Dr. Samina Husain
Assistant Professor
Centre for Nanoscience and Nanotechnology,
Faculty of Science,
Jamia Millia Islamia (Central University),
New Delhi-110 025, INDIA
shusain3@jmi.ac.in
Tel.: +91 9811292005

RESEARCH INTEREST:

- Synthesis of nanomaterials especially carbon nanotubes (SWNTs, MWNTs)
- Simulation and Modelling of Carbon Nanostructures
- Synthesis and Application of Polymer-based and carbon-based nanocomposites for the development of field Emission, gas-sensing, supercapacitor applications

EDUCATIONAL QUALIFICATIONS

2003 – 2008	**:**	**Doctor of Philosophy**, Electronics Science Ph.D. thesis entitled '*Synthesis, Characterization and Field Emission properties of Multi-walled Carbon Nanotubes (MWNTs)*', Department of Electronic Science, University of Delhi South Campus (UDSC), New Delhi, India
2001 – 2003	**:**	**M.Sc. (Physics)**, Miranda House, with specialization in Electronics, Department of Physics and Astrophysics, University of Delhi, North Campus, New Delhi, India
1998 – 2001	**:**	**B.Sc. (Physics),** Miranda House, Department of Physics, University of Delhi, North Campus, New Delhi

TEACHING AND RESEARCH EXPERIENCE

Teaching Experience	: 11 Years
Research Experience	: 20 Years
Apr. 2010-Apr. 2013	: Research Associate (CSIR)
Apr. 2013-Dec. 2015	: Guest Teacher, Department of Physics, Jamia Millia Islamia, New Delhi
Dec. 2015 – Mar. 2016	: Contractual Post, Department of Physics, Jamia Millia Islamia, New Delhi
Mar. 2016- Till Date	: Assistant Professor, Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi

List of Publications

S. No.	Title and Date of Publication	Name of the Journal	ISSN/ISBN No
1.	Characterization of carbon nanotubes grown on $Fe_{70}Pd_{30}$ film, Volume 373, Issue 2, 15, 317–322, 2006	Physica B: Condensed, Matter	ISSN: 0921-4526
2.	Electrical conduction mechanism in $Fe_{70}Pd_{30}$ catalyzed multi-walled carbon nanotubes, Volume 9, Issue 6, 1047-1055, 2007	Journal of Nanoparticle Research	SSN: 1388-0764 (Print) 1572-896X (Online)
3.	Synthesis of Carbon Nanotubes Using $Ni_{95}Ti_5$ Nanocrystalline Film as a Catalyst, Volume 7, Number 6, 1855-1859 (5), 2007	Journal of Nanoscience and Nanotechnology	ISSN: 1533-4880 (Print); EISSN: 1533-4899 (Online)
4.	Variable range hopping in $Fe_{70}Pt_{30}$ catalyzed multi-walled carbon nanotubes film, 60, 319-324 (2007).	The European Physical Journal B	ISSN: 1434-6028 (print version) ISSN: 1434-6036 (electronic version)
5.	Field emission properties of $Fe_{70}Pt_{30}$ catalysed multiwalled carbon nanotubes, Volume 2, Issue 3, 2007	Journal of Experimental Nanoscience	Print ISSN: 1745-8080 Online ISSN: 1745-8099
6.	Dynamical response of the nonlinear vibration of single-walled carbon nanotubes, 2 (1-6), 216- 225, 2009	International Journal of Nanoparticles	ISSN online 1753-2515 ISSN print 1753-2507
7.	Variable Range Hopping in Carbon Nanotubes, Volume 6, Number 6, 626- 641(16), 2010	Current Nanoscience	ISSN: 1875-6786 (Online) ISSN: 1573-4137 (Print)
8.	Estimation of Effective Emitting Area of Carbon Nanotubes based Field Emitter, Vol.3 (6), 794-797, 2011	Nanoscience and Nanoscience Letters	ISSN: 1941-4900 (Print); EISSN: 1941-4919 (Online)
9.	Field-Emission Study of Multiwalled Carbon Nanotubes Grown on Si Substrate by Low Pressure Chemical Vapor Deposition, 3, No.1, P.358-361., 2011	J. Nano-Electronic Phys.	ISSN: 2077-6772 (Print); 2306-4277 (Online)
10.	Characterization and field emission studies of uniformly distributed multi-walled carbon nanotubes (MWCNTs) film grown by low-pressure chemical vapour deposition (LPCVD), 7 (3), 333-336,2011	Current Nanoscience	ISSN: 1875-6786 (Online) ISSN: 1573-4137 (Print)
11.	Effect of catalyst deposition methods on the alignment of carbon nanotubes grown by LPCVD, Vol.3, 175-178 2011	Nanoscience and Nanoscience Letters	ISSN: 1941-4900 (Print); EISSN: 1941-4919 (Online)
12.	Dynamical Response of the Nonlinear Vibration of Single-Wall Carbon Nanotubes (SWCNTs),	Journal of Computational and Theoretical	ISSN: 1546-1955 (Print): EISSN: 1546-1963 (Online)

	Nanoscience, Volume 9, Number 3, 360-370(11), 2012		
13.	Study of J-E Curve with Hysteresis of Carbon Nanotubes Field Emitters, Vol., Article ID 971854 2012	ISRN Nanomaterials	
14.	Field emission study of carbon nanotubes forest and array grown on Si using Fe as catalyst deposited by electro chemical method, 2 Vol.3, 175-178, 2011	Nanoscience and Nanoscience Letters	ISSN: 1941-4900 (Print); EISSN: 1941-4919 (Online)
15.	Enhanced Field Emission Properties of Carbon Nanotube Based Field Emitters by Dynamic Oxidation, Vol. 9, Number 5, 619-623(5), 2013	Current Nanoscience	ISSN: 1875-6786 (Online) ISSN: 1573-4137 (Print)
16.	Field Emission Behaviour of the Single Wall Carbon Nanotubes Grown by Plasma Enhanced Chemical Vapour Deposition (PECVD) System, Vol. 5 No 2, 02012, 2013	J. Nano-Electronic Phys	ISSN 20776772
17.	Field emission of MWCNTs/PANi nanocomposites prepared by ex-situ and in-situ polymerization methods, Volume 34, Issue 8, pages 1298–1305, 2013	Polymer Composites	Online ISSN:1548-0569
18.	Improved Field Emission Properties of Carbon Nanotubes by Dual Layer Deposition, Volume 10, Issue 7, 499-510, 2013	Journal of Experimental Nanoscience	Print ISSN: 1745-8080 Online ISSN: 1745-8099
19.	A comparative study of nitrogen plasma effect on field emission characteristics of single wall carbon nanotubes synthesized by plasma enhanced chemical vapor deposition, 322, 236–241, 2014	Applied Surface Science	ISSN: 0169-4332
20.	Effect of oxygen plasma on field emission characteristics of single-wall carbon nanotubes grown by plasma enhanced chemical vapour deposition system, 115, 084308,2014	Journal of Applied Physics	ISSN 0021-8979
21.	Enhancement of field emission property of carbon nanotubes by ECR plasma treatment, Volume 2014, 437895, 5 pages, 2014	Journal of Nanoscience and Nanotechnology	ISSN: 1533-4880 (Print); EISSN: 1533-4899 (Online)
22.	Selective Growth of Single Wall Carbon Nanotubes Uniformly Grown by Plasma Enhanced Chemical Vapour Deposition System, 21 (9), 2887-2890(4), 2015	Advanced Science Letters	ISSN: 0169-4332
23.	Decoration of zinc oxide nanoparticles on vertically aligned single wall carbon nanotubes: An efficient field emitter, 83, 12-18, 2016	Materials Research Bulletin	ISSN: 0025-5408
24.	Oxygen and nitrogen doping in single wall carbon nanotubes: An efficient stable field emitter, Volume 711, 85-93, 2017	Journal of Alloys and Compounds	ISSN: 0925-8388
25.	Fowler Nordheim theory of carbon nanotube-based field emitters, Volume 505, 15, Pages 1–8, 2017	Physica B: Condensed Matter	ISSN: 0921-4526
26.	Growth of single wall carbon nanotubes using PECVD technique: An efficient chemiresistor gas sensor, Volume 87, Pages 261–265, 2017	Physica E: Lowdimensional Systems and Nanostructures,	ISSN: 1386-9477

27.	Multiwall carbon nanotubes/polyaniline: Poly-m-toulidine: Poly-o-toulidine nanocomposites, 39 (S2), E955-E961, 2018	Polymer Composites,	Online ISSN:1548-0569
28.	Enhancement of sensor response of as fabricated SWCNT sensor with gold decorated nanoparticles, 274, 85-93, 2018	Sensors and Actuators A: Physical	ISSN: 0924-4247
29.	Synthesis of highly dense and vertically aligned array of SWCNTs using a catalyst barrier layer: High performance field emitters for devices, Volume 550, 1 December 2018, Pages 15-20, 2019	Physica B: Condensed Matter	ISSN: 0921-4526
30.	Analytical and computational studies of the nonlinear vibrations of SWCNTs embedded in viscous elastic matrix using KBM method, 29, 023134, 2019	Choas, AIP	Print: ISSN 1054-1500 Online: ISSN 1089-7682
31.	Fabrication of sensitive SWCNT sensor for trace level detection of reducing and oxidizing gases (NH_3 and NO_2) at room temperature, Volume 108, Pages 206-214, 2019	Physica E: Low-Dimensional Systems and Nanostructures	ISSN: 1386-9477
32.	Facile Field Emission Characteristics of Polyaniline/MgB_2 Nanocomposites, 2019	Materials Research Express	Online ISSN: 2053-1591
33.	Structural effect of SWCNTs grown by PECVD towards NH_3 gas sensing and field emission properties 119 (2019) 110532	Material Research Bulletin	ISSN: 0025-5408
34.	SWCNTs – Polyaniline composites: synthesis and field emission analysis, 54 (8), 1079-1091, 2020	Journal of Composite Materials	ISSN: 00219983
35.	Trace level toxic ammonia gas sensing of SWCNTs wrapped Polyaniline nanofibers, 127 (4), 044902, 2020	Journal of Applied Physics	Onine ISSN 1089-7550
36.	Fabrication of SiNWs/Graphene nanocomposite for IR sensing, In Press, 2020	Materials Today: Proceedings	ISSN: 2214-7853
37.	Zinc oxide nanoflowers synthesized by sol-gel technique for field emission displays (FEDs), In Press, 2020	Materials Today: Proceedings	ISSN: 2214-7853
38.	A single step in-situ process for improvement in electron emission properties of surface-modified carbon nanotubes (CNTs): Titanium dioxide nanoparticles attachment	Diamond and Related Materials, Volume 110, December 2020, 108139	ISSN: 0925-9635
39.	High charge retention and optimization of polyaniline–titanium dioxide nanoparticles composite nanostructures for dominantly stable pseudocapacitive nature	Journal of Energy Storage Vol.31, October 2020, 101660	Online ISSN: 2352-152X
40.	Analytical Studies of SWCNTs Embedded in Nonlinear Viscous Elastic Media and the Chaotic Effect of Its Various Parameters	International Journal of Bifurcation and Chaos, Vol. 31, No. 06, 2150081 (2021)	ISSN (print): 0218-1274 | ISSN (online): 1793-6551
41.	Improved electrochemical performance of symmetric polyaniline/activated carbon hybrid for high supercapacitance: Comparison with indirect capacitance	Polymer for advanced technologies, Vol 32, issue 11, November,2021	ISSN: 1099-1581

42.	Study the electron field emission properties of plasma-based reduction of graphene oxide (GO): An ex-situ plasma approach	Carbon Trends, Available online 8 November 2021, 100127	ISSN: 2667-0569
43.	Surface modification via silver nanoparticles attachment: An ex-situ approach for enhancing the electron field emission properties of CNT field emitters	Materials Today: Proceedings Volume 47, Part 8, 2021, Pages 1542-1549	ISSN: 2214-7853
44.	Time dependent resonating plasma treatment of carbon nanotubes for enhancing the electron field emission properties	Journal of Materials Science: Materials in Electronics -2021	ISSN: 0957-4522
45.	Ultrafast, trace level detection of NH_3 gas at room temperature using hexagonal-shaped ZnO nanoparticles grown by novel green synthesis technique	Physica B, 626: 413595 2022	ISSN: 0921-4526
46.	Highly Capacitive Mesoporous Polyaniline Spheres as Scalable and High Electrochemical Performance Supercapacitor Electrode	Chemistry Select, 7, e202200386 2022	ISSN: 2365-6549
47.	Tailoring SWCNTs surface morphology using PEI for highly selective and stable detection of Cu2+ heavy metal ion: a nanosensing platform	International Journal of Environmental Analytical Chemistry, 1-14, 2022	ISSN: 0306-7319
48.	Study the electron field emission properties of silver nanoparticles decorated carbon nanotubes-based cold-cathode field emitters via post-plasma treatment	Journal of Materials Science: Materials in Electronics 33 (9), 7191-7211, 2022	ISSN: 0957-4522
49.	Novel tungsten disulfide (WS_2) nanosheets for photocatalytic degradation and electrochemical detection of pharmaceutical pollutants	Journal of Water Process Engineering 47, 102717, 2022	ISSN: 2214-7144
50.	Fabrication of Polyaniline Structures for Enhanced Supercapacitance: Effect of PANI Morphologies	ECS Transactions, 15843	ISSN: 1938-5862
51.	Superior photocatalytic and electrochemical activity of novel WS2/PANI nanocomposite for the degradation and detection of pollutants: Antibiotic, heavy metal ions, and dyes	Chemical Engineering Journal Advances, 12, 100373,2022	ISSN: 2666-8211
52.	High performance nanostructured symmetric reduced graphene oxide/polyaniline supercapacitor electrode: effect of polyaniline morphology Author links open overlay panel	Journal of Energy Storage,55, 105732-47, 2022	ISSN: 2352-152X
53.	Fabrication of Symmetric Polyaniline/Nano-Titanium Dioxide/Activated Carbon Supercapacitor Device in Different Electrolytic Mediums: Role of High Surface Area of Carbon and Facile Interactions with Nano-Titanium Dioxide for High-Performance Supercapacitor	Energy Technology Pages: 2200931 2022	Online ISSN: 2194-4296

54.	Influence of power-dependent Argon gas plasma treatment on the electron field emission properties of carbon nanotube field-emitters	Diamond and Related Materials Pages 109627 2023	ISSN: 0925-9635
55.	Influence of the growth temperature on electron field-emission stability of the carbon nanotubes' field emitters	Journal of Materials Research 1435-1447 2023	ISSN: 0884-2914 (print); 2044-5326 (web)
56.	Superhighway Channels of Nickel Ferrite Doped Polyaniline Nanocomposites for a High-Performance Stable Symmetric Pseudo-Supercapacitor	Available at SSRN 4355175 2023	
57.	The effects of Ar+ N2 plasma power-based attachment of metal nanoparticles on the electron field emission properties of carbon nanotubes	Journal of Physics and Chemistry of Solids 111309 2023	ISSN: 0022-3697
58.	Fabrication of high energy density symmetric polyaniline/functionalized multiwalled carbon nanotubes supercapacitor device with swift charge transport in different electrolytic mediums	Journal of Energy Storage 107328 2023	ISSN 2352-152X
59.	High performance symmetric reduced graphene oxide/polyaniline/tellurium supercapacitor electrodes	Nanotechnology	ISSN:1361-6528
60.	Nickel ferrite doped polyaniline composites: Synthesis and analysis for a high-performance symmetric pseudo-supercapacitor	Energy Storage	ISSN: 2578-4862
61.	Engineering 3D-interconnected graphene nanoplatelets and polyaniline nanocomposite for high energy density energy storage	Journal of Energy Storage, 110304	ISSN 2352-152X
62.	Optimization of WS2 modified polyaniline for superior photocatalytic degradation and electrochemical detection of pharmaceutical drug, 2024	FlatChem, 100624	ISSN 2452-2627
63.	Polyaniline-based Composites for Enhanced Supercapacitive Performance: Recent Materials, Components, and Performance, 2024	Communicated	

Research Guidance

S. No.	Degree	Students Enrolled/ Submitted/Completed	Dissertation/Thesis Title
1.	M. Tech. (Nanotechnology)	>21	Selected

	Dissertations Completed		1. Electrical Transport and gas sensing application of metal oxide based hetrostructures, Dec. 2017 2. Synthesis of 2D Materials through Wet Chemical Method, 2017 3. Synthesis of graphene-based carbon composites for device application submitted, May 2018 4. Polyaniline-based MWCNTs nanocomposite for EMI shielding application, Dec. 2018 5. Ion Irradiation impact study of carbon nanotubes, Dec. 2018 6. Fabrication of SiNWs on Si Chip and their decoration for IR sensing, May 2019 7. Polyaniline Nanosphere as an electrode material for supercapacitors, Dec. 2020 8. Graphene as an electrode material for supercapacitors, July 2021 9. Cellulose sponge for energy storage, July 2022 10. Synthesis of Co_3O_4 nanoparticles and its optical, structural and electrochemical characterization, December 2023 11. Synthesis and characterization of ZnO nanoparticles, December, 2023 12. Synthesis of iron oxide (Fe_3O_4) and nickel doped iron oxide (Ni- Fe_3O_4) nanoparticles and their optical and structural characterization
2.	**Ph. D.**	*Mashqoor Alam* *Sushma Kumari* *Gourav Paliwal* *(Co-Supervisor)*	Polythiophene based composites using polymeric gel electrolytes for flexible supercapacitors Carbon based electrode materials for Supercapacitors Investigating the enhancement of supercapacitor performance using novel electrode materials and structures
3.	**Submitted**	*Tarab Fatima* *Hameem Habib* *(Co-Supervisor)*	Carbon quantum dots/2D TMDs hybrid materials for photocatalysis Graphene nanosheet as a material for supercapacitors
3.	**Completed/Awarded**	<u>*As Supervisor*</u> 1. *Monika Tyagi* Modelling and Simulation of Carbon Nanostructures 2. *Nagma Ansari* Synthesis and Fabrication of SWNTs-Polymer composites for sensors and field emission applications 3. *Gyan Singh* Polyaniline based nanocomposites as an electrode material for supercapacitor <u>*As Co-Supervisor*</u> 1. *Farhan Ahmad* Study of Structural, Morphological and Optical Properties of Tricomposite Nanolayers for Optical Sensing Applications 2. *Mohmmad Moen Raza Khan (Co-Supervision)*	

		Synthesis of Carbon Nanotubes and enhancement of their field emission properties

Invited Talks:

S. No.	Title of the Lecture	University/College
1.	International Conference on Recent Advances in Functional Materials (RAFM – 2022) Talk: Next generation efficient Polyaniline based nanocomposites as electrode materials for supercapacitors	Department of Physics, ARSD college, University of Delhi
2.	National Webinar "XIIth Biennial National Conference of Physics Academy of North-East (PANE – 2021), 15-17 December 2021 Talk" Polyaniline based nanocomposites for supercapacitor electrode application".	Department of Physics, Tripura University, Tripura
3.	International Webinar on "Recent developments in Material Science", June 02nd-03rd 2020 Talk: "Carbon Polymer Nanostructures for device applications"	St. Andrew College, Uttar Pradesh
4.	Seminar on 'Recent trends in Nanotechnology', 28th February, 2020 Talk: "Carbon nanotubes-based polyaniline composites for device applications"	Amity University, Gurugram
5.	128th 3-Week Orientation Programme from 12 February to 03 March 2020 Talk on: 'Nanotechnology and the future of advanced materials', 18th February 2020	Jamia Millia Islamia, New Delhi
6.	Invited: International Conference on Efficient Solar Power Generation an Energy Harvesting, 12th-14th February 2019 'Carbon Nanotubes based conducting polymer composites for device application' 14th February 2019	Amity University, Noida
7.	Invited: International Conference on Science and Engineering Materials (ISCEM – 2018) 'Field Emission from Carbon Nanotubes' 8th January 2018	Sharda University, Greater Noida
8.	Invited: NANOFIMS 2017, 16th-17th November 2017 'SWCNTs coated Polyaniline nanocomposites: synthesis and its field emission property' 17th November 2017	IEEE and Gautam Budha University, Greater Noida

International/National Conferences Attended:

S. No.	Date	Title of Conference / Seminar Workshop/	Organized by

1.	Participation (Dec. 13-17, 2005)	XIII International Workshop on Physics of Semiconductor Devices, (IWPSD – 2005) New Delhi	NPL and SSD
2.	Participation (Dec. 15-19, 2009)	XV International Workshop on Physics of Semiconductor Devices, (IWPSD – 2009) New Delhi.	SSPL and JMI
3.	Poster Presentation (February 3, 2012) 'Field Emission of CNTs/PANI based nanocomposite'	Seminar on progress in physics of materials and theoretical Physics	Jamia Millia Islamia
4.	Poster Presentation (Dec. 10^{th}-13^{th} December 2013)	XVII International Workshop on Physics of Semiconductor Devices, (IWPSD – 2013) New Delhi.	Amity University, (U.P.)
5.	Co-Treasurer 14^{th} March 2015	National Seminar on Nanomaterials: Synthesis, Characterization and Applications (NSCA-2015)	Jamia Millia Islamia
6.	Poster Presentation 19^{th}-20^{th} March 2016	National Conference on Emerging Trends in Physics and Materials Science (ETPMS – 2016)	Chaudhary Devi Lal University, Sirsa
7.	Organizer 4^{th}-5^{th} Nov. 2016	International Conference on Advances in Nanomaterials and Nanotechnology (ICANN – 2016)	Jamia Millia Islamia
8.	Participation 09^{th} - 13^{th} October 2017	GIAN: 'Diffractive Micro-Optics of IR and THz ranges'	Jamia Millia Islamia
9.	Participation (Dec. 11-15, 2017)	XIX International Workshop on Physics of Semiconductor Devices, New Delhi. Amity University, Noida (U.P.)	IITD and SSPL
10.	September 27, 28, 2018	Two-day National Seminar on "New Trends in Nanotechnology and Applications"NTNA-2018 organized by Department of Physics, Atma Ram Sanatan Dharma College,27-28, 2018.	Organized by Department of Physics, Atma Ram Sanatan Dharma College
11.	March 6,7 – 2019	"International Conference on Advanced Materials" (ICAM-2019) organized by Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi, India, March– 2019.	Organized by Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi, India, March– 2019.
12.	April 22-23, 2019	Two-day "National Conference on Physics and Chemistry of Materials" (NCPCM) organized by MAIT, New Delhi on April 22-23, 2019.	organized by MAIT, New Delhi
13.	July 19-21, 2019	ICSEM-2019 on "Synthesis and Electrochemical Characterization of Polyaniline/Titanium dioxide Nanocomposites with Varying amount of Titanium dioxide as an Electrode Material for Supercapacitor "	School of Basic Sciences & Research, Sharda University, Noida
14.	25^{th} September -2019	National Conference on Nano-polysaccharides for Environmental Sustainability (NPES-2019), "Facile Synthesis and Electrochemical Analysis of	Department of Chemistry, Jamia Millia Islamia, New Delhi

		PANI/Activated carbon as an Electrode Material for Supercapacitor"	
15.	November 11-12, 2019	National Conference on Science, Technology and Emerging Application of Microscopy (STEAM – 2019), 'High performance Supercapacitor electrode analysis of hybrid PANI/nTiO_2/AC composite material'	Department of Chemistry, Institute of Basic Sciences, Dr. Bhimrao Ambedkar University, Agra
16.	December 18-20, 2019	International Conference On Atomic, Molecular, Optical and Nano Physics with Applications (CAMNP-2019) "Fabrication and Synthesis of Polyaniline Spheres as an Electrode Material for Supercapacitors"	Department of Applied Physics, Delhi Technological University, Delhi, India
17.	February 6-7, 2020	2nd National Conference on "New Trends in Nanotechnology and Applications" NTNA-2020, organized by ARSD College, New Delhi during February 6-7, 2020.	organized by ARSD College, New Delhi
18.	February 19-20, 2020	National Symposium on "Advances in Material Science and Theoretical Physics" on 19 and 20 February 2020 organized by Department of Physics, Jamia Millia Islamia, New Delhi.	Department of Physics, Jamia Millia Islamia, New Delhi.
19.	December 7-8, 2020	National Conference on Trends in basic and applied sciences "Fabrication of symmetric supercapacitor and electrochemical analysis of Polyaniline/ Nano-Titanium dioxide /Activated Carbon hybrid composite electrode material"	RIMT University, Mandi, Gobindgarh, Chandigarh
20.	February 1-3, 2021	International Conference on Nanoscience and Nanotechnology "High electrochemical performance from functionalized MWCNT – polyaniline Nano hybrid for supercapacitor electrode"	Department of Physics and Nanotechnology, SRM, India
21..	August 24-26,2021	1st International Conference on Thin films and Nanotechnology: knowledge, Leadership & Commercialization (ICTN-KLC 2021) "Morphology based synthesis and characterization of polyaniline as supercapacitor electrode"	Department of Physics, Indian Institute of Technology Delhi, New Delhi, India
22.	November 29-30,2021	First International Conference on Technology for Smart Green Connected Society 2021 "Electrochemical performance and fabrication of different polyaniline (PANI) morphologies as supercapacitor electrodes"	International Conference on Technologies for Smart Green Connected Society 2021, SPAST

23.	December 27-29, 2022	**"**Enhanced electrochemical performance of PANI/Nickel ferrite nanoparticles as supercapacitor electrode material" in 41st Annual National Conference of Indian Council of Chemists held at Department of Chemistry, Institute of Basic Science, Khandari, Dr. Bhimrao Ambedkar University, Agra	41st Annual National Conference of Indian Council of Chemists Agra
24.	December 06-09,2023	"Improved electrochemical capacitive performance of asymmetric activated carbon/polyaniline based supercapacitor" in 2nd International Conference On Environment and Energy Materials	2nd International Conference On Environment and Energy Materials, Sharda University, Greater Noida
25.	20th January 2024	3D-interconnected graphene nanoplplates and polyaniline nanocomposites electrode materials for supercapacitors	International conference RTISS Haryana
26.	25th January 2024	Polyaniline-TiO_2 nanocomposite electrode material for enhanced supercapacitor performance	International Conference on Advancements in material science: Trends and applications (ICAMSTA-2024)

Project(s) undertaken:

1.	Synthesis of CNTs/2D composite materials for field emission application	UGC – BSR Start-up Grant, Rs. 10,00,000/-

BOOKS

S. No.	Title of Publication	Publisher	ISSN/ ISBN No
1.	Book: Field Emission from Multi-walled Carbon Nanotubes: An insight into growth methods and field emission properties of Multi-walled Carbon Nanotubes, 2012	LAMBERT Academic Publishing	ISBN-13: 978-3-659-24281-6 ISBN-10: 3659242810
2.	Proceedings of International Conference on Advanced Materials, 2019	Bharti Publications	ISBN 978-93-86608-87-1
BOOK CHAPTERS			
1.	Effect of ECR Plasma Exposure on Conductivity of CdTe Thin Film XIII International Workshop on Physics of Semiconductor Devices (IWPSD) 2005	Allied Publisher	9798177649467
2.	Book Chapter: Advance in Nanomaterials: 'Introduction to Nanomaterials' 2016	Springer	ISSN: 1869-8433 ISBN 978-81-22-2666-6

3.	Highly Efficient Field Emission Characteristics of Ultra-long Vertical Aligned Single Wall Carbon Nanotubes XVII International Workshop on the Physics of Semiconductor Devices (IWPSD) 2017	Springer	978-3-319-03002-9
6.	Selective Growth of Single Wall Carbon Nanotubes Uniformly Grown by Plasma Enhanced Chemical Vapor Deposition System XVII International Workshop on the Physics of Semiconductor Devices (IWPSD) 2017	Springer	978-3-319-03002-9
7.	Resonant and Non-resonant Solutions of the Non-linear Vibration of SWCNTs Embedded in Viscous Elastic Matrix Using KBM Method XVII International Workshop on the Physics of Semiconductor Devices (IWPSD) 2017	Springer	978-3-319-03002-9
8.	Synthesis of ZnO Nanostructures Using RTCVD, Suitable for Various Applications Advances in Solar Power Generation and Energy Harvesting, Springer Proceedings in Energy, 2020	Springer Nature	978-981-15-3635-9
9.	Analytical solution of nonlinear forced vibration of the SWNTs embedded in viscous elastic matrix with linear and nonlinear damping AIP Conference Proceedings 2020	AIP Publishing	9780735440067
10.	Enhancement of gas sensor response characteristics of functionalized SWCNTs AIP Conference Proceedings 2020	AIP Publishing	9780735440067
11.	Fabrication of Polyaniline Nanospheres as a Good Electrode Material in Supercapacitors, 2022	Proceedings of the International Conference on Atomic, Molecular, Optical & Nano Physics with Applications, Springer, Singapore Springer Proceedings in Physics, 271 (393–400S) 2022	ISBN 978-981-16-7691-8
12.	Book Chapter: Review on Polyaniline based composites with and without binder as advanced supercapacitor electrode materials. Book Series: Material Horizons: From Nature to Nanomaterials, Zishan Husain Khan (Eds): Nanomaterials for Innovative Energy Systems and Devices 2022	Springer Singapore 2022 pp 551–582	ISBN 2524-5384

13.	Book Chapter: Role of Functionalized Carbon Nanotubes in Antimicrobial Activity: A Review Book: Functionalized Carbon Nanotubes for Biomedical Applications (Current & Emerging Research Developments) 2022	Wiley Scrivener	
14.	Book Chapter: Biosensors Pages 1-30, 2022	Electrochemical Sensors From Working Electrodes to Functionalization and Miniaturized Devices Woodhead Publishing Series in Electronic and Optical Materials	ISBN 9780128231487
15.	Book chapter: Latest Fabrication Approaches for Surface Modified Carbon Materials: Carbon Nanotubes and Graphene	American Chemical Society pp 27-47	ISBN13: 9780841297494
16.	Role of Functionalized Carbon Nanotubes in Antimicrobial Activity: A Review	John Wiley & Sons, Inc. 377-411	Print ISBN:9781119904830
17.	Clean and green supercapacitors for energy efficient applications, 2023	NOVA Publishers	In process
18.	Recent advancements in asymmetric supercapacitors, 2023	NOVA Publishers	In process

MEMBERSHIPS

- The Indian Science Congress Association (Lifetime membership)
- Society for Semiconductor Devices
- Society of Material Chemistry (SMC) (Lifetime membership)

ADMINISTRATIVE POSITIONS HOLDING:

- Nodal Officer for Centre for Nanoscience and Nanotechnology
- Students Coordinator, Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi

DATE: 19-02-2024
PLACE: New Delhi

Dr. SAMINA HUSAIN