

CURRICULUM VITAE

Name: **SYED SALMAN HUSSAIN**



Father's Name: Syed Fayyaz Hussain

National Identity Card No.

Domicile: Federal

Nationality: Pakistani

Academic Qualification:

Sr. No.	Degree	Institution attended	Year	Division
1	Ph.D. (Plasma Phys.)	Quaid-i-Azam University	2007-2011	N.A
2	M.Phil (Plasma Phys.)	Quaid-i-Azam University	2006	First Division
3	M.Sc. (Physics)	Allama Iqbal Open University, Islamabad	2002	First Division
4	B.Sc. (Phy. Maths, Stats)	Islamabad College for Boys (ICB), Islamabad	1999	Second Division
5	F.Sc. (Pre- Engg)	Islamabad Model College for Boys, F-7/3, Islamabad	1997	First Division
6	SSC (Sc. Group)	FG Boys Secondary School No. 6, G-6/4, Islamabad	1995	First Division

Experimental skill: Plasma Focus, RF Plasma, DC Discharges, X-rays, Neutrons and charged particle measurements (time resolved and time integrated) material processing by plasma, XRD, SEM, EDS, Raman Spectroscopy, UV-vis-NIR spectrophotometer, Micro hardness, spectral studies of plasma, nanoparticles synthesis by plasma.

Distinctions:
a. An academic career culminating at Ph.D;
b. Won Higher Education Commission's scholarship for Ph.D. in Physics.

Present Position: Assistant Professor Department of Physics IIUI (May 2012 to date)

Publications: Thirteen publications in ISI recognized journals

Family Background: Family Background with outstanding academic contribution for the last five generations

Ph.D. Thesis title: ***Study of the driver energy pumped to the pinch and its influence on X-ray and neutron emission of the Plasma Focus device***

Hobbies: Reading, Electronics, Computers and experimentation

Project Development: Currently designing two projects regarding Nano particles generation and Solid waste management by plasma

Experience:
i. Class Room experience of teaching students of M.Sc. Physics
(Junior Semesters)
ii. Served as Lecturer in Physics at Islamabad College for Boys,
from November, 2002 to September, 2004.
iii. Active researcher in experimental plasma physics 2005-2011.
iv. Assistant Professor Preston Institute of Nano Science and Technology (March
2011 to May 2012)
v. Assistant Professor Department of Physics IIUI (May 2012 to date)

Supervision:

Completed:

1.	Ammara Saeed	48-FBAS/BS-PHY/F10	Designing high voltage low current power supply for the generation of micro plasma
2.	Rabbiya Muazzam	49-FBAS/BS-PHY/F10	Designing high voltage low current power supply for the generation of micro plasma
3.	Amir Sultan	171-FBAS/MSCPHY/S12	Design of electrode assembly for colloidal-solution formation by micro plasma
4..	Muhammad Rehan Bhatti	195-FBAS/MSCPHY/S12	Design of electrode assembly for colloidal-solution formation by micro plasma
5.	Nauman Safdar	103/FBAS/MS-PHY/F-11	Synthesis and physical characteristics of Cu doped ZnO nanostructures
6.	Muhammad Zubair	108/FBAS/MS-PHY/F12	Effect of electrode assembly on colloidal solution formation by micro plasma
7.	Muhammad Mushtaq	113/FBAS/MS-PHY/F12	Synthesis and characterization of nickel oxide (NiO) nanoparticles.
8.	Nazakat Ali	72/FBAS/BS-PHY/S11	Designing a mechanism for the production of thin films
9	Muhammad Ikhlas Tariq	87/FBAS/BS-PHY/S11	Designing a mechanism for the production of thin films
10.	Irfan Majeed	84/FBAS/BS-PHY/S11	Designing a mechanism for the production of thin films
11.	Usman Ishaq	76/FBAS/BS-PHY/S11	Designing a computer control for the spin coater
12.	Matti ul Haq	82/FBAS/BS-PHY/S11	Designing a computer control for the spin coater

In Progress

13.	Kamran Arshad	143/FBAS/MS-PHY/S13	Surface properties of Ion Implanted III-V compound semiconductors
14.	Jameel Ahmed Qureshi	144/FBAS/MS-PHY/S13	Study of Electrical properties of ion implanted III-V Semiconductor
15.	Muhammad Siddique Akbar	147-FBAS/MS-PHY/S13	Study of improved optical properties of GaAsN
16.	Asghar Ali	29-FBAS/PHDPHY/S14	Design and Fabrication of atmospheric plasma source for the synthesis of nanostructures

Collaborative Research (in progress)

17.	Uzma Majeed	AS75193 (AIOU)	Optimization of electrochemical production mechanism for colloidal silver
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Collaborations

1. Department of Physics, Quaid-i-Azam University
2. Department of Physics, COMSATS Institute Of Information Technology
3. Department of Bio-Sciences COMSATS Institute Of Information Technology
4. Department of Physics, University of Gujrat
5. Department of Physics, Allama Iqbal Open University, Islamabad

Honorary Reviewer

Honorary reviewer of 7 ISI index journals

Development

1. Designing and construction of high voltage low current power supply for the generation of micro plasma (10kV 100mA)
2. Design and construction of electrode assembly for colloidal-solution formation by micro plasma
3. Design and construction of steady flow system for the liquid in colloidal solution formation
4. Design and construction of electrode assembly for colloidal-solution formation by electrochemical process (In progress)

5. Design and construction of low cost high speed spin coater (In progress)
6. Design and construction of separate computer controlled module for the spin coater (In progress)
7. Establishment of Plasma Physics Laboratory (In Progress)
8. Establishment of Departmental workshop (In Progress)

Research projects

1. Awarded Islamic University research grant worth 0.5 Million
2. Applied for ICT RNDP final year project grant

Departmental Responsibilities

1. Focal person for Department
2. QEC Teacher evaluation
3. Hifz test for all the students of BS/M.Sc/ Ph.D.
4. MSc/MS, Ph.D. Thesis plagiarism test
5. Arrangements of MS/Ph.D Synopsis presentation.
6. Member Admission eligibility committee (special cases)
7. Coordinator Examination committee
8. Coordinator Admission Committee
9. Incharge Computer Laboratory
10. Incharge Timetable /datesheet
11. Member/ Secretary Course exemption committee
12. Books Selection for Departmental Library
13. Member/ Secretary Recruitment committee
14. Member Technical committee for undergraduate laboratories
15. Working on establishment of mechanical workshop for department.
16. Working on establishment of Plasma Physics Laboratory

References

1. Prof. Dr. G. Murtaza
Distinguished National Professor, (Ex Dean Faculty of Natural Sciences QAU, Ex Professor Salam chair GCU)
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 2. Prof. Dr. M. Zakaullah
Dean Faculty of Natural Sciences. QAU
051-90642069
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 3. Prof. Dr. Arshad Majid Mirza
Chairman
Department of Physics QAU
051-90642120
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 4. Dr. Imran Murtaza
Nanjing Tech University (NanjingTech)
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List of Publications

1. Enhanced and reproducible neutron emission from a plasma focus with pre-ionization induced by depleted uranium (U^{238}), S Ahmad, **S S Hussain**, Mehboob Sadiq, M Shafiq, A Waheed and M Zakaullah, Plasma Phys. Control. Fusion **48** (2006) 745–755 Impact factor 2009 (2.409)
2. The correlation of x-ray emission with pinch energy in a 1.5 kJ plasma focus, **S S Hussain**, S Ahmad, S Lee and M Zakaullah, Plasma Sources Sci. Technol. **16** (2007) 587–592 Impact factor 2009 (2.384)
3. Effect of anode shape on correlation of neutron emission with Pinch Energy for a 2.7 kJ Mather-type plasma focus device, **S. S. Hussain**, S. Ahmad, G. Murtaza, and M. Zakaullah J. Appl. Phys. **106**, 023311 (2009) Impact factor 2009 (2.072)
4. Plasma focus assisted carburizing of Aluminum, Ghulam Murtaza, **S.S. Hussain**, Mehboob Sadiq and M. Zakaullah, Thin Solid Films Volume 517, Issue 24, 30 October 2009, Pages 6777-6783 Impact factor 2009 (1.727)
5. Soft X-ray emission from preionized He Plasma in a 3.3 kJ Mather type plasma focus device, H.U. Khan, M. Shafiq, **S.S. Hussain**, S. Ahmad and M. Zakaullah Plasma Devices and Operations, Volume 17, Issue 4 December 2009 , pages 257 – 264 Impact factor 2009 (0.3)
6. Enhancing soft x-ray emission with depleted uranium in neon plasma focus, H.U. Khan, M. Shafiq, **S.S. Hussain**, S. Ahmad and M. Zakaullah Eur. Phys. J. Appl. Phys. **48**, 21001 (2009) Impact factor 2009 (0.756)
7. Effect of Preionization on soft X-ray emission and plasma dynamics in a small plasma focus system, H.U.Khan, M.Shafiq, **S.S.Hussain** and M. Zakaullah, Journal of Applied Physics, 107(2010) 073301 Impact factor 2009 (2.072)
8. Carburizing of zirconium using a Mather type plasma focus, Ghulam Murtaza, **S. S. Hussain**, N. U. Rehman, S. Naseer, M. Shafiq and M. Zakaullah Surface and Coatings Technology Volume 205, Issues 8-9, 25 January 2011, Pages 3012-3019 Impact factor 2009 (1.793)
9. Trace-Rare-Gas Optical Emission Spectroscopy of Nitrogen Plasma Generated at a Frequency of 13.56 MHz, N. U. Rehman, F. U. Khan, S. Naseer, G. Murtaza, **S. S. Hussain**, M. Khan, M. Zakaullah Plasma Sci. Technol. **13**, 2011, 208-212(Impact Factor 0.596)
10. Nanotechnology research among some leading OIC member states, R. S. Bajwa, K. Yaldram, **S. S. Hussain**, T. Ahmed, Journal of Nanoparticle Research, August 2012, 14:1060(Impact Factor: 2.278).
11. Facile Synthesis as well as Structural, Raman, Dielectric and Antibacterial Characteristics of Cu Doped ZnO Nanoparticles, Javed Iqbal, Nauman Safdar, Tariq Jan, Muhammad Ismail, **S.S. Hussain**, Arshad Mahmood, Shaheen Shahzad, Qaisar

Mansoor, Journal of Materials Science & Technology 31 (2015) 300-304 (Impact Factor: 1.61)

12. Effect of air annealing on structural and magnetic properties of Ni/NiO nanoparticles
K. Nadeem, Asmat Ullah, M. Mushtaq, M. Kamran, **S.S. Hussain**, M. Mumtaz, ,
Journal of Magnetism and Magnetic Materials, Volume 417, 1 November 2016,
Pages 6-10,
13. Characterization of RF He-N₂/Ar mixture plasma via Langmuir probe and optical emission spectroscopy techniques, Maria Younus, N. U. Rehman, M. Shafiq, **S. S. Hussain**, M. Zakaullah and M. Zaka-ul-Islam (accepted) PHYSICS OF PLASMAS 23, 083521 (2016)

In progress

14. Splitting of neutron production mechanism in QAU PF device S. S. Hussain et al.
(submitted for publication)
15. Driver energy effects on the correlation of X-rays and Neutron emissions with pinch energy of a depleted uranium (U238) assisted PF device S.S.Hussain et al.
(submitted for publication)