



**UMT**

# UMT RESEARCH NEWSLETTER

Research Innovation and Knowledge Impact

**Volume 1 Issue 2**  
March – April 2026





# MESSAGE FROM VICE PROVOST RESEARCH

The second issue of the UMT Research Newsletter: Research Innovation and Knowledge Impact proudly presents the continued growth of research, innovation, and scholarly excellence at the University of Management and Technology (UMT). Following the successful release of the inaugural issue, this edition highlights significant achievements in research grants, high-impact publications, industry collaborations, intellectual property, and academic partnerships.

The accomplishments featured in this issue reflect UMT's commitment to advancing impactful research and fostering a strong culture of innovation and collaboration. Appreciation is extended to all faculty members, researchers, and contributors whose efforts continue to strengthen UMT's research visibility and academic excellence.

**PROF. DR. SAMMIA SHAHID**

Vice Provost Research

# DR. MUHAMMAD ASIM BUTT SECURES RS. 18.72 MILLION HEC-NRPU GRANT FOR AI-BASED CANCER DIAGNOSTICS

The University of Management and Technology (UMT) proudly announces that Dr. Muhammad Asim Butt, Assistant Professor in the Department of Computer Science, School of Systems and Technology (SST), has been awarded a prestigious HEC-NRPU research grant worth Rs. 18.72 million as Principal Investigator (PI). The project is being carried out in collaboration with Dr. Muhammad Farhat Kaleem and Dr. Asif Hussain from the School of Engineering (SEN), reflecting a strong multidisciplinary approach combining computing and engineering expertise.

The project aims to advance cancer diagnostics through the integration of artificial intelligence and

medical imaging. By developing a comprehensive dataset and an intelligent diagnostic system, the research seeks to improve accuracy in prostate cancer detection and grading. This initiative highlights UMT's growing leadership in health-tech innovation and its commitment to addressing critical healthcare challenges through cutting-edge, interdisciplinary research.



# MS. AMNA MURAD SECURES INTERNATIONAL ELDP GRANT FOR PRESERVING ENDANGERED CHILISSO LANGUAGE

The University of Management and Technology (UMT) proudly announces that Ms. Amna Murad, Lecturer at The Center for Languages, School of Liberal Arts, has been awarded a prestigious international research grant worth €6,437 from the Endangered Languages Documentation Programme (ELDP), Germany. This achievement highlights UMT's growing presence in global research initiatives and its commitment to addressing culturally significant challenges through scholarly work.

The project focuses on safeguarding the linguistic and cultural heritage of the endangered Chilisso

language. The research aims to document oral traditions, narratives, and linguistic structures to ensure their preservation for future generations. This initiative reflects UMT's dedication to cultural preservation, academic excellence, and global research collaboration, contributing meaningfully to the protection of endangered languages and intangible heritage.

**UMT | ORIC**  
Office of Research Innovation  
and Commercialization

**ENDANGERED LANGUAGES  
DOCUMENTATION PROGRAMME**

## MS AMNA MURAD

*Lecturer, The Center for Languages  
School of Liberal Arts*

**PROJECT TITLE**  
Preserving Chilisso:  
Documentation of Oral Heritage

|                                                 |                                         |
|-------------------------------------------------|-----------------------------------------|
| <b>11</b> SUSTAINABLE CITIES<br>AND COMMUNITIES | <b>10</b> REDUCED<br>INEQUALITIES       |
| <b>4</b> QUALITY<br>EDUCATION                   | <b>17</b> PARTNERSHIPS<br>FOR THE GOALS |

# MR. NAVEED UL HAQ PUBLISHES RESEARCH IN HIGH-IMPACT FACTOR (9.1), Q1 JOURNAL

The University of Management and Technology (UMT) proudly celebrates the academic achievement of Mr. Naveed Ul Haq, Research Fellow at the Office of Research, Innovation and Commercialization (ORIC), on the publication of his research in the prestigious journal Corporate Social Responsibility and Environmental Management. This internationally recognized Q1 journal, indexed in the Social Sciences Citation Index (SSCI), holds an impressive Impact Factor of 9.1, reflecting its global standing in the field of sustainability and corporate responsibility.

The research article explores the critical role of leadership in aligning corporate strategies with the Sustainable Development Goals (SDGs). The study provides valuable insights into how organizations can integrate sustainability into their core practices through effective leadership approaches.



# UMT DELEGATION VISITS PAFDA TO STRENGTHEN RESEARCH AND INNOVATION COLLABORATION

A distinguished delegation from the University of Management and Technology (UMT), comprising Mr. Ahmad Abdullah (Director General UMT), Prof. Dr. Sammia Shahid (Vice Provost Research), and Prof. Dr. Ch. Jamil Anwar (Distinguished Professor), visited the Punjab Agriculture, Food & Drug Authority (PAFDA) to explore opportunities for academic and research collaboration.

During the visit, the delegation toured PAFDA's state-of-the-art laboratories and held productive

discussions focused on fostering joint research initiatives, scientific innovation, and capacity building. The engagement reflects a shared commitment to strengthening linkages between academia and regulatory institutions, with the aim of advancing research excellence and addressing key challenges in food safety, agriculture, and public health sectors.



# UMT SIGNS MOU WITH RANA RICE MILLS TO PROMOTE SCHOLARSHIPS AND INDUSTRY-ACADEMIA COLLABORATION

The ILM Fund and the Office of University Development (OUD), University of Management and Technology (UMT) signed a landmark Memorandum of Understanding (MoU) with Mr. Rana Faisal, Director Export & Business Development at Rana Rice Mills (Pvt.) Ltd., on 21 April 2026. Rana Rice Mills, a leading rice processing and exporting company based in Narowal, Punjab, is recognized for its advanced production capabilities and adherence to international standards, including ISO 9001 and HACCP certifications, contributing significantly to Pakistan's agricultural export sector.

The MoU outlines a comprehensive framework for collaboration focused on financial support and industry engagement. Key initiatives include annual scholarships for financially deserving students, structured industry visits for students of the School of Systems and Technology (SST), and enhanced opportunities for internships, placements, and faculty secondment through the Office of Corporate Linkages & Development (OCLP). This partnership reflects UMT's commitment to inclusive education, experiential learning, and strengthening industry-academia linkages, while recognizing the valuable contribution of industry leaders in supporting student development and academic growth.





# UMT LAUNCHES CENTRE FOR SPACE SCIENCE & ASTRONOMY WITH A STELLAR STAR GAZING NIGHT

The University of Management and Technology (UMT) proudly inaugurated the UMT Centre for Space Science & Astronomy on Thursday, 23rd April 2026, at UMT Greens.

The event marked a significant milestone in UMT's commitment to advancing scientific research and innovation in the field of space sciences. The inauguration ceremony featured insightful addresses by university leadership and a collaborative session with Sky Deep Corporation and Lahore Astronomical Society, highlighting future opportunities in astronomy and space exploration.

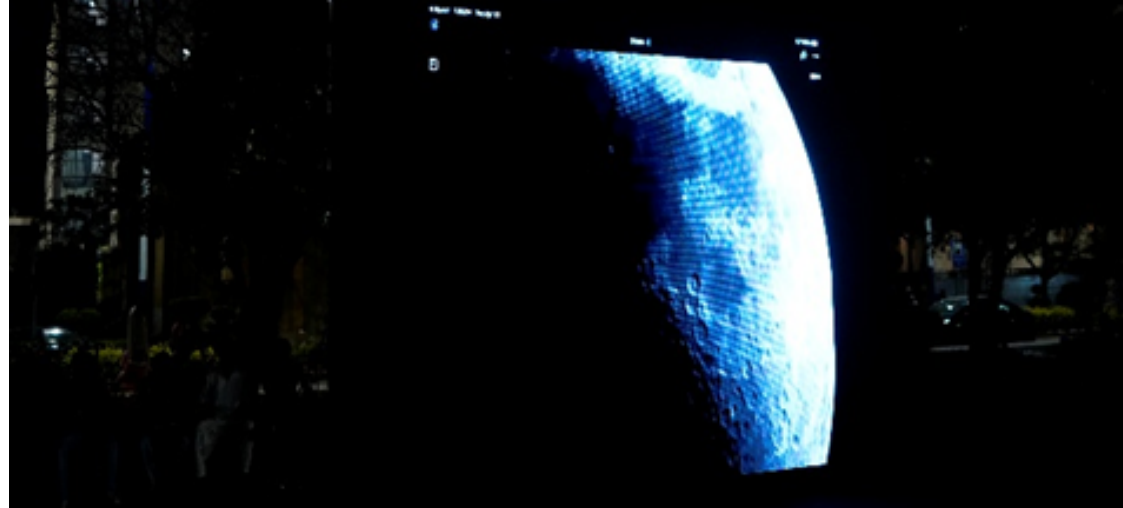


The evening transitioned into an exciting Star Gazing Night, where participants experienced live astronomical observations through professional telescopes.

Attendees were captivated by breathtaking views of the Moon, Venus, and Jupiter, making it a memorable and educational experience for all.

The event witnessed enthusiastic participation from students, faculty, and guests, reflecting a shared passion for exploring the wonders of the universe.





# UMT REPRESENTATIVES JOIN LCCI COMMITTEES TO STRENGTHEN INDUSTRY-ACADEMIA COLLABORATION

The University of Management and Technology (UMT) has been represented in multiple committees constituted by the Lahore Chamber of Commerce & Industry (LCCI) to promote stronger linkages between academia and industry. Dr. Muhammad Ali, Associate Professor, Department of Life Sciences, School of Science, participated as members and special invitees in the Standing Committee on “Industry & Universities Relations” and the Standing Committee on “Industry-Academia Linkage” during meetings held at LCCI in March and April 2026.

These committees bring together representatives from leading universities, industries, research organizations, and professional bodies to discuss strategies for enhancing research collaboration, innovation, experiential learning, and economic development through academia-industry partnerships. UMT’s inclusion in these important forums reflects the university’s growing role in fostering meaningful engagement with industry stakeholders and contributing to policy dialogue, collaborative initiatives, and knowledge-driven development in Pakistan.



# INTELLECTUAL PROPERTY FILED TO INTELLECTUAL PROPERTY ORGANISATION (IPO) PAKISTAN

Firefighting Applications (Patent), Dr. Irsa Talib,  
Department of Mechanical Engineering, School of  
Engineering (SEN), UMT, Lahore

1. Turbine (Industrial Design), Dr. Irsa Talib,  
Department of Mechanical Engineering, School of  
Engineering (SEN), UMT, Lahore

2. Bike Silencer (Industrial Design), Dr. Irsa Talib,  
Department of Mechanical Engineering, School of  
Engineering (SEN), UMT, Lahore

3. Wind Tunnel (Industrial Design), Dr. Irsa Talib,  
Department of Mechanical Engineering, School of  
Engineering (SEN), UMT, Lahore

4. Fire Extinguishing Mechanism Detachably  
Mounted on a Hex copter Drone for Aerial



# PATENT GRANTED FROM INTELLECTUAL PROPERTY ORGANISATION (IPO) PAKISTAN

## Patent Title:

Edible Coating and Process of its making for extending Postharvest Shelf Life and Quality of Guava Fruits, Dr. Hammad Majeed, Department of Chemistry, School of Science, UMT

## Description:

The invention relates to an edible coating for enhancing the postharvest quality and shelf life of guava fruits (*Psidium guajava* L). The edible coating is composed of *Mangifera indica* L. leaf extract. *Citrus limon* L. leaf extract, and Gum Arabic. The coating includes 1250 mg/L of *Mangifera indica* L. and *Citrus*

*limon* L. leaf extracts and 10% Gum Arabic, which work synergistically to extend the shelf life of guava fruits during storage by maintaining quality attributes such as firmness, color, and antioxidant activity.

The invention also includes a process for preparing the edible coating, which involves extracting bioactive compounds from *Mangifera indica* L and *Citrus limon* L. leaves using 70% ethanol, mixing the extracts with Gum Arabic, and applying the coating by dipping the guava fruits in the solution for 20 minutes. The coated fruits are air-dried and stored at a controlled temperature of  $10 \pm 1^{\circ}\text{C}$  and relative humidity of 40-45% for up to 35 days. The coating significantly reduces weight loss, delays decay, and preserves the nutritional content of the fruits.

This invention provides an effective solution for extending the postharvest shelf life of guava fruits, ensuring prolonged freshness and improved marketability.



# UMT FACULTY PUBLISH HIGH-IMPACT RESEARCH IN LEADING INTERNATIONAL JOURNALS

## Research Article Title:

*Eco-Engineered Silver Nanoparticles for Multifunctional Cotton Fabric with Integrated UV Protection, Antimicrobial Efficacy and Thermal Regulation (Impact Factor: 13.2)*

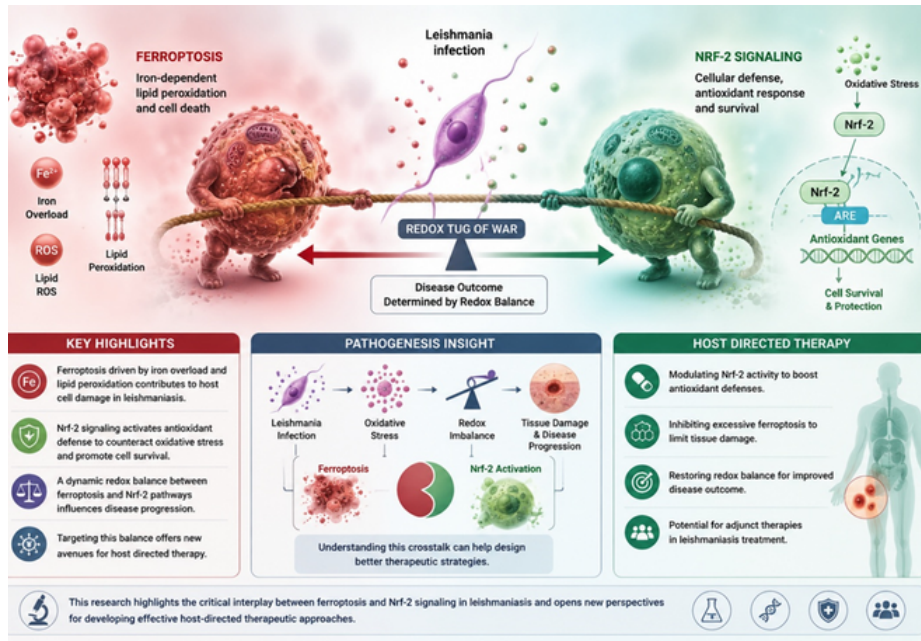


This research was conducted by Amjad, M., Zeng, Z., Li, H., Mohyuddin, A., Ulfat, W., Iqbal, M. A., and Ma, X., including Muhammad Amjad, Dr. Ayesha Mohyuddin, Wajad Ulfat, and Muhammad Asif Iqbal from the Department of Chemistry, School of Sciences (SSC), UMT.

The study presents the development of eco-engineered silver nanoparticles for multifunctional cotton fabrics with enhanced performance features. The research demonstrates how nanotechnology can be utilized to provide UV protection, antimicrobial properties, and thermal regulation in textile materials, contributing to the advancement of smart and sustainable fabrics. The study highlights innovative approaches toward environmentally friendly textile engineering with potential applications in healthcare, protective clothing, and advanced wearable technologies.

## Research Article Title:

*Ferroptosis and Nrf-2 Signaling: A Redox Tug of War in Leishmaniasis Pathogenesis and Host Directed Therapy (Impact Factor: 11.9)*



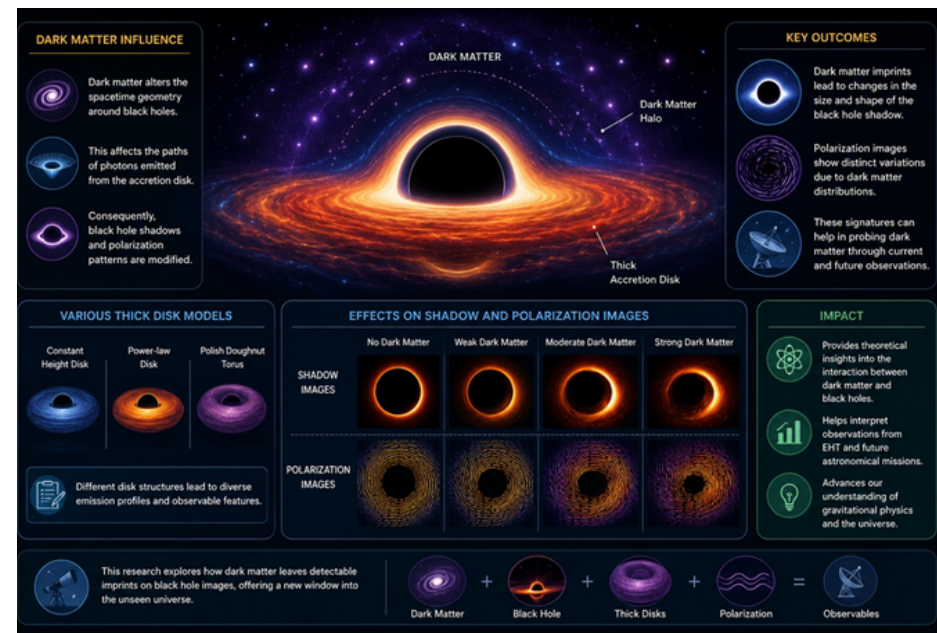
This research was conducted by Dar, M. J., Huston, R. H., Purayil, N., Cronin, A. I., Gondal, S. A., Nakhasi, H. L., and Satoskar, A. R., including Sonia Ashfaq Gondal from the School of Pharmacy, UMT.

The study investigates the complex interaction between ferroptosis and Nrf-2 signaling pathways in the progression of leishmaniasis, a neglected parasitic disease. The research highlights how oxidative stress and cellular defense mechanisms influence disease pathogenesis and explores potential host-directed therapeutic strategies for improved treatment

outcomes. The findings contribute to advancing biomedical research in infectious diseases and redox biology, supporting the development of innovative therapeutic interventions.

## Research Article Title:

*Imprints of Dark Matter on the Shadow and Polarization Images of a Black Hole Illuminated by Various Thick Disks (Impact Factor: 10.5)*



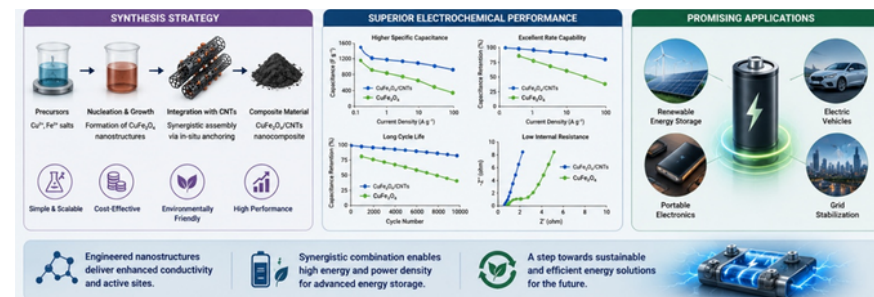
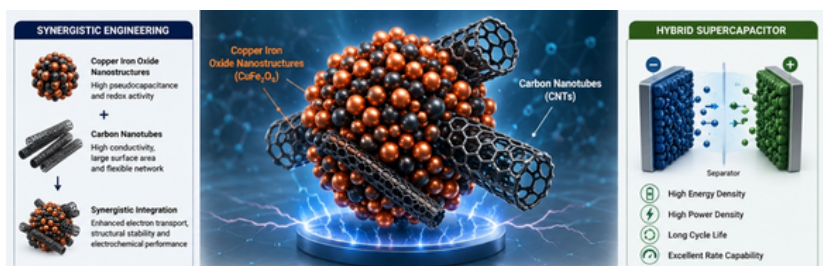
This research was conducted by Aslam, M. I., Saleem, R., Yang, C. Y., and Zeng, X. X., including Muhammad

Israr Aslam from the Department of Mathematics, School of Sciences (SSC), UMT.

The study investigates the influence of dark matter on the shadow and polarization properties of black holes surrounded by various thick accretion disks. Using advanced astrophysical modeling and theoretical analysis, the research explores how dark matter distributions can alter observable black hole images and polarization patterns. The findings contribute to a deeper understanding of black hole physics, gravitational phenomena, and the role of dark matter in the universe, supporting ongoing advancements in high-energy astrophysics and cosmology.

## Research Article Title:

*Synergistically Engineered Copper Iron Oxide Nanostructures with Carbon Nanotubes for High-Performance Hybrid Supercapacitors (Impact Factor: 9.8)*



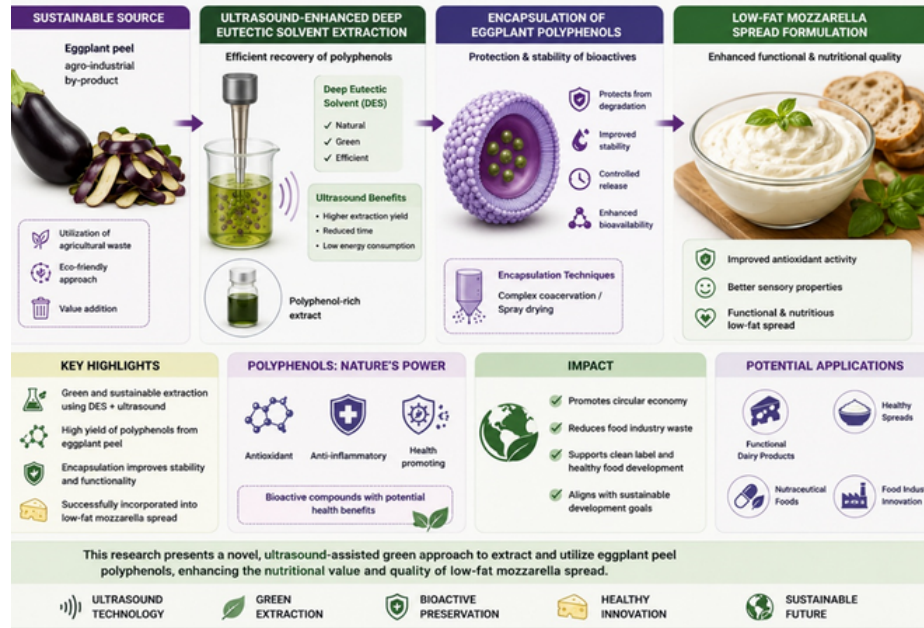
This research was conducted by Adnan, M., Khalid, S., Usman, M., Souayah, B., Sadaf, S., and Alam, M. W., including Sidra Khalid from the Department of Physics, School of Sciences (SSC), UMT.

The study focuses on the development of advanced copper iron oxide nanostructures integrated with carbon nanotubes for high-performance hybrid supercapacitors. The research demonstrates how engineered nanomaterials can significantly enhance energy storage capacity, electrical conductivity, and electrochemical stability, contributing to the advancement of next-generation energy storage technologies. The findings hold strong potential for applications in sustainable energy systems, portable electronics, and high-efficiency power devices.

## Research Article Title:

*Ultrasound-Enhanced Deep Eutectic Solvent Extraction and Encapsulation of Eggplant Peel Polyphenols for*

## Low-Fat Mozzarella Spread Formulation (Impact Factor: 9.7)



This research was conducted by Akhtar, A., Mushtaq, H. H., Nasim, I., and Khalid, N., including Hafiza Hamna Mushtaq, Aqsa Akhtar, Iqra Nasim, and Dr. Nauman Khalid from the School of Food and Agricultural Sciences (SFAS), UMT.

The study explores an innovative food processing approach using ultrasound-assisted deep eutectic solvent extraction to recover valuable polyphenols from eggplant peels. The extracted bioactive

compounds were further encapsulated and incorporated into a low-fat mozzarella spread formulation to enhance nutritional and functional properties. The research highlights sustainable food processing techniques, value addition from agricultural waste, and the development of healthier functional food products with improved antioxidant potential.

## Research Article Title:

*Urbanization, Energy Dynamics, and Circular Practices: A Pathway to Climate-Neutral Cities Through Nature-Based Solutions (Impact Factor: 9.4)*



This research was conducted by Ahmad, N., Cucchiella, F., Iqbal, M., and Rotilio, M., including Mubasher Iqbal from the Department of Economics and Quantitative Methods, Hasan Murad School of Management (HSM), UMT.

The study explores the relationship between urbanization, energy consumption, and circular economy practices in achieving climate-neutral cities. The research emphasizes the role of nature-based solutions and sustainable urban planning strategies in reducing environmental impact, improving energy efficiency, and promoting resilient urban ecosystems. The findings contribute to global discussions on sustainable development and provide valuable insights for policymakers, urban planners, and environmental researchers working toward greener and smarter cities.

### Research Article Title:

*The Role of Leadership in Driving Sustainable Development Goals Integration in Corporate Social Responsibility: A Systematic Literature Review (Impact Factor = 9.1)*



Mr. Naveed Ul Haq, Research Fellow at the Office of Research Innovation and Commercialization (ORIC), has successfully published his research in the prestigious journal: Corporate Social Responsibility and Environmental Management. This is a premier Q1 Journal (Social Sciences Citation Index) with an impressive Impact Factor of 9.1, recognized as a leading global authority in its field.

The article examines how effective leadership practices can facilitate the integration of the **Sustainable Development Goals (SDGs)** into Corporate Social Responsibility (CSR) strategies

within organizations. Through a systematic literature review, the study highlights the critical role of visionary leadership in promoting sustainability, ethical governance, and long-term organizational impact.

### Key Highlights of 2 Months:





# UMT

Main Campus, UMT Road, C-II Johar Town, Lahore, Pakistan.