

**Professor Dr. Sattar Othman Hasan**

MSc. in (**Nuclear** Physics-Gamma **Ray** Spectrum)

PhD. in (**Electromagnetic** Theory- **Communications**)

Physics Department/ Salahaddin University–Erbil

**Kurdistan Region**

**Erbil**



Work address: Office address:

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Home: **--------------------------**

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Website:

Born in **Suleimani** –Kurdistan Region of Iraq- **1970**

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| --- | --- |
| Name | **Sattar** **Othman** **Hasan** |
| Nationality | **Kurdistan** Region of IRAQ |
| Date of birth | 1 / 7 / **1970** |
| Personal status | Married |
| Occupation | Lecturer in **Physics** Department |
| Title | Professor |
| Qualification | **PhD** in **Electromagnetic** Field Theory |
| General field | **Physics** |
| Specialization | **Communication** and **Antenna** Design |
| Office address | **Salahaddin** University-Hawler **/** College of **Education / Physics** Department |
| e-mail | [sattar.hasan@su.edu.krd](mailto:sattar.hasan@su.edu.krd) or [star\_2004OS@yahoo.com](mailto:star_2004OS@yahoo.com) |
| Mobile No. | 009647504514637 |

**Academic Qualifications**

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| --- | --- | --- |
| **Qualification**  **(Degree Obtained)** | **Name and Address of Institution** | **Years Attended** |
| B.Sc. **(86.36%)** | University of Salahaddin-Hawler | 1991 |
| **M.Sc. (77.78%)** | University of Salahaddin-Hawler | 1999 |
| **PhD (92.80%)** | University of Salahaddin-Hawler | 2006 |

**Work Experience**

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| --- | --- | --- |
| **Date of Employment**  From - To | **Employing Place** | **Job Title** |
| **2000-2002** | Salahaddin University / Education College | Registration unit **Manger** |
| **2002-2003** | Salahaddin University / Education College | Deputy of **Dean** |
| **2000-2008** | Salahaddin University / Education College | representative of **Teaching** staff |
| **2008-2010** | EPU/ **Tourism** Technique Institute | **Dean** of the Institute |
| **2010-2014** | EPU/ Erbil **Technology** Institute | **Dean** of the Institute |

**Scientific Titles**

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| --- | --- |
| Academic Title | Date |
| Assist. Lecturer | 14 / 12 / 1999 |
| Lecturer | 31 / 5 / 2003 |
| Assist. Professor | 12 / 3 / 2008 |
| Professor | 11/12/2023 |

**Teaching Subjects**

**B. Sc.**

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| --- | --- | --- | --- | --- |
| **No.** | **Subjects** | **College / Department** | **Class** | **Years** |
| 1. | **General** Physics | Agriculture/plant protec. | 1st   **Class** | 1999-2000 |
| 2. | **Quantum** Mechanics | Education / Physics | 4th **Class** | 2000 to 2002 & 2022 to 2024 |
| 3. | **Electromagnetic** Theory | Education / Physics | 4th  **Class** | 2002-2003 & 2015 to 2018 |
| 4. | **Calculus** | Education / Physics | 1st  **Class** | 2014 to 2016 & 2015 to 2018 |
| 5. | Linear **Algebra** | Education / Physics | 1st  **Class** | 2008-2009 |
| 6. | General **Mathematic** | Technology institute | 1st  **Class** | 2010-2011 |
| 7. | Electricity and magnetism Lab. | Education / Physics | 1st  **Class** | 1993-1994 |
| 8. | Adv. **Electricity** & **Magnetism** Lab. | Education / Physics | 2nd **Class** | 1993 to 2003 |
| 9. | Matter **Properties** Lab. | Education / Physics | 1st  **Class** | 1995-1997 |
| 10. | General **Physics** Lab. | Education/ Mathematic | 1st  **Class** | 1993 to 2000 |
| 11. | **Atomic** Lab. | Education / Physics | 3rd **Class** | 2006-2008 |
| 12. | **Illustration** Lab. | Education / Physics | 4th **Class** | 2017 to 2023 |
| 13. | Adv. **Calculus** | Education / Physics | 2nd **Class** | 2019 to 2021 |

**Teaching Subjects**

**M. Sc. & Ph.D.**

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| **No.** | **Subjects** | **College / Department** | **Class** |
| 1. | Radio **Wave** Propagation | Education / Physics | M.Sc. |
| 2. | **Adv.** Electromagnetic Theory | **Education** & **Science** / Physics | M.Sc. |
| 3. | **Antenna** Theory | **Education** & **Science** / Physics | M.Sc. and Ph.D. |
| 4. | **Mathematical** Physics | **Education** / Physics | Ph.D. + M.Sc. |
| 5. | **Numerical** Analysis | **Education** / Physics | M.Sc. |

Publications

| No. | Title(s) and Journal / Proceeding | Author (s) |
| --- | --- | --- |
| 1 | Design of Graphene‑Based Tunable Plasmonic Antenna for Multiband Terahertz Application Systems, Plasmonic, November, (**2023**) 102497, **Impact Factor 3.0**  https://doi.org/10.1007/s11468-023-02153-9. | **Sattar O. Hasan**, Saman K. Ezzulddin, Hersh A. Khizir, Muhamad A. Hamad and Bushra A. Rahman |
| 2 | Performance Analysis of Plasmonic Nano‑antenna Based on Graphene with Different Dielectric Substrate Materials for Optoelectronics Application  Plasmonics, September, (2023) 102497, **Impact Factor 3.0**  https://doi.org/10.1007/s11468-023-02030-5. | Saman K. Ezaddin  **Sattar O. Hasan**  Mudhaffer M. Ameen |
| 3 | Design and Performance Analysis of Rectangular Microstrip Patch Antennas Using Different Feeding Techniques for 5G Applications  *International Journal of Electrical and Computer Engineering Systems, Vol. 14, No. 8,* 2023  **Scopus Cite Score 0.7** | **Sattar** O. Hasan  **Saman** K.Ezaddin  **Othman S. Hammed**  **Rashad** H.Mahmud |
| 4 | Simulation Design of Different Rectangular Horn Antenna Shapes Operating at 28 GHz Using CST and HFSS Techniques.  *International Journal on Communications Antenna & Propagation* (IRECAP), Vol. 13, No. 2, April 2023,  DOI: https://doi.org/10.15866/irecap.v12i6.22701 **Scopus Cite score 2.7** | **Sattar** O. Hasan  **Mudhaffer** M. Ameen  **Skala** H.Mohammed |
| 5 | Design and Simulation of Microstrip Antenna Array Operating at **S**-band for Wireless Communication System  *International Journal of Electrical and Computer Engineering Systems, Vol. 14, No. 5,* 2023  **Scopus Cite Score 1.3** | **Sattar** O. Hasan  **Saman** K.Ezaddin  **Rashad** H.Mahmud  **Mowfaq J. Ahmad** |
| 6 | Parametric Study of an Elliptical Microstrip Patch Antenna for **X-**band Applications  *Journal of Zankoy Sulaimani**Part-A- (Pure and Applied Sciences), Vol.25, No.1, March* 2023*.* | **Sattar** O. Hasan |
| 7 | Design and Comparison Study of Circular and Elliptical Microstrip Patch Antennas for 5G Applications.  *International Journal on Communications Antenna & Propagation* (IRECAP), Vol. 12, N. 6, April 2022,  DOI: https://doi.org/10.15866/irecap.v12i6.22701 **Scopus Cite score 2.7** | **Sattar** O. Hasan |
| 8 | Radiation Performance of Different Triangular Microstrip Patch Antenna Configuration Shapes Operating at 28 GHz.  ZANCO Journal of Pure and Applied Sciences, Salahaddin University-Erbil, Vol. 34, No.6, pp. 45-55(2022),  DOI: : http://dx.doi.org/10.21271/ZJPAS.34.6.6 | **Sattar** O. Hasan  **Bushra** A. Rahman |
| 9 | Simulation Design of Low-Profile Equilateral Triangle Microstrip Patch Antenna Operating at 28 GHz  *International Journal on Communications Antenna & Propagation* (IRECAP), Vol. 12, N. 2, April 2022, <https://doi.org/10.15866/irecap.v12i2.21964> **Scopus Cite score 2.7** | **Sattar** O. Hasan  **Bushra** A. Rahman |
| 10 | Microstrip patch antenna design, simulation and fabrication for 5G applications  *Simulation Modelling Practice and Theory*, January, 116 (2022) 102497, [https://doi.org/10.1016/j.simpat. 2022.102497](https://doi.org/10.1016/j.simpat.%202022.102497)  **Impact Factor 4.199** | **Sattar** O. Hasan  **Mudhaffer** M. Ameen  **Saman** K.Ezaddin |
| 11 | Optimization of rectangular microstrip antenna patch parameters to operate with high radiation performances for 5G applications  *AIP Conference Proceedings* ***2386****, 070002 (2022); Published Online*: 11 January 2022  <https://doi.org/10.1063/5.0066800>  **Scopus Cite Score 0.7** | **Sattar** O.Hasan  **Mudhaffer** M.Ameen  **Saman** K.Ezaddin |
| 12 | Optimization of Rectangular Microstrip Antenna Substrate Parameters to Operate at High Radiation Performances for 5G Applications  *Advances in Mechanics*, Volume 9, Issue 2, Page 273-286, 2021**,**  https://www.researchgate .net/publication/357859141.  **Scopus Cite Score 2.9** | **Sattar** O.Hasan  **Mudhaffer** M.Ameen  **Saman** K.Ezaddin |
| 13 | [Comparison Between Measured and Empirically Predicted Radio Wave Pathloss in Rural Environment](https://astesj.com/v05/i05/p106)  ZANCO Journal of Pure and Applied Sciences, Salahaddin University-Erbil, ZJPAS (2021),  DOI: <http://dx.doi.org/10.21271/zjpas> | **Sattar** O. Hasan  **Sevan** S. Abdulla |
| 14 | A Low-Profile Antenna Based on Single-Layer Metasurface for Ku-Band Applications  [*International Journal of Antennas and Propagation*](https://www.hindawi.com/journals/ijap/), [2020](https://www.hindawi.com/journals/ijap/contents/year/2020/), Article ID 8813951, 8 pages, <https://doi.org/10.1155/2020/881395> . **Scopus Cite score 2.7** | Yadgar I. Abdulkarim, Halgurd N. Awl, Fahmi F. Muharrem K. Rashad H.  **Sattar** O. Hasan, Ömer Işık, Heng Luo  **Shengxiang Huang** |
| 15 | [Path Loss Estimation for Some Korek-Telecom Sites Operating at (1.8) GHz and (2.1) GHz for Urban and Suburban Area in Erbil City](https://astesj.com/v05/i05/p106)  *Advances in Science, Technology and Engineering Systems Journal* Vol. 5, No. 5, 869-875 (2020), https://doi.org/[10.25046/aj0505106](http://dx.doi.org/10.25046/aj0505106).  **Scopus Cite Score 0.7** | **Sattar** O. Hasan  **Sevan** S. Abdulla |
| 16 | [Design and Simulation of Microstrip Patch Antenna for 5G Application using CST Studio](https://www.ospublishers.com/Design-and-simulation-of-Microstrip-Patch-Antenna-for-5G-Application-using-CST-studio.html)  *International Journal of Advanced Science and Technology* Vol. 29, No. 04, pp. 7193 – 7205, **2020,**  <https://www.researchgate.net/publication/357859126> **Scopus Cite Score 0.1** | **Sattar** O.Hasan  **Mudhaffer** M.Ameen  **Saman** K.Ezaddin |
| 17 | [Optimization of 90 and120 dB- Shielding Effectiveness for Plane Electromagnetic Waves at Center Frequencies (3 and 3000) MHz](https://doi.org/10.21271/zjpas.v28i2.870)  *ZANCO Journal of Pure and Applied Sciences, Salahaddin University-Erbil*, ZJPAS (2016) 28 (2); 564-573,  <https://www.researchgate.net/publication/324018452> | **Sattar** O. Hasan  **Glara** F. Hasan |
| 18 | Radiation characteristics of the Axial –mode helical antennas operating at the X-band frequencies  *Journal of Pure and Applied Sciences, Salahaddin University*- Hawler, Vol.24, No.1, (2012)**.** | **Sattar** O. Hasan  **Rashad** A. Hasan |
| 19 | Shielding Effectiveness via Electric and Magnetic Fields  *Journal of Dohuk University, Scientific and Academic*, Vol.10, No.2, pp. 104-111, (2007). | **Sattar O. Hasan** |
| 20 | Evaluation of Electromagnetic Shielding Effectiveness for Various Types and Thickness of Materials at Different Frequencies  *Journal of Pure and Applied Sciences, Salahaddin University*- Hawler, Vol.19, No.3, pp. 81-93, December (2007). | **Sattar** O. Hasan |
| 21 | Parametric Study of the Rectangular Microstrip Antenna Using Cavity Model  *Engineering and Development Journal, Al-Mustansiriya University- Baghdad*, Vol.10, No.2, (2006)**.** | **Sattar** O. Hasan  **Jamal** W. Salman |
| 22 | Effect of Loss Tangent, Dielectric Substrate Permittivity and Thickness on the Performance of Circular Microstrip Antennas  *Engineering and Development Journal, Al-Mustansiriya University*- Baghdad, Vol.10, No.1, (2006). | **Sattar** O. Hasan  **Jamal** W. Salman |
| 23 | Multipole Mixing Ratios for Gamma-Transition Using Constant Statistical Tensor Method for  *Journal of Pure and Applied Sciences, Salahaddin University*- Hawler, Vol.16, No.1, (2004). | **Sattar** O. Hasan |
| 24 | Study of Some Nuclear properties of Isotopes 96-108Ru, 102-116Pd, 110-130Xe, 166-180HF  *Journal of Pure and Applied Sciences, Salahaddin University- Hawler*, Vol.14, No.2, (2004). | **Sattar** O. Hasan  **Azad** M. Karem |
| 25 | The Background Function Effects on the Analysis of Gamma-Ray Spectrum  College of Science, University of Salahaddin (1999), M.Sc. Thesis | **Sattar** O. Hasan  M.Sc. Thesis |
| 26 | Analysis and Design of Compact Microstrip Antenna Using Cavity Model  College of Science, University of Salahaddin (**2006**), PhD Thesis | **Sattar** O. Hasan  PhD Thesis |

Supervision of Master Degree

| No. | Student Name | Thesis Title | Year |
| --- | --- | --- | --- |
| 1 | **Rashad** Hasan Mahmud | Design Study of the Axial-Mode Helical Antennas Operating in the **X**-Band Frequency | **2010** |
| 2 | **Glara** Fuad Hasan | Theoretical Analysis of the Oblique Incidence Plane Electromagnetic Wave Shielding Effectiveness at Frequency Bands of **HF**, **VHF** and **UHF** | **2014** |
| 3 | **Sevan** Siyyah Abdullah | Comparison between Different Radio Wave Propagation Path Loss Predictions Models | **2020** |
| 4 | **Bushra** Adnan Rahman | Analysis of Various Triangular Microstrip Antennas Shapes using Different Analytical and Simulation Techniques | **2023** |

Supervision of PhD Degree

| No. | Student Name | Thesis Title | Year |
| --- | --- | --- | --- |
| 1 | **Saman** K.Ezaddin | Comparative Study between Different **MPA** Shape Configurations Operating at **5G** Frequency | **2022** |
| 2 | **Skala** Hatem Mohammed | Design Analysis of Different Aperture Antennas Configuration Shapes Operating at 28 GHz and 38 GHz | 2/11/2021  till now |

* **Participating in Discussion Committee of MSc. and PhD. Students**

1. **Member** in (**12**) **Master** students discussion committee.
2. **Member** in (**3**) **Ph.D**. Students discussion committee.
3. **Supervisor** of (**4**) **Master** Students.
4. **Supervisor** of (**2**) **Ph.D.** Students.

Supervision of (B.Sc.) Undergraduate Student Research Project

| No. | Student Name | Project Title | Year |
| --- | --- | --- | --- |
| 1 | **Rabar** R. Tofiq | Natural **Gamma** Spectrum Analysis Behaviour | 2000-2001 |
| 2 | **Talar** F. Najm | Formation of **Liquid** Drop Model | 2003-2004 |
| 3 | **Azhen** A. Muhamadameen | Propagation of **Electromagnetic** waves in Different Mediums | 2004-2005 |
| 4 | **Sana** L. Nahmatulla | Historical Review of the Foundation of **Electricity** and **magnetism** Phenomenon | 2006-2007 |
| 5 | **Halmat** J. Hassan | Characteristic of **EMW** in Different Conducting Medium | 2007-2008 |
| 6 | **Chnar A.** Ismail | **Surface** Tension and **Viscosity** of Water as a Function of **Temperature** and with Different Soluble Concentration | 2016-2017 |
| 7 | **Kazhaw** K. Abdulla |
| 8 | **Shanaz** M. Othman |
| 9 | **Dlgash** M. Hussen | Calculation of **Electric** Field Shielding Effectiveness at Operation Frequencies | 2017-2018 |
| 10 | **Rozhen** M. Mhamad | Evaluation of **Magnetic** Field Shielding Effectiveness at Operation Frequencies | 2017-2018 |
| 11 | **Sarkawt** A. Abdulsamad | Computation of **Plane** Electromagnetic Wave Shielding Effectiveness | 2017-2018 |
| 12 | **Zainab** H. Omer | Optimization of **Radar** Parameters to Detecting Targets at a Distance of | 2018-2019 |
| 13 | **Shazad** S. Hasan | Effect of Various **Radar** Parameters on the Performance of Radar Detection Ranges | 2018-2019 |
| 14 | **Banazer** M. Mahmood | Estimation of Radio Wave **Pathloss** in **Urban** and **Sub**-**Urban** Environments Using Different Empirical Models | 2020-2021 |
| 15 | **Banda** M. Haidar | Radio Wave Propagation **Pathloss** Computation in **Different** **Environments** Using Stanford University Interion Model | 2020-2021 |
| 16 | **Trefa** Q. Qader | Radio Wave Propagation **Pathloss** Prediction in Different Environments Using COST-231 Wolfish-Ikegami Model | 2020-2021 |
| 17 | **Asmaa** N. Omer | Comparison Between **End**-**fire** and **Broadside** Array Antenna Radiation Pattern Parameters | 2021-2022 |
| 18 | **Aso** N. Saeed | Effect of **Various** Parameters on the Radiation Pattern of **Broadside** Array | 2021-2022 |
| 19 | **Rayan** M. Hasan | Effect of **Various** Parameters on the Radiation Pattern of the **End-Fire** Antenna Arrays | 2021-2022 |
| 20 | **Youns** Muhammad Auday | Computation of **Reflection** and **Transmission** Coefficient for **Parallel** polarized **EMW** between different Dielectric Mediums | 2022-2023 |
| 21 | **Rayan** Nareman Abdulhameed | **Perpendicular** Polarized **EMW** **Reflection** and **Transmission** CoefficientCalculationat the Interface of Dielectric Mediums | 2022-2023 |
| 22 | **Rawand** Rahman Husen | Antenna Types with Their Applications | 2023-2024 |
| 23 | **Deren** Sattar Salih | Antenna Types with Their Applications | 2023-2024 |
| 24 |  |  |  |
| 25 |  |  |  |