric binary HD 26441*". Monthly Notices of the Royal Astronomical Society, (Impact factor: 4.95, Q1) 2017.

Manuscripts in Preparation

32. **Abushattal, A. A.**, Mashoor Al-wardat, Khaldun G. Al-Moghrabi,‡ , Deshinta Arrova Dewi , and Ali M. Al-Ghonmein. *"HyperAutomation the Orbital Analysis of Single-Lined Spectroscopic Binaries (SB1s)*" **Final Stage to submit.**

33. **Abushattal, A. A.**, H. Widyan, M. Dirk, A. Hussein4, 02M. Al-Mashaqbeh , E. Abu-Alrob, L. R. Benchi, R. A. Mendez and M. A. Al-Wardat *"12 Persei in the Eyes of Hipparcos and Gaia12 Persei in the Eyes of Hipparcos and Gaia* " **Final Stage to submit.**

34. **Abushattal, A. A.**, Mashoor Al-wardat, Khaldun G. Al-Moghrabi, , Deshinta Arrova Dewi , and Ali M. Al-Ghonmein. *"HyperAutomation of Double-Lined Spectroscopic Binaries (SB2s)*" **Second Stage.**

35. Mashhoor A. Al-Wardat, Suhail G. Masdad, **Abushattal, A. A.**,*"Modified Masses and Parallaxes of Close Binary Systems III: HD 21841*" **Final Stage to submit.**

36. M. H. Talafha, **Abushattal, A. A.**,. *"Understanding Global Dipole Moment Buildup The Role of Second Component Meridional Flow perturbations in Surface Flux Transport Models*" **Final Stage.**

CONFERENCE PROCEEDINGS

1. **Abushattal, A. A.**, Ala'a AA Azzam, Mashhoor A Al-Wardat, Hatem Widyan, Mohammad Mardini, Ali Taani, Mohammed Talafha *"Advancements in Astronomy and Space Sciences in Jordan: Contributions from Experts and Astrophysical Institutions,"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023..

2. **Abushattal, A. A.**, Suzan. Alnaimat , Raid Jameel , Mashhoor Al-wardat, Mustafa H Ahmed *"The Jewel in the Crown: Archiving and Analyzing Astronomical Spectro-Visual Binaries Big Data,"* 14th Conference of the Arab Union of Space and Astronomy Sciences, November 13-16, 2023..

3. **Abushattal, A. A.**, , Antonio García Loureiro, Nour El I. Boukortt, Sattam Almatarneh *"Simulation-Enhanced Insights for High-Concentration Solar Cells for Nano-Satellites,"* 2nd Engineering International Conference on Electrical, Energy, and Artificial Intelligence(EICEEAI), **Jordan**. December, **2023**.

4. **Abushattal, A. A.**, AF Kraishan, O. S. Alshamaseen *"The Exoplanets Catalogues and Archives: An Astro-statistical Analysis,"* Space Sciences and Technologies, **Armenia**, **2022**.

5. **Abushattal, A. A.**, AA Alrawashdeh, AF Kraishan *"Astroinformatics: The Importance of Mining Astronomical Data in Binary Stars Catalogues,"* Space Sciences and Technologies, **Armenia**, **2022**.

6. BS Algnamat, **Abushattal, A. A.**, AF Kraishan, MS Alnaimat AA Alrawashdeh, AF Kraishan *"The Precise Individual Masses and Theoretical Stability and Habitability of some Single-lined Spectroscopic Binaries,"* Space Sciences and Technologies, **Armenia**, **2022**.

7. HA Alameryeen, **Abushattal, A. A.**, AF Kraishan *"The Physical Parameters, Stability, and Habitability of some Double-lined Spectroscopic Binaries,"* Space Sciences and Technologies, **Armenia**, **2022**.

8. **Abushattal, A. A.**, *"Extrasolar planets in spectroscopic binary systems: Stability and Habitability,"* The 12th Arab Conference for Astronomy and Space Science,The Royal Jordanian Geographic Center, **Jordan**. May, **2018**.

9. **Abushattal, A. A.**, *" CORAVEL Radial Velocity Observations at Cambridge Observatory, UK."* The 12th Arab Conference for Astronomy and Space Science,The RoyalJordanian Geographic Center, **Jordan**. May, **2018**.

10. **Abushattal, A. A.**, J. A. Docobo, P. P. Campo, M. Al-Wardat, *" What spectroscopic binaries can we resolve with a specific telescope?."* XVII Jornadas de Trabajo en Mecánica Celeste,Santiago de Compostela , Ramon Maria Aller Observatory, **Spain**. 25-27 July, **2018**.

11. **Abushattal, A. A.**, J. A. Docobo, P. P. Campo, M. Al-Wardat, *" The observations of spectroscopic binaries."* Second International Conference on Arabs' and Muslims' History of Science, Santiago de Compostela, University of Sharjah, Sharjah, **UAE**. December, **2014**.

COMPREHENSIVE EDUCATIONAL AND TRAINING PROGRAMS

These programs promote lifelong learning, interdisciplinary exploration, and innovation, enabling individuals to face scientific challenges with creativity and purpose.

Leadership in Department Management Curriculum

1. **Quality and Accreditation**: Promoted involvement in institutional assessments and program reviews to guarantee the quality and accreditation of educational institutions and their specialized programs.
2. **Physics Department Chair**: Developed innovative curriculum, managed interdisciplinary research projects, and facilitated workshops for professional growth.
3. **Radiology Department Chair**: Fostered technological advancements, built collaborative student programs, and enhanced learning outcomes through improved departmental management.

Scientific Writing and AI Era Projects

1. Workshop Instructor; Mastering Scientific Writing in the Age of AI: Address the challenges and techniques of scientific writing, emphasizing AI tools.
2. Training Course Developer; Optimizing Research Article Projects with AI Tools: Design courses to leverage AI for improving the quality and efficiency of research articles.
3. Workshop Facilitator; Publishing with Impact – Navigating Scientific Journals in the AI Era: Share best practices for impactful publishing amid the evolving AI landscape.
4. Training Program Instructor: AI-Based Peer Review and Article Assessment: Provide training on AI-based tools for reviewing and assessing scientific literature.

Astrophysics and Space Sciences

1. Workshop Instructor; Exploring Exoplanets and Habitability Techniques: Delve into methodologies for identifying and assessing exoplanets' habitability.
2. Training Course Developer; Galactic Disk Evolution and Spectroscopic Binaries: Craft courses exploring the processes influencing galactic disk structures and the identification of binary star systems.
3. Workshop Facilitator; Astroinformatics and Mining Big Data in Astronomy: Explore the emerging field of astroinformatics, where data mining and analysis play pivotal roles.
4. Training Program Instructor; Modern Astrodynamics and 3D Orbit Modeling: Teach advanced techniques in astrodynamics, focusing on 3D orbit modeling.

Advanced Renewable Energy Engineering

1. Training Course Developer; Modeling Perovskite Solar Cells for Space Applications: Develop courses on perovskite solar cell models designed specifically for use in space.
2. Workshop Facilitator; Advanced Multijunction Solar Cells for Nano-Satellites: Highlight state-of-the-art multijunction solar cells and their applications in nano-satellites.
3. Astromaterials and Solar Energy Systems in Space; Facilitate discussions on astromaterials and their role in harnessing solar energy in extraterrestrial environments.

4. Training Program Instructor; Simulation Tools for Photovoltaic Materials Research: Instruct on the use of simulation tools to investigate and optimize photovoltaic materials.

GRANTS

Sep 2018 Al-Hussein bin Talal University Grant, **10.000.00** Euro
Nov 2020 *Maan, Jordan.*

Sep 2015 Al-Hussein bin Talal University Grant, **40.000.00** Euro
July 2017 *Maan, Jordan.*

Sep 2013 Erasmus Mundus (PEACE I), **52.000.00** Euro Funded by the European Union.
July 2016 *University of Santiago de Compostela, Spain.*

Nov 2016 Institute of Mathematics University of Santiago de Compostela Grant, **2.000.00** Euro
Feb 2017 *University of santiago de Compostela, Spain.*

ACADEMIC SERVICE

Review Editor:

- **Trusted Reviewer IOP (Institute of Physics)**
- Astronomical Journal (AJ) IOP (Q1)
- Classical and Quantum Gravity Journal (CQG) IOP (Q1)
- Scientific Reports (Q1)
- Alexandria Engineering Journal (Q1)
- Results in Optics (Q2)
- Engineering Research Express (ERX) IOP (Q2)
- Frontiers in Astronomy and Space Sciences (FASS) (Q2)
- Jordan Journal of Physics (JJP) (Q4)
- IEEE Transactions on Electron Devices (Q2)
- Physica Scripta (Q2)

Master's Thesis Supervisor

1. **University of Sharjah (UAE)** : Layla Al Shehhi " ***Design and Optimization of Multijunction Solar Cells for Space Applications*** ", University of Sharjah , College of Science, Department of Physics, 2025.
2. **Al al-Bayt University (Jordan)**: Israa Altobasi " ***Exoplanets in Binary Systems: Assessing Habitability, Stability, and Orbital Dynamics of Spectroscopic Binaries*** ", Al al-Bayt University, College of Science, Department of Physics, 2025.

3. **Al-Hussein Bin Talal University**: Sabren Alrwajfeh " ***Algorithms, Advancements, and Astrophysical Significance of Double-lined Spectroscopic Binaries***", Al-Hussein Bin Talal University, College of Science, Department of Physics, 2023.

4. **Al-Hussein Bin Talal University**: Suzan Hussein Alnimat " ***Electronic Archiving and Analysis of Astronomical Big Data***", Al-Hussein Bin Talal University, College of Arts, Library Science Department, 2023.

5. **Al-Hussein Bin Talal University**: Nashat Alhasanat " ***Simulation and investigation of Photovoltaic Materials for Renewable Energy Applications***", Al-Hussein Bin Talal University, College of Science, Department of Physics, 2023.

6. Wa'ad Madallah Al-Hasanat, " ***Modeling and Simulation of Solar Cell Using PC1D***", Al-Hussein Bin Talal University, College of Engineering, Department of Mechanical Engineering, 2022.

7. **Al-Hussein Bin Talal University**: Mahmud Abdulkarem Al-Naimat " ***Physical characteristics and Elemental composition of some meteorites from the southern part of Jordan***", Al-Hussein Bin Talal University, College of Science, Department of P, 2022.

EXTERNAL EXAMINER

1. **Master Thesis**: entitled: Characterization of Exoplanetary Systems in terms of Habitability and Stability " Ammar Eissa Mohammed Abdulla, University of Sharjah , College of Science, Department of Physics, 2025, **UAE** .

2. **Master Thesis**: entitled: " Preparation And Characterization of Gelatin-Based Hydrogels Nanocomposite Filled With Functionalized Carbon Nanotubes " Arkan Haron Alnawafleh, Al-Hussein Bin Talal University, 2022.

3. **Master Thesis**: entitled: " Quantum-Mechanical Properties Of Both Dissipative System And Non-Lagrangian System " Wesal Suleiman AL-salaitah, Mutah University, 2022.

4. **Master Thesis** entitled: " Fundamental Parameters of Some Stellar Systems " Abdallah Mohammad Hussein, Al al-Bayt University, 2021.

5. **Master Thesis** entitled: " Trigonometric Parallax Discrepancies in Space Telescopes Measurements; the Case of the Binary Star HIP 84976 " Diala Mujahed Tanineah, Al al-Bayt University, 2021.

6. **Master Thesis** entitled: " Physical and Geometrical Parameters of the Stellar Binary Systems Hip 43766 " Hussam Attallah Defallah Aljboor, Al al-Bayt University, 2020.

7. **Master Thesis** entitled: " Modified Orbital Elements of the Two Binary Systems HIP 111685 and HIP 113996" M. Y. AL- Gburi, Al Al-Bayt University, 2019.

8. **Master Thesis** entitled: " Modified Orbital Elements Of The Close Visual Binary Systems HIP39495 HIP43766 HIP81693" A.A.Alnaimat, Mu'tah University, 2019.

WORKSHOPS

1. **The Universe at the Optical Wavelength**, 12-23 January 2025 .the Sharjah Academy for Astronomy, Space Sciences, and Technology (SAASST) and the University of Sharjah, **Sharjah, UAE**.
2. **MENELAOS NT Summer School**, CiTIUS, September 20 - 25, 2021.The University of Santiago de Compostela, in Santiago de Compostela, **Spain**.
3. **Astrobiology Introductory Course,** March 13th to 10th, 2022, in Le Teich, **France**.
4. **The Virtual Astronomical Camp for the Arab Union for Astronomy and Space Sciences**: Regional Center for Space Science and Space Technology for West Asia, Amman, **Jordan**, Sep 2020.
5. **Professional Development Workshop for AHU Faculty**: Al-Hussein Bin Talal University, Maan, **Jordan**, November 2017.
6. **The Information Revolution in Education and Information Accessibility in Regional Communities in Jordan**: Al-Hussein Bin Talal University, Maan, **Jordan**, December 2018.
7. **Scientific Writing and Publishing Skills at AHU University**: Maan, Jordan, December 2018 Al-Hussein Bin Talal University, Maan, **Jordan**, December 2018.

MEMBERSHIP

1. **International Astronomical Union (IAU)**.
2. **Institute of Electrical and Electronics Engineers (IEEE)**.
3. **Advisory Board Member at Astro Tech Hub**.
4. **Arab Union for Astronomy and Space Sciences (AUASS)**.
5. **The Jordanian Astronomical Society(JAS)**
6. **Member of the faculty of Science committee of (ABET) the Accreditation Board for Engineering and Technology**
7. **Board Member of the Department of Physics at Al-Hussein Bin Talal University**
8. **Board Member of the Department of Radiography at Al-Hussein Bin Talal University.**
9. **Board Member of the faculty Sciences at Al-Hussein Bin Talal University**
10. **Board Member of the faculty Princess Aisha Bint Al Hussein of Nursing at Al-Hussein Bin Talal University**
11. **Board Member of ERASMUS Committee at Al-Hussein Bin Talal University**

EXPERIMENTAL OBSERVATORIES RESEARCH EXPERIENCE

1. **36-Inch telescope observatory- Cambridge University, Cambridge, United Kingdom.** (During Ph.D. Study 2013-2017)
   - Operate a 36-inch telescope at Cambridge Observatory.
   - *Using CORAVEL to determine the radial velocities for Single-lined and Double-lined spectroscopic binaries*
   - *Resolve the orbits for a sample of binary systems*.

2. **Ramon Maria Aller observatory, university of Santiago de Compostela, Spain**. (During my Ph.D. Study 2013-2017)
   - *Determine the orbits and the physical parameter for Spectroscopic binaries*
   - *Studying the Habitability and the stability of the extra-solar planets in binary systems*
   - *Modulate the three-dimensional orbit for spectroscopic binaries.*

BACHELOR STUDENT MENTORING

Senior Graduation Projects Research Advisor for 23 BS graduation projects at Al-Hussein Bin Talal University, entitled:

- The Physics of Communications Satellite
- Is there another Earth?
- The Detection of Gravitational Waves.
- Plasma Physics a Future Way for Energy.
- Physics of Human Body–Thermal Balance and Breathing.
- Exoplanets in Double-lined Spectroscopic Binaries.
- The Physics of Ultrasound Imaging.
- The Electricity of the human body.
- Exoplanets from detection to Nobel Prize.

TEACHING EXPERIENCE

During My Career as an Associate Professor, I thought the following courses:

- Introduction to Astronomy
- Astrophysics
- Atmospheric Physics and Meteorology
- Electronics
- Advanced Modern Physics
- Heat and Waves
- General Physics I
- General Physics II
- Physics Of the Human body
- Physics for Computer Science Students
- General Physics Lab I
- General Physics II
- Electronics Circuit Lab
- Optics Lab
- Thermodynamics physics lab
- Advanced Physics Lab
- Graduation Research Project

EXTRACURRICULAR ACHIEVEMENTS AND ATHLETIC AWARDS

- Football Teams Rianxo (Spain), Ma'an (Jordan), Al-Hussein bin Talal University (Jordan).
- Silver medal in athletics 4 X 100 meters, Ranked second in Jordan.
- 4 Golden Medal in athletics in a 6 km competition for 4 years at Al-Hussein bin Talal University (Jordan)

LANGUAGES

Arabic: Native Language.

English: Very good in reading, writing, and speaking.

Spanish: Very good in reading, good writing, and very good speaking.

PROFESSIONAL SKILLS CERTIFICATES

- Higher Leadership Preparation Certificate (70 hours)
- International Computer Driving License (ICDL)
- Mutah Computer Driving License (MUCDL)

LIST OF REFERENCES

- **Prof. Jose Angel Docobo**
  University of Santiago de Compostela
  Ramon Maria Aller Observatory, Galicia, Spain
  joseangel.docobo@usc.es

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