



# BUITEMS

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<b>Department</b>		Physics		
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<b>Research Profile</b>		ORCID ID: 0000-0003-3455-9584 Web of sciences Research ID: GSD -4107-2022 Research Gate: ID <a href="https://www.researchgate.net/profile/Hamdullah-Khan-2">https://www.researchgate.net/profile/Hamdullah-Khan-2</a>		
<b>Qualification</b>				
Year	Degree/Certificate	Name of the Institute/ University	Field of study	
2010	PhD	Quaid-I-Azam University Islamabad.	Plasma Physics, Material Processing, Plasma Spectroscopy,	
2003	M. Phil Physics	Quaid-I-Azam University Islamabad.	Plasma Physics, Plasma Spectroscopy.	
2000	M.Sc Physics	Quaid-I-Azam University Islamabad.	Physics	
<b>Publications in HEC/ SCI Recognized journals</b>				
S. No	Title of Paper	Name of Journal	Research field / Area	Publication date
1	Study of Cu-Ka emission from compact diodes Powered by Capacitor Discharge.	Chinese J. Of Physics	Plasma	2005
2	Enhancing soft x-ray emission with depleted uranium in neon plasma focus,	European Physical Journal Applied Physics	Plasma	2009
3	X-ray emission from preionized He plasma in a 3.3 kJ Mather type plasma	Plasma Devices and Operations	plasma	2009

	focus device			
4	Effect of Preionization on soft x-ray emission and plasma dynamics in a small plasma focus system	Journal of Applied Physics	plasma	2010
5	Hermitian operator and its Application to uncertainty principle	J. App. Em. Sc	Theoretical physics	2011
6	Effect of pre-ionization on Cu K $\alpha$ emission from a small plasma focus	Radiation Effects & Defects in Solids	Radiation from plasma	2012
7	Effect of preionization on the dynamics of current sheath in a small plasma focus device	Radiation Effects & Defects in Solids	Radiation from plasma	2012
8	To study the basic concepts of Monte Carlo Simulation by calculating value of $\pi$	J. App. Em. Sc	Simulation physics	2012
9	Effect of preionization on the axial rundown velocity, focus amplitude and current sheath formation in 3.3 kJ small He plasma	Radiation Effects & Defects in Solids	Plasma	2012
10	Synthesis And Characterization Of Strontium Hexaferrite By Solid State Reaction	J. App. Em. Sc	Materials Science	2012
11	Synthesis and characterization of strontium hexaferrite by solid state reaction	J. App. Em. Sc	Materials Science	2012
12	Order of magnitude enhancement in axial run-down velocity of current sheath and focus duration of a PF device with preionization		Plasma	2012
13	Order of magnitude enhancement in axial run-down velocity of current sheath and focus duration of a PF device with preionization,	Radiation Effects & Defects in Solids	Plasma	2013
14	Theoretical Study of Pinching Effect in The Theta Pinch Plasma by Variation in Kinetic Pressure	J. App. Em. Sc.	Plasma simulations	2013
15	Characterization of ZNo	J. App. Em. Sc.	Materials	2013

	by means of C-V measurement of respective schottky diode by DLTS			
16	Evaluation of Road Traffic noise pollution in Quetta	American Journal of Modern Physics	Environmental physics	2014
17	Study of the Theta Pinch Plasma Numerically by Varying $\beta$ Parameter and Applied Current	J Fusion Energ	Plasma	2016
18	Eco-friendly Energy Harvesting Using Piezoelectric Material for Smart Applications	International Journal of Scientific & Engineering Research	Materials Science	2018
19	Experimental Study of the Lattice Constant and Lattice Spacing Of Potassium Bromide by Laue and Debye Scherer Methods	International Journal of Scientific & Engineering Research	Materials Science	2018
20	Study and Measurement of Different Parameters of Spontaneous Gas Glow Discharge in Air	International Journal of Scientific & Engineering Research	Plasma	2018
21	Structural, Raman, optical and novel antibacterial characteristics of Al doped CuO nanostructures	Mater. Res. Express	Materials Science	2019
22	Stable current sheath dynamics caused by preionization source in a small plasma focus device using He as an operating gas	RADIATION EFFECTS & DEFECTS	Materials	2019
23	Electrostatic simulations of the radio frequency heating of a non-neutral plasma in an electron trap	Contributions to Plasma Physics:	Theoretical plasma physics	2019
24	Gamma irradiation-induced phase transitions of boron nitride nanoparticles	Materials Research Express	Materials Science	2019
25	Detection of nutritional and toxic elements in Pakistani pepper powders using laser	Anal. Methods	Material Physics	2020

	induced breakdown spectroscopy			
26	Dielectric, ferroelectric, and strain properties of lead-free (1-y) BNT-yST ceramics	Materials in Electronics	Material Physics	2020
27	Electronic and thermoelectric properties of group IV-VI van der Waals heterostructures	Journal of Computational Electronics	Materials Science	2022

### Paper Presented

S. No	Title of Paper	Name of Conference	National/ International	Date
1	Order of magnitude enhancement in axial run-down velocity of current sheath and focus duration of a PF device with preionization	international scientific spring-2012 by Atomic energy commission	International	2012
2	Effect of preionization on the axial rundown velocity, focus amplitude and current sheath formation in 3.3 kJ small He plasma,	2nd international conference on energy and environment	International	2016
3	Plasma as an alternate energy source	international conference on energy for environment and economics sustainability ICEEES 2016	International	2016
4	Stable current sheath dynamics caused by preionization source in a small plasma focus device using He as an operating gas	15th NATIONAL SYMPOSIUM ON FRONTIERS IN PHYSICS	national	2018
5	Plasma simulation	ist international conference on Nano Materials, Modeling and simulation	International	2018
6	Plasma Glow discharge at low pressure.	10th internationaal scientific school	International	2018
7	Gamma irradiation-induced phase transitions of boron nitride nanoparticles	NANOSMAT-AFRICA, Western Cape	International	2018

8	STUDY OF THE DUST POTENTIAL OF PLASMA SHEATH IN A DUSTY PLASMA	GC Lahore	National	2019
9	plasma as source of radiations	AIOU	International	2019
10	Gamma irradiation-induced phase transitions	Hazara university	International	2019
11	Plasma as a Source for the surface hardening and Synthesis of Nano-Particles	XIAN, China	International	2019

#### Books Authored/ Edited

S. No	Name of book	Publisher	ISBN

#### Work Experience :Total Experience Sep- 2001-September 2022 (22 Y)

S. No	From (year)	To (year)	Name of the Institution/ Organization	Position held
1	2001	2003	Quaid-i-Azaam university islamabad	Research Associate
2	2003	2006	Pakistan Science Foundation	Research Associate
3	2006	2009	HEC	Research Associate
4	2010	2012	BUIITEMS	Assistant Professor
5	2013	2017	BUIITEMS	Associate Professor
6	2018	To Date	BUIITEMS	Professor

**Area of specialization** Plasma Physics, Materials science and Nano-Particles

**Expertise** Materials processing by plasma , Radiations from plasma, Nano-particles through chemical process

**HEC Approved supervisor** Yes , HEC approved supervisor

**If Yes, provide HEC URL** <http://sc.hec.gov.pk/aphds/submit.asp?supid=5092>

**Research grants/ Projects**

(1) Won a Research project of worth 9.36 million rupees entitle “Active Screen cage Pulse DC plasma discharge” for establishing plasma material processing laboratory in the dept. of Physics, BUIITEMS from higher education of Pakistan (HEC).

(2) Successfully procure and installation and Established the Plasma physics Laboratory at the department of physics, BUIITEMS, Quett through HECNRPU project.

(3) Successfully procure and installation and Established the Nano-particle Laboratory at the department of physics, BUIITEMS, Quett through HEC NRPU project.

	(3) Procurement in progress for Establishment of the Nano-particle Laboratory through plasma at the department of physics, BUIITEMS, Quett through HEC NRPU project.
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**Additional Information:**

- (1) Served as Dean, faculty of Arts and Basics sciences from October-2012 to July-2013.
- (2) Serving as a member of HEC curriculum review committee for BS, MS and Ph.D (Physics)
- (3) Served as chairman, student guidance and counseling committee for the faculty of Arts and basics sciences, BUIITEMS, from December, 18, 2011 to 2013.
- (4) Serving career counselor as student guidance and career counseling of MS physics students.
- (5) Serving as member of self-assessment report team of BS-Physics from 12-11-2010 to date.
- (6) Serving as student Advisor of Ph.D-Physics from 02-12-2010 to date

**Supervisor of MS Student**

17 MS students are supervised successfully and 3 MS students are under supervision.

**Co-supervisor of MS Student**

7

**Supervisor of student BS level**

32

**Currently supervising PhD Student**

Nil

**MEMBERSHIPS OF SCIENTIFIC AND PROFESSIONAL SOCIETIES**

- (1) Member of Pakistan physical society (PPS) Life time
- (2) Member of Pakistan Plasma physics society (PPPS) Life time