

Junaid Kareem Khan

Citizenship : Pakistan • Date of Birth : 29 Oct, 1983

Contact

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Profile:

Objective: To be a part of a progressive institution that gives me a scope to update my knowledge and skills in accordance with the changing technologies and be a part of a team that dynamically works towards growth of technology to benefit the society.

Education:

Course Work Completed and Research Work in progress	Ph.D. (Material Science) PHYSICS University of Karachi, Karachi Pakistan.
February 2016	M.Phil. ISPA University of Karachi, Karachi Pakistan.
December 2006	M.Sc. Applied Physics (Electronics) GOLD MEDALIST & "1 st " Position in M.Sc. Electronics. University of Karachi, Karachi Pakistan.
December 2003	Bachelor of Computer Science University of Karachi, Karachi Pakistan.
October 2001	F.Sc. (Pre- Engineering) Karachi Intermediate Board, Karachi Pakistan.
March 1999	Matriculation (Science) Karachi Matric Board, Karachi Pakistan.

Teaching Experience:

➤ Presently working as regular " Assistant Professor " in Department of Physics NED University of Engineering and Technology, Karachi, Pakistan.	Full-time 13th March 2018 to till Date
➤ Regular " Lecturer " in Physics in Department of Physics NED University of Engineering and Technology, Karachi, Pakistan.	Full-time 7th January 2008 to 12th March 2018

Major Responsibilities/ Experiences During Service:

- Teaching of Physics Courses at Undergraduate and Postgraduate Level:
 - Applied Physics,
 - Computational Physics,
 - Advanced Computational Physics
 - Electromagnetic Theory,
 - Nanoscience Nanotechnology
- Member of Board of Faculty (BoF)-ISH
- Member /Secretary of Board of Studies (BoS)-Physics
- Member /Secretary of Industrial Advisory Board (IAB)
- Area Coordinator (QEC Representative of the department)
- Member of Admission Committee (MS in Physics)
- Focal Person of the department management committee
- Postgraduate Coordinator
- Class Advisor
- In-charge of Physics Lab.
- Website Content Manager
- Working experience of Nicolet IS50 FT-IR Machine
- Four Point Probe Resistivity Measurement Machine
- Phywe XRD 4.0 Machine
- Wien2k Simulation Software
- Established the BS applied physics Labs in the Department of Physics.

Current Research Activities:

- Synthesis of ferrites nanoparticles for different technological applications like: Microwave, magnetic Storage, energy storage, etc.
- Study of Structural, Spectroscopic, Dielectric, and magnetic properties of nanomaterials using X-Ray Diffractometer (XRD), Scanning Electron Microscopy (SEM), Fourier Transform Infrared Spectroscopy (FTIR), Impedance Spectroscopy (IS), Four Probe testing and Vibrating Sample Magnetometer (VSM) testing.

Major Fields of Interest for Research and Teaching:

- Material Science
- Renewable Energy
- Electronics
- Medical Physics

Publications

1. Lanthanum doped Manganese-Zinc spinel ferrite nanoparticles for microwave and soft magnet applications, *Journal of Materials Science: Materials in Electronics* 34, no. 4 (2023): 249.
2. Study of lanthanum ions (La^{3+}) doped Manganese-Cobalt (Mn-Co) based spinel ferrite nanoparticles for technological applications, *Applied Physics A* 128, no. 11 (2022): 1-15.(I.F. 2.983)
3. Structural, dielectric, impedance and electric modulus analysis of Ni substituted copper spinel ferrites nanoparticles for microwave device applications, *Materials Chemistry and Physics* 285 (2022): 126091.(I.F. 4.094)
4. Effect of nickel substitution on structural and dielectric properties of Mg-Zn based spinel ferrite nanoparticles, *Physica Scripta* 97, no. 6 (2022): 065802.(I.F. 3.081)
5. Fabrication of Cobalt Ferrite Nanoparticles with a Facile Approach: Variations in Structural, Dielectric and Morphological Properties by Influence of Annealing Temperature, *International Journal of Nanoelectronics & Materials* 15, no. 1 (2022). (I.F. 0.82)
6. Structural and magnetic properties of Co–Cd–Zn spinel ferrite nanoparticles synthesized through micro-emulsion method. *Optical and Quantum Electronics* 53, no. 12 (2021): 1-12. (I.F. 2.18)
7. Aluminum Substitution in Ni-Co Based Spinel Ferrite Nanoparticles by Sol–Gel Auto- Combustion Method. *Journal of Electronic Materials* 50, no. 6 (2021): 3302-3311. (I.F. 1.18)
8. Structural, dielectric, impedance, and electric modulus properties of Cu^{2+} -substituted $\text{Cu}_x\text{Mn}_{1-x}\text{Fe}_2\text{O}_4$ spinel ferrites nanoparticles. *Journal of Materials Science: Materials in Electronics*. 2021 Feb 6:1-3. (I.F: 2.2)
9. Properties of Al^{3+} substituted nickel ferrite ($\text{NiAl}_x\text{Fe}_{2-x}\text{O}_4$) nanoparticles synthesized using wet sol-gel auto-combustion. *Journal of Sol-Gel Science and Technology*. <https://doi.org/10.1007/s10971-020-05426-5>. 11 November 2020 © Springer Science + Business Media, LLC, part of Springer Nature 2020 (I.F: 2.05)
10. Dielectric, impedance, and modulus spectroscopic studies of Lanthanum-doped nickel spinel ferrites $\text{NiLa}_x\text{Fe}_{2-x}\text{O}_4$ nanoparticles. *Journal of Sol-Gel Science and Technology*. <https://doi.org/10.1007/s10971-020-05359-z> . 29 June 2020 © Springer Science + Business Media, LLC, part of Springer Nature 2020 (I.F: 2.05)
11. Impact of aluminum substitution on the structural and dielectric properties of Ni–Cu spinel ferrite nanoparticles synthesized via sol–gel route. *Optical and Quantum Electronics* (2020) 52:190 <https://doi.org/10.1007/s11082-020-02304-w> (I.F: 1.61)
12. Nickel substituted Manganese Spinel Ferrites nanoparticles for High Frequency Applications, *Journal of Materials Science: Materials in Electronics* 1-11,2019. (I.F: 2.22)
13. Design and Analysis of Normally-On 4H-SiC Vertical Junction Field Effect Transistor (VJFET) Using Sentaurus TCAD Simulation. *Journal of Ovonic Research* Vol 15(5): 335-343 (Oct., 2019) (I.F: 0.68)
14. A Simulation Model Approach to Analysis of High Breakdown Voltage in Normally-off 4H-SiC Vertical Junction Field Effect Transistor, *Journal of Ovonic Research* Vol 14(6): 459 - 465 (Nov., 2018)
15. Optimization of Breakdown Voltage Characteristics in Normally-off 4h-Sic VjFET Using Sentaurus TCAD Simulation, *Science International*, 7595766484019-4022(Sep-Oct,2015).
16. Determination of Weibull Parameter by Four Numerical Methods and Prediction of Wind Speed in Jiwani (Balochistan), *Journal of Basic & Applied Sciences*, Volume 11, P-62-68 (2015)
17. Assessment of Wind Energy Potential for Small Scale Power Generation at Thatta, Sindh, Pakistan. *Journal of Basic and Applied Sciences*. 2015 Mar 9;11:261-4.
18. Comparison of wind energy potential for coastal locations: Pasni and Gwadar. *Journal of Basic and Applied Sciences*. 2015 Mar 5;11:211-6.

Conference, Workshop and Training

1. World Space Week 2022 (4-10 October 2022)
2. Sindh HEC Research & Technology Showcase 2022 (19 May 2022)
3. International Conference on Innovations in Chemistry and Physics (March 2022)
4. International School on Physics & Allied Disciplines (ISPAD) – 2022 (14-18 March 2022)
5. World Space Week 2022 (4-10 October 2021)
6. First International Conference on Applied Physics and Engineering (ICAPE-2021) (16-17 Sep,2021)
7. Workshop on Technical Computing with MATLAB, NED UET Karachi (06-08 April,2015)
8. Conference "INSC-37"(Nathiagali) (2012)
9. 2nd school on LHC Physics in National Center for Physics, Islamabad (25 April-04 May,2011)
10. Workshop on Nanotechnology
11. 3rd conference on Physics as World today (2011)
12. 2nd conference on Physics as World today (2009)
13. First international Conference on Physics as World Today (2008)

MS Thesis Supervised/Co-supervised

1. Synthesis and Characterization of Cerium Doped Strontium Hexaferrite Nanoparticles through sol-gel Method.
2. Free Energy Generation Using Flywheel Mechanism.
3. Study the effects of divalent ion (Cu, Zn and Mn) substitution on the physical properties of ($\text{Ni}_{0.5}\text{Co}_{0.5}\text{Fe}_{1.8}\text{Cr}_{0.2}\text{O}_4$) inverse ferrites.
4. Analysis and Construction of Thermal Images Using Enhanced Detection Techniques with Thermopile Array.
5. Development of Independent Monitor Unit (MU) Calculation for Eclipse AAA Model.
6. Evaluation of a 3D printed, Inhomogeneous, Anthropomorphic, Head and Neck Water Phantom using Film Dosimetry.
7. Characterization of Sol-Gel Fabricated Cobalt-Nickle Ferrite $\text{CoNiFe}_2\text{O}_4$ Nanoparticles by the Substitution Transition Metals (M= Cu, Zn, Mn) in Cobalt-Nickle (Co-Ni) Ferrites.
8. Synthesis and characterization of Ni^{+2} doped Mg-Zn based Spinel Ferrite nanoparticles for high density storage.

Final Year Projects Supervised/Co-supervised

1. Lithium-Ion Cells Characterization and Testing Device
2. Designing of Ion Exchange Membrane Module for Caustic Recovery from Mercerization Waste
3. Coronal Holes High Speed Streams (Chss) Effects on the Sonmiani Geomagnetic Field During Solar Cycle 23 And 24
4. Construction of Noise Reduction Filters using Enhanced Detection Techniques in Thermal Infrared System
5. Synthesis and Characterization of Al⁺² Doped Strontium Hexa-Ferrite Nanoparticle by Sol-Gel Method.
6. Synthesis & Characterization of Copper Substituted Cobalt Ferrite Nanoparticles by Sol-Gel Auto-Combustion Method.
7. Synthesis & Characterization of Magnesium Based Spinel Ferrites with Nickel Doped by Sol Gel Auto-Combustion Method.
8. Synthesis and Characterization of Zn⁺² Substituted Barium Hexa Ferrite Nanoparticles Using Sol-gel Auto-Combustion Method.
9. Synthesis, Doping and Characterization of BiFeO₃ Nanoparticles Using Sol-Gel Method.
10. Preparation and Characterization of Cr⁺³ doped BiFeO₃ nanoparticles.
11. Aurdino Based Vehicle Tracking System and Accident detection.
12. Self-Balancing and Line Following Vehicle

Personal Information

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| ➤ Father's Name: | Jalal Uddin Khan |
| ➤ C.N.I.C.: | 42201-6509820-5 |
| ➤ Domicile: | Karachi East (Sindh) |
| ➤ Passport No. | A3626313 |