FALL 2024

DEPARTMENT OF PHYSICS

CUI, LAHORE

NEWSLETTER

DEPARTMENTAL INSIGHTS

The Department of Physics was established in 2007 at COMSATS University Islamabad, Lahore campus. The department is equipped with state-of-the-art facilities that support both teaching and advanced research activities. With a highly qualified faculty comprising 26 PhD holders, the department stands among the most academically accomplished in Lahore. It has initiated robust experimental and theoretical research projects across various cutting-edge areas, including nanotechnology and advanced materials, clean energy technologies, optoelectronics, and theoretical physics. **The Department of Physics ranked 301-350 (Physics and Astronomy) internationally in *QS World University Rankings 2023*.** The Department of Physics is committed to excellence in teaching, research, and service.

INSIDE THIS ISSUE

Editorial Board

Dr. Faiza Mustafa

Ms. Mahrukh Bokhari

Ms. Samra Syed

Acknowledgements

- Faculty
- HOD, Office
- Administrative Officers/Staff

Department of Physics, CUI Lahore

Message from the Rector COMSATS

Prof. Dr. Sajid Qamar

COMSATS University Islamabad (CUI) is an institution rooted in innovation and academic excellence. Looking ahead, our mission is to transform CUI to meet emerging technological and societal challenges by offering globally competitive yet affordable academic programs across Pakistan.

Message from the Director CUI, Lahore

Prof. Dr. Syed Asad Hussain

At COMSATS Lahore, we are dedicated to fostering the practical, intellectual, and ethical development of our students. Our graduates, empowered by quality education and essential skills, have emerged as independent thinkers who meet global challenges and earn recognition across diverse fields.

Administrative Changes at the Department of Physics

Our heartiest congratulations to **Prof. Dr. Muhammad Asif** on assuming the responsibility of **Chairman of the Department of Physics CUI, Islamabad** after completing a successful tenure as head of the Department of Physics CUI, Lahore Campus.

We would also like to congratulate and welcome **Dr. Aamir Razaq (Tenured Associate Professor)** on becoming the new head of the Department of Physics CUI, Lahore.

Physics Faculty

International Conference

2nd International Conference on Physics Horizons and Multidisciplinary Sciences (ICPHMS)

In continuation of the 1st International ICPHMS Conference, the 2nd International Conference was successfully held on January 9–10, 2025. The tireless efforts of the chief organizer, Dr. Akbar Ali (Associate Professor, Department of Physics CUI, Lahore), the conference secretary, Dr. Abdul Sattar (Associate Professor, Department of Physics CUI, Lahore), along with the support of graduate students, the HOD office, and the Physics faculty, contributed greatly to the success of the event.

Prof. Dr. Sajid Qamar, Rector of CUI, honored the conference as the Patron-in-Chief. Prof. Dr. Syed Asad Hussain graced the role of Patron, while Prof. Dr. Muhammad Asif, Chairman, Department of Physics CUI, Islamabad, graced the event as the Co-Patron.

The conference aimed to enhance the understanding of recent advancements in physics by providing an open platform for the exchange of research findings, innovative ideas, novel methodologies, and discussions on critical scientific challenges and their solutions. It brought together national and international researchers, faculty members, and students to explore both fundamental science and application-oriented approaches in the field of physics.

International Speakers

"Science is not finished until it is communicated"

Sir Mark Walport

Conference Picture Gallery

Symposia/Invited Talks

Talk on Quantum Computing

The Department of Physics CUI, Lahore proudly hosted a keynote talk on 3rd January 2025 titled Unlock the Quantum Revolution, delivered by the world-renowned scientist Prof. Muhammad Suhail Zubairy, HI, SI, FPAS. Prof. Zubairy, a University Distinguished Professor at Texas A&M University, USA, and the inaugural holder of the Munnerlyn-Heep Chair in Quantum Optics, captivated the audience with his insights into the transformative potential of quantum computing and quantum optics. The lecture highlighted cutting-edge advancements in quantum technologies, their profound implications for science and industry, and the role of interdisciplinary research in driving the quantum revolution.

Digital Gallery






Pak-China International Symposium on Energy Devices

The Clean Energy Research Group, Department of Physics, organized the Pak-China International Symposium on Energy Devices on 3rd January 2025. The symposium was organized to highlight the research work of COMSATS alumni who are studying in China. The symposium was intended to inspire and guide the Physics students at COMSATS Department of Physics by exploring new avenues of research and offering opportunities for scholarship in China.

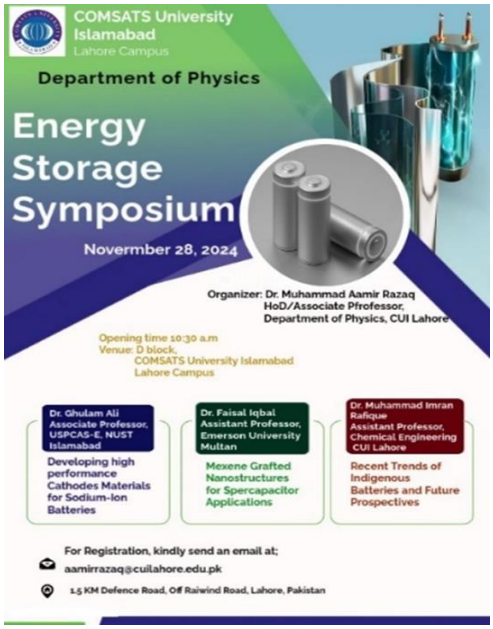
Symposium in Pictures



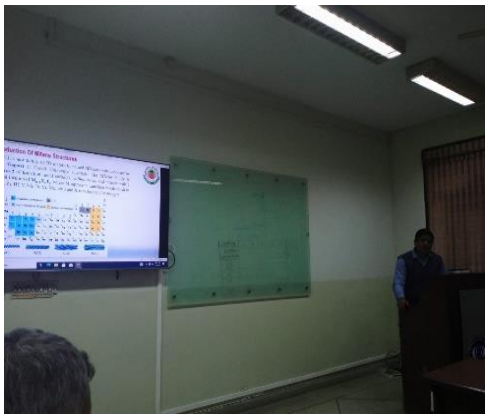


Energy Storage Symposium

Dr. Aamir Razaq, Tenured Associate Professor, Head of the Department of Physics, organized the Energy Storage Symposium on November 28, 2024. The aim of the symposium was to provide a platform to explore cutting-edge advancements and discuss future perspectives in energy storage technologies.



Picture Gallery



Invited Talk by Dr. Naima Amin

Dr. Naima Amin delivered an invited talk on "Fabrication of the Breast Cancer Phantom for the Estimation of Dose in Breast Cancer Radiation therapy" in international conference on EMERGING TRENDS IN PHYSICS (ICETP-8-9TH OCTOBER 2024) organized by the University of Lahore.

Chief Guest/Invited/key note speaker/China Visit under project “One Belt One Road” by Prof. Dr. Rizwan Raza

Chief Guest at Beaconhouse, Lahore

Dr. Rizwan Raza was invited as the chief guest at the graduation ceremony of Beaconhouse Girls Campus, Lahore. Medals and certificates were awarded to students who achieved outstanding results in their O-Level examinations. He also had the privilege of delivering a talk on climate change to the youth.

Membership of Energy and Environmental Materials Journal Impact factor 13:

Prof. Dr. Rizwan Raza has been selected as an Early Career Researcher Committee Member for Energy and Environmental Materials Impact factor 13, a prestigious journal by Wiley, for the 2024-2025 term. He looks forward to contribute to advancing research in sustainable energy and environmental materials.


Certificate

This is to acknowledge

Prof Rizwan Raza

For service to Energy & Environmental Materials as Early Career Researchers Committee From 2024 to 2025

Editor In Chief:

Energy & Environmental Materials

-WILEY-

Invited Talk/Key note Speaker

.

Prof. Dr. Rizwan Raza invited as key note speaker in 5th International Conference on Advances in Material Sciences organized by University of Education November 27-28, 2024-Lahore, Pakistan.

Collaborative Online Workshop

Prof. Dr. Rizwan raza has organized an online 1st workshop on **Impact and Sustainability for Energy and Environment – ISEE autumn 2024** on November 26, 2024 with the collaboration of Prof Mikael Syväjärvi , Sweden

Invited Talks During China Visit

Prof. Dr. Rizwan Raza has delivered an impactful talk under one belt one road project on 1st August 2024 in Shandong University, Jinan, China

He also delivered a talk on new Energy Devices on 5th August 2024 in Xian-Jiataong University, China

China's visit under project "One Belt One Road" August 2024

Prof. Dr. Rizwan Raza, Prof. Dr. M. Ashfaq Ahmad, and Prof. Dr. Saleem visited six universities in China to explore potential opportunities for research and collaboration. Their visit offered valuable insights into the academic strengths of these institutions and identified promising areas for effective collaboration.

Universities Visited:

- Shandong University, Jinan
- University of Science and Technology, Beijing
- Xian Jiao tong University
- Xian University of Architecture and Technology
- Southeast University, Nanjing
- Nanjing Xiazhuang University

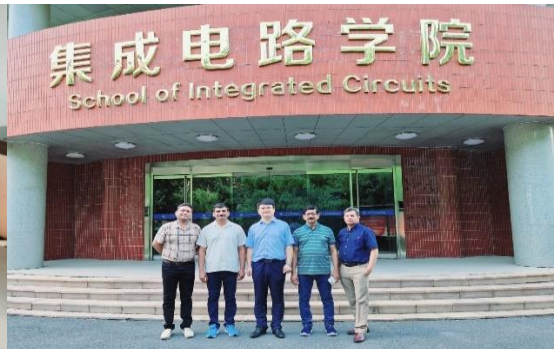
Following points were discussed:

- Collaboration Opportunities
- Final Year Project for BS Electronics and Computing
- Scholarship and Exchange Programs
- Joint Research Projects and Publications

Both sides agreed to pursue joint research projects, particularly

- Sino-Pakistan projects through NSFC
- One Belt One Road initiatives
- PSF-NSFC collaborations
- Exploring other funding opportunities at the provincial and national levels

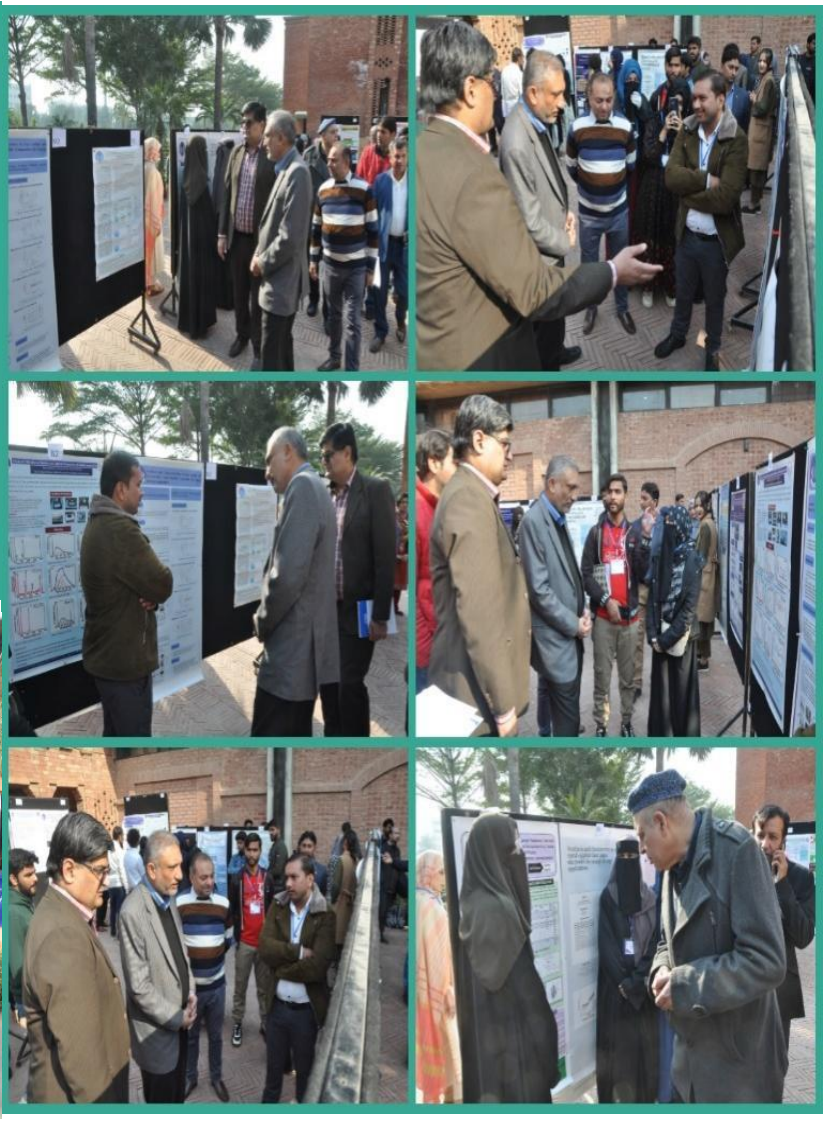
Few Glimpses from Visits



Physics Poster Competition

Poster competition committee Department of Physics organized a Physics Poster Competition on December 12, 2024. The talented BS, MS, and PhD students presented their innovative research on their research work. Event was graced by visit of worthy Director Prof. Dr. Syed Asad Hussain COMSATS University Islamabad (CUI), Lahore Campus. The top three winning poster students from each category were awarded cash prizes. In recognition of their efforts, all participants received e-certificates.

Picture Gallery



3D Project Exhibition

The Project Exhibition Committee, Department of Physics, organized a 3D Projects Exhibition on 18th December 2024. The event showcased innovative and creative projects developed by students of Applied Physics from all nineteen sections, as well as students from the Departments of Electrical Engineering, Computer Engineering, and Chemical Engineering. The exhibition aimed to foster hands-on learning and encouraged students to apply their theoretical knowledge to real-world challenges. Students presented their projects, demonstrating skills in design, modeling, and problem-solving across various domains of physics and engineering. The top five projects were awarded trophies and certificates. To acknowledge the efforts of all participants, every student was awarded an e-certificate.

Event Gallery

Symposium on Modern Medical Physics

Dr. Naima Amin, Associate Professor, Department of Physics CUI, Lahore organized a symposium on 3rd December 2025, titled Modern Medical Physics: Pioneer Hospital Technologies and Therapies. The event brought together experts, researchers, and students to discuss the latest advancements in medical physics, including cutting-edge hospital technologies and innovative therapeutic techniques.

Event Gallery





Career Counseling Session

The Department of Physics successfully hosted its first career counseling session, titled **"Physics Careers in the UK: Opportunities and How to Excel"**, on **November 13, 2024**. The session was organized by **Dr. Naima Amin**, with **Ms. Nadia Latif** as the distinguished speaker. Ms. Latif, an HCPC-registered professional, Honorary Lecturer at the University of Aberdeen, and mentor to MSc students, shared her valuable insights and expertise with the participants.

Ms. Latif guided students on building skills and confidence for success in physics careers, highlighting UK opportunities and growth pathways. The session inspired and motivated students to pursue new horizons in science, honing their skills for future challenges.

Industrial Symposium

Dr. Ishrat Sultana, Associate Professor, Department of Physics, CUI Lahore, organized the Industrial Symposium on December 5, 2024, which bridged the gap between academic research and industrial applications. The symposium highlighted how physics drives innovation and growth across various industries in Pakistan and globally. It emphasized the role of physics in industrial growth, the application of nanotechnology in everyday life, battery technology, and electric vehicle (EV) technology, particularly in electric bikes.

Symposium in Pictures







Short Course on Quantum Computing

On December 16, 2025, Dr. Muhammad Junaid Amjad, Associate Professor from the Department of Physics, CUI, Lahore Campus, organized an engaging and insightful short course on Quantum Computing. The course aimed to provide participants with a fundamental understanding of quantum computing principles, its applications, and the potential impact on various fields.

Event Gallery

MS/BS Final Defense Presentations

The students of MS Physics and BS Physics have successfully defended their research thesis/projects, marking a significant milestone in their academic journey. Their hard work and determination were highly appreciated by the internal and external examiners. This achievement reflects not only the students' hard work but also the continuous support and guidance provided by their supervisors and the Department of Physics.

Digital Gallery






Get-Together Party

The Department of Physics at COMSATS University organized a memorable Get Together Party to extend a warm welcome to the newly admitted first-semester students and bid farewell to the graduating final-semester students. The event aimed to foster a sense of belonging among newcomers while celebrating the accomplishments and journeys of those departing.

Digital Gallery

Industrial Trip

The Extra-Curricular Committee Department of Physics, CUI Lahore, organized an exciting educational tour to Atlas Honda Automobile Industry on 4th December, 2025. This trip inspired the students to connect their academic knowledge with practical innovations.

Event Gallery

Alumni Brunch

First Alumni Brunch at Department of Physics COMSATS Lahore was organized by the department of Physics on December 15, 2025. Alumni participated from different cities of Pakistan in person and virtually from different countries of the world including US, UK, Australia, Germany, Spain, Korea, Belgium and China.

Picture Gallery

Alumni Series

- **Rizwan Asghar** – Supervised by **Dr. Muhammad Ajmal Khan** and **Dr. Rizwan Raza**; currently a Ph.D. researcher in catalysis at the University of Udine, Italy.

- **Muhammad Ahsan Masood** – Supervised by **Dr. Rizwan Raza**; currently pursuing a Ph.D. in Power Engineering at Southeast University, Nanjing, China under CSC scholarship.

- **Faiza** – Supervised by **Dr. Amir Razaq**; currently in the final year of her Ph.D. in Malaysia working on MXene-based supercapacitors.

- **Ayesha Mubshrah** – Supervised by **Dr. Abdul Sattar**; currently pursuing a Ph.D. at the University of Bristol, UK, and working as a student ambassador.

- **Ayesha Saleem** – Supervised by **Dr. M. Ashfaq Ahmad**; She availed the HEC-IRCIP opportunity and visited Stanford University, USA. Currently, serving as an Assistant Professor at Forman Christian (FC) College, Lahore.

- **Mansoor Khalid** – Supervised by **Dr. Akbar Ali Gujar** and **Dr. Mukhtar Ahmad;** currently pursuing a Ph.D. at Harbin Institute of Technology, China, and has also launched electronics brands in Pakistan.

- **Muhammad Waqas** – Supervised by **Dr. Yasir Rafiq**; currently pursuing a Ph.D. in Condensed Matter Physics at the University of Science and Technology of China.

- **Shahid** – Supervised by **Dr. Muhammad Jamil**; currently a Ph.D. researcher in astrophysics at the University of Chinese Academy of Sciences under ANSO scholarship.

- **Haseeb Hassan** – Supervised by **Dr. Nosheen Akbar**; currently a Ph.D. student in Oceanic Modeling at the Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China.

Physics Super Leagues (PSL) and Physics Badminton Championship (PBC)

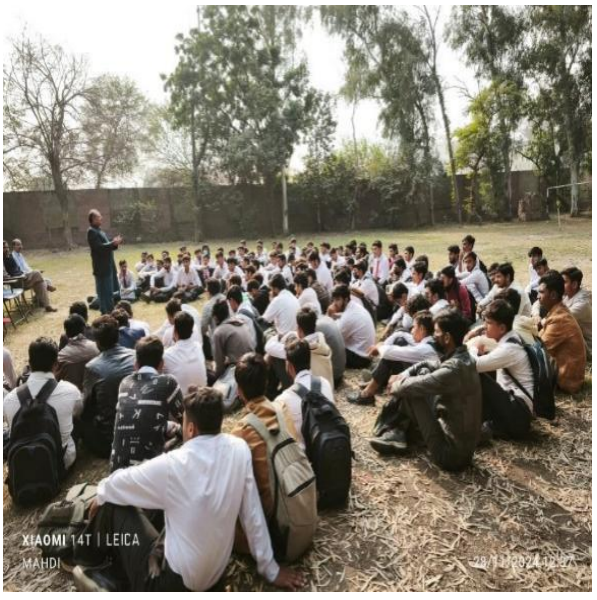
The Department of Physics proudly hosted the cricket, badminton and table tennis tournaments under the Physics Super League (PSL). PSL Tournament concluded with PHY 6 semester emerging as the victorious team after a thrilling competition with BSE-B.

Picture Gallery

Visit to Govt. College Raiwind for Career Counseling

The Faculty of Physics, Dr. M. Jamil, Dr. Ghazanfar, Dr. Ajmal Khan CUI Lahore Campus, visited Govt. College Raiwind. This initiative aimed to guide young minds about career opportunities in Physics and showcase the comprehensive academic programs offered by CUI Lahore. The interactive session included, Introduction to Physics Programs, Career Prospects in Physics, Student Interaction, Scholarships and Admissions.

Event Gallery



Launch of BS Electronics and Computing Program

The Department of Physics proudly welcomed the inaugural batch of the BS Electronics and Computing program in Fall 2024. This interdisciplinary program is designed to equip students with a strong foundation in electronics, computer science, and modern programming techniques, preparing them for emerging careers in technology, automation, and embedded systems. The first cohort represents a significant milestone in the department's academic expansion, reflecting its commitment to offering cutting-edge, industry-relevant education aligned with global trends in science and technology.

Spotlight on Innovation: Faculty Members Lead Groundbreaking Research Projects

At the heart of our university's academic excellence lies the drive to innovate and contribute to real-world solutions. We are proud to share some of the remarkable funded research projects our faculty members are currently spearheading:

Dr. Aamir Razaq

Dr. Aamir Razaq is leading transformative project

- **Regulating electrode-electrolyte interfaces through cellulose graft chemistry, aiming to develop sustainable, durable, and practical paper-based aqueous zinc-ion batteries**. This project, funded under the PSF/NSFC China 2024 initiative, has secured a funding of Rs. 8.92 million and is currently ongoing.

Dr. Akbar Ali

Dr. Akbar is leading innovative research project

The development of a ternary nano biocomposite designed to fabricate commercial screen-printed electrodes for the detection of neurological disorders. This high-impact project is funded by HEC with a budget of Rs. 7.731 million, running from 2022 to 2025.

Dr. Ghazanfar Abbas

Dr. Ghazanfar is at the forefront of two exciting research initiatives

- **Nano-structured Low Temperature Ceramic Fuel Cells (LTCeFCs) designed for fuel flexibility**, in collaboration with Dr. Muhammad Ashfaq Ahmad. Funded by CUI, this 2024–2025 project has a budget of Rs. 300,000.
- **Cost-effective nano-structured materials for low-temperature fuel cells (300–600°C)**, co-led with Dr. Rizwan Raza and Dr. Muhammad Ashfaq Ahmad. This initiative is backed by HEC Pakistan with a total funding of Rs. 5.035 million.

Dr. Ishrat Sultana

Dr. Ishrat is engaged in an impactful project

- **The development of flexible and highly absorbing paper-based electrodes for next-generation hybrid energy storage and conversion devices**, a long-term project (2021–2026) funded by HEC with Rs. 6.6 million.

  These initiatives reflect the university's commitment to pioneering research that tackles pressing global challenges in energy, health, and sustainability.

Research Productivity

#	Title Of research Publication-Year 2024 by Department of Physics CUI, Lahore	Journal Name	Impact Factor	Vol / Issue	Page No / Article No
1	Efficient structure tuning over the defective modulated zirconium metal organic framework with active coordinate surface for photocatalyst O2 reduction	Journal of Colloid and Interface science	**9.4**	653	370-379
2	Boosting electrochemical and photocatalytic performance of Cadmium Sulfide/Zinc Telluride nanocomposites via Nickel doping	Materials Science and Engineering: B,	**3.9**	299	116932
3	Enhanced photocatalysis activity of Co0.5Mg0.5Fe2O4/rGO nanocomposites for tetracycline antibiotic degradation	Materials Letters	**2.7**	360	135756
4	Tailoring electrochemical and dielectric properties of SrO nanostructures through Cr-doping for energy storage applications,	Materials Today Communications	**3.8**	38	107925
5	Preparation and Characterization of Nanocomposite Perovskite Cathode Materials La0.3Sr0.7Fe0.4Ti0.6O3-δ (LSFT) for Low-Temperature SOFCs with Incorporation of Graphene Oxide (GO)	Crystal Research and Technology	**1.599**	59	2300197
6	A potential candidate material for quantum anomalous Hall effect: Heterostructures of ferromagnetic insulator and graphene	Physica B: Condensed Matter	**2.8**	673	415439
7	Bandgap engineering and tuning of optoelectronic properties of 2D NbSe2/MoS2 heterostructure using first principle computations	Physica Scripta	**3.7**	99	15928
8	Top-gate engineering of field-effect transistors based on single layers of MoS2 and graphene	Journal of Physics and Chemistry of Solids	**4.3**	184	111710
9	A 3D hydrangea-like NiMoO4/rGO/PANI hybrid composite for high performance asymmetric supercapacitor	Electrochimica Acta	**5.5**	4	143756-
10	Recycling different crystal forms of MnO2 from spent Li-ion batteries cathodes for SDZ degradation	Journal of Environmental Chemical Engineering	**7.4**	12	111622
11	Magnetoacoustics and magnetic quantization of Fermi states in relativistic plasmas	Z. Naturforsch	**1.8**	79(5)	431
12	From Waste to Watts: Emerging role of waste lignin-derived materials for energy storage	Journal of Energy Storage	**9.4**	82	110447
13	A DFT study on the switching energy of multiferroic capacitor with stable single-phase multiferroic material	Materials Science and Engineering B	**3.9**	300	117070
14	WO3-x nanorods/rGO/AgBiS2 Z-scheme heterojunction with comprehensive spectrum response and enhanced Fenton and photocatalytic activities	Journal of Colloid and Interface Science	**9.4**	662	250-262
15	Structural, morphological, mechanical, and electronic properties of nickel substituted manganese oxide (NixMn1-xO, x= 0.0, 0.2, 0.4) for electronic applications	Heliyon	**4**	10	e26708
16	Surfactant-free synthesis of AgGO and subsequent catalytic performance of AgGO and WO3-x/AgrGO composites	Journal of Industrial and Engineering Chemistry	**5.9**	130	521-532
17	High-performance plasmonics nanostructures in gas sensing: a comprehensive review	Medical Gas Research	**3**	15(1)	1-9-
18	Comparative analysis of inorganic lead halide perovskites with promising (Mg+2)-doped for optoelectronic applications: a computational insight	Optical and Quantum Electronics	**3.3**	56	732-
19	Transmittance properties of one-dimensional photonic hypercrystals	Materials Letters	**2.7**	364	137066
20	Evaluation of tetracycline photocatalytic degradation using NiFe2O4/CeO2/GO nanocomposite for environmental remediation: In silico molecular docking, antibacterial performance, degradation pathways, and DFT calculations	Separation and Purification Technology	**8.2**	351	128074-
21	ZIF-67 BASED TRIBOELECTRIC NANOGENERATOR FABRICATED THROUGH EHD PRINTING: Performance Evaluation as energy harvesting device and pressure sensing application	ACS Appl. Electron. Mater	**4.4**	6(4)	2178–2187
22	Greener approach for the synthesis of Ag decorated ZnO–CeO2 nanostructure using Moringa oleifera LE and its investigation as photocatalyst for degradation of ciprofloxacin and methylene orange	Materials Chemistry and Physics	**4.3**	318	129229-
23	Catalytic effect of aluminum on the structural, optical, and electrical properties of LaSrCrO3-δ anode	Ceramics International	**5.1**	50(13)	23088-23096

24	Intrinsic Room-Temperature Ferromagnetism in New Halide Perovskite AgCrX3 (X: F, Cl, Br, I) Using Ab Initio and Monte Carlo Simulations	ACS Omega	**4.1**	9(16)	18148-18159
25	Enhancement of the characteristics and HER activity of molybdenum carbide nanosheets for hydrogen evolution reaction	Sustainable Energy & Fuels	**5**	8(10)	2299-2308
26	Biogenic-ecofriendly synthesized SnO2/CuO/FeO/PVP/RGO nanocomposite for enhancing energy density performance of hybrid supercapacitors	Journal of Energy Storage	**8.9**	89	111643
27	Unlocking enhanced photo-Fenton, night-Fenton, and photocatalytic activities of dual Z-scheme MoS2/WO3–x/Ag2S core-shell structure via defect engineering	Journal of Materials Science & Technology	**11.2**	197	160-170
28	Effect of rare earth doping on the electromagnetic response of hard ferrites $SrFe_{12}O_{19}$ for potential application in high-frequency devices	Materials Chemistry and Physics	**4.3**	320	129378
29	Progress in TOPC on solar cell technology: Investigating hafnium oxide through simulation	Current Applied Physics	**2.4**	63	96-104
30	Antibacterial efficacy of Rumex dentatus leaf extract-enriched zinc oxide and iron doped zinc nanoparticles: a comparative study	Nanotechnology	**2.9**	35	305605-
31	Layer-by-layer assembling redox wood electrodes for efficient energy storage	Energy Materials	**11.8**	4	400041-
32	Multi-functional metasurface: ultra-wideband/multi-band absorption switching by adjusting guided-mode resonance and local surface plasmon resonance effects	Communications in Theoretical Physics	**2.4**	76(6)	65701
33	Silicon nitride-based ultra-wideband ultra-long infrared metamaterial absorber with large angle and high absorption	Materials Today Communications	**3.8**	39	109229
34	Electrostatic THz Excitation in Semiconductor Plasmas	Arabian Journal of Science and Engineering	**2.6**	50	517
35	Study of shear Alfve'n waves with Landau quantization effect in degenerate relativistic plasma	Journal of King Saud University - Science	**3.7**	36	103239
36	DFT and experimental investigations on ZnxCu2-xO for electronic, thermoelectric and optical applications	Journal of Sol-Gel Science and Technology	**2.606**	111	49-60
37	Superior Performance of Hollow Plasmonic Cubic Structures for Solar Energy Harvesting, Conversion, and Storage Systems	Plasmonic	**3.3**	84	10836
38	MXene nanomaterials: Synthesis, properties and applications in energy and environment sector	Journal of Alloys and Compounds	**5.8**	1001	175172-
39	Tunable metamaterial absorption device based on Fabry -Perot resonance as temperature and refractive index sensing	Optics and Laser Engineering	**3.5**	181	10836
40	Synergistically improving the performance of spinel cathode for efficient oxygen reduction electrocatalyst	Journal of Alloys and Compounds	**5.8**	1002	175408-
41	A fluid approach to cosmic-ray modified shocks	Advances in Space Research	**2.8**	74	4250
42	Enhancing the performance of the BaTiO3 electrolyte via A-site-deficiency engineering for low-temperature ceramic fuel cells (LT-CFCs)	Ceramics International	**5.1**	50(19)	35734-35745
43	Composite cathode Gd0.2Ce0.8O1.9–SrFe1−xTixO3-δ for Nicotiana tabacum-derived carbon fuel-based direct carbon fuel cell	Journal of Solid-State Electrochemistry	**2.6**	28	4057-4066
44	Investigating the potential use of ZnFe2O4/NiO/GO nanocomposite for photocatalytic and next-generation energy applications	Journal of Energy Storage	**8.9**	98(19)	113000
45	Influence of hydrogen doping of In2O3-based transparent conducting oxide films on silicon heterojunction solar cells	Journal of Materials Science	**3.5**	59	13873-13882
46	Band gap crossover and symmetry breaking in strained monolayer MoS2	Materials Letters	**2.7**	372	137066
47	Potential electrolytes for solid state batteries and its electrochemical analysis—a review.	Energy Storage	**3.2**	6(1)	e506
48	Advanced Sensing Applications Utilizing a High-Performance Narrowband Metamaterial Perfect Absorber Based on ZnO Architecture	IEEE Sensors Journal	**0.636**	24(15)	23968-23975

49	Synthesis and simulation study of titanium dioxide-based nanomaterial for electron carrier selective contact solar cell	Inorganic Chemistry Communications	**4.4**	169	112863
50	Emerging Semiconductor Ionic Materials Tailored by Mixed Ionic-Electronic Conductors for Advanced Fuel Cells	Advanced Powder Materials	**28.6**	13(6)	100231
51	Visible light driven photocatalyst NiFe2O4/Ag2WO4 nanocomposite for the degradation of tetracycline (TC-HCl) antibiotics, *377*, 137391.	Materials Letters	**2.7**	377	137391
52	(2024). In-situ fabrication of resveratrol loaded sodium alginate coated silver nanoparticles for in vitro studies of mitochondrial-targeted anticancer treatment against MCF-7 cell lines., *280*, 135656.	International Journal of Biological Macromolecules	**7.7**	280	135656
53	Temperature dependent electrocatalytic activity of molybdenum-based ZIF-67 nanorods for water splitting	International Journal of Hydrogen Energy	**8.1**	89	310-319
54	Corrigendum to "NiZrSe3/rGO modulated porous architecture for hybrid featured asymmetric supercapacitors	Journal of Energy Storage	**8.9**	100	114129
55	Semiconductor Ionic Cu doped CeO2 Membrane Fuel Cells	Ceramics International	**5.1**	50(20)	40250-40362
56	Low temperatures improved transport properties of Zn(1− X)Mn(X)O nanoparticles using co-precipitation technique	Journal of Alloys and Compounds	**5.8**	4	100039
57	Codoped Ceria Electrolyte for Direct Carbon Fuel Cell with Carbon Fly Ash Fuel	ACS Applied Energy Materials	**6.595**	7(21)	9788-9796
58	Unveiling non-monochromatic modes and nonlinearity in Piet Hein quantum semiconductor Waveguide	Scientific Reports	**3.8**	14	25495
59	Simulation study of multi-layer titanium nitride nanodisk broadband solar absorber and thermal emitter	Communications in Theoretical Physics	**2.4**	76(11)	115702
60	Spectrum and decay properties of bottomonium mesons	European Physical Journal A	**2.6**	60	58
61	Cubic silicon carbide anode material for low-temperature solid oxide fuel cell	Journal of Solid-State Electrochemistry	**2.6**	94	11140
62	The Composite La2-xNdxCe2O7-δ Material for New Energy Conversion Devices: A Physiochemical and Electrochemical Study, ACS Applied Energy Materials 2024	ACS Applied Energy Materials	**6.595**	7(23)	11048-11059
63	Promising study of NiCuCeO mixed ionic electronic conductor for moderate temperature conventional solid oxide fuel cells	Materials Chemistry and Physics: Sustainable and Energy	**4.3**	2	100003
64	Recycling different crystal forms of MnO2 from spent Li-ion batteries cathodes for SDZ degradation	Journal of Environmental Chemical Engineering	**7.4**	12	111622
65	Fabrication of (Ag, Zn, Co) based spinel ferrites as electrode materials for high energy density hybrid supercapacitors	Energy Storage	**3.2**	79	110092
66	Detailed investigation of Mn-substituted Zn ferrites for microwave applications up to 6 GHz	Materials Science and Technology	**1.7**	40(5)	479–492
67	Facile synthesis of novel hexagonal strontium ferrites for promising adsorption of cadmium from aqueous solutions	Materials Chemistry and Physics	**4.3**	318	129222
68	Facile synthesis of novel zinc ferrite nanostructures (ZFN) for enhanced adsorption of highly mobile and toxic As(III) from aqueous solutions	Journal of Water Process Engineering	**6.3**	63	105464
69	Synthesis of new synthetic hybrid glasses using metallic nano-particles and rare-earth effect of plasmonic diluents.	Ceramics International	**5.1**	50(21)	42340-42351
70	Silver (Ag) doped graphitic carbon nitride(g-C3N4) photocatalyst for enhanced degradation of Ciprofloxacin (CIP) under visible light irradiation	Arabian Journal of Chemistry	**5.3**	17(3)	105615