



GCUF
GC UNIVERSITY
FAISALABAD

NEWSLETTER

INSPIRE | INNOVATE | IMPACT

ILLUMINATE MINDS.
TRANSFORMING FUTURES.



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MORE LIGHT
— EST. 2003 —



ORIC
— GCUF —
Office of Research Innovation
& Commercialization



Government College University Faisalabad

Highlights

- **Innovation Workshop:**
ORIC organized a workshop to strengthen Pakistan's innovation ecosystem.
- **Global Recognition:**
GCUF celebrated international acclaim for women in Robotics & AI.
- **Botanical Garden:**
Plans underway to establish Pakistan's first International Botanical Garden.
- **China Partnership:**
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- **Technology Transfer:**
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- **Eco-Friendly Adhesives:**
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- **Research Award:**
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- **Landmark Publication:**
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- **Global Ranking:**
University achieves a historic rise in international rankings.
- **Academic Footprint:**
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- **Textile Innovation:**
Hosting of International Conference on Sustainable Textile Innovation.
- **Faculty Honor:**
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- **Student Innovation:**
Launch of Pakistan's first specialized database for Hypertrophic Cardiomyopathy (HCMdrugs).
- **SPREL Lab:**
Establishment of SPREL Lab to advance research and innovation.



Vice Chancellor's Message

It is a matter of great satisfaction to witness the launch of this trimesterly newsletter by the Office of Research, Innovation, and Commercialization (ORIC), Government College University Faisalabad. This initiative reflects our collective commitment to strengthening the culture of research, innovation, and knowledge dissemination within the university. In recent years, GCUF has made encouraging progress in national and international rankings. The university has been placed in the 761–770 band of the QS World University Rankings 2025 and ranked 317th in the QS Asia University Rankings 2025, alongside maintaining a strong position in Times Higher Education rankings. These achievements are not merely numbers; they are a reflection of the dedication of our faculty, the quality of our research output, and the growing impact of our scholarly contributions at the global level. It is important to recognize that such rankings are closely linked with research productivity, citation impact, and international visibility. The consistent efforts of our researchers, along with the increasing focus on innovation and industry engagement, are key factors driving this upward trajectory.

This newsletter will serve as an important platform to document and share these efforts—highlighting research achievements, collaborative initiatives, and progress in innovation and commercialization. I am confident that it will further strengthen our academic environment, encourage meaningful partnerships, and inspire our faculty and students to contribute towards knowledge that benefits society and the economy.

I commend the ORIC team for this valuable initiative and extend my best wishes for its continued success.

Prof. Dr. Rauf-I-Azam

Vice Chancellor

Government College University Faisalabad.



Director's Message

I am pleased to share the first issue of the trimesterly newsletter of the Office of Research, Innovation, and Commercialization (ORIC), Government College University Faisalabad. This newsletter is a small step towards keeping our academic community informed about ongoing research, innovation, and commercialization activities at the university. GCUF has a strong foundation in research, with our faculty actively contributing to knowledge generation across disciplines. At the same time, there is a growing need to connect research with practical applications, industry needs, and societal challenges. Through this newsletter, we aim to present a snapshot of such efforts, including research highlights, collaborative initiatives, and developments in innovation and commercialization. We also hope that this platform will encourage greater interaction among faculty, students, and external partners, and help build a more connected and supportive research environment. I appreciate the efforts of the ORIC team in bringing out this first issue and encourage colleagues to share their work and achievements in future editions.

Prof. Dr. Tanvir Shahzad

Director, ORIC

Government College University Faisalabad.





ORIC Hosts Workshop on Strengthening Innovation Ecosystem

The Office of Research, Innovation and Commercialization (ORIC) organized a two-day training workshop titled “Strengthening the University Innovation Ecosystem.” Prof. Dr. Tanvir Shahzad, Director ORIC, opened the proceedings by highlighting the importance of institutional mechanisms for research commercialization, consultancy, and innovation. Vice Chancellor Prof. Dr. Rauf-i-Azam urged faculty to move beyond traditional academics toward impactful innovation, policy briefs, and consultancy to contribute towards Pakistan’s national and international development. The workshop focused on Policy Brief Development and Academic Consultancy Agreements, equipping faculty with practical tools to translate research into evidence-based research through industrial collaboration. Dr. Hammad Majeed guided participants on crafting actionable policy briefs, while Dr. Muhammad Junaid shared insights on consultancy opportunities and agreements with government and industry. Renowned resource persons including Mr. Ghulam Mujtaba (IPO), Dr. M. Ishaq (UAAR), Dr. Khurram Zia (UAF), and Dr. M. Sarfraz (Terraspark Limited) enriched the sessions with their expertise. This initiative reflects ORIC’s commitment to building faculty capacity, fostering industry–academia linkages, and driving national impact through innovation and commercialization.







GCUF Shines in Global Recognition for Women in Robotics & AI

Government College University Faisalabad (GCUF) proudly celebrates its outstanding role in the Partnership in Equality (PIE): UK–Pakistan Women in Robotics & AI Project, which has been honored with the British Council’s inaugural Going Global Partnerships Award 2025. Selected as one of only five winners worldwide from 105 nominations, this achievement reflects GCUF’s strong commitment to gender equality, innovation, and excellence in STEM education. Led by Cardiff Metropolitan University’s Eureka Robotics Centre (UK) and NUST (Pakistan), the PIE Project united nine Pakistani universities to empower women in Robotics & AI.

Key Achievements:

- Training of 263 female students and 65 academics
- Establishment of a national mentoring network
- Installation of 11 humanoid robots in universities
- International placements for underrepresented students

The award was presented in London (Oct 28, 2025) and later celebrated at NUST Auditorium (Jan 20, 2026), advancing UN SDG 5: Gender Equality. Vice Chancellor Prof. Dr. Rauf-i-Azam expressed immense pride in this recognition and commended Prof. Dr. Sofia Anwar, whose leadership as GCUF’s PIE Project Focal Person was instrumental to its success. “This award



reflects GCUF’s vision of empowering women in STEM for a brighter, more inclusive Pakistan.” **Prof. Dr. Rauf-i-Azam**, Vice Chancellor, GCUF



GCUF to Establish Pakistan's First International Botanical Garden

Cultivating Knowledge, Conserving Nature

Government College University Faisalabad (GCUF) proudly advances toward a historic milestone with the announcement of Pakistan's First International Botanical Garden, to be established in collaboration with the prestigious Chinese Academy of Sciences (CAS). Vice Chancellor **Prof. Dr. Rauf-I-Azam** unveiled this visionary initiative, which will serve as a landmark in biodiversity conservation, environmental sustainability, and advanced research partnerships. The project marks the new era of Pakistan–China scientific collaboration, by positioning GCUF at the forefront of global academic innovation. The upcoming International Botanical Garden will become a hub for green development, scientific tourism, and ecological restoration, setting new standards in higher education and environmental innovation. This initiative reflects GCUF's unwavering commitment to advancing knowledge, fostering international partnerships, and promoting sustainable development for future generations.





GCUF Strengthens Partnerships with China through Establishment of Genomics Data Science Lab with the theme “Advancing Agriculture Through Genomics”

Government College University Faisalabad (GCUF) proudly announces a major step forward in international collaboration with the establishment of a Genomics Data Science Lab at GCUF, developed in partnership with leading Chinese agricultural and biotechnology enterprises. During his official visit to China, **Prof. Dr. Rauf-i-Azam**, Vice Chancellor GCUF, engaged with senior leadership of renowned companies including Yafei Seed, Chuwei, and **Zokeyo Biotechnology**. These organizations expressed strong interest in partnering with GCUF to enhance industrial linkages, strengthen research capacity, and promote innovation-driven development. A landmark MoU was signed with Zokeyo Biotechnology, a high-tech company specializing in advanced molecular biology. Under this agreement, Zokeyo will provide specialized training for GCUF faculty, researchers, and technical staff, along with dedicated R&D support. In addition to above commitment, Yafei Seed and Chuwei, through HZAU Wuhan also agreed to collaborate with GCUF in establishing the state of the art Genomics Data Science Lab. This state-of-the-art facility will support indigenous hybrid seed development, crop genomics, bioinformatics training, and modern agricultural innovation in Pakistan, positioning GCUF as a leader in agricultural biotechnology. GCUF acknowledges the significant role of **Dr. Muhammad Tahir ul Qamar**, Deputy Director International Linkages, whose efforts were instrumental in initiating and facilitating these strategic partnerships.





GCUF Signs First-Ever Technology Transfer Agreement for Algae-Based Carbon Capture

“From Research to Real-World Impact”

Government College University Faisalabad (GCUF) has signed its first-ever Technology Transfer Agreement with Terra Spark Pvt Ltd for an algae-based carbon capture technology, marking a landmark achievement in academia–industry collaboration in Pakistan. Developed by the BioEco Tech Research Cluster under **Prof. Dr. Muhammad Amir Mehmood** at GCUF’s Department of Bioinformatics & Biotechnology, the technology features an indigenous bioreactor system utilizing local microalgal strains and cost-effective nutrient media for efficient carbon capture and sustainable biomass production. The agreement was facilitated by **Prof. Dr. Tanvir Shahzad**, Director ORIC-GCUF, who emphasized that this milestone reflects ORIC’s focused efforts to promote technology development, protect intellectual property, and convert research outputs into commercially viable solutions. Vice Chancellor **Prof. Dr. Rauf-I-Azam** commended the achievement, stating that the agreement reflects GCUF’s vision to advance applied research, strengthen industry linkages, and deliver indigenous solutions for climate resilience. **Dr. Sarfraz Ahmad**, CEO Terra Spark Pvt Ltd, highlighted the commercial and environmental potential of the technology. This initiative directly supports the United Nations Sustainable Development Goals (SDGs), including Climate Action (SDG 13), Industry, Innovation and Infrastructure (SDG 9), and Responsible Consumption and Production (SDG 12), positioning GCUF as a leader in climate-responsive innovation and sustainable development in Pakistan.





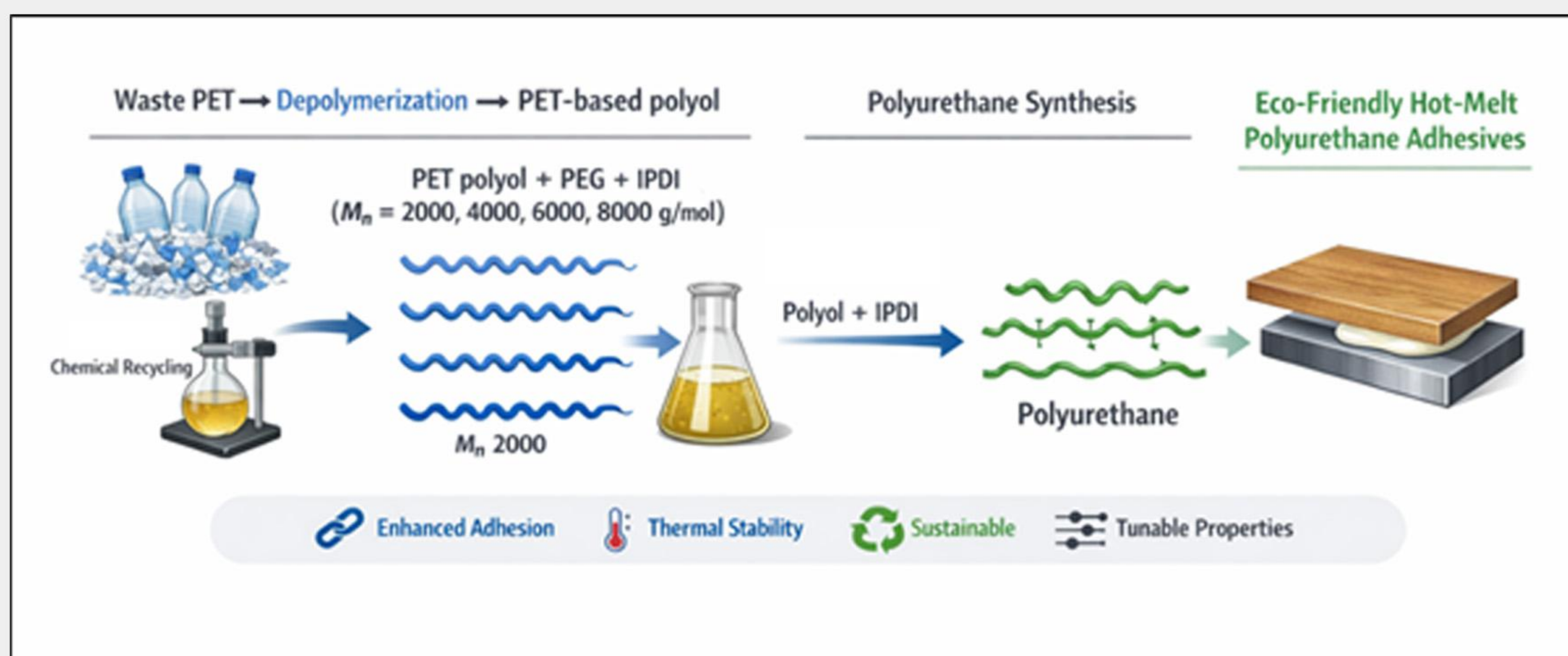
GCUF Researcher Develops Eco-Friendly Adhesives from Plastic Waste

Dr. Shazia Naheed, Associate Professor of Applied Chemistry, has achieved remarkable progress under the HEC-funded project “Synthesis and Characterization of Ecofriendly/Sustainable Reactive Hot Melt Polyurethane Adhesives (RHMPA) from Waste Material(s)” (HEC-GCF Project No. 20-GCF-842/RGM/R&D/HEC/2021). The project addresses the global challenge of plastic waste by converting discarded PET into high-value, eco-friendly hot melt polyurethane adhesives (HMPUAs). Through chemical recycling (glycolysis), PET waste is transformed into high-quality polyols, which replace fossil-based raw materials in adhesive manufacturing. The resulting adhesives demonstrate excellent thermal stability, mechanical strength, bond durability, and melt-flow behavior, making them suitable for diverse industrial applications including packaging, footwear, textiles, woodworking, automotive, and construction. This innovative approach not only reduces environmental pollution and supports a circular economy, but also lowers carbon footprint and greenhouse gas emissions. By upcycling PET into advanced polymeric materials, the project exemplifies how waste can be transformed into products of higher economic and functional value.

Key Achievements:

- Multiple formulations of high-performance adhesives developed from recycled PET polyols
- Two research papers published in reputed journals
- Two patents filed covering adhesive formulations and recycling processes

These outcomes highlight the project’s scientific credibility, industrial relevance, and commercialization potential, offering a sustainable alternative to conventional adhesives while tackling the critical issue of plastic waste management. **Dr. Shazia’s** work demonstrates how scientific innovation can turn environmental challenges into economic opportunities, positioning **GCUF** as a leader in green chemistry and sustainable industrial technologies.





Research Project Awarded to Prof. Dr. Sadia Javed

Government College University Faisalabad proudly announces that Prof. Dr. Sadia Javed, Tenured Professor, Department of Biochemistry, has been awarded a prestigious research project entitled “In Vitro and In Vivo Evaluation of Immunomodulatory Effect of Resveratrol Loaded Cyclodextrin Based Nanosponges” (No. PSF/Res/P-GCU/Med-568), funded by the Pakistan Science Foundation (PSF) with a grant of **Rs. 4,250,000**.

Project Brief and Novelty

This cutting-edge project focuses on developing cyclodextrin-based nanosponges to enhance the stability and bioavailability of resveratrol, a natural bioactive compound known for its immunomodulatory potential. Through both in vitro and in vivo studies, the research will evaluate whether nanosponge delivery systems can significantly improve resveratrol’s therapeutic impact. The project introduces an innovative nanosponge drug delivery system to overcome resveratrol’s poor solubility and low bioavailability. By integrating nanotechnology with natural compounds, it aims to achieve controlled release and improved immune modulation—offering a novel therapeutic approach for immune-related and inflammatory disorders.

Expected Outcomes & Community Benefits:

- Development of an improved nano-formulation of resveratrol with enhanced immunomodulatory activity
- Potential applications in managing inflammatory and immune-related disorders
- Advancement of safer, natural-product-based treatments supporting affordable healthcare solutions

Socio-Economic Significance:

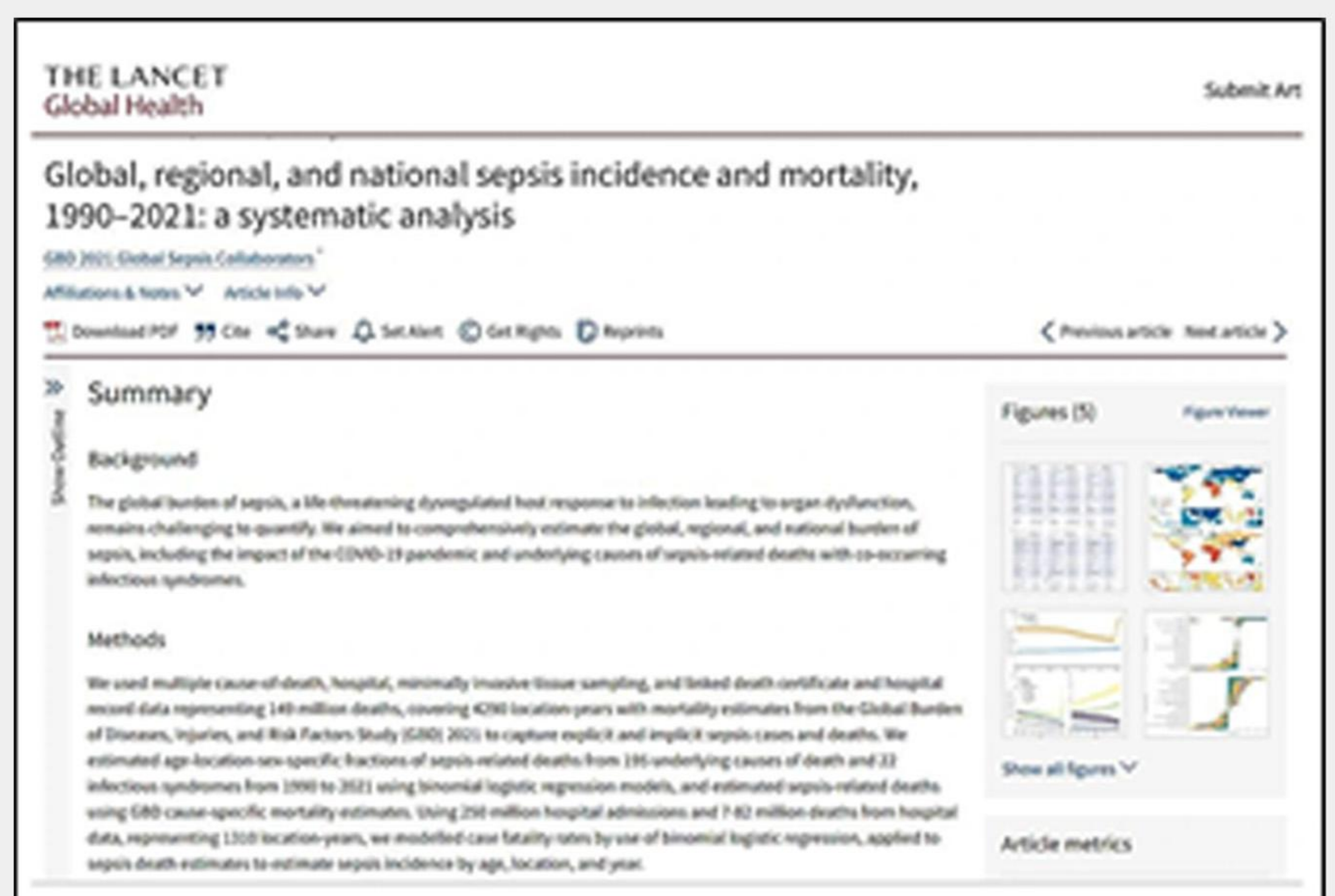
Resveratrol-loaded cyclodextrin nanosponges promise wide pharmaceutical and biomedical applications by improving stability, solubility, and bioavailability. Beyond healthcare, CDNS technology shows potential in bioremediation, biosensing, and cost-effective incorporation of bioactive compounds, making it a versatile and sustainable innovation.

This project reflects **GCUF’s** commitment to scientific advancement, community health, and global sustainability goals, positioning the University at the forefront of nanotechnology-driven biomedical research.



GCUF Faculty Publishes Landmark Study in “The Lancet Global Health”

Government College University Faisalabad (GCUF) proudly announces a remarkable academic milestone as **Dr. Muhammad Usman Qamar**, Assistant Professor at the Institute of Microbiology, has co-authored a high-impact research paper in *The Lancet Global Health* (Impact Factor: 38.9), one of the world’s most prestigious journals in the field of global health. The landmark study, titled “Global, regional, and national sepsis incidence and mortality, 1990–2021: a systematic analysis,” represents the most comprehensive global assessment of sepsis to date. Findings reveal that in 2021, sepsis accounted for 166 million cases and 21 million deaths, contributing to nearly one in every three deaths worldwide. The study underscores the disproportionate burden of sepsis in low- and middle-income countries, highlighting the urgent need for stronger healthcare systems and preventive strategies. Dr. Qamar contributed as one of over 50 global experts in this collaborative research effort, supported by the Bill & Melinda Gates Foundation, the Wellcome Trust, and the **UK Department** of Health and Social Care through UK aid funding managed by the Fleming Fund. This outstanding achievement not only brings great pride to **GCUF** but also underscores the University’s growing global footprint in cutting-edge research. It stands as a testament to GCUF’s unwavering commitment to advancing scientific excellence and addressing pressing global health challenges.





GCUF Achieves Historic Rise in Global Rankings

“From Faisalabad to the World”

Government College University Faisalabad (GCUF) has celebrated a historic rise in international academic rankings, reaffirming its excellence and global standing. A special ceremony was hosted by Prof. Dr. Rauf-i-Azam, Vice Chancellor, to honor GCUF’s inclusion in the QS World University Rankings 2025 and its remarkable performance in the Times Higher Education World University Rankings 2026.

Global Achievement:

GCUF is now ranked among the top 601–800 universities worldwide, marking a milestone that reflects the University’s dedication to international academic excellence.

National Achievement:

- **2nd** Position in Pakistan
- **1st** Position in Punjab

Adding to this success, 54 esteemed **GCUF** researchers have been ranked among the World’s Top 2% Scientists, according to the global ranking issued by **Stanford University** in collaboration with Elsevier. This represents 11.6% of GCUF’s PhD faculty and nearly 8% of its total teaching strength, underscoring the University’s strong academic and research profile. Vice Chancellor **Prof. Dr. Rauf-I-Azam** extended heartfelt congratulations to all faculty members, emphasizing that this achievement is the result of visionary leadership, strategic direction, and a commitment to innovation. Under his guidance, GCUF has evolved into a hub of excellence known for its dynamic faculty, cutting-edge research, inclusive learning environment, and **global collaborations**. This historic success positions GCUF as a national leader and global contender in higher education, reflecting its unwavering commitment to advancing knowledge, research, and innovation.





Government College University Faisalabad



Times Higher Education

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World University Rankings 2026

CONGRATULATIONS



PROF. DR. RAUF-I-AZAM
VICE CHANCELLOR, GCUF

Ranked world wide
601-800

2nd Position in
PAKISTAN

1st Position in
PUNJAB

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GCUF Strengthens Global Academic Footprint at 8th International Conference on Materials Science & Nanotechnology

Government College University Faisalabad (GCUF) proudly concluded its participation in the 8th International Conference on Materials Science and Nanotechnology: Bridging Sustainable Agriculture and Renewable Energy Technologies – 2025, hosted at Istanbul Technical University, **Türkiye**. Over the course of three days, this prestigious global forum — jointly organized by GCUF, Istanbul Technical University, and **London South Bank University** — brought together eminent researchers, scientists, and academicians from **Pakistan, Türkiye, UK, Italy, Serbia, Lithuania, Sudan, Netherlands, and Indonesia**. The conference provided a dynamic platform to discuss innovative solutions in nanotechnology, sustainable agriculture, and renewable energy technologies, reflecting the shared commitment of international academia to address pressing global challenges. In addition to its active participation, GCUF took another significant step towards internationalization by signing MoUs with leading international institutions and organizations in Turkey, thereby strengthening its global academic partnerships and research collaborations. Speaking at the closing ceremony, **Prof. Dr. Rauf-I-Azam**, Vice Chancellor GCUF, emphasized that international collaboration is the cornerstone of addressing global challenges. He highlighted the importance of bridging knowledge through joint research, cultural exchange, and academic partnerships to create sustainable solutions for food security, climate change, and renewable energy. Prof. Dr. Rauf-I-Azam further noted that GCUF remains committed to fostering global linkages that empower young researchers and strengthen Pakistan's role in the international academic community. This achievement reflects **GCUF's** growing global presence and its dedication to advancing knowledge, innovation, and sustainable development through **international collaboration**.



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International Conference on Sustainable Textile Innovation

Government College University Faisalabad (GCUF) proudly marked its presence at a high-level International Conference on Sustainable Textile Innovation under theme “Study about the use of agro-industrial waste from the circular economy in the textile sector”, held in Arequipa, focusing on sustainable practices in the textile sector. The whole conference was focussed on innovative approaches to convert agro-industrial waste into usable textile materials. The study was presented by CITE Textil Camelidos with the support of APEC and the Ministry of Production of Peru, underscoring the importance of sustainability and circular economy models in modern textile production. Representing GCUF, **Dr. Shahid Adeel**, Associate Professor of Applied Chemistry and Manager ORIC (Innovation and Commercialization) , delivered an impactful lecture on “Innovations in Natural Dyes”. Being the Panelist and the key expert in the field of natural dyes, **Dr Adeel** shared expert insights on eco-friendly textile production and modern global trends. His contribution in the field of waste to value added green products emphasized the need for integrating sustainable practices into textiles to address global environmental challenges and promote greener industrial solutions. This participation in the **international conference** as Panelist and key expert reflects GCUF’s growing international footprint and its commitment to advancing sustainability, innovation, and global collaboration in the **textile sector**.



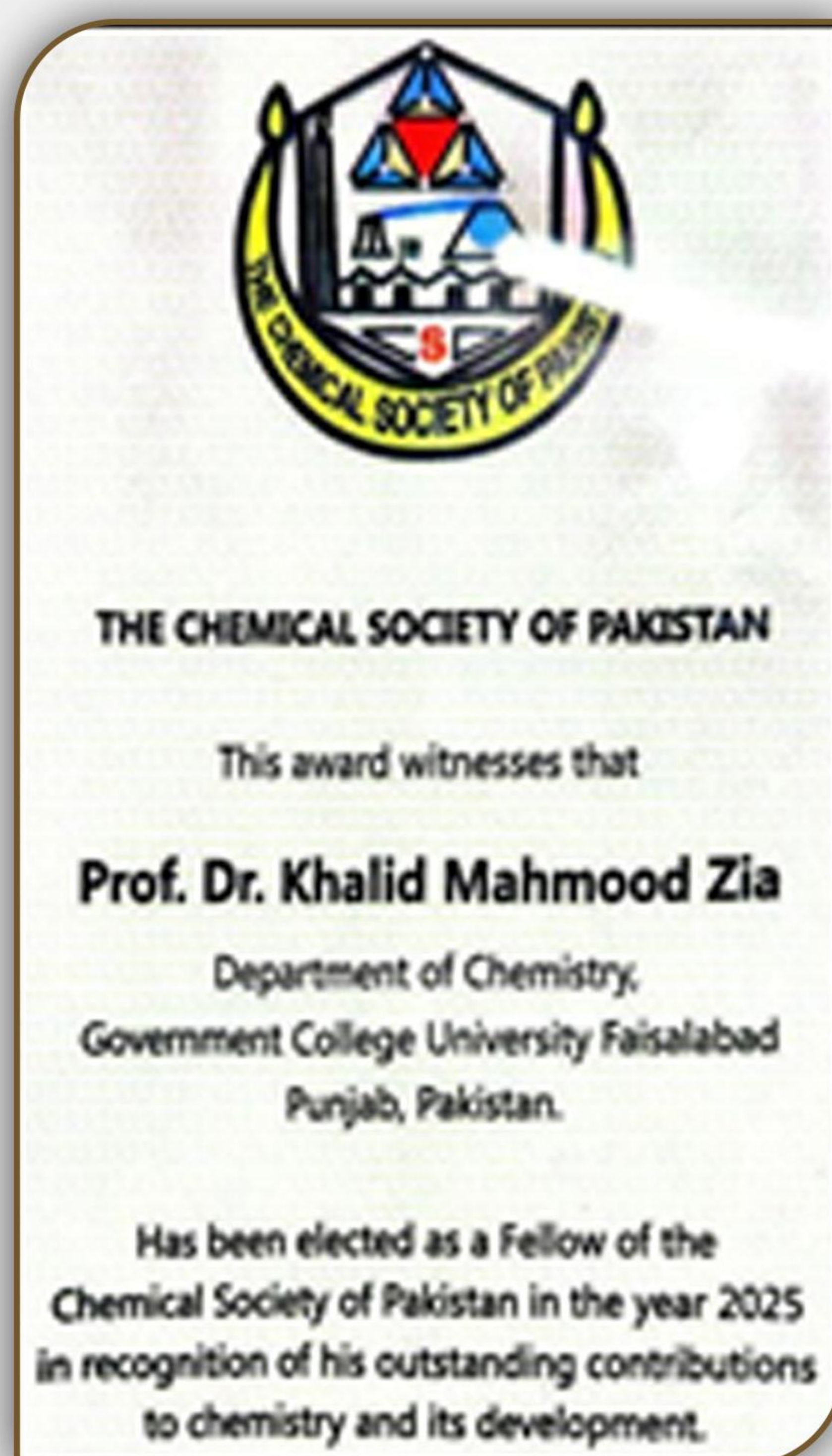


Prestigious Honor for GCUF Faculty

Government College University Faisalabad (GCUF) proudly celebrates a distinguished academic achievement by Prof. Dr. Khalid Mahmood Zia, Department of Chemistry, that he has been elected as a Fellow of The Chemical Society of Pakistan (FCSP) 2025. This prestigious honor was conferred during CHEMCON-2025 in recognition of his outstanding contributions in the field of Chemistry and its development for polymer science. Prof. Dr. Zia's election as



FCSP reflects his remarkable academic excellence, dedication to advancing scientific knowledge, and impactful role in strengthening the discipline of Chemistry at both national and international levels. This milestone not only highlights the individual success of **Prof. Dr. Khalid Mahmood Zia** but also underscores GCUF's growing reputation as the cluster of innovations





Undergraduate Innovation: HCMdrugs –Pakistan’s First Specialized Database for Hypertrophic Cardiomyopathy

Government College University Faisalabad proudly highlights the achievement of Muhammad Haris (BS Biotechnology), supervised by **Dr. Farrukh Azeem**, Associate Professor, Department of Bioinformatics and Biotechnology. Haris has developed HCMdrugs, a pioneering database dedicated to Hypertrophic Cardiomyopathy (HCM), a life-threatening genetic heart disorder. The database compiles therapeutic agents, molecular targets, and worldwide drugs under thousands of brand names, offering researchers, clinicians, and students accessible, disease-focused information.

Future Vision: AI-Powered Healthcare

Building on this foundation, Haris envisions an AI-driven healthcare system to:

- Integrate patient records for personalized treatment
- Predict novel drug–target interactions
- Support early diagnosis with bioinformatics tools
- Provide digital monitoring for long-term care

At **ORIC-GCUF**, we believe in nurturing innovators who transform ideas into impactful solutions. HCMdrugs exemplifies how student-led research, guided by institutional support, can shape the future of medicine. We congratulate **Muhammad Haris** on this remarkable achievement and reaffirm ORIC’s commitment to fostering cutting-edge research and commercialization potential at GCUF.





Advancing Photovoltaic Innovation through International Collaboration

Dr. Sofia Akbar Tahir, Assistant Professor of Physics, secured the prestigious **PAK-UK ICRG-2020** worth GBP 500,000, marking a transformative milestone in energy research. The project, funded by the British Council, was a dynamic collaboration between Government College University Faisalabad (GCUF), University of **Oxford** (UK), and UNSW **Australia**. The joint research titled “Bifacial Field Effect Passivation of Dielectric AlO_x/SiN_x Stacks in PERC Solar Cells for Improved Performance” successfully demonstrated how advanced passivation and antireflection techniques can significantly boost solar cell efficiency. Insights into wide bandgap lead-free perovskite solar cells for silicon-based tandem configurations further expanded the scientific scope.

Establishment of SPREL Lab at GCUF

One of the **crowning achievements** of the project funded by the British Council (**PAK-UK ICRG-2020**) was the establishment of the Semiconductor Physics and Renewable Energy Laboratory (SPREL) in the Department of Physics at **GCUF**. The lab is equipped with state-of-the-art systems including:

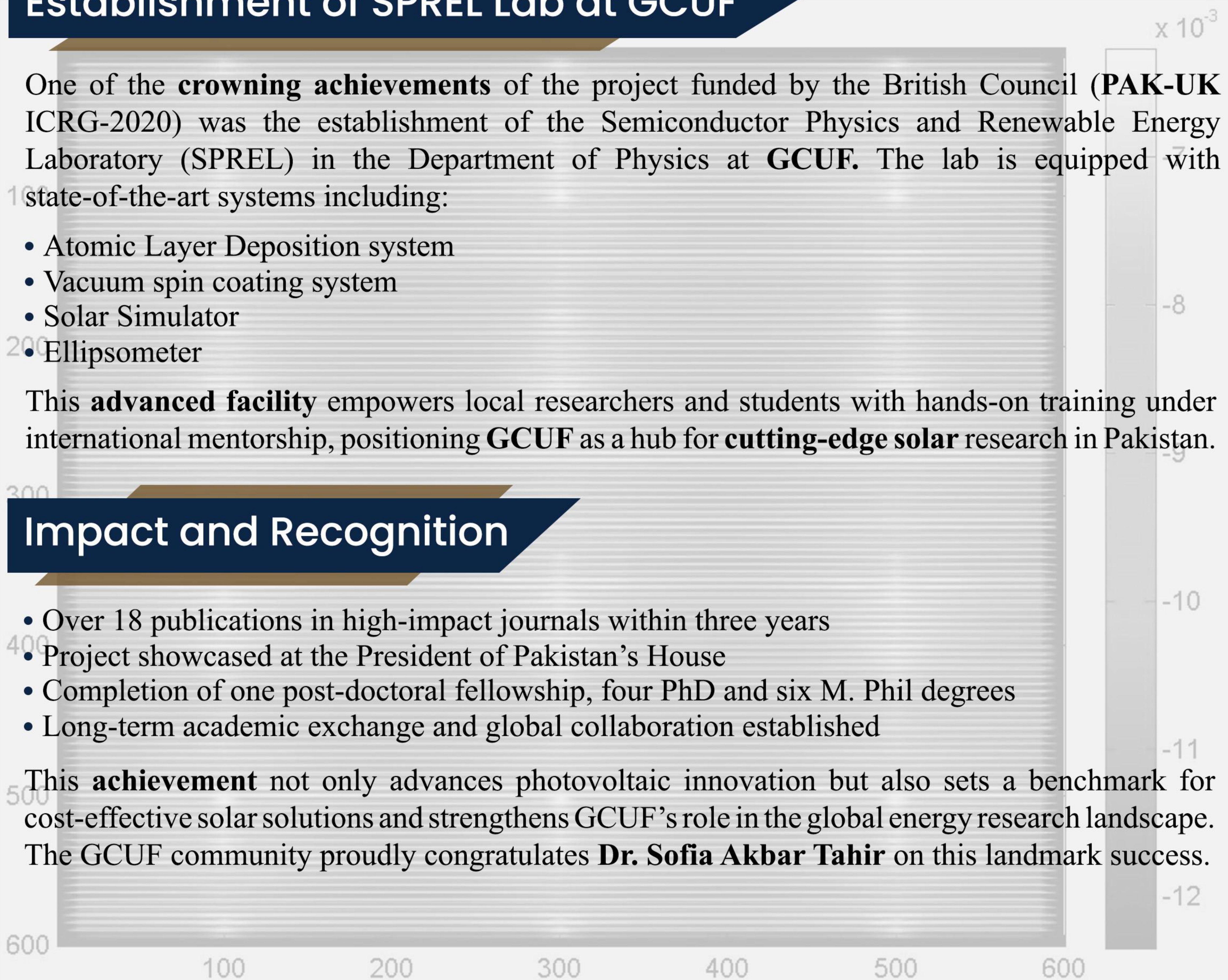
- Atomic Layer Deposition system
- Vacuum spin coating system
- Solar Simulator
- Ellipsometer

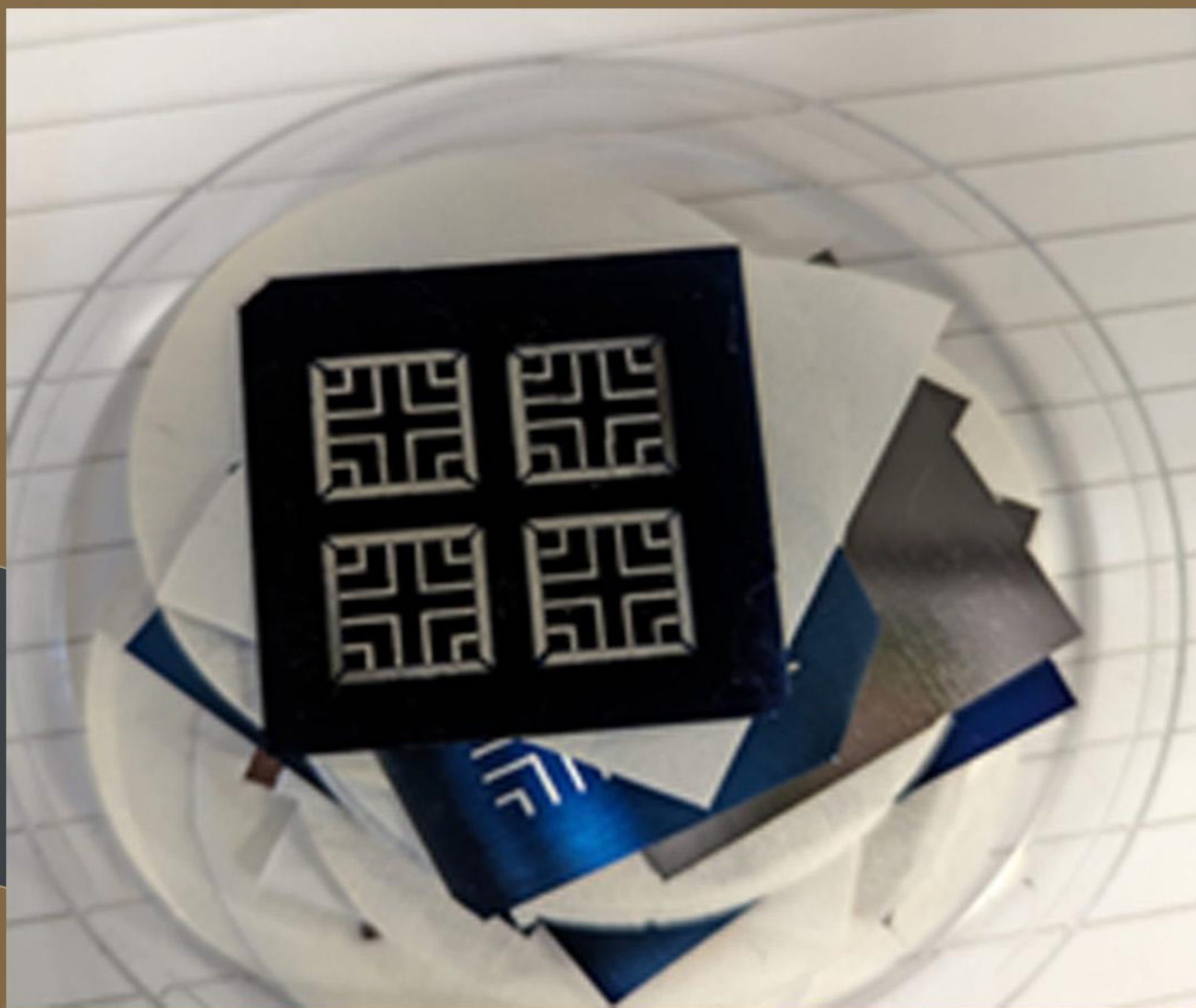
This **advanced facility** empowers local researchers and students with hands-on training under international mentorship, positioning **GCUF** as a hub for **cutting-edge solar** research in Pakistan.

Impact and Recognition

- Over 18 publications in high-impact journals within three years
- Project showcased at the President of Pakistan’s House
- Completion of one post-doctoral fellowship, four PhD and six M. Phil degrees
- Long-term academic exchange and global collaboration established

This **achievement** not only advances photovoltaic innovation but also sets a benchmark for cost-effective solar solutions and strengthens GCUF’s role in the global energy research landscape. The GCUF community proudly congratulates **Dr. Sofia Akbar Tahir** on this landmark success.







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