

Thursday, August 04, 2022

CURRICULUM VITAE

GHULAM MUSTAFA

Lecturer

Department of Physics

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ACADEMIC QUALIFICATION:

Degree/Certificate	Major Subjects	Year	University/Board	Percentage	Division/Grade
PhD	Physics (Material Science)	In Progress	University of Karachi		
M.Phil.	Physics (Spectroscopy)	2016	University of Karachi	CGPA 3.15	First
M.Sc.	Physics	1998	University of Sindh, Jamshoro	71.5 %	First
B.Sc. (Hons)	Physics, Math/Stats	1997	University of Sindh, Jamshoro	54.48 %	Second
H.S.C.	Physics, Chemistry, Math	1994	B.I.S.E. Hyderabad	66 %	B
S.S.C.	Physics, Chemistry, Math., Bio	1992	B.I.S.E. Hyderabad	69 %	B

EXPERIENCE:

Name of Organization	Period Served		Experience	
	From	To	Teaching	Research
Lecturer Department of Physics NEDUET, Karachi.	14-04-2010	To Date		
Scientific Officer	15-09-2009	14-04-2010	About 20 Years	More than ten years

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DR A.Q. Khan Research Laboratories Rawalpindi				
Lecturer Department of Mathematics and Basic Sciences, NEDUET Karachi	2-2-2008	15-9-2009		
Collegiate Branch, Education and Literacy Department, Govt. of Sindh	26-4-2002	2-2-2008		

MAJOR RESPONSIBILITIES DURING SERVICE:

- Teaching of Physics (Solid State Physics, Vacuum Science, Material Characterization Techniques) Under Graduate and Post Graduate Level.
- Member Organizing Committee “1st International Conference on Applied Physics & Engineering ICAPE-2021.
- Head of Finance Committee “ 1st International Conference on Applied Physics & Engineering ICAPE-2021.
- LMS Coordinator
- Class Advisor (Final Year).
- In-charge of Physics Lab.
- Member of various committees of Physics Department.
- FYDP Coordinator.
- Installation, commissioning and operation of Nicolet is50 FT-IR.
- Installation, commissioning and operation of Phy 4.0 XRD.
- Established the BS applied physics Labs for the newly offered program in the Department of Physics.

RESEARCH ACTIVITIES:

- Design, Development of Oil Mist Eliminator and Testing of its Effectiveness for Clean Environment.
- Degassing rate and Total mass loss of PCB's for Vacuum compatibility.
- Branching Fractions of Pr atom by analyzing Fourier Transform Spectrum.
- Structural, spectroscopic, and Magnetic Properties of Spinel Ferrite nanomaterial.
- Crystallinity measurement of Starch and semi crystalline materials.
- Soiling Issue in Solar Panels.
- Co-Supervised ISP (Independent Study Project) of the following 3 Scholars of MS (Physics), Department of Physics, NED UET,

1. Effect of Transition Metals (M = Cu, Zn, Co) substitution on Structural, Electrical and Magnetic Properties in Nickel-Magnesium (Ni-Mg) Ferrites. (Sherish Inam).
 2. Study of structural, electrical and magnetic properties of Copper-Magnesium (Cu-Mg) ferrite materials ($MxCu(0.5-x)Mg(1-2x)Fe_2O_4$) upon transition metals (M = Ni, Zn, Co) substitution. (Manoj Jethwa).
 3. The Impact of divalent metals (Co, Zn, Cu) substitution on structural & physical properties of aluminum substituted magnesium nano ferrites. (Syeda Fasahat Batool).
- Supervised/Co-supervised various FYP Groups of BS (Applied Physics) for their FYP (Final Year Project) having following titles,
1. Soiling ratio and its effect on efficiency of solar panels installed in Karachi.
 2. Automated solution for soiling issue in solar panels.
 3. Preparation and Characterization of Cr^{+3} doped $BiFeO_3$ nanoparticles.
 4. Synthesis and Characterization of nickel doped Magnesium based spinel ferrites.
 5. Synthesis and Characterization of Zn^{+2} substituted Barium Hexa ferrite.

RESEARCH PUBLICATIONS:

1. Jamshed Ahmad, Muhammad Khalid, **Ghulam Mustafa**, Abeer A. AlObaid, Tahani I. Al-Muhimeed, Muhammad Saeed Akhtar, Arif Akhtar Azam, Ghazanfar Nazir*, Hisham S.M. Abd-Rabboh. A facile strategy for the preparation of bismuth ferrite nanoparticles: Influence of calcination temperature on structural, dielectric, and morphological characteristics. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 628 (2021) 127328. <https://doi.org/10.1016/j.colsurfa.2021.127328>
(I.F: 4.53)
2. MUNIBA, MUHAMMAD KHALID, ALI DAD CHANDIO, MUHAMMAD SAEED AKHTAR, JUNAID KAREEM KHAN, **GHULAM MUSTAFA**, NAIMAT ULLAH CHANNA, ZAHEER ABBAS GILANI, and HM NOOR UL HUDA KHAN ASGHAR. Aluminum Substitution in Ni-Co Based Spinel Ferrite Nanoparticles by Sol–Gel Auto-Combustion Method. *Journal of ELECTRONIC MATERIALS* Vol (50) Issue (16). <https://doi.org/10.1007/s11664-021-08819-6>.
(I.F: 1.94)
3. Faiza Shaikh,* Tahira Mohsin Ali, **Ghulam Mustafa**, and Abid Hasnain. Comparative Study on the Effects of Citric Acid Modification and Hydroxypropylation on the Physicochemical and Digestibility Characteristics of Acid-Hydrolyzed Corn and Sorghum Starches. *Starch-Stärke* 2021, 2000241-Wiley Online Library. DOI: 10.1002/star.202000241
(I.F: 2.22)
4. Channa N, Khalid M, Chandio AD, Akhtar MS, Khan JK, **Mustafa G**, Gilani ZA. Structural, dielectric, impedance, and electric modulus properties of Cu^{2+} -substituted Cu

x Mn_{1-x} Fe₂ O₄ spinel ferrites nanoparticles. Journal of Materials Science: Materials in Electronics. 2021 Feb 6:1-3.

(I.F: 2.2)

5. Faiza Shaikh*, Tahira Mohsin Ali, **Ghulam Mustafa**, and Abid Hasnain. Comparative Study on Effects of Xanthan Gum at Different Concentrations on the Functional, Thermal, and Digestibility Characteristics of Corn and Sorghum Starch Extrudates. Starch-Stärke 2020, 2000206 - Wiley Online Library. DOI: 10.1002/star.202000206.

(I.F: 2.22)

6. Junaid Kareem Khan^{1,2}, Muhammad Khalid³, Ali Dad Chandio⁴, Kiran Shahzadi¹ Zaheer Uddin², **Ghulam Mustafa**^{1,2}, Muhammad Saeed Akhtar⁵, Naimat Ullah Channa⁶, Zaheer Abbas Gilani³. Properties of Al³⁺ substituted nickel ferrite (NiAl_xFe_{2-x}O₄) nanoparticles synthesised 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)

7. Faiza Shaikh, Tahira Mohsin Ali, **Ghulam Mustafa**, Abid Hasnain. Structural, functional and digestibility characteristics of sorghum and corn starch extrudates (RS3) as affected by cold storage time. International Journal of Biological Macromolecules. <https://doi.org/10.1016/j.ijbiomac.2020.08.105>

(I.F: 5.16)

8. **Ghulam Mustafa**^{1,2}. Muhammad Khalid³. Ali Dad Chandio⁴. Kiran Shahzadi¹. Zaheer Uddin². Junaid Kareem Khan¹. Naimat Ullah Channa⁵. Zaheer Abbas Gilani³. H. M. Noor ul Huda Khan Asghar³. Dielectric, impedance, and modulus spectroscopic studies of lanthanum-doped nickel spinel ferrites NiLaxFe_{2-x}O₄ 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)

9. Kiran Shahzadi² · Ali Dad Chandio⁴ · **Ghulam Mustafa**² · Muhammad Khalid¹ · Junaid Kareem Khan¹ · Muhammad Saeed Akhtar³ · Zaheer Abbas Gilani¹ · H. M. Noor ul Huda Khan Asgar¹. 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)

10. Naimatullah Channa, Muhammad Khalid, Ali Dad Chandio, **Ghulam Mustafa**, Muhammad Saeed Akhtar, Junaid Kareem Khan, Jamshed Ahmad, Kashif Ali Kalhor. Nickel-substituted Manganese Spinel Ferrite nanoparticles for high-frequency applications. Journal of Materials Science: Materials in Electronics <https://doi.org/10.1007/s10854-019-02684-0>. Springer Science+Business Media, LLC, part of Springer Nature 2019

(I.F: 2.22)

11. M. Khalid, J. K. Khan, **G. Mustafa**, M. S. Akhtar, Z. A. Gilani, H. M. N. ul Huda Khan Asghar, S. Riaz, S. Naseem. Design and Analysis of normally on 4h sic vertical junction

field effect transistor (vjfet) using sentaurus TCAD simulation. Journal of Ovonic Research. Vol. 15, No. 5 September – October 2019, p. 335 – 343.

(I.F: 0.68)

12. Faiza Shaikh, Tahira Mohsin Ali, **Ghulam Mustafa**, Abid Hasnain. Comparative study on effects of citric and lactic acid treatment on morphological, functional, resistant starch fraction and glycemic index of corn and sorghum starches. International Journal of Biological Macromolecules 135 (2019) 314–327.

(I.F: 5.16)

13. Muhammad Khalid, Saira Riaz, Junaid K. Khan, **Ghulam Mustafa** and Shahzad Naseem. Optimization Of Breakdown Voltage Characteristics In Normally-Off 4h-Sic Vjfet Using Sentaurus Tcad Simulation”, Science International, 7595766484019-4022(Sep-Oct,2015).

CONFERENCES/ SYMPOSIA:

1. Effect of La^{+3} doping on structural and magnetic properties of manganese-zinc (Mn-Zn) mixed spinel ferrites nanoparticles. Paper Presentation in 1st International Conference on Applied Physics & Engineering. Department of Physics, NED University of Engineering & Technology Karachi.
2. New Values of Branching Fractions of Pr II Levels. Paper Presentation in the ‘4th National Conference on Space Science and Technology’, World Space Week, Institute of Space and Planetary Physics, University of Karachi (October 7-8-9, 2016)
3. Branching Fractions of atomic Praseodymium Pr (I) by analyzing Fourier Transform Spectrum. Poster Presentation at “KPS 1st Conference on Multi-Disciplinary Topics in Physics” Department of Physics, University of Karachi (February 12-13, 2016).
4. Design, Development of Oil Mist Eliminator and Testing of its Effectiveness for Clean Environment. Poster Presentation at International Spring Scientific Conference at NCP Islamabad (2-6 March 2010).

BOOKS:

1. M.Phil. Thesis entitled “Branching Fractions of atomic Praseodymium PR-I. (Oct-2016)

CERTIFICATE AND TRAINING:

- Participated in “1st specialized course of teaching skills for lecturers” at National Institute of Public Administration, Karachi. 24 June to 20 July, 2002.
- Seminar on “Paper Setting and Quality Assessment”. Board of Intermediate Education Karachi. September 17-19, 2005.
- 4-day workshop “Activity Based Physics Teaching” Sponsored by HEC, held at Federal Urdu University of Arts, Sciences and Technology Karachi. April 16-21, 2007.
- International Conference, “Physics and the World of Today”. December 18-20, 2008.

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- Participated in five days' workshop on Vacuum Science and Technology (WSVT - 2) at National Institute of Vacuum Science and Technology, NCP Islamabad. Dec 14-18, 2009.
- Training Workshop "Disaster Risk Management" NED University of Engineering and Technology. September 20-21, 2011.
- HEC Indigenous On Campus Training on "Presentation Skills". September 1-5, 2014.

Awards:

- Best Teacher Award by NEDAASC (BTA-2019)
- Best Researcher Award-20 by NEDAASC (BRA-20)

I.T. Skills & Programming Languages:

- MatLab
- Microsoft Windows and Office.
- Wein2K (Computational Material Science)
- Origin
- Fityk