

Office of Research, Innovation &
Commercialization
Lahore College for Women University

Annual Report 2022

Turn the
Right
Side Up!
**SAVE THE
CLIMATE**





Office of Research, Innovation and Commercialization Lahore College for Women University, Lahore Annual Report 2022



Office: G30-G32 & G34, New Social Sciences Block, LCWU, Jail Road, Lahore

Ph: +92 42 99203801-9 Ext: 343, 245

Email: oric@lcwu.edu.pk

www.lcwu.edu.pk

<https://www.facebook.com/oriclcwu>



Message from the Vice Chancellor

Lahore College for Women University (LCWU) is a hub of academic excellence and has been contributing towards the socio-economic development of the country by providing quality education and promoting women empowerment. With the aim to transform LCWU into comprehensive research led University, LCWU has devoted significant attention to R&D and commercialization. The office of research, innovation and commercialization (ORIC) has been dynamically working at LCWU for providing strategic and operational support to the University's research activities/programs. ORIC helps the faculty and students to translate their innovative ideas and research into viable and profitable projects through commercialization and business plans to generate funds.



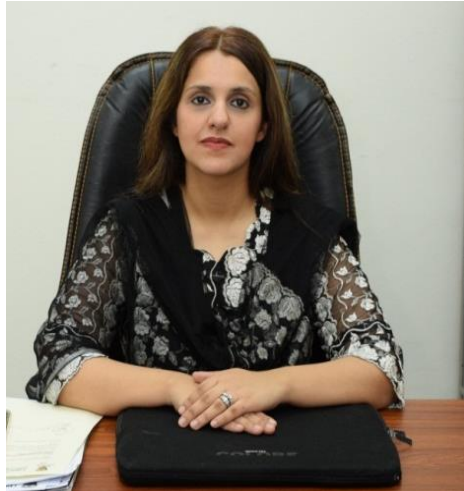
Research excellence is a basic feature of a university and keeping up with that, ORIC has been fulfilling its responsibility of facilitating quality research and commercialization initiatives for LCWU's departments, faculty and students. This year specifically the faculty has been awarded a record number of funded research projects both nationally and internationally. Also, a major focus of developing collaboration with industries is successfully underway. It has been creating opportunities for academia at all levels in order to directly and indirectly engage industry for exploring future innovative and business opportunities. One such major initiative this year is the establishment of our Khadija-Tul-Kubra business incubation center established under the HEC funded PKR 40 million project won by ORIC LCWU.

It gives me immense pleasure that ORIC LCWU has been ranked X category by HEC for the very first time in 2022, I would also like to take this opportunity to congratulate the ORIC team for this achievement.

Prof. Dr. Bushra Mirza (T.I.)
Vice Chancellor, LCWU



Message from the Director ORIC



Lahore College for Women University (LCWU) has shown tremendous improvement in its research potential since its inception as a women university in 2002 and now it's time to organize and translate its research into viable and profitable projects through commercialization and business plans to generate funds and resources for expansion of knowledge by LCWU.

The office of research, innovation and commercialization (ORIC) is to provide strategic and operational support to the University's research activities/programs. The university is now producing large numbers of papers and research work which is cited in many international journals, ORIC helps in patenting and commercialization of these innovative ideas and research.

ORIC in close collaboration with financial administration, helps in making business plans to introduce a culture of entrepreneurship in today's students for future businesswomen. It provides linkage and a platform where representatives from corporate sector, agricultural and industrial concerns, national and international donors will interact with LCWU researchers and evolve innovative strategies to bridge the gap in national economy existing in energy, industrial quality and production, better crop yields, healthcare, education and human resource development through viable research projects.

Dr. Engr. Aqsa Shabbir
Director ORIC &
Associate Professor Electrical Engineering,
LCWU



ORIC TEAM



Dr. Engr. Aqsa Shabbir
Director ORIC
Associate Professor, Department of Electrical Engineering
aqsa.shabbir@lcwu.edu.pk



Dr. Nudra Malik
Senior Manager
Research Operations
Assistant Professor, Psychology
nudra.malik@lcwu.edu.pk



Dr. M. Zia-ul-Haq
Senior Manager
Industry Linkages &
Technology Transfer
ahirzia@gmail.com



Dr. Mobina Ulfat
Senior Manager
Research Operations
Assistant Professor, Botany
mobina.ulfat@lcwu.edu.pk



Ms. Saima Gulzar
Research Officer



Mr. Rao Kamran Adil
Accountant



Ms. Anam Asghar
Research Assistant

Office Assistants: Mr. Fahad Nisar, Mr. Waqas Ahmad & Mr. Abdul Majid



Overview of ORIC

Office of Research, Innovation & Commercialization at Lahore College for Women University (ORIC-LCWU) is responsible for assuring that the quality of research reflects the highest international standards and advances the stature of the university among the world's best research institutions. ORIC- LCWU has been by HEC notified since March, 2015 after its inception since June 2012 with the intention to provide strategic and operational support to the university's research activities and programs. ORIC seeks to enhance the environment for all research activities by promoting entrepreneurship, technology transfer and commercialization of research activities that support the local and national economy. It aims to create awareness about intellectual property rights, encourage consultancies, make business plans, and create links with industries and corporate sector and national and international donors. It helps in formulation and submission of viable research projects to funding agencies and introduces a culture of entrepreneurship in students and faculty. It provides a platform where representatives from corporate sector, agricultural and industrial concerns, national and international donors can interact with LCWU researchers and evolve innovative strategies to develop economically viable research projects. ORIC - LCWU comprises of following sections:

Office of Research, Innovation and Commercialization

Research
Excellence Wing

Innovation &
Commercialization
Wing

Khadija-Tul-
Kubra Business
Incubation
Center (K-BIC)

Center for
Entrepreneurship and
Social Development
(CESD)

Capacity
Building Wing

Research Ethics
Institutional
Review Board
(IRB)

Social Outreach
Wing

Technology and
Innovation
Support Center
(TISC)

ORIC and BIC
Steering
Committee

University
Research Board

Intellectual
Property
Committee
(IPC)



Vision

Promotion and commercialization of innovative research at LCWU

Mission

To promote, expand and strengthen the process of knowledge transfer, research, innovation and commercialization and to bridge gap between academia and industry

Objectives

- a. Enhancing research quality, relevance, and competitiveness, and promote innovation and commercialization at HEIs.
- b. Supporting university-based research through strategic planning, streamlining of internal process, establishing and monitoring of standards, mobilizing resources for research, publicizing research achievements, identification of synergies, and development of relationships with key external partner.
- c. Providing support to the researchers to access relevant research data about their district
- d. Strengthening institutional collaboration between university researchers and potential users of research in government, industry, and communities.

Ranking

ORIC LCWU ranked as X-category in HEC ranking 2021-2022	
Number of HEC recognized universities in Pakistan	230+
ORIC LCWU ranking among Women Universities of Pakistan	1st
ORIC LCWU overall ranking in Punjab	9th
ORIC LCWU ranking among General Universities of Pakistan	11th



لاہور کالج فار ویمن یونیورسٹی آف آفس

ریسرچ کو ایکس کیٹیگری سے نوازا گیا

(ایجوکیشن رپورٹر) ہائر ایجوکیشن کمیشن کی جانب سے سال 2021-2022 کے لیے جاری رہننگ میں لاہور کالج فار ویمن یونیورسٹی کے آفس آف ریسرچ، انوویشن اینڈ انٹرنیشن کو ایکس کیٹیگری سے نوازا گیا۔



ہائر ایجوکیشن کمیشن کی رہننگ میں لاہور کالج فار ویمن یونیورسٹی کا پہلا نمبر
یونیورسٹی کے آفس آف ریسرچ، انوویشن اینڈ کمرشلائزیشن کو ایکس کیٹیگری سے نوازا گیا
 لاہور (جملہ نگار خصوصی) ہائر ایجوکیشن کمیشن آف پاکستان کی جانب سے سال 2021-2022 کے لیے جاری کردہ رہننگ میں لاہور کالج فار ویمن یونیورسٹی کے آفس آف ریسرچ، انوویشن اینڈ کمرشلائزیشن کو ایکس کیٹیگری سے نوازا گیا۔ لاہور کالج برائے خواتین یونیورسٹی اور پاکستان کی تمام خواتین یونیورسٹیوں میں پہلا اور پاکستان میں مجموعی طور پر 230 یونیورسٹیوں میں 23 ویں نمبر پر رکھا گیا اورک ایل سی ڈیو جی نے پنجاب میں مجموعی طور پر 9 ویں اور پاکستان کی جزل جامعات میں 11 ویں پوزیشن حاصل کی وائس چانسلر پروفیسر ڈاکٹر بشری مرزا نے ٹیکنی میبروں کی کارکردگی کو سراہا اور اورک آفس کو اس کامیابی پر مبارکباد دی۔ ڈائریکٹر اورک ڈاکٹر امینہ آفسی شہیر نے کہا کہ یہ خواتین یونیورسٹی کے لیے بہت بڑی کامیابی ہے۔



Office of Research, Innovation and Commercialization at LCWU ranked at top level

OUR STAFF REPORTER
LAHORE

In the ranking released by the Higher Education Commission of Pakistan for the year 2021-2022, the Office of Research, Innovation and Commercialization at Lahore College for Women University has been awarded an X category which is a testament to its excellent performance. ORIC at LCWU has been ranked 1st among all women's universities in Pakistan and 23rd overall in Pakistan where there are more than 230 HEC-recognized universities in the country. Further LCWU ORIC ranks 9th overall in Punjab and 11th in general universities of Pakistan. This high ranking will also increase the performance-based grant that LCWU receives from the HEC. ORIC ranking is reflective of the commendable research and innovation taking place at LCWU. In the year 2022, faculty members won a record number of research projects from both national and international sources. These include projects funded by the British Council, USEFP, WHO, PIDE as well as HEC. Further, the faculty members published several impact factors articles which have led to the highest-ever cumulative impact of more than 900. ORIC office has further contributed by facilitating several national and international linkages and has won the PKR 40 million HEC grant for the establishment of Khadija Tul Kubra Business Incubation.

لاہور کالج برائے خواتین یونیورسٹی
کی درجہ بندی میں بہتری

لاہور (جنرل رپورٹر) لاہور کالج برائے خواتین یونیورسٹی کی درجہ بندی میں بہتری، کارکردگی پر مبنی ایچ ای سی گرانٹ میں بھی اضافہ کرے گی۔ فیکلٹی ممبران نے امپیکٹ فیکٹر کے متعدد مضامین شائع کیے جس کی وجہ سے اب تک کا سب سے زیادہ مجموعی امپیکٹ فیکٹر 900 سے زیادہ ہے۔

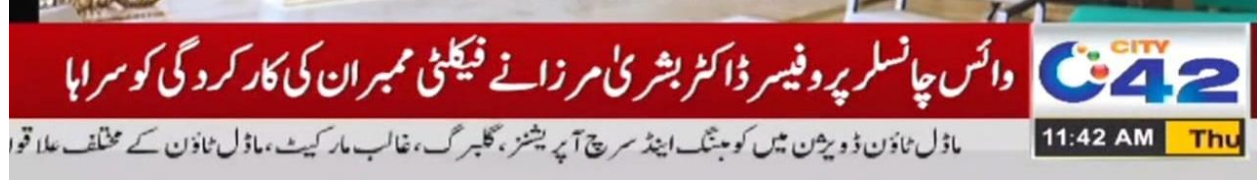


لاہور کالج فار ویمن یونیورسٹی، پاکستان کی یونیورسٹیوں میں پہلا نمبر

آفس آف ریسرچ، انوویشن اینڈ کرسٹلائزیشن کو ایس کیٹگری سے نوازا گیا

لاہور (جنرل رپورٹر) ہزار ڈیپنشن کمیشن آف یونیورسٹی کو پاکستان کی تمام خواتین یونیورسٹیوں میں پاکستان کی بہت سے سال 2021-2022 کے لیے پہلا نمبر پاکستان میں مجموعی طور پر 230 یونیورسٹیوں میں 23 ویں نمبر پر رکھا گیا۔ ایک ای سی ڈی یونیورسٹی کے آفس آف ریسرچ، انوویشن اینڈ کرسٹلائزیشن کو پنجاب میں مجموعی طور پر 9 ویں نمبر اور پاکستان کی جنرل ایس کیٹگری سے نوازا گیا۔ لاہور کالج برائے خواتین جامعات میں 11 ویں پوزیشن حاصل کی۔





SHARE

انجی ای سی رینٹنگ میں لاہور کالج فار ویمن یونیورسٹی ایکس کیٹیگری میں شامل

لاہور (نامہ نگار خصوصی) ہائر ایجوکیشن کمیشن آف پاکستان کی جانب سے سال 2021-2022ء کے لیے جاری کردہ رینٹنگ میں لاہور کالج فار ویمن یونیورسٹی کے آفس آف ریسرچ، انوویشن اینڈ کمرشلائزیشن کو ایکس کیٹیگری سے نوازا گیا۔ لاہور کالج برائے خواتین یونیورسٹی اورک کو پاکستان کی تمام خواتین یونیورسٹیوں میں پہلا اور پاکستان میں مجموعی طور پر 230 یونیورسٹیوں میں 23 ویں نمبر پر رکھا گیا اورک ایل سی ڈبلیو یو نے پنجاب میں مجموعی طور پر 9 ویں اور پاکستان کی جزل جامعات میں 11 ویں پوزیشن حاصل کی۔ لاہور کالج برائے خواتین یونیورسٹی کی یہ درجہ بندی کارکردگی پر مبنی گرانٹ میں بھی اضافہ کرے گی جو کہ انجی ای سی سے حاصل ہوتی ہے۔ اورک کی درجہ بندی لاہور کالج برائے خواتین یونیورسٹی میں ہونے والی بہترین تحقیق کی عکاس ہے۔ 2022 میں فیکلٹی ممبرز نے قومی اور بین الاقوامی دونوں ذرائع سے ریکارڈ تعداد میں تحقیقی منصوبے جیتے ہیں۔



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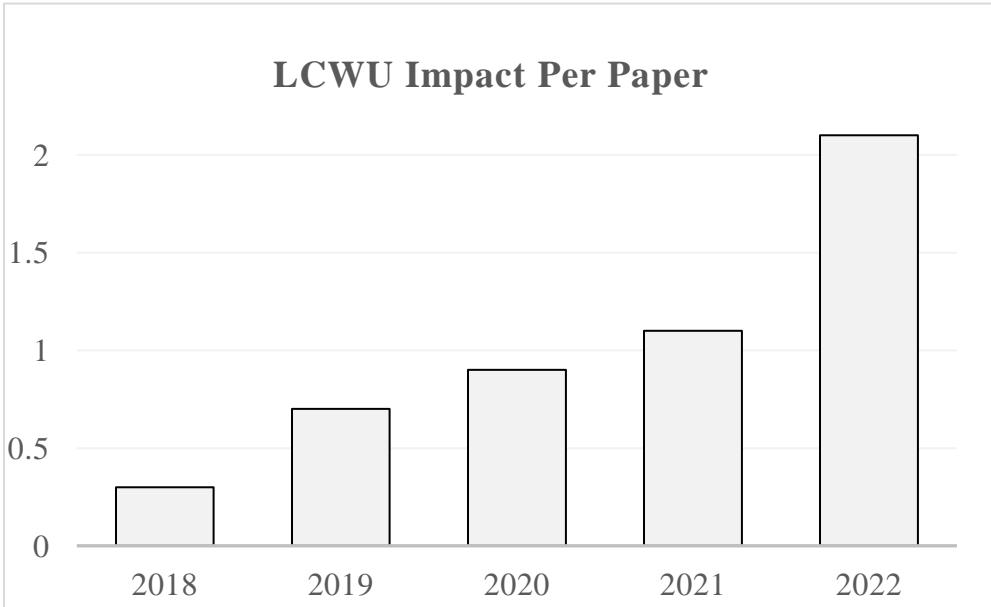
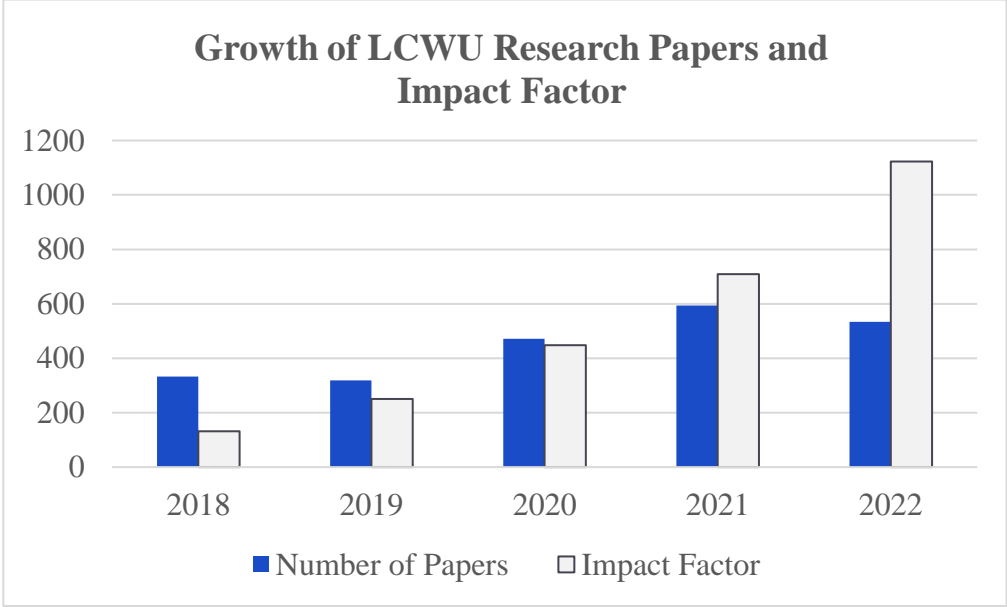


RESEARCH EXCELLENCE



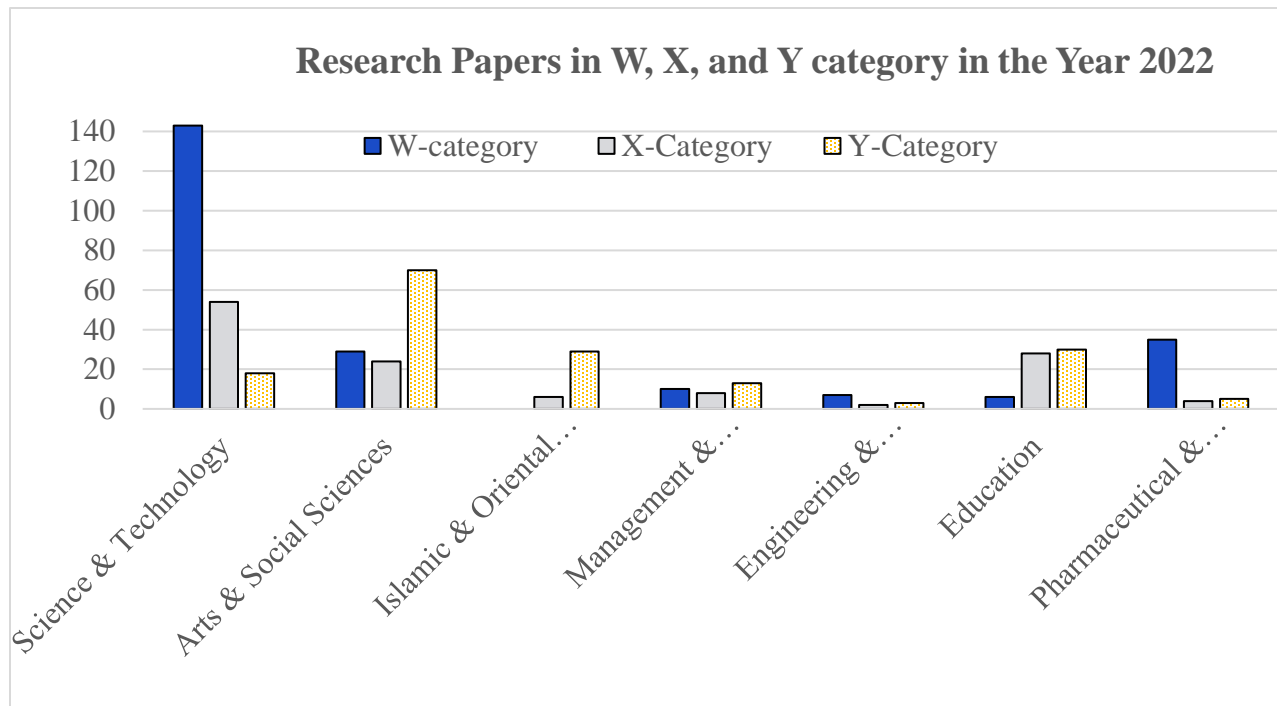
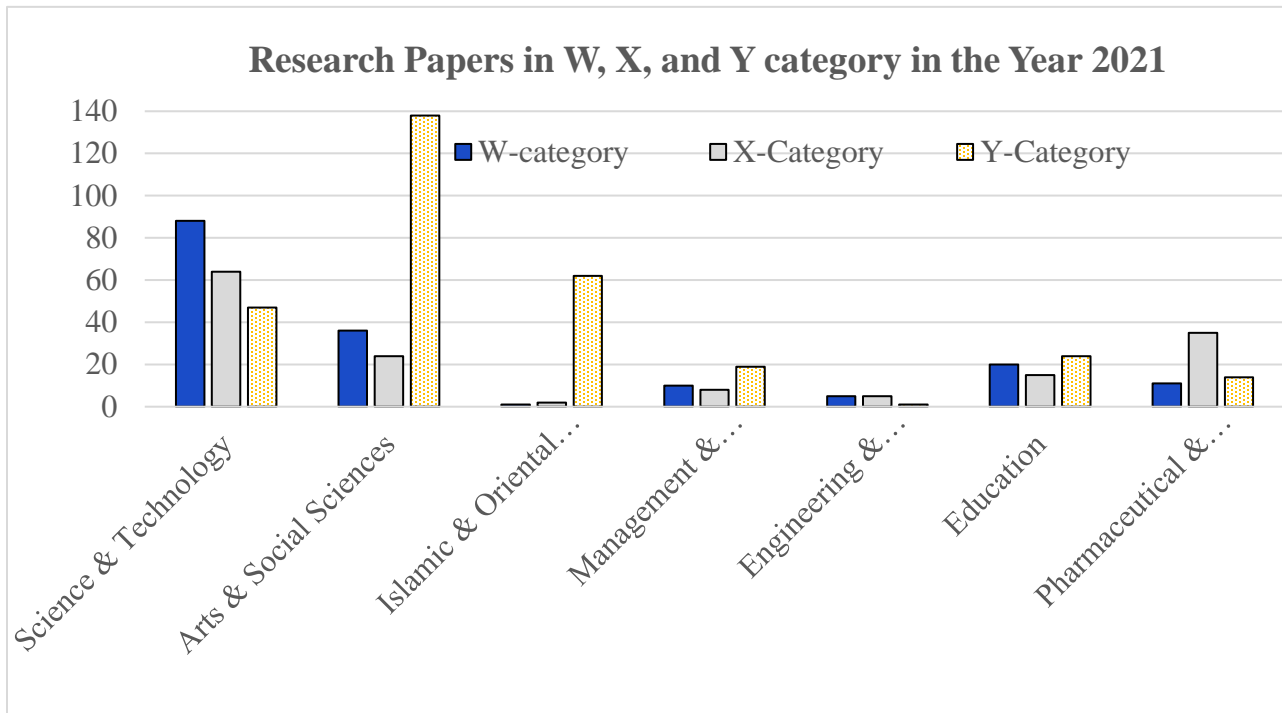


RESEARCH PUBLICATIONS



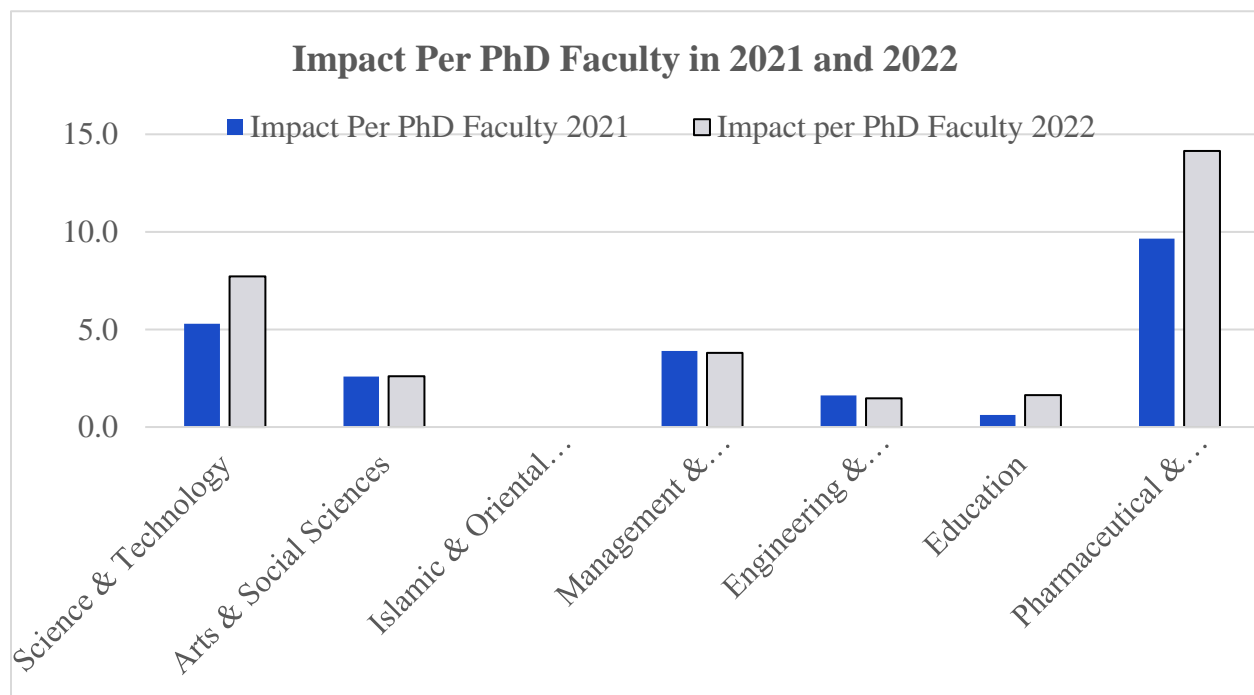
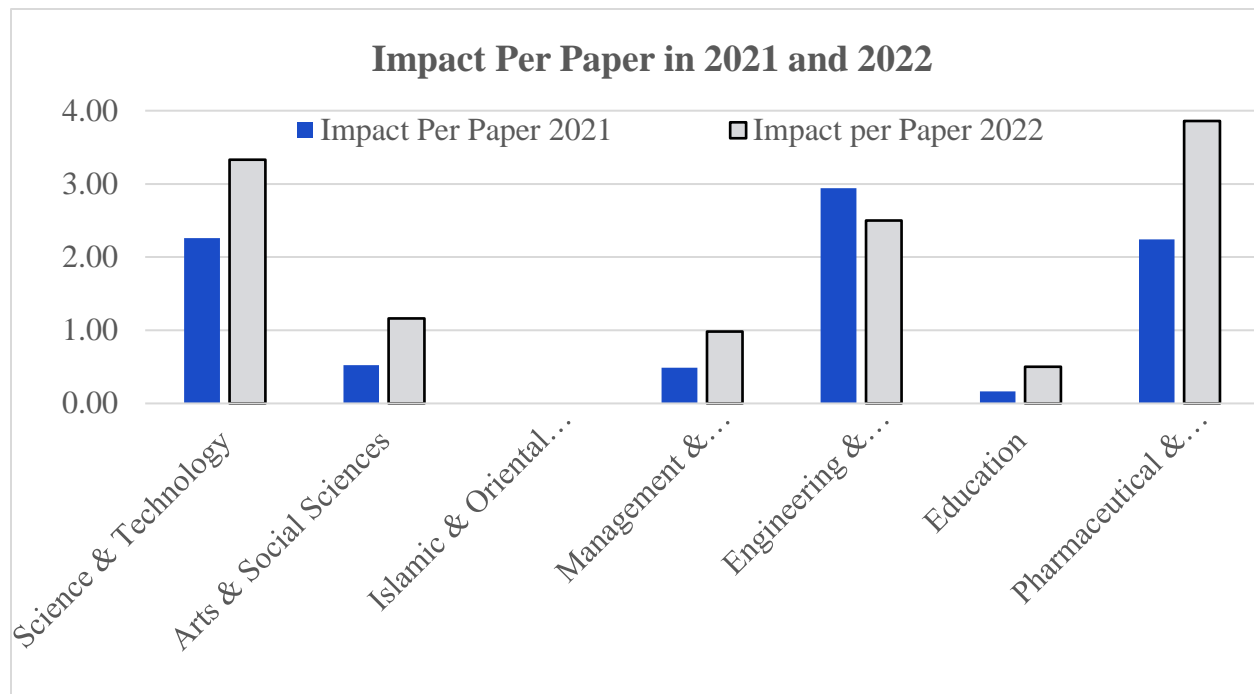


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2021						
Faculty	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Science & Technology	88	64	47	7	206	466
Arts & Social Sciences	36	24	138	4	202	106
Islamic & Oriental Learning	1	2	62	3	68	-
Management & Administrative Sciences	10	8	19	3	40	20
Engineering & Technology	5	5	1	-	11	32
Education	20	15	24	1	60	10
Pharmaceutical & Allied Health Sciences	11	14	5	-	30	68
Non-Teaching Departments	8	1	-	1	10	36
Total	179	133	296	19	627	738

Faculty of Science & Technology (2021)						
Department	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Biotechnology	5	9	12	-	26	50.5
Botany	25	6	8	1	40	99.0
Chemistry	12	4	-	1	17	53.7
Environmental Science	9	4	2	5	20	42.7
Geography	2	2	11	-	15	6.7



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Mathematics	14	21	5	-	40	100.5
Physics	14	16	1	-	31	87.7
Zoology	8	6	9	-	23	36.6

Arts and Social Sciences (2021)

Department	HEC recognize journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Applied Psychology	4	4	24	1	33	12.9
Economics	23	9	6	-	38	72.2
History	4	2	8	-	14	1.2
Home Economics	2	-	5	-	7	7.3
International Relations	-	-	23	-	23	-
Mass Communication	2	4	20	1	27	3.4
Pakistan Studies	-	-	-	-	-	-
Political Science	-	-	6	-	6	-
Statistics	3	8	12	2	25	8.7
Social Work	-	-	3	-	3	-
Research Center for Arts & Design	-	-	8	-	8	-
Gender and Development Studies			16		16	
Sociology			8		8	

Faculty of Islamic & Oriental Learning (2021)

Islamic Studies Department	-	1	11	1	13	-
Arabic	-	-	10		10	-



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English	1	1	14	2	18	-
Persian	-	-	5	-	5	
Punjabi			7		7	
Urdu	-	-	15	-	15	-

Faculty of Management and Administrative Sciences (2021)

Department	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Management Science	9	8	17	2	36	19.481
Public Administration	1	-	2	1	4	-

Faculty of Engineering and Technology (2021)

Computer Science	3	1	1	-	3	14.0
Electrical Engineering	4	4	-	-		24.9
City and Regional Planning	-	-	-	-	-	-
Software Engineering	-	-	-	-	-	-
Architecture	-	-	-	-	-	-

Faculty of Education (2021)

STEM Education	16	6	8	1	31	8.0
Elementary Education	1	1	4	-	6	-
Secondary Education	-	2	-	-	2	-
TESOL	1	-	6	-	7	1.4
Health & Physical Education	2	6	6	-	14	1.2



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Faculty of Pharmaceutical and Allied Health Sciences (2021)

Pharmacy	11	14	5	-	30	67.6
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Non-Teaching Department (2021)

Central Research Lab	6	-	-	1	7	23.3
ORIC	2	1	-	-	3	12.8

2022

Faculty	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Science & Technology	143	54	18	5	220	710
Arts & Social Sciences	29	24	70	5	128	148
Islamic & Oriental Learning	-	6	29	-	35	-
Management & Administrative Sciences	10	8	13	-	31	30
Engineering & Technology	7	2	3	1	13	33
Education	6	28	30	2	66	33
Pharmaceutical & Allied Health Sciences	35	4	5	-	44	170
Non-Teaching Department	-	-	-	-	-	-
Total	230	126	168	13	537	1123



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Faculty of Science & Technology (2022)

Department	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Biotechnology	19	5	2	2	28	93
Botany	37	12	4	–	53	178
Chemistry	12	–	–	–	12	66
Environmental Science	11	3	2	2	18	37
Geography	1	1	5	–	07	3.2
Mathematics	43	16	3	1	63	216
Physics	12	10	–	–	22	77
Zoology	12	8	2		22	55

Arts and Social Sciences (2022)

Applied Psychology	5	1	10	1	17	24
Economics	17	7	5	–	29	88
History	1	-	5	-	6	6.6
Home Economics	1	4	7	1	13	5.2
International Relations						
Interior Design	-	1	2	-	3	-
Mass Communication	–	3	16	–	19	–
Pak Studies						
Political Science	-	2	3	-	5	-
Statistics	4	6	2		12	20.5
Social Work	-	-	2		2	-
Gender and Development Studies			10	3	13	-
Sociology	1	-	10	-	11	4.2



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Faculty of Islamic & Oriental Learning (2022)

Department	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Islamic Studies Department	-	4	13	-	17	-
Arabic	-	-	2	-	2	-
English	-	1	2	-	3	-
Persian	-	-	3	-	3	-
Punjabi						
Urdu	-	1	9	-	10	-

Faculty of Management & Administrative Sciences (2022)

Management Science	10	8	13	-	31	30.4
Public Administration	-	1	4	-	5	-

Faculty of Engineering and Technology (2022)

Computer Science	1	1	1	-	3	8.3
Electrical Engineering	6	1	-	-	7	24.2
City and Regional Planning	-	-	2	1	3	-
Architecture	-	-	-	-	-	-
Software Engineering						

Faculty of Education (2022)

STEM Education	2	18	15	1	36	6.5
Elementary Education	2	4	8	1	15	13



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Secondary Education	3	6	-	-	9	20
TESOL	-	1	4	-	5	-
Health & Physical Education	-	-	4	-	4	-

Faculty of Pharmaceutical and Allied Health Sciences (2022)

Departments	HEC Recognized Journals categorized by HJRS			Others	Grand Total	Total Impact Factor
	W	X	Y			
Pharmaceutics	3	-	2	-	5	14.3
Pharmaceutical Chemistry	2	-	-	-	2	10
Pharmacognosy	4	-	2	-	6	19
Pharmacy Practice	13	1	1	-	15	62
Pharmacology	13	3	-	-	16	65

Books

Faculty	2021		2022	
	Book Chapters	Books	Book Chapters	Books
Science & Technology	10	-	14	
Arts & Social Sciences	1	-	3	
Islamic & Oriental Learning	2	5	-	4
Management & Administrative Sciences	-	-	2	-
Engineering & Technology	1	-	1	-
Education	1	-	10	2
Pharmaceutical & Allied Health Sciences	1	-	8	-

Identification of Research Grant Opportunities and Facilitation of Faculty

There is a wide range of funding opportunities for researchers at National and International level. ORIC LCWU regularly shared grant calls with LCWU faculty and students. It compiled and circulated grant call issues consisting of several research grant opportunities. ORIC website and social media page are also updated regularly with research grant calls for faculty members' facilitation.



Ministry of IT & Telecom
DIGITAL PAKISTAN

Ignite
NATIONAL TECHNOLOGY FUND

Challenge-driven Innovation Fund (CIF)

Powered by Ignite

CALL FOR PROPOSALS

Ignite was established with the goal of supporting breakthrough technologies and game-changing innovations in key enabling technologies with the potential to scale up and become market leaders.

The Challenge-driven Innovation Fund aims to stimulate collaborative interdisciplinary research within the strategic priority areas of relevance to present or future Pakistan-based industry and society. The objective is to ask the innovators to help solve the problems facing the country. A consortium of (applicants from) universities, industry and/or research organizations will be eligible to submit research proposals. Project participation from industry, public authorities or other relevant organizations will be considered a merit.

PRIORITY THEMES

- Transport & Smart Mobility
- Health & Well-being
- Smart Cities & Communities
- Digital Industry
- Climate Change & Environment
- Education & Learning
- Digital Life
- Connectivity & Interoperability
- ICT-enabled Agriculture
- Smart Energy
- Safety, Security & Reliability

EVALUATION PROCESS

Grant awards will be made through an open, rigorous, transparent, competitive and merit-based process consistent with international standards for funding research and innovation projects.

DURATION 2-3 years | **ANTICIPATED FUNDING** Starting from Rs. 10 million per project

Proposals must be submitted online on the prescribed form, available on website <https://ignite.org.pk/CIF>

Last date to submit the project outline is **August 7, 2022**

www.ignite.org.pk | /ignitentf | /ignitentf | /ignitentf | /ignitentf | /company/ignitentf



Call for Research Proposals

CPEC Collaborative Research Grant

(CPEC-CRG) 2022

For information regarding proposal submission requirements and evaluation process, please refer to the Call for Proposals Guidance available on:
<http://www.hec.gov.pk/site/cpec-crg>

Queries regarding CPEC-Collaborative Research Grant may be directed to:
saima.asghar@hec.gov.pk

Deadline for Full Project Proposal Submission is Friday, May 20, 2022

CPEC Academic Research & Development Unit | Higher Education Commission Sector H-9, Islamabad

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Call for Applications

Travel Grant to Pakistani Researchers

The Higher Education Commission (HEC), Pakistan invites applications from faculty/researchers of public sector universities and eligible private universities to apply for HEC funding under the Travel Grant Programme.

Key Features

HEC provides funding opportunity to Pakistani Researchers under the Travel Grant Programme in order to provide a platform for knowledge sharing, exposure to latest academic developments, and establishing linkages with academic community at national/international level. HEC has revised policy of the said programme, allowing applicants to apply directly to HEC for funding. Funds will be released to the concerned university as per approved award upon filing reimbursement claim within three (03) months of the event.

Eligibility Criteria

- The Paper Author must be a Faculty Member (except visiting faculty) or MS/ M.Phil/ PhD scholar of public sector HEIs and eligible private sector universities as notified by HEC.
- The Principal Author (First or Corresponding Author) of the paper to be presented will be eligible to apply. Under extraordinary circumstances (such as non-issuance of visa to the Principal Author), the Principal Author may grant No Objection Certificate (NOC) with the justification to the Co-Author to present paper.
- Criteria for qualifying conferences include conferences organised by national/international universities, institutes or leading international professional bodies of relevant disciplines (such as Institute of Electrical and Electronics Engineers (IEEE); Association for Computing Machinery (ACM); American Association for the Advancement of Science (AAAS); and American Economic Association (AEA) etc.) whose papers are peer reviewed and archived.

Application Submission Procedure

Applications must be submitted by the Applicants in soft form via HEC online portal (hard copy in original), at least 60 days prior to the event date(s) along with the requisite documents. Head of ORICs/Head of Research at the respective HEI will endorse the submitted application via HEC online portal: research.hec.gov.pk

Call for Application is open throughout the year w.e.f July 1, 2022

For further information and application submission requirements, please visit:
<http://www.hec.gov.pk/site/TG>
Contact details: info-r&d@hec.gov.pk

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Call for Applications

Grant to Organise Seminar/Conference/Symposium or Training Workshop

The Higher Education Commission (HEC), Pakistan invites applications from faculty/researchers of public sector higher education institutions (HEIs) and eligible private universities to apply for HEC funding under the Seminar Conference Programme.

KEY FEATURES

HEC provides financial grants to the universities in Pakistan to organise National and International Seminars, Conferences, Symposia and Workshops. Through this initiative, HEC intends to develop a culture of research and knowledge sharing between Higher Education Institutions as well as establish linkages with relevant industrial and corporate sectors; and explore opportunities for national and international collaborations. HEC has revised policy of the said programme, allowing applicants to apply directly to HEC for funding. Funds will be released to the concerned university as per approved award upon filing reimbursement claim within three (03) months of the event.

ELIGIBILITY CRITERIA

- All Public Sector Universities/Degree Awarding Institutions and eligible Private Sector Universities, notified by HEC, complying the following conditions:
 - HEI must have well-established seminar series
 - HEI must have well-established MPhil and PhD programmes
 - Hosting HEI should have at least 5-8 PhD faculty members
 - Call for papers should be announced at least four (04) months prior to the conference
 - Conference should have a peer review process (documentary record should be provided to HEC)
- The event organiser/focal person must be a faculty member of the university in the relevant discipline of the event theme.

APPLICATION SUBMISSION PROCEDURE

Applications must be submitted by applicants in soft form via HEC online portal (hard copy in original) at least 60 days prior to the event date(s) along with the requisite documents. Head of ORICs/Head of Research at the respective HEI will endorse the submitted application via HEC online portal: research.hec.gov.pk

Call for Application is open throughout the year w.e.f July 1, 2022

For further information and application submission requirements, please visit:
<http://www.hec.gov.pk/site/SC>
Contact details: info-r&d@hec.gov.pk

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- Information Technology and Telecom
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- Medical and Health Sciences
- Others

SUBMISSION
Submit your Startup Innovative Ideas/ Concept Notes on prescribed application via:
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PAKISTAN SCIENCE FOUNDATION

MINISTRY OF SCIENCE & TECHNOLOGY

Competitive Research Programme

Call for Concept Proposals

Addressing Energy Crisis in Pakistan through Indigenous Research and Innovation

Pakistan is experiencing a severe energy crisis that had directly and indirectly affected all sectors of the economy. Power generation is achieved from a mix of energies that includes oils, gas, coal, renewable sources (solar, wind and hydro energy), nuclear and biomass. In the current scenario, the country is becoming more dependent on importing various energy resources annually. Whereas, Pakistan has huge potential for the electricity generation through various renewable resources to meet this energy crises.

Pakistan Science Foundation / Ministry of Science and Technology, under PSDP "Competitive Research Programme", intends to provide funding up to PKR 20.00 Million to researchers, engineers, technologists, innovators and industrialists (public/private sector) that can come out with environment friendly and energy efficient solutions (products/technologies/processes/techniques) to mitigate Pakistan's energy crisis in following energy subsectors:

- Photovoltaic Cells/Dry Batteries/Inverters/Generators
- Fuel Cell Technologies/Energy Materials
- Wind Turbines
- Electric Vehicles/Scooters/Bikes

DEADLINE
15th August, 2022

For submission of Concept Proposals, proforma and guidelines are available on <http://www.psf.gov.pk/CRP.aspx>

Dr. Saima Huma Tanveer
Project Manager, Competitive Research Programme
Pakistan Science Foundation, 1-Constitution Avenue, G-5/2, Islamabad

PID (I) No. 384/2022



PROJECTS/GRANTS AWARDED IN 2022

Funder	Project Lead(s) LCWU	Amount	Title
HEC-NRPU	Dr. Asma Shahid Kazi (PI), Elementary and Teacher Education	Rs. 9.6 million	Implementation of Integrated STEAM (Science, Technology, Engineering, Arts & Mathematics) Pedagogy for School and Teacher Capacity Building
HEC-NRPU	Prof. Dr. Humaira Majeed Khan (PI) & Dr. Ali Sharif (Co-PI) Pharmacy	Rs. 9.4 million	Formulation, optimization and in-vivo evaluation of Phyto-constituent based nasal spray to alleviate migraine
HEC-NRPU	Dr. Rehana Kausar (PI), Urdu	Rs. 7.5 million	Depiction of Punjab's Civilization & Culture in Urdu Prose
HEC-NRPU	Prof. Dr. Bushra Naseem (PI), Chemistry & Dr. Sumera Sajjad (Co-PI), Zoology	Rs. 7.2 million	Surfactant assisted optimized structured bimetallic oxides and nitrides nano material for electrochemical energy storage devices
HEC-NRPU	Dr. Adeel Nasir (PI), Management Sciences	Rs. 4.4 million	Application of Machine Learning to Predict Financial Statement Fraud of Pakistani Firms
HEC-NRPU	Dr. Sumera Latif (PI), Pharmacy	Rs. 3.4 million	Amelioration of the physicochemical properties and bioactivities of nutraceuticals by development of nano-cocrystals
HEC-NRPU	Prof. Dr. Humaira Majeed Khan (Co-PI), Pharmacy	Rs. 4.1 million	Emerging treatment modality for Rheumatoid Arthritis: From



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			designing topical nano-sponge gel to in vivo efficacy studies
HEC-NRPU	Dr. Neelma Munir (Co-PI), Biotechnology	Rs. 3.4 million	Use of halophytic nanoparticles as a sustainable approach towards improvement of crop yield and nutritional quality in saline conditions
US Mission & Pak-US Alumni Network	Dr. Engr. Aqsa Shabbir (Co-PI/collaborator), Electrical Engineering	Rs. 1 million	Reshaping STEM Workforce landscape for economic growth and development
USEFP	Dr. Uzma Ashiq (PI), Gender and Development Studies	Rs. 7 million	US-Pakistan University Partnership Grants Program
PIDE	Dr. Engr. Aqsa Shabbir (PI), Electrical Engineering, Dr. Huma Tauseef (Co-PI), Computer Science Dr. Nudra Malik (Senior Researcher), Psychology	Rs. 3.2 million	Investigating Engineering Graduates Employability: Aggregate Trends and Determinants
WHO	Dr. Asifa Kamal (Co-PI), Statistics	Rs. 2 million	Patterns of Drug Resistance, its associated factors and treatments in tuberculosis patients in PMDT center in Lahore
British Council	Dr. Saima Farhan (PI), Computer Science	Rs. 6.8 million	Gender Equality and enhancing employability for women in academia and other sectors in Pakistan
Master Sleep Research Foundation	Dr. Nudra Malik (PI), Prof. Dr. Amina Muazzam (Co-PI), Psychology &	Rs. 1 million	Effect of Different Mattresses on Sleep Quality, Back Pain and Mood in Pakistani Adults



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	Dr. Engr. Aqsa Shabbir (Co-PI), Electrical Engineering		
RSE Asia Partnerships Higher Education Research Fund	Dr. Aqsa Shabbir (PI), Electrical Engineering	Rs. 2.7 million	Community Based Sustainable Future Healthcare
American Association of University Women Fellowship & Grants	Dr. Sumera Javad (PI), Botany	\$6850	Training of local female community for making opportunities in higher Education
The Dean ship of scientific Research (DSR), King Faisal University, Saudi Arabia	Dr. Salma Kanwal, Mathematics	Rs. 1.6 million	Two Dimensional Descriptors Based on Degree, Neighborhood Degree, and Reverse Degree for HEX (Hexagonal) Lattice

Projects Details

PI: Dr. Asma Shahid Kazi, Department of Education

Title: Implementation of Integrated STEAM (Science, Technology, Engineering, Arts & Mathematics) Pedagogy for School and Teacher Capacity Building

Funding Agency: HEC-NRPU

Amount: PKR 9.6 Million

Building 21st century skills of design and critical thinking for students is imperative for empowering students in Science, Technology Engineering Art and Math (STEAM) careers.

Incorporating STEAM skills in mathematics and science classrooms enables educators to craft powerful collaborative learning experiences that support problem solving, flexible thinking and applying content in real-world contexts. This project is an action intervention which will enable elementary school





teachers to translate concepts and practical skills learnt during STEAM professional development training to their lesson planning and classroom practice. Using the design thinking approach, the project aims to build teacher confidence and capacity in teaching integrated science, technology, engineering, arts and mathematics (STEAM) subjects from 1st -5th grade. The project will also equip the selected schools with the materials and resources required for carrying out STEAM projects and activities. At the end of the intervention it is expected that the participating teachers will have increased pedagogical content knowledge, confidence and skills to teach STEAM subjects. The co-implementing partners for this project are: Centre for Engineering Education and Outreach at Tufts University (Collaborators) who will provide pedagogical support, and Door of Awareness (DoA), a non-profit organization that runs free schools for underprivileged communities in Lahore.

PI: Prof. Dr. Humaira Majeed Khan, Department of Pharmacy

Co-PI: Dr. Ali Sharif, Department of Pharmacy

Title: Formulation, Optimization and in vivo evaluation of Phyto-constituent Based Nasal Spray to Alleviate Migraine

Funding Agency: HEC-NRPU

Amount: PKR 9.4 Million

Migraine is a chronic neurological disorder characterized by attacks of moderate or severe headache and reversible neurological and systemic symptoms¹. Migraine affects brain in which attacks are initiated in subcortical regions, as indicated by studies on premonitory symptoms and continuous scanning of the migraine cycle². The neurogenic vasodilation is one of the most important mechanisms of migraine due to an excessive production of nitric oxide (NO) that activates a long-lasting central mechanism of hyperalgesia. It is characterized by attacks of unilateral, throbbing head pain, with sensitivity to movement, visual, auditory, and other afferents inputs. Other symptoms such as tiredness, irritability, reduced concentration, and yawning can precede the headache by up to 48 h. Both episodic and chronic migraine poses a huge financial burden on global economies. Migraine predominantly affects females, and significantly affects quality of life. The nitro-





oxidative stress and the inflammatory response play a major role in the onset and development of neuropathic pain.

The 5-HT₁ receptors are subdivided into 5-HT_{1A–D}, and the effect of triptans is related to 5-HT_{1B/1D} receptor occupancy. The pathological mechanisms of migraine attack is related to the activation of 5-HT₁ receptors in the brain and their genotype. The plasmatic level of 5-HT decreases, and the concentration of its metabolite, hydroxyindoleacetic acid, increases between attacks and decreases during the attack. most effective drugs for migraine attack is sumatriptan (ST), a selective 5-HT₁ receptor agonist. Limitations of triptan treatment includes serotonin syndrome with symptoms that include agitation, diarrhea, nausea, and loss of coordination ³.

Plant based molecules are extensively evaluated and have been suggested to be effective against migraine and its associated complications by acting on different therapeutic targets ⁴. These phyto-constituents are gaining interest being exploited them as therapeutic negotiators owing to their biocompatibility. However poor pharmacokinetic and pharmaceutical attributes have limited their usefulness as a therapeutic alternative clinically. Pharmaceutical attempt to enhance their compliance and therapeutic efficacy is the need of hour. Formulation of novel nasal spray and complications associated with migraine will provide a cost effective and biocompatible product for commercial use.

PI: Dr. Adeel Nasir, Department of Management Sciences

Title: Application of Machine Learning to Predict Financial Statement Fraud of Pakistani Firms

Funding Agency: HEC-NRPU

Amount: PKR 4.4 Million



“Financial statement misappropriation is a parasite that eats the company from inside until it bursts into pieces causing billions in losses for investors and other stakeholders.”

The considerable increase in financial statement frauds (FSF) and reporting over three decades has attracted significant attention from auditors, investors, creditors, academicians, researchers and other stakeholders. Fraudulent reporting generally occurs due to financial statement manipulations to artificially enhance the entity’s performance. The ties between financial statement frauds and fraudulent reporting meet from mega financial statement fraud cases from WorldCom, Enron, Tyco, and Global crossing.

Forensic accounting is a multidisciplinary field that covers auditing, accounting, finance, law, and information technology. This study undertakes the finance dimension of forensic accounting and predicts the key determinants of financial statement fraud. The study aims to provide a comprehensive machine learning prediction model to estimate potential financial statement fraud severity.

PI: Prof. Dr. Rehana Kausar, Department of Urdu

Title: Depiction of Punjab's Civilization & Culture in Urdu Prose

Funding Agency: HEC-NRPU

Amount: PKR 7.5 Million



کسی بھی زندہ قوم کی صلاحیتوں کا اظہار زبان کے ذریعے ہوتا ہے۔ اقوام کو اپنی ایجادات کو بیان کرنے اور ان ایجادات کو منوانے کے لیے زبان کی ضرورت ہوتی ہے۔ زبانیں اور ادب شاید بظاہر فائدہ مند نہ ہوں لیکن اگر ان کو ٹھپ کر دیا جائے تو علوم و ایجادات کو اچھی زبان نہیں مل سکے گی اور وہ بھی ٹھپ ہو جائیں گی۔

جس طرح قوموں کی شناخت ان کی تہذیب و ثقافت سے ہوتی ہے۔ اسی طرح مختلف علاقے بھی اپنی خاص بود و باش اور رسوم و رواج کے حوالے سے اپنی ایک پہچان رکھتے ہیں۔ پنجاب ایک قدیم اور تاریخی صوبہ ہے جو اپنی علمی، تحقیقی، ادبی، ثقافتی، سیاسی اور سماجی تاریخ رکھتا ہے۔ برصغیر میں مسلمانوں کی آمد سے لے کر موجودہ دور تک پنجاب کی علمی و ادبی حیثیت مسلم رہی ہے۔

تہذیب اگرچہ ایک پانچ حرفی لفظ ہے لیکن اس پانچ حرفی لفظ کے ساتھ معانی و مفہوم کا ایک وسیع سلسلہ ہے جس میں انسانی زندگی سے منسلک رسم و رواج، طرز حیات، فنون لطیفہ (ادب، فن، تعمیر، موسیقی، سنگ تراشی، مصوری) سماجی رویے، آداب گفتگو، نشست و برخاست، فکر و افکار، مذہب و فلسفہ، معاشرت، انسان دوستی، انسانی رویے غرض ہر وہ چیز جو معاشرے میں زندہ رہنے کے لیے ضروری ہے شامل ہے۔ تہذیب کے ساتھ ثقافت بھی زندگی کا بنیادی جزو قرار پاتی ہے۔ معاشرے کو تہذیب یافتہ بنانے میں اُس معاشرے کے تخلیقی ادب کا بڑا حصہ ہے۔ کسی بھی زبان کا ادبی سرمایہ اُس کی تہذیب و ثقافت کی پہچان ٹھہرتا ہے۔ تہذیب کی تعمیر میں صدیاں گزرتی ہیں اور ان صدیوں کی گواہی وہ زبان ہوتی ہے جو ان ادوار کے معاشرتی حالات اور رہن سہن کو اپنے دامن میں سیٹھ رہتی ہے۔ اُردو زبان و ادب بھی مختلف نثری اصناف (جن میں ناول، افسانہ، آپ بیتی، کالم نگاری، خاکہ نگاری، تاریخ نگاری اور سفر نامہ شامل ہے) کی صورت تہذیب و ثقافت کو اپنے دامن میں سیٹھ ہوئے ہے۔

ہر دور میں ادیب اپنی تحریروں میں اپنے علاقوں کا ذکر کرتے رہے ہیں۔ مختلف ادیبوں کی تحریروں میں ان کے شہر اور دیس اپنی پوری تہذیب و ثقافت کے ساتھ بے نظر آتے ہیں۔ مثلاً اناسانی کا ماسکو، ڈکنز کا لندن، دوستو و سکی کا سینٹ پیٹرز برگ، گارسیا لورکا کا غرناطہ، ٹیلور کا کلمنت، قرۃ العین حیدر کا لکھنؤ، نجیب کا قاہرہ، پاموک کا استنبول، صادقین اور جان ایلیا کا امر وہ اپنے لکھنے والوں کی تحریروں میں جیتے جاگتے نظر آتے ہیں۔

ادب کسی بندگلی یا بند کمرے میں تخلیق نہیں ہوتا بلکہ تخلیق کار اپنے ارد گرد کے ماحول سے متاثر ہوتا ہے اور پھر یہی ماحول تہذیب اور ثقافت اس کی تحریروں کا موضوع ٹھہرتے ہیں۔ پنجاب ایک ایسی تہذیب کا گہوارہ ہے جس کا شمار دنیا کی قدیم ترین تہذیبوں میں ہوتا ہے اس علاقہ نے پاک و ہند کی تاریخ میں تشکیل میں اہم کردار ادا کیا۔ یہاں نے بھی اس علاقہ کے ماحول، تہذیب اور ثقافت کو اپنی تخلیقات میں کھلے دل سے بیان کیا ہے۔ چونکہ پنجاب علم و ادب کے حوالے سے بھی بڑا مرکز رہا ہے۔ یہاں کی زندگی کی ہمانی اور گہما گہمی اپنے پورے رچاؤ کے ساتھ اردو کے نثری ادب میں تہذیب و ثقافت کی صورت نمایاں ہوتی ہے لیکن نثری اصناف میں تہذیب و ثقافتی حوالے موجود تو ہیں لیکن مربوط انداز سے کسی ایک جگہ یہ تمام حوالے جمع نہیں ہیں۔ اس تحقیقی مضمون کے ذریعے تہذیب و ثقافت کا تعارف پیش کر کے اس کی اہمیت کو اجاگر کیا جائے گا اور اردو نثری ادب میں (ناول، افسانہ، سفر نامہ، کالم نگاری، تاریخ گوئی، آپ بیتی اور خاکہ نگاری) پنجاب کی تہذیب و ثقافت کے بکھرے رنگوں کو یکجا کر کے مربوط انداز میں پیش کیا جائے گا۔



PI: Dr. Sumera Latif, Department of Pharmacy

Title: Amelioration of the physicochemical properties and bioactivities of nutraceuticals by development of nano-cocrystals

Funding Agency: HEC-NRPU

Amount: PKR 3.4 Million



The proposed project is designed to apply a new nano-cocrystal approach integrating the benefits of nanonization and cocrystallization in an attempt to improve the physicochemical properties and bioactivities of Nutraceuticals (NC). These NCs have been reported to execute well established pharmacological activities including the antitumor effect. But they are marketed only as a nutritional supplement despite of a large number of therapeutic effects and the major reason could be their poor solubility and dissolution rate. The solubility and dissolution rate are crucial factors in defining rate and extent of absorption from the gastrointestinal tract. The dissolution rate, being a rate limiting step for bioavailability of poorly soluble drugs, is often vital to attaining optimum blood levels for pharmacological effects. Cocrystals have been proved effective in overcoming the solubility and stability problems of the drug substances. But when the cocrystals are made in nanoscale i.e nano-cocrystals, solubility and dissolution rate can be even further enhanced as well as targeted drug delivery, enhanced bioavailability and flexibility in respect of administration can also be ensured. Nano-cocrystals can expand the formulation potential of poorly soluble candidates in the pharmaceutical industry and may lead to patents or intellectual property protection emanating from their development.

PI: Prof. Dr. Bushra Naseem, Department of Chemistry

Co-PI: Dr. Sumaira Sajjad, Department of Zoology

Title: Surfactant assisted optimized structured bimetallic oxides and nitrides nano material for electrochemical energy storage devices

Funding Agency: HEC-NRPU

Amount: PKR 7.2 Million





Co-PI: Prof. Dr. Humaira Majeed Khan, Department of Pharmacy

Title: Emerging Treatment Modality for Rheumatoid Arthritis: From Designing Topical Nano-sponge gel to *in vivo* Efficacy Studies

Funding Agency: HEC-NRPU

Amount: PKR 4.1 Million

Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease associated with severe pain in the joints. RA generally hits at the age group of 35-50 and it affects both genders. Various treatment modalities are currently in force for the management of RA including disease modifying antirheumatic drugs (DMARDs), chemotherapeutic agents, corticosteroids and analgesics, either prescribed alone or in combination with each other. Although, the existing therapeutic regimens have significant efficacy in some patients, there are a substantial proportion of patients for whom the existing therapies failed to respond. Thus, new treatment modalities are warranted and are sought constantly. Nano-sponges are nanoscale porous particles, which act like a dry sponge and have the ability to encapsulate high drug payloads and can deliver drugs across the skin at difficult target sites



such as joints where drugs cannot reach in optimal concentration through conventional delivery routes using conventional dosage forms such as tablets and capsules. Nano-sponges offer sustained drug release and are easy to convert into topical dosage forms such as pharmaceutical gels. Once prepared, Drug 1 and/or Drug 2 loaded nano-sponge gel will be characterized using a variety of analytical tools for entrapment efficiency, drug release behaviour, drug-polymer interactions, physical state of drug within nano-sponges, thermal behaviour, micromeritic properties, skin permeation and dermatokinetics in animal model. Furthermore, *in vitro* and *in vivo* cytotoxicity and *in vivo* performance assessment (animal arthritic model, rat paw edema etc..) will be performed. It is envisaged that the proposed formulation would be beneficial in RA management and will bring advancement to the science.



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PI: Dr. Uzma Ashiq Khan, Department of Gender and Development Studies

Title: GDS-LCWU's Initiative of Capacity Building & Professional Development of Partner Universities

Funding Agency: USEFP

Amount: PKR 7 Million



The project worth 7,623,900 PKR was a 6 months' project under US-Pakistan University Partnerships Grants Program funded by US Government and administered by United States Educational Foundation in Pakistan (USEFP). The project aimed at capacity building of three partner universities GIFT University, Gujranwala, University of Jhang and Kinnaird College for Women, Lahore by executing different activities including trainings on gender concepts (like gender sensitivity, gender & Islam, Gender & Economics etc), curriculum development, leadership development and research methods. These trainings were delivered by international and national trainers at three partner universities. A three-day international conference was also conducted.

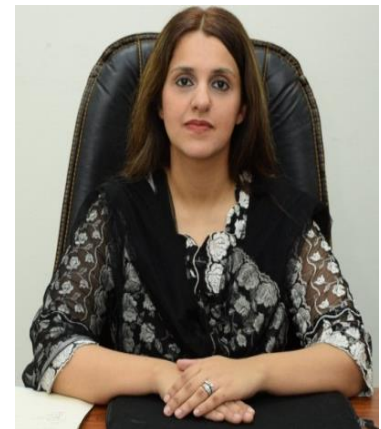
Co-PI/collaborator: Dr. Aqsa Shabbir, Electrical Engineering

Title: Reshaping STEM Workforce landscape for Economic Growth and Development

Funding Agency: US Mission & Pak-US Alumni Network

Award Date:

Amount: PKR 1 Million



STEM workforce is far from equitable, diverse and inclusive. Women especially in engineering continue to be a minority. This project led by Dr. Ali Hussain Kazim (PI), UET Lahore and Dr. Aqsa Shabbir (co-PI /Collaborator) from LCWU resulted in the production of a policy document for making STEM landscape more equitable and inclusive.

The project executed from July to October 2022, comprised of a 2-days Hackathon, talks by women who are role models in STEM, STEM awareness in public school, panel discussion and deliberation on the underpinning issues. The project closing ceremony was graced by Prof. Dr. Mansoor Sarwar, Vice



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Chancellor UET Lahore, Prof. Dr. Bushra Mirza, Vice Chancellor LCWU and Mr. Karl Roger, Public Affairs Officer, US Consulate General Lahore.

PI: Dr. Aqsa Shabbir, Department of Electrical Engineering

Co-PI: Dr. Huma Tauseef, Department of Computer Science

Senior Researcher: Dr. Nudra Malik, Department of Applied Psychology

Title: Investigating Engineering Graduates Employability: Using Advanced Machine Learning: Aggregate Trends and Determinants

Funding Agency: PIDE RASTA

Amount: PKR 3.2 Million



Engineering is a very sought-after degree program with an overarching perception that the graduate will most likely be able to secure a suitable job while those from less vocational disciplines may have to struggle more. While youth unemployment is overall on the rise, engineering graduates are increasingly vulnerable. Ironically, the employers struggle in hiring a suitable candidate whereas unemployment, in particular youth unemployment is on the rise.



While multiple psychological, economic and social factors are at play, quality and relevance of engineering education imparted at Higher Education Institutions (HEIs) can be a crucial contributor. This research will focus on 5 key stakeholders: academia (faculty and administration), students (current and alumni), employer (industry), parents/families and civil society to ascertain the determinants of engineering youth unemployment and



its impact. Qualitative as well as quantitative research will be conducted, and data will be collected using thoughtfully developed instruments. This will be followed by deploying artificial intelligence-based machine learning algorithms for determining the most contributing factors of engineering youth unemployment, predicting unemployment and identifying hidden trends. The analysis will result in recommendations for the educational policy makers and will contribute towards mitigating youth unemployment.

https://twitter.com/IEGE_ATD

PI: Dr. Nudra Malik, Department of Applied Psychology

Co-PIs: Prof. Dr. Amina Muazzam, Applied Psychology;

Dr. Aqsa Shabbir, Department of Electrical Engineering

Title: Effect of Different Mattresses on Sleep Quality, Back pain and Mood in Pakistani Adults

Funding Agency: Master Sleep Research Foundation

Amount: PKR 1 Million



Sleep is an integral function of the human body and approximately one third of our life is spent asleep. It allows our body and mind to recharge and rejuvenate. The disturbances in sleep or quality and/or quantity of sleep lead to several dysfunctions of the human



body. The effect of sleeping system specifically mattresses on sleep quality is not largely known in Pakistan. This research project aims to examine the impact of different mattresses on sleep quality, back pain, and mood. The study is beneficial as it will provide empirical support to the manufacturers of bedding systems/mattresses regarding the health benefits of using a particular sleep surface.



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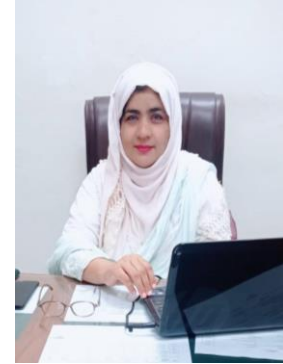
Co-PI: Dr. Asifa Kamal, Department of Statistics

Title: Patterns of Drug Resistance, its associated factors and treatments in tuberculosis patients in PMDT center in Lahore

Funding Agency: WHO

Amount: PKR 2 Million (9000 dollars)

The study aims to evaluate the pattern of drug resistance, its associated factors and treatment-related adverse events in tuberculosis patients enrolled at 3 PMDT centers (Programmatic Management of Drug resistant Tuberculosis) in District Lahore during 2021.



PI: Dr. Saima Farhan, Associate Professor and Chairperson, Department of Computer Science

Title: Gender Equality and enhancing employability for women in academia and other sectors in Pakistan

Funding Agency: British Council

Amount: PKR 6.8 Million

Collaborating Partners: Middlesex University of London

Pakistan, a developing country, faces numerous challenges such as poverty, illiteracy, prejudice, unemployment, and human rights violations. Ensuring gender equality, a fundamental human right, is of utmost importance and cannot be disregarded. However, the patriarchal societal structure in Pakistan serves as a major obstacle to achieving gender equality. In order to address the barriers that impede female labor force participation in Pakistan, policy solutions need to be implemented.

Several legal reforms should be focused on, including investing in girls' education and skills development, promoting women's entrepreneurship, providing safe transportation and public spaces, and creating conducive workplaces. These factors, coupled with responsive law-making and implementation to protect workers' rights, can significantly enhance female labor force participation in Pakistan.

Our project aims to strengthen the employability of women in Pakistan, with a specific focus on computer science education at the bachelor's level. We will conduct surveys and interviews involving all





stakeholders to identify the predictors of unemployment among young women pursuing higher education in the field of computer science. Furthermore, a series of sessions will be organized to raise awareness about female rights, skill development, industry trends, and effective preparation for the job market.

In this regard, the involvement of the industry is crucial, as they can provide training to graduates in areas that may not have been covered adequately in academic curricula. To benefit from UK expertise, we will invite professionals from the UK to contribute their knowledge and skills in Pakistan. Likewise, individuals from Pakistan will have the opportunity to visit UK universities for training and to learn from their best practices.

By implementing these measures and collaborations, we can work towards improving the employment prospects of women in Pakistan, particularly in the field of computer science, and contribute to the overall goal of achieving gender equality in the country.

Co. PI: Dr. Neelma Munir, Associate Professor, Department of Biotechnology

Title: Use of halophytic nanoparticles as a sustainable approach towards improvement of crop yield and nutritional quality in saline conditions

Funding Agency: HEC-NRPU

Amount: PKR 3.4 million



Soil salinity is one of the causes that decrease crop performance. Halophytes, which are useful in many industrial purposes, are characterized by special physiological adaptations to challenge severe salinity. Zinc oxide nanoparticles (ZnO-NPs) are considered a 'biosafe material' for plants. Thus, the aim of present work is to 1) optimize the conditions to synthesize nanoparticles from different halophytes, 2) application of halophytic nanoparticles for alleviating salt stress in of food crop 3) understanding the mechanism of plant growth, water relation, ion flux, photosynthesis, metabolic adjustment and antioxidant defense subjected to nanoparticles in saline areas 4). Developing strategies for producing nutrient-dense food crop by mineral biofortification using nanoparticle. Production of nanoparticles prepared from halophytes could be applied as a promising natural organic bio-fertilizer to combat the saline effect of agricultural lands, which hinders improvements of plant growth and suggests future perspectives as well as several research limitations in this field. Mineral biofortification of food crops, especially of cereal grains, is a promising approach to mitigate the food crises in Pakistan. The present project will explore



the possibility of reducing pressure on conventional often salt sensitive crop by providing sustainable biomass of tomato with less efforts and make use of saline soil and brackish water.

PI: Dr. Sumera Javad, Associate Professor, Department of Botany

Title: Training of local female community for making opportunities in higher education

Funding Agency: American Association of University Women

Amount: 6800 USD

It is the base of the social change to give the equal rights of education particularly higher education to the girls, making them an equally important part of society and family. It's going to make them empowered and dignified as they may be able to finance their higher education on their own. Project includes the series of 10 workshops in various institutes, where lectures and activities are planned for young participant girls. The main objective of the project is to enable girls to understand real problem that they are facing towards the planning of their higher education and then guiding them to find funding for their higher education.



PI: Dr. Salma Kanwal, Associate Professor, Department of Mathematics

Title: Two Dimensional Descriptors Based On Degree, Neighborhood Degree and Reverse Degree for HEX (Hexagonal) Lattice

Funding Agency: King Faisal University Al Ahsa, Saudi Arabia

Amount: PKR 1.6 Million

Crystal structures are of great scrutiny due to the elegant and well-ordered symmetry that influences a significant role in determining numerous physical properties. Our aim is to perceive the role of topological descriptors in the field of crystallography using chemical graph theory to examine symmetrical crystal structure HEX. Simple hexagonal (HEX) is a crystal structure formed by arranging the same layer of atoms in a hexagon with one additional atom at the center. Chemical graph theory allows us to study a variety of molecular structures via graphical representation where each atom is denoted as a vertex and the bond form between them is defined as edge. In this research work, we compute the general



Randić index, atom bond connectivity index, geometric arithmetic index, first and second Zagreb indices. Further, we will compute their neighborhood and reverse degree-based versions and visualize which descriptor stands high in accordance with its numerical value.

Ignite Funded Final Year Projects for Year 2021-2022

	Final Year Project Title	Department	Supervisor	Amount (PKR)
1.	NGIRI-2022-12534 Smart VR based Urban Flood Disaster Management App using Deep Learning & Drone Techniques	Computer Science	Dr. Mariam Nosheen	59,050
2.	NGIRI-2022-12616 Smart Drone Scouting App for Precision Agriculture using Whole Field based Deep Learning Techniques	Computer Science	Dr. Mariam Nosheen	25,710
3.	NGIRI-2022-13420 Robo Server for Food Management Services	Electrical Engineering	Dr. Aqsa Shabbir	59,030
4.	NGIRI-2022-14103 Microcontroller based Smart Blind Stick	Electrical Engineering	Ms. Aisha Jillani	26,360
5.	NGIRI-2022-14142 Low-Cost Mechanical Ventilator	Electrical Engineering	Dr. Aqsa Shabbir	79,659



Pakistan Engineering Council (PEC) Funded Projects Year 2022-2023

Two final year projects of Electrical Engineering Department were selected for funding by Pakistan Engineering Council among limited projects selected from all over Pakistan across all disciplines. The selected projects were declared and awarded during a ceremony hosted by Pakistan Engineering Council at NFC Multan on 24th November 2022.



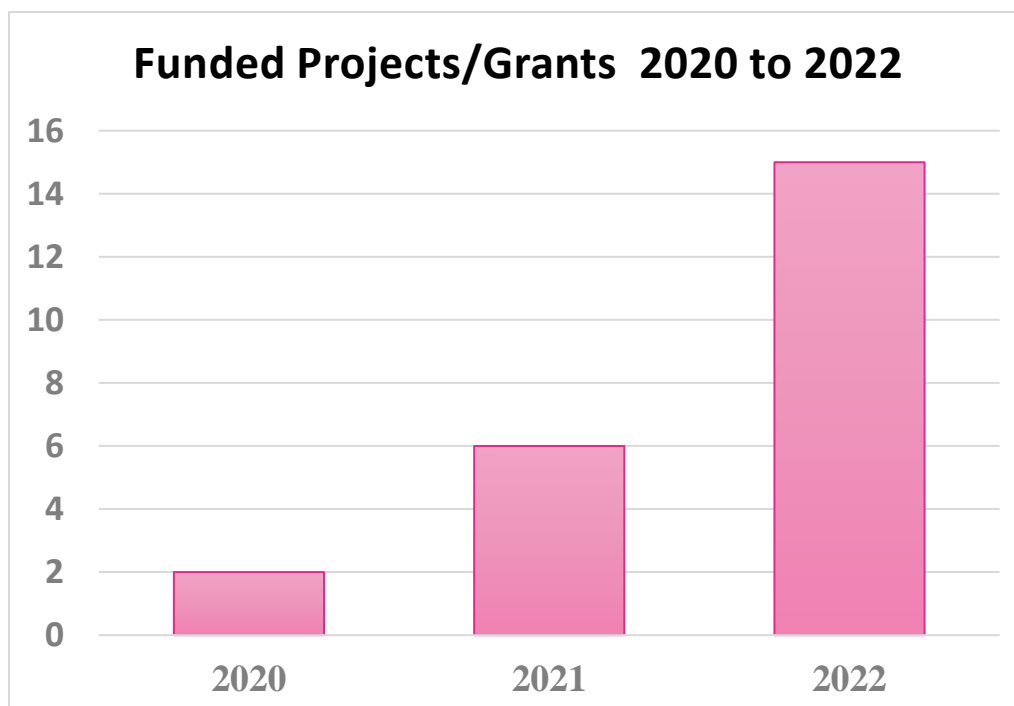


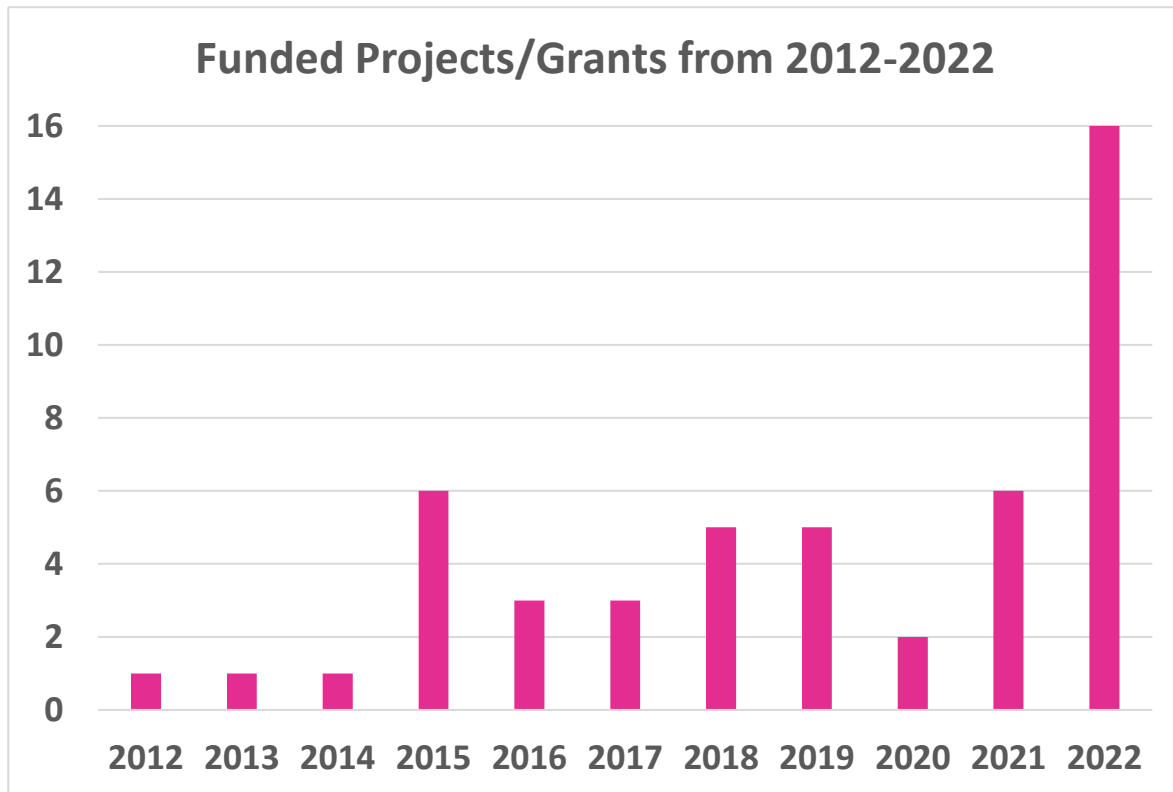
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Title	Supervisor	Co-Supervisor	Industrial Partner	Students Electrical Engineering	Amount (PKR)
IoT Based Solar Power Smart Irrigation System	Dr. Aqsa Shabbir, Electrical Engineering	Dr. Taskeen Raza, Electrical Engineering	Maxell Power Limited	Alina Riaz Faiza Zahir Laiba Riaz Tayyaba Matloob	200,000
Flood Monitoring and Warning System	Dr. Aqsa Shabbir, Electrical Engineering	Dr. Sahar Zia, Geography	SAWiE Ecosystems	Tatheer Fatima Abeeha Aslam Sana Ashraf	200,000

Research Grants Growth at a Glance





Ongoing Projects in 2022

Project Leads	Title	Funding Agency	Amount (PKR)	Award Year
Dr. Aqsa Shabbir (PI), Electrical Engineering/ORIC Co-Leads: Dr. Naveed Iqbal, Mass	Undergraduate STEM Education in Pakistan	British Council	5 million	2021



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Communication & Dr. Nudra Malik, Psychology				
Dr. Sumaira Noreen (PI), History	75 years of Scouting/Guiding Activities in Pakistan: Celebrating the shared British Heritage of Active Citizenship	British Council	2 million	2021
Dr. Aqsa Shabbir (co-PI), Electrical Engineering Dr. Sahar Zia, Senior Researcher, Geography	Combating Deforestation Using Wireless Sensor Networks	British Council and HEC	95 million	2021
Dr. Sofia Nosheen (co-PI), Environmental Science	Multiple occurrences of mycotoxins and its biochemical detoxification	HEC NRPU	6.6 million	2021
Dr. Rozina Chaudhry (co-PI), Physics	To investigate the Various Instabilities as Energy Source in Quantum and Classical Plasmas			
Dr. Azmat Rubab (PI), Urdu	Urdu Literary Research: Use of Digital Resources, Methodology and Terminology	HEC NRPU	4.5 million	2020
Dr. Khajista Jabeen (PI), Botany	Ochratoxigenic Fungi Management by Pytochemicals of Common Weeds	HEC NRPU	4.8 million	2020



Undergraduate STEM Education in Pakistan

(British Council Funded Project)

<https://www.facebook.com/STEMEducationPakistan>

British Council funded project “Undergraduate STEM Education in Pakistan” was executed at LCWU during 2022. The project was led by Dr. Engr. Aqsa Shabbir (PI) and had several national and UK based collaborators. Pakistani collaborators included: LUMS, UET Lahore, University of Peshawar, Virtual University of Pakistan, Bahauddin Zakariya University, FCCU and Khwarizmi Science Society. UK collaborators included: University of Glasgow, Middlesex University London, Cambridge University, Liverpool Hope University, University of Westminster, University of Plymouth and UPSIGN.

Capacity building of more than 200 current and future STEM faculty





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Capacity building of more than 200 current and future STEM faculty from the Departments of Electrical Engineering, Computer Science, City and Regional Planning, Geography, Environmental Science, Physics and Chemistry was carried out in a hybrid fashion. The topics of training varied from technical ones to leadership, pedagogical skills, to project management.





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2-days conference on “Horizons in STEM Higher Education”

2-days conference on “Horizons in STEM Higher Education” was organized from 14th-15th February 2023 for promoting and improving STEM education in Pakistan. The closing ceremony was graced by Engr. Najeeb Haroon, Chairman Pakistan Engineering Council and Former Member Parliament, as Chief Guest. Honorable Clara Strandhoj, Head of British High Commission for Lahore and Punjab, Mrs. Samina Randhawa, mother of late national hero Arfa Karim Randhawa and Vice Chancellor LCWU, Prof. Dr. Bushra Mirza (T.I) were the Guest of Honors.





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STEM role models



Dr. Engr. Aqsa Shabbir, Engineer



Prof. Dr. Zohra Kayani, Physicist



Dr. Nausheen Mazhar, Geographer



Prof. Dr. Erum Akbar Hussain, Chemist



Prof. Dr. Bushra Mirza (T.I.), Biologist

STEM awareness in a Public School





Media Coverage

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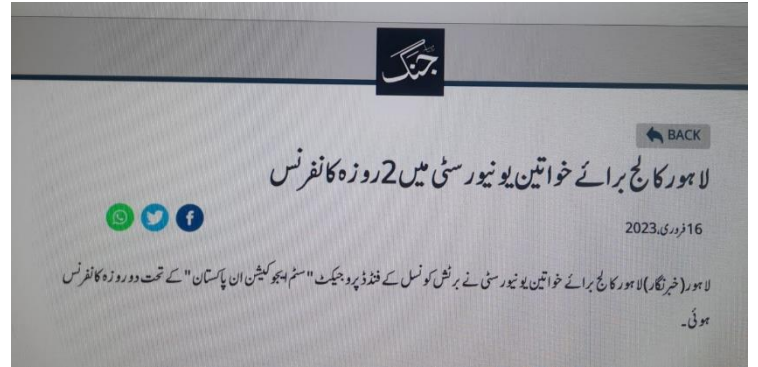


Inclusion of more women in STEM field key to growth

Our Correspondent | Thursday, Feb 16, 2023

LAHORE: Participants at an international conference on "Horizons in STEM Higher Education" emphasised that higher education leadership needs to take dynamic steps for making the STEM landscape more equitable, diverse and inclusive, discussed the challenges and future of women in engineering, shared the difficulties faced by women in the medical field and road map of betterment in a two-day conference organised by Lahore College for Women University here Wednesday.

The conference was part of a British Council-funded project, "STEM Education in Pakistan" under which capacity building of more than 200 current and future STEM faculty took place and highlighted several women who are role models in STEM fields.



2 روزہ کانفرنس

لاہور (ایجوکیشن رپورٹر) لاہور کالج برائے خواتین یونیورسٹی نے "سٹیٹیم ایجوکیشن ان پاکستان" کے تحت دو روزہ کانفرنس کا انعقاد کیا، چیئر مین پی ای سی نجیب ہارون، گلارا سٹرینڈوج نے خصوصی شرکت کی۔



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International conference on “Horizons in STEM Higher Education”



Lahore: (A) Participants at an international conference on “Horizons in STEM Higher Education”-PUNA



Lahore: (B) Participants at an international conference on “Horizons in STEM Higher Education”-PUNA

By our correspondent Lahore: According to the sources of Daily Notable, Participants at an international conference on “Horizons in STEM Higher Education” emphasized that higher education leadership needs to take dynamic steps for making the STEM landscape more equitable, diverse and inclusive, discussed the challenges and future of women in engineering., shared the difficulties faced by women in the medical field and road map of betterment in a 2-days conference organized by Lahore College for Women University here on Wednesday. The Conference was part of a British Council-funded project, “STEM Education in Pakistan” under which capacity building of more than 200 current and future STEM

faculty took place and highlighted several women who are role models in STEM fields. The closing ceremony of the project and the conference was graced by a former member national assembly and chairman of Pakistan Engineering Council, Engr. Najeeb Haroon as a chief guest. chairman Pakistan Engineering Council, Engr. Najeeb Haroon appreciated the engineering department at LCWU, and the objectives achieved under the project and distributed prizes to selected final-year projects which are focusing on flood monitoring and solar-based irrigation. These projects were supervised by Engr. Dr Aqsa Shabbir is also the project lead and conference chair for STEM education. Special Guest at the conference, Honor-

able Clara Strandhoj, Head of the British High Commission in Lahore and Punjab highly appreciated the initiatives and said that the inclusion of more women in STEM fields is the key to economic growth. In recent times, STEM education is considered unavoidable in modern systems to train inclusive workers that are among the primary requirements of development. To accomplish this, students need to be equipped with modern educational technology, she added. Vice Chancellor LCWU Prof. Dr Bushra Mirza stressed that LCWU is committed to women’s empowerment to which this project and conference have immensely contributed. Prof Dr Bushra Mirza stated that SCIENCE, technology, engineer-

ing and mathematics (STEM) is an interdisciplinary methodology. By linking various independent disciplines, STEM helps students in solving problems by building up their analytical skills. It is a well-established fact that with such a state-of-the-art approach, students are equipped with multidisciplinary approaches and feel motivated to tackle problems of even the most complex nature in their future endeavours, she added. Dr Engr. Aqsa Shabbir, conference chair and project lead shared that this project also involved STEM awareness in public schools and the sharing of achievements of accomplished STEM women will have long-lasting positive impacts. Esteemed guests at the conference included Maj. General (Retd) Shahzad Sikander, Vice Chancellor Lahore Garrison University, Samina Amjad, mother of late national hero Arfa Karim Randhawa, Prof. Dr Saima Yasin, first female professor of engineering in Punjab, Prof. Dr Shamsa Humayon, former Vice

Chancellor Fatima Jinnah Medical University, Iqra Harris, a senior journalist, Dr Engr. Mansoor Baloach, Chief Operating Officer Punjab HEC, Engr. Mir Masood convener of Pakistan Engineering Council Development Committee, Jawaad Gillani, Imran Cheema, Najam Mazari, Dr Ali Hussain Kazim, Hassan Yousaf Shah, Bushra Hassan, deputy director directorate general of audit, Prof. Dr Amina Muazzam, Deans, Directors and Faculty members of various universities of Lahore also attended the Conference. The partnering Pakistani universities included the Virtual University of Pakistan, Bahaud-din Zakariya University Multan, University of Peshawar, LUMS, FCCU and UET Lahore. The partnering UK universities included Cambridge University, University of Glasgow, Middlesex University London, University of Plymouth and Liverpool Hope University as well as UPSIGN and SAWIE network. - PUNA

Development (Funded by US mission Pakistan and PUAN)

Dr. Aqsa Shabbir in collaboration with Dr. Ali Hussain Kazim, a Pakistan-United States Alumni Network (PUAN) alumnus organized a two-day Counter-Deluge Hackathon at University of Engineering and Technology (UET) Lahore. More than 200 students from various STEM disciplines built electronic prototypes that could predict or prevent an artificial flood. They also pitched their projects based on historic data, and research. Hackathon was arranged under US mission to Pakistan and PUAN funded project, “Reshaping STEM



Workforce Landscape for Economic Growth and Development”.

The project closing ceremony comprised of a panel discussion on encouraging female participation in STEM. Prof. Dr. Syed Mansoor Sarwar, Vice Chancellor UET, Prof. Dr. Bushra Mirza, Vice Chancellor LCWU, and Mr. Karl Roger, Public Diplomacy Officer at U.S. Consulate revealed the strategy document, “Reshaping STEM workforce for economic growth and development.”





Visit of British Council Area Director to LCWU

9th May 2022: British Council Area Director Mr. Michael Houlgate visited LCWU and met the Vice Chancellor Prof. Dr. Bushra Mirza to discuss the British Council awarded projects to LCWU. Ms. Sara Pervaiz from British Council was also present. Dr. Aqsa Shabbir, Associate Professor Electrical Engineering and Director ORIC briefed the delegation about the progress of her two projects: STEM Education and Combating Deforestation Using Wireless Sensor Networks. Dr. Sumera Noreen, Chairperson History Department also discussed the progress of her British council funded Scouting project. Areas of mutual interest, including academic and research collaboration with UK universities and British Council's engagement with LCWU were discussed. Prof. Dr. Bushra Mirza emphasized the need to further strengthen the collaboration between British council and LCWU to enhance the success of research projects in various disciplines.



Project Presentation at Aiwan-e-Sadar, Islamabad

2nd March 2022: Dr. Aqsa Shabbir, Associate Professor Electrical Engineering and Director ORIC was invited to present her British Council and HEC funded, Innovative and Collaborative Research Grant Project, “Combating Deforestation Using Wireless Sensor Network” at Aiwan-e-Sadar to the Honorable President of Pakistan, Dr. Arif Alvi. Also present at this



prestigious occasion were Federal Minister of Education, British High Commissioner to Pakistan, British Council Global Chief, HEC Executive Director HEC, several vice chancellors and academics. This project with a worth of PKR 90 million is a collaboration between BUITEMS, NED Karachi, University of Glasgow and Middlesex University of London. Further, the first ever MoU of the Department of Electrical Engineering was signed between LCWU and BUITEMS under the scope of this project in January 2022.



Pakistan Engineering Council Engineering Capstone Expo 2022



Three of final year projects from Electrical Engineering Department were selected for presentation at Pakistan Engineering Council's Capstone Expo 2022 where only 170 projects were shortlisted for presentation among all engineering disciplines.



Project titled, "Roboserver for Food Management" in which an autonomous robot is made which can be used in hotels and hospitals, won the 2nd prize of PKR 100,000. The project was supervised by Dr. Engr. Aqsa Shabbir.

LCWU's participation in all Punjab Universities Innovation Expo 2022

15th November 2022: Punjab Higher Education Commission (PHEC) organized the Innovation Expo 2022 for All Punjab Universities. PHEC received more than 700 entries from the universities, however, only 259 quality projects were shortlisted for the expo. Out of these 259 projects, nine projects from LCWU from the departments of Applied Psychology, Botany, Electrical Engineering, Geography and Physics were selected for display.

Vice Chancellor Prof. Dr. Bushra Mirza (T.I), was a panelist in the panel discussion on "Paradigm Shift in Higher Education: From Theory to Practice" at the expo. Several students from LCWU participated in the event as Expo Ambassadors and were highly appreciated by PHEC.





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PhDs Completed During 2022

Sr. no	Student	Department	Supervisor	Date of Viva	Thesis Title
1.	Sana Javaid	Education	Dr. Aishah Siddiquah	16 th December, 2022	Development of a model for change management at higher education institutions
2.	Saima Jabeen	Education	Dr. Saira Jabeen	16 th December, 2022	An impact evaluation of English language teacher education programmed in universities of Pakistan using Brinkerhoff's the success case method
3.	Shazia Afshan	Education	Dr. Afifa Khanam	29 th November, 2022	Relationship of motivation, planned behavior & vicarious learning with locus of control of intermediate level students
4.	Mehreen Jalal	Botany	Dr. Shabnum Shaheen	18 th November, 2022	Taxonomic studies, antioxidant and hypoglycemic efficacy of selected medicinal plants of district Lahore
5.	Maryam Naveed	Physics	Dr. Rozina Chaudhary	17 th November, 2022	Linear and non-linear radiative plasma as an energy source
6.	Sumaira Pervaiz	Zoology	Dr. Zakia Kanwal	14 th November, 2022	Effects of microbial infections on three different genes of innate immune system in <i>labeo rohita</i>
7.	Humaira Ghani	Education	Dr. Tahira Kalsoom	21 st October, 2022	Effects of instructional strategies on the moral development of students in ESL class at college level



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8.	Sidra Rafique	Computer Science	Dr. Nadia Kanwal	20 th October, 2022	Analyzing and designing pupillometry system to classify emotional responses for audio/video stimulus using deep learning techniques
9.	Sidra Sarwar	Environmental Science	Prof. Dr. Arifa Tahir	20 th September, 2022	Biosynthesis of ethanol from molasses by <i>saccharomyces sp.</i> Immobilized in polymer supported nanoparticles
10.	Zahida Bashir	Urdu	Dr Rehana Kousar	15 th September, 2022	اُردو نثری ادب میں لاہور کی تہذیب و ثقافت (1932ء تا حال)
11.	Maryam Bawar	Applied Psychology	Prof. Dr Sarah Shahid	07 th September, 2022	Pattern of infants' physical and cognitive development.
12.	Khadeeja Imran	Political Science	Dr. Qamar Fatima	07 th September, 2022	Inter-provincial water sharing in pakistan 1991-2015
13.	Memoona Ashraf	Education	Dr. Sumaira Noreen	5 th September, 2022	Applying the context, input, process, product model to evaluate english curriculum for undergraduates in a public sector university
14.	Tahira Ilyas	Botany	Dr. Shabnum Shaheen	17 th August 2022	Taxonomic studies of selected euphorbiaceae species from pakistan using basic and modern approaches
15.	Shagufta Moghal	Education	Dr. Asma Shahid Kazi	19 th August 2022	Identity construction and perception of self in early career teachers at the tertiary level in pakistan
16.	Madiha Rashid	Botany	Prof. Dr. Zubaida Yousaf	16 th August 2022	Intraspecific variability of <i>spinacia oleracea</i> l. By phenotypic and genotypic markers
17.	Sarwar Sadiq	Education	Dr. Afifa Khanam	9 th May, 2022	Development of a teachers' training module for teaching academic writing at higher education level
18.	Aisha Younas	Biotechnology	Prof. Dr Shagufta Naz	14 th April, 2022	Molecular detection and characterization of nepoviruses in local grapevine varieties and



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					establishment of virus free plants via <i>in vitro</i> techniques
19.	Shahnaz Hanif	Botany	Dr. Khajista Jabeen	6 th April, 2022	Isolation of antifungal compounds from selected plant species for the management of damping-off disease
20.	Rehana Kousar	Islamic Studies	Dr Zahida Shabnum	10 th March, 2022	برصغیر کے مسلمانوں کی تعلیمی فکر میں حدیث کا مقام اور کردار
21.	Rehana Perveen	Chemistry	Dr. Shahida Shujaat	9 th March, 2022	Synthesis of metal nanoparticles and study on their bioactivity and toxicity
22.	Zulaibia Iqbal	Islamic Studies	Prof. Dr Mohsina Munir	8 th March, 2022	یو-این یوتھ ڈیولپمنٹ پالیسیز اور پاکستان --- اسلامی تعلیمات کے تناظر میں جائزہ
23.	Iffat Tahira	Islamic Studies	Dr. Asia Shabbir	26 th January, 2022	آئین پاکستان کی دفعات 62/63 نظری بنیادیں اور عملی نتائج (تاریخی و تجرباتی مطالعہ)
24.	Sadaf Nazir	Islamic Studies	Dr. Salma Mehmood	21 st January, 2022	رسول اللہ ﷺ کا طرزِ تخاطب --- عصری ابلاغیاتی تناظر میں تحقیقی جائزہ
25.	Wajiha Batool	Persian	Prof. Dr. Syeda Faleeha Zahra Kazmi	21 st January, 2022	A study of Persian Elegiac Poems (qasida) of Akbar and Jahangir's Era
26.	Maria Hasnain	Biotechnology	Dr. Neelma Munir	19 th January, 2022	Effect of different abiotic stress factors on metabolite profiling and utilization of algae as a potential feed stock for biodiesel production

PATENTS FILED

ORIC facilitates the university faculty to patent their inventions. Till date, 42 national and 2 foreign patents have been filed. National patents have been filed at the Intellectual Property Organization (IPO) of Pakistan.

Following are the details of **patents filed in 2022:**

Sr. No	Title of Patent	Inventor	Date of Filing	Department
1	A Process of Shelf-life Enhancement of Fully Ripened <i>Lycopersicum esculentum</i> Mill. Fruits	Dr. Zubaida Yousaf, Dr. Arusa Aftab, Muqaddes Noor, Zainab Maqbool, Dr. Muzammil Aftab	14-01-2022	Botany
2	Formulation of recombinant vaccine against enteric fever in Pakistan	Prof. Dr. Shagufta Naz, Dr. Kunza Latif, Dr. Imran, Dr. Rasheeda Bashir, Dr. Neelma Munir	02-08-2022	Biotechnology

A Process of Shelf-life Enhancement of Fully Ripened *Lycopersicum Esculentum* Mill Fruits

The research group working in botany department has successfully enhanced shelf life of tomato. This inventive work was conducted by Prof. Dr. Zubaida Yousaf and her team. Tomato (*Solanum lycopersicum* L.) is one of the most important vegetable crops worldwide for fresh market and processed products due to its health and economic importance.

The tomato fruit has a considerable value of the most important antioxidants such as lycopene, carotenoids, vitamin C, and minerals, which can play a vital role for suppressing the development of some human diseases including prostate, colon, and breast cancers. Tomatoes are classified as a climacteric fruit and deteriorate rapidly





after harvest due to soft textures and its susceptibility to microbial infection. The treatments suggested by Prof. Yousaf and her team had a positive and favorable effect in preserving the physiochemical properties of tomato fruit during preservation.

Formulation of recombinant vaccine against enteric fever in Pakistan

This work conducted by Prof. Dr Shagufta Naz and her team, offers an extensively referenced approach against *Salmonella enterica* serovar typhi is an intracellular anaerobic gram-negative bacterium, which causes typhoid fever in humans. The emergence of multi-drug resistance *Salmonella typhi* strains has become a significant issue leading to more difficulties in the management of disease especially in developing countries. High genetic variations among the field isolates may cause vaccination failure. Therefore, conserved and immunogenic proteins as vaccine candidate for *S.typhi* were developed by Biotechnology Department of LCWU. It was concluded from this study that vaccine in combination upto 125µg/ml dose is as good as commercial vaccine both by means of serological and protection. However, whole culture vaccine remained good as superb as all the compared vaccine.



EXTERNAL LINKAGES

Memorandum of Understanding (MOU) strengthen the bonds between the two institutions, further the academic, social and cultural objectives of the institutions, and promote better understanding between the faculty, staff, and students of the respective institutions. ORIC LCWU facilitated the signing of diverse MOUs this year with the expectation that the collaborative relationships established will provide mutual benefits to both parties. Collaborations include, but are not limited to, academic and resource exchanges, which could comprise program offerings, exchange of educational materials, joint research and development projects, publications, faculty and staff development, student exchanges, joint programs, transfer of technology, and other scholarly pursuits. Partnerships and linkages not only strengthen and promote efficiency, productivity, capabilities and competitiveness of departments and institutes but also



help practical research, employment, and social engagement with other institutions and industry. Following MoUs/Letter of Intents (LoI)s were signed in the year 2022:

NATIONAL LINKAGES			
Sr. No	Focal Department	Organization/Institution	Signing Date
1	Political Science	PILDAT (Pakistan Institute of Legislative Development and Transparency)	13-09-2022
2	ORIC	University of Okara	16-08-2022
3	Gender and Development Studies	US-Pakistan Partnership Grants Program (UPGP) – Kinnaird College for Women, University of Jhang & GIFT University	04-08-2022
4	University Advancement Financial Aid	Orange Tree Foundation	01-06-2022
5	Computer Science	University of Engineering and Technology (IIOE National Center Pakistan Collaborations)	30-05-2022
6	Applied Psychology	Punjab Institute of Mental Health	18-05-2022
7	ORIC	University of Jhang	12-04-2022
8	ORIC	Shahid Javed Burki Institute of Public Policy	April 2022
9	Geography	University of Peshawar	17-02-2022
10	Electrical Engineering	Balochistan University of Information Technology, Engineering and Management Sciences (BUIEMS)	4-01-2022
INTERNATIONAL LINKAGES			
Sr. No	Focal Department	Organization/Institution	Signing Date
1	Botany	China National Rice Research Institute, Hangzhou, China.	19-05-2022
2	Biotechnology	Milwaukee School of Engineering, Milwaukee, Wisconsin, USA	27-01-2022
3.	Statistics	University of Colorado Boulder, USA	13.04.2022

Pakistan Institute of Legislative Development and Transparency (PILDAT)



ORIC facilitated the signing of an MoU between Department of Political Science, LCWU and PILDAT (Pakistan Institute of Legislative Development and Transparency). This agreement tends to seek collaboration between two entities in terms of internship opportunities for students, research projects and logistic support for seminars, webinars and conferences.



University of Okara

ORIC facilitated signing of MoU between LCWU and University of Okara (UO) on 16th August 2022 which seeks to build various international research consortiums involving leading national and international institutions of higher learning. These consortiums will be for various disciplines of sciences, social sciences and humanities. Moreover,





building academia-industry linkages was also part of the understanding. Speaking at the signing ceremony, the worthy Vice Chancellor LCWU, Prof. Dr. Bushra Mirza regarded the MoU as a major milestone towards bringing national and global academic community on a platform where they could share innovative ideas, initiate joint research ventures, take advantage from common expertise and give their teachers and students broader exposure. The two universities will be collaborating in various crucial areas of research including genome editing, genetic studies, biodiversity and food security. Moreover, all other disciplines of sciences and social sciences will also have opportunities to collaborate. Dean Faculty of Engineering and technology, Prof. Dr. Intesar Ahmad, Director ORIC Dr. Aqsa Shabbir Director and Registrar UO Dr Muhammad Tahir Khan were also present among other attendees.



US-Pakistan Partnership Grants Program (UPGP) – Kinnaird College for Women, University of Jhang & GIFT University





ORIC



facilitated Gender and Development Studies Department in penning a four-party MoU with Kinnaird College for Women, University of Jhang and GIFT University to provide a platform for capacity building regarding establishment of new gender studies programs. The agreement was signed by Vice Chancellor LCWU Prof. Dr. Bushra Mirza, Mr. Muzaffar Abbas, Registrar University of Jhang, Prof. Dr. Rukhsana David Principal Kinnaird College for Women & Prof. Dr. Shahid Qureshi, Rector Gift University, Gujranwala. Department of Gender and Development Studies LCWU would provide help in establishing gender and development studies programs in partner universities under US-Pakistan Partnership Grants Program (UPGP) funded by the United States Government and administrated by United States Education Foundation in Pakistan (USEFP) entitled, ‘GDS-LCWU’s Initiative of Capacity Building & Professional Development of Partner Universities’.

Shahram Niazi Program Alumni officer USEFP, Summaya Tariq Education Adviser US Consulate, Dr Aqsa Shabbir Director ORIC, Uzma Ashiq In-charge GDS, representatives from all partner universities and representative from US consulate also attended the event.



لاہور کا ایجنڈا: پروفیسر ڈاکٹر بھوشنی آف جھنگ اور گفٹ یونیورسٹی کے مابین مختلف شعبوں میں تعاون کیلئے مفاہمت کی یادداشت پر دستخط کے چارے ہیں

4 تعلیمی اداروں میں مفاہمت کی یادداشت پر دستخط

پارٹنر ادارے: سنی تحقیق اور ترقی میں تعاون کریں گے: پروفیسر ڈاکٹر بھوشنی مرزا

لاہور (انٹیکنیشن رپورٹرز سے) لاہور کا ایجنڈا: پروفیسر ڈاکٹر بھوشنی مرزا اور گفٹ یونیورسٹی کے مابین مفاہمت کی یادداشت پر دستخط کے چارے ہیں۔ پروفیسر ڈاکٹر بھوشنی مرزا نے کہا کہ یہ مفاہمت کی یادداشت پر دستخط کے چارے ہیں۔ پروفیسر ڈاکٹر بھوشنی مرزا نے کہا کہ یہ مفاہمت کی یادداشت پر دستخط کے چارے ہیں۔ پروفیسر ڈاکٹر بھوشنی مرزا نے کہا کہ یہ مفاہمت کی یادداشت پر دستخط کے چارے ہیں۔

Orange Tree Foundation

ORIC facilitated signing of a MoU between Orange Tree Foundation and University Advancement and Financial Aid Office on 1st June 2022. Under the agreement Orange Tree Foundation would give 10 scholarships to the LCWU students for attainment of education.



UET Lahore (For International Institute for Online Education)

LCWU and UET Lahore signed a MoU on 30th May 2022 regarding the inclusion of LCWU as partner HEI for International Institute for Online Education (IIOE). The IIOE initiative is proposed by the UNESCO-ICHEI with its partner higher education institutions (HEIs) in developing countries and its partner enterprises and HEIs in China. Targeting SDG-4 for quality education, IIOE provides free access to various



video courses provided by UNESCO-ICHEI and other IIOE partner institutes. The collaboration led by Computer Science Department from LCWU will be beneficial for teachers as well as students.



Punjab Institute of Mental Health (PIMH)

ORIC facilitated the signing of an MoU between the Department of Applied Psychology and Punjab Institute of Mental Health (PIMH) on 18th May 2022 in a ceremony presided over by the Vice Chancellor Prof. Dr. Bushra Mirza. This is the first national MoU penned down by the Applied Psychology Department. Prof. Dr. Amina Muazzam, Chairperson Applied Psychology and Director ORIC, Dr. Aqsa Shabbir highlighted the significance of this agreement.



PIMH is the largest Psychiatric facility in South Asia. The MoU encompasses teaching, training, skill building and research capacity building in the mental health sciences for both faculty and students. LCWU will also partner with PIMH for different academic and mental health awareness activities throughout the year. PIMH was represented by Prof. Dr. Ali Madeeh Hashmi, Executive Director Dr. Mohsin Shaukat and other senior officials from PIMH. The MoU was attended by the Deans, Chairpersons, and senior faculty of LCWU.





Shahid Javed Burki Institute of Public Policy

ORIC facilitated establishment of a linkage with Shahid Javed Burki Institute of Public Policy (BIPP). Dr. Aqsa Shabbir Director ORIC outlined the objectives of the linkage which was signed by Vice Chancellor LCWU Prof. Dr. Bushra Mirza and Mr. Shahid Javed Burki, Former Finance Minister of Pakistan and Chairman, Shahid Javed Burki Institute of Public Policy. BIPP will provide financial assistance in the form of scholarships to needy and promising students of LCWU.



University of Jhang

ORIC coordinated and facilitated signing of MOU with University of Jhang for advancement of academics and collaborative research. Dr. Aqsa Shabbir, Director ORIC LCWU highlighted the benefits stemming out of a liaison with ORIC University of Jhang led by Ms. Samina Supra. The MoU was signed by Vice Chancellor LCWU Prof. Dr. Bushra Mirza and Vice Chancellor University of Jhang Prof. Dr.

Shahid Munir. Prof. Dr. Mirza commented that the MoU will help in enhancing the links between the two institutions who will now have an increased cooperation in future research and capacity building projects.



University of Peshawar

ORIC facilitated the Department of Geography, LCWU in establishing a linkage and signing a MoU with Department of Geography, University of Peshawar. This is the first ever MoU signed by the Geography Department as well as the first agreement signed with any institution in Khyber Pakhtunkhwa. The ceremony hosted at LCWU

was attended by Mr. Athar Bangash Director P & D and Prof. Dr. Atta-ur-Rahman, Chairperson,

Geography department from University of Peshawar. Dr. Aysha Haneef, In charge Geography Department



LCWU stressed that MoU will greatly benefit LCWU students in their research and study of landscapes found in Khyber Pakhtunkhwa. Further, both the signatories agreed on collaborating in joint research projects, faculty exchange, access to Labs, sharing Big Earth in-situ and digital data.



Sustainable Agriculture Water and Intelligent Environment Systems (SAWiE)

LCWU signed a MoU with the Sustainable Agriculture Water and Intelligent Environment Systems (SAWiE) to develop sustainable agriculture solutions. Prof. Dr. Bushra Mirza, Worthy Vice Chancellor LCWU and Engr. Mushtaq Gill- CEO SAWiE Systems signed the MoU.





It was agreed that both institutions shall cooperate in the fields of agriculture, environment, water and natural resources. Prof. Dr. Bushra Mirza said that the collaboration will promote sustainable solutions for agriculture and environment by saving water, reducing nutrients losses, appropriate application of fertilizer, develop early warning system for droughts, pests and disease attacks.

Balochistan University of Information Technology, Engineering and Management Sciences (BUIITEMS)

ORIC facilitated the signing of a MoU between Electrical Engineering Department LCWU and Balochistan University of Information Technology, Engineering and Management Sciences (BUIITEMS). This is the first MoU signed by Electrical Engineering





Department as well as the first signed with any institution in Balochistan. The MOU was signed in light of an Innovative and Collaborative Research Grant (ICRG) Project funded by the British Council and HEC which is led from LCWU by Dr. Aqsa Shabbir, Associate Professor Electrical Engineering and Director ORIC and is a joint project of BUISTEM, NED Karachi, University of Glasgow and Middlesex University of London. The project is aimed at combating deforestation using wireless sensor networks. Deforestation is a leading cause of global warming with Pakistan being one of the top ten countries in the world, severely affected by global warming and climate change.

The MOU ceremony was attended by Dr. Imran Sani from BUISTEMS, Dr. Kamran Ali from Middlesex University, London, Prof. Dr. Qammer Abbasi and Dr. Ali Jamshed from University of Glasgow, Dr. Sadia Murawwat, COD Electrical Engineering Department, Faculty members of Electrical Engineering, Deans, Directors, Registrar and Controller.

Prof. Dr. Bushra Mirza appreciated the performance of Electrical Engineering Department and said that the deforestation project will enable LCWU to attain the Sustainable Development Goals.

China National Rice Research Institute, Hangzhou, China.

ORIC LCWU facilitated the Department of Botany, LCWU in signing a letter of intent (LOI) with Chinese National Rice Research Institute (CNRRI), Hangzhou China accompanied by a seminar on "Role of Chinese and Pakistani Scientists in Life Sciences". This LOI aims at joint research projects, seeking funding for rice research, training of LCWU participants and exchange of education. The LOI was signed by worthy Vice Chancellor Prof. Dr. Bushra Mirza and attended Chairperson Botany department Prof. Dr. Zubaida



Yousaf, Prof. Dr. Farzana Rashid and other faculty members of Botany department. The LOI was facilitated by Prof. Dr. Zhang Junhua, Prof. Dr. Luo Ju, Deputy Director of Science and Technology



Transfer Service Division and Prof. Dr. Hu Peisong, Director General of CNRRI, China.



Milwaukee School of Engineering, Wisconsin, USA

ORIC facilitated the signing of a Letter of Intent (LOI) between Biotechnology Department LCWU and Milwaukee School of Engineering, Wisconsin, USA. The LOI was initiated by the Department of Biotechnology and is the first LOI penned down by the department. It aims to promote and develop cooperation between the concerned parties regarding research and academics in the areas of common



interest such as the fields of biomolecular engineering, biomedical, bioengineering, biotechnology, computer and software engineering on the basis of the principles of reciprocity and mutual benefit.



The LOI was signed by Prof. Dr. Bushra

Mirza, Vice Chancellor LCWU and Eric Baumgartner, Executive Vice President of Academics, Milwaukee School of Engineering, Wisconsin, USA. The meeting was attended by Prof. Gul Sadiq Afshan, Founder Biomolecular Engineering Program (BioE)-MSOE USA, Prof. Dr. Mehwish Iqtedar Chairperson Department of Biotechnology, LCWU, Faculty of the Biotechnology Department, Prof. Dr. Muhammad Afzal, Dean Faculty of Arts and Social Sciences and Dr. Aqsa Shabbir, Director ORIC.

Prof. Dr. Bushra Mirza appreciated this initiative and said that this LOI will provide grounds for collaborative research between the two institutions and will have long term benefits.

University of Colorado Boulder, USA



ORIC LCWU facilitated the signing of a Letter of Intent between the Department of Statistics, LCWU and the Department of Mathematics at the University of Colorado Boulder, USA. Dr. Asifa Kamal, Chairperson Statistics LCWU and Dr. Eric Vance, Associate Professor Department of Mathematics at University of Colorado Boulder have been chosen as coordinators who will look into the implementation of the terms and conditions of this cooperation program.

Visit of British Council's Director Education South Asian Region

ORIC hosted British Council's Director Education South Asian Region Mr. Salvador Lopez's visit to LCWU on 15th December 2022. He was accompanied by Ms. Varda Dar from the British Council.

The purpose was to further the linkages and collaboration between British Council and LCWU. Dr. Aqsa Shabbir, Director ORIC and Associate Professor Electrical Engineering presented an overview of achievements of British Council funded projects including the two projects for which she serves as the PI/co-PI. This included STEM Education in Pakistan project awarded under, Going Global Partnership Pak-UK Education Gateway and Innovative and Collaborative Research Grant, "Deforestation in Pakistan: Combating through



Prof. Dr. Bushra Mirza presenting a souvenir to British Council Director Education South Asia, Mr. Salvador Lopez. Standing alongside are Ms. Varda Dar from British Council and Dr. Aqsa Shabbir, Director ORIC



LCWU Climate Scientists working on ICRG Project, Deforestation in Pakistan, Combating through wireless sensor networks. Project is led in LCWU by Dr. Aqsa Shabbir.

Wireless Sensor Networks" which directly combats climate change. The team of climate scientists working on this project, exhibited their commitment to UN's Act Now Climate Change Actions.



ORIC LCWU Annual Report 2022



This was followed by a meet and greet with UK Alumni working in LCWU. Vice Chancellor LCWU Prof. Dr. Bushra welcomed the guests and expressed her desire of furthering collaborative work with the British Council. Mr. Lopez expressed his satisfaction with the research and academic work ongoing in LCWU.



ORIC Team with Mr. Salavador Lopez, British Council Director Education South Asia, Ms. Varda Dar from British Council and Vice Chancellor Prof. Dr. Bushra Mirza



UK Alumni in LCWU with Mr. Salavador Lopez, British Council Director Education South Asia, Ms. Varda Dar from British Council and Vice Chancellor Prof. Dr. Bushra Mirza

Meeting with ORIC and BIC FJWU

26th August 2022: Dr. Shoaib Akhtar, Director ORIC Fatima Jinnah Women University Rawalpindi along with his ORIC and BIC team, visited LCWU, held meeting with ORIC team LCWU and met the worthy Vice Chancellor Prof. Dr. Bushra Mirza. Research and networking opportunities along with roadmap of establishing and furthering Business Incubation Center (BIC) were discussed.



Meeting of Pakistan Engineering Council's, Women Engineers Development Committee

Department of Electrical Engineering and ORIC at LCWU hosted a meeting of Pakistan Engineering Council's, Women Engineers Development Committee. Role of LCWU in producing qualified female engineers through an accredited engineering program was highly appreciated. A discussion on networking event for women engineers for which LCWU may serve as a pivot was undertaken, along with the role that PEC along with LCWU can play for advancement of women engineers.



Dean Faculty of Engineering and Technology, Prof. Dr. Intesar Ahmed, Chairperson Electrical Engineering Dr. Sadia Murawwat, Associate Professor Electrical Engineering and Director ORIC Dr. Aqsa Shabbir, Convener Pakistan Engineering Council Women Engineer Development Committee Prof. Dr. Amanat Ali Bhatti, Deputy Convener Prof. Dr. Saima Yasin, Members Engr. Afia Sohail, Engr. Shaela Safwan, Engr. Saba Iqbal and Assistant Registrar PEC Fouzia Anwer.

Participation as Guest Speaker in International Symposium

11th August 2022: Dr. Aqsa Shabbir, Director ORIC took part in an International Symposium on Climate Smart Sustainable Rice Wheat Production System as a guest speaker. Her expert opinion and discussion on productive solutions on the rice wheat production system were very well received and appreciated by the audience and guests.



Meeting with Director ORIC University of Karachi

ORIC-LCWU hosted and held discussions with Director ORIC University of Karachi, Dr. Asma Tabassum on 19th May, 2022.

Possibilities of future linkages and research collaborations were discussed.

Senior manager ORIC Dr. Zia ul Haq and Dr. Mobina Ulfat, Assistant Professor of Botany were also present in the meeting.



Interactive session with Prof. Dr. Luis Fernando Alday, Rouse Ball Professor of Mathematics

25th May 2022: ORIC hosted Prof. Dr. Luis Fernando Alday, Rouse Ball Professor of Mathematics at University of Oxford and Director ORIC VUP Dr. Arshad Hussain Hashmi, for an interactive session with faculty of Mathematics Department and a meeting with worthy VC Prof. Dr. Bushra Mirza, accompanied with COD Physics Prof. Dr. Zohra Kiyani, COD CS Dr. Saima Farhan and COD Mathematics Dr. Maria Hussain.



Meeting with Center for Language Engineering, Al-Khwarizmi Institute of Computer Science (KICS)

February 2022: A team from Center for Language Engineering, Al-Khwarizmi Institute of Computer Science (KICS), University of Engineering & Technology Lahore (UET) visited ORIC LCWU for establishing collaboration. The purpose of this meeting was to offer LCWU free access to use Parakh for checking Urdu plagiarism and authenticity of their research work. Dr. Rehana Kausar, Chairperson Urdu Department, Dr. Ayesha and Dr. Imrana from Punjabi Department and Director Research Prof. Dr. Amina Muazzam represented LCWU in this session. Prof. Dr. Kashif Javed and Ms. Sana from KICS presented the particular features and operation details of software.



Meeting with Global Regional Innovation Program (GRIP)

21st January, 2022: ORIC LCWU organized a meeting with Global Regional Innovation Program (GRIP) team to



discuss the importance of international exposure for women academicians & startup founders. Ms. Hina Tariq, Chaudhary Mohammad Akram, Center for Entrepreneurship Development (CMACED), Mr. Waleed (GRIP Coordinator CMACED), Dr. Aqsa Shabbir, Director ORIC LCWU and Ms. Shagufta (ETE) LCWU, attended this meeting.

Meeting with Lahore Chamber of Commerce & Industry (LCCI) Vice President

January 2022: ORIC LCWU was invited by Lahore Chamber of Commerce & Industry (LCCI) for a meeting chaired by LCCI Vice President Mr. Haris Ateeq and Dr. Aqsa Shabbir, Director ORIC LCWU. It was unanimously agreed to promote university-industry interaction, and entrepreneurial activities. Dr. Zia-Ul-Haq, Senior Manager ORIC was also present in the meeting. Both sides were passionate about university-industry engagement, technology transfer, entrepreneurship and innovation in collaboration. Sheikh Ibrahim and Mardan Ali Zaidi from LCCI were also present on the occasion.



Advisory Meeting with Industrial Expert

11th January, 2022: ORIC facilitated the Department of Geography for advisory meeting with industrial expert Sunder Trading Company affiliated with SOKKIA for the purchase of imported instruments. Shaukat Ali Nadeem, Chief Executive of the company joined the meeting and guided the faculty of Geography for the purchase of instruments. This company has been a pioneer in sales, services & rentals for full range of surveying instruments since the past 36 years. These instruments are required by Geography Department every year but are not easily available in local markets.



Meeting with UET KSK Team

10th January 2022: ORIC LCWU conducted a meeting with Engr. Dr. Muhammad Farooq from UET KSK and Dr. Abdul Sattar Nizami from GCU to develop linkages for collaborative research between LCWU, GCU and UET, KSK.





Dr. Aqsa Shabbir, Director ORIC chaired the meeting and possible avenues for collaboration in the field of academia and research were discussed.

Visit of Vice Chancellor Mehran University of Engineering and Technology



The Vice Chancellor of Mehran University of Engineering and Technology visited LCWU. He visited the LCWU History Museum as well as the Centenary Monument. Various aspects of collaboration and linkages were discussed in particular between Department of Electrical Engineering and Mehran UET.





Meeting of Industrial Advisory Board of Electrical Engineering Department

The meeting was convened by Dean Faculty of Engineering and Technology, LCWU Prof. Dr. Intesar and COD Electrical Engineering Dr. Sadia Murawat. It was attended and participated in by Prof. Dr. Muhammad Kamran, Vice Chancellor MNS UET, Multan. Prof. Dr. Sohail Aftab Qureshi, South Asian Electric Concern, Prof. Dr. Tahir Izhar, Mr. Tariq Malik Safe City Authority, Director ORIC LCWU, Dr. Aqsa



Shabbir and others. Various avenues for enhanced industry-academia linkages were discussed with an end goal to facilitate students in internship opportunities and skill-based learning.





Visit of ORIC Lahore Garrison University

ORIC team from Lahore Garrison University visited LCWU to discuss various avenues of linkages and collaboration between the two institutions.



University-Industry Linkage Roundtable

The Lahore Chamber of Commerce & Industry (LCCI) and Higher Education Commission (HEC) jointly organized the University-Industry Linkage Roundtable on 22nd January, 2022. The meeting was chaired by Ms. Shaista Sohail, Executive Director HEC, President and Senior Vice President of LCCI. Dr. Aqsa Shabbir, Director ORIC, Prof. Dr. Amina Muazzam, Director Research and Dr. Safia Anjum, Director Academics, represented LCWU at this event.



Visit of NED UET Karachi

June 2022: Dr. Aqsa Shabbir Director ORIC, Associate Professor Electrical Engineering visited the Human Robotics and Condition Monitoring Lab at National Center of Robotics and Automation (NCRA) in NED UET, Karachi. Several discussions were held for improving industry academia linkages and establishing long lasting collaboration between LCWU and NED UET Karachi. She also visited National Centre for Big Data and Cloud Computing. She was welcomed by Director ORIC, Dr. Riaz uddin and Director BIC Dr. Sundus Ali and Prof. Dr. Ali Ismail at NED UET.





Visit of ORIC University of Karachi

June 2022: Dr. Aqsa Shabbir Director ORIC was welcomed as a special guest at their Research Innovation Competition 2022. She held discussion with the Chief Guest, Mr. Iqbal Memon, Commission Karachi on inter-provincial research linkages and collaboration.

PHEC celebrates Times Higher Education World University Rankings

PHEC celebrates Times Higher Education Ranking 2022 of universities of Punjab. LCWU is the only women university of Pakistan to have featured in Times Ranking. In a commemorating event held on 2nd November 2022 at PHEC the Vice Chancellor LCWU, Deans, Director ORIC, Director QEC and Chief Librarian from LCWU received the shield of appreciation from Chairman PHEC and Secretary HED and other high-ranking officials.





Meeting with CEO Ibne Sine ICT Solutions

CEO Ibne Sine ICT Solutions, Mr. Rozi Ali visited ORIC LCWU and held a meeting to discuss further collaborations in research and academics. He was accompanied by Dr. Taskeen Raza, Assistant Professor Electrical Engineering Department.





1st International Conference on Sustainable Development Goals

29th -31st March

Lahore, Pakistan

LAHORE COLLEGE FOR WOMEN UNIVERSITY





1st International Conference on Sustainable Development Goals (29th – 31st March 2022)



“We must rise higher to rescue the Sustainable Development Goals – and stay true to our promise of a world of peace, dignity and prosperity on a healthy planet.”

UN Secretary General – Antonio Guterres

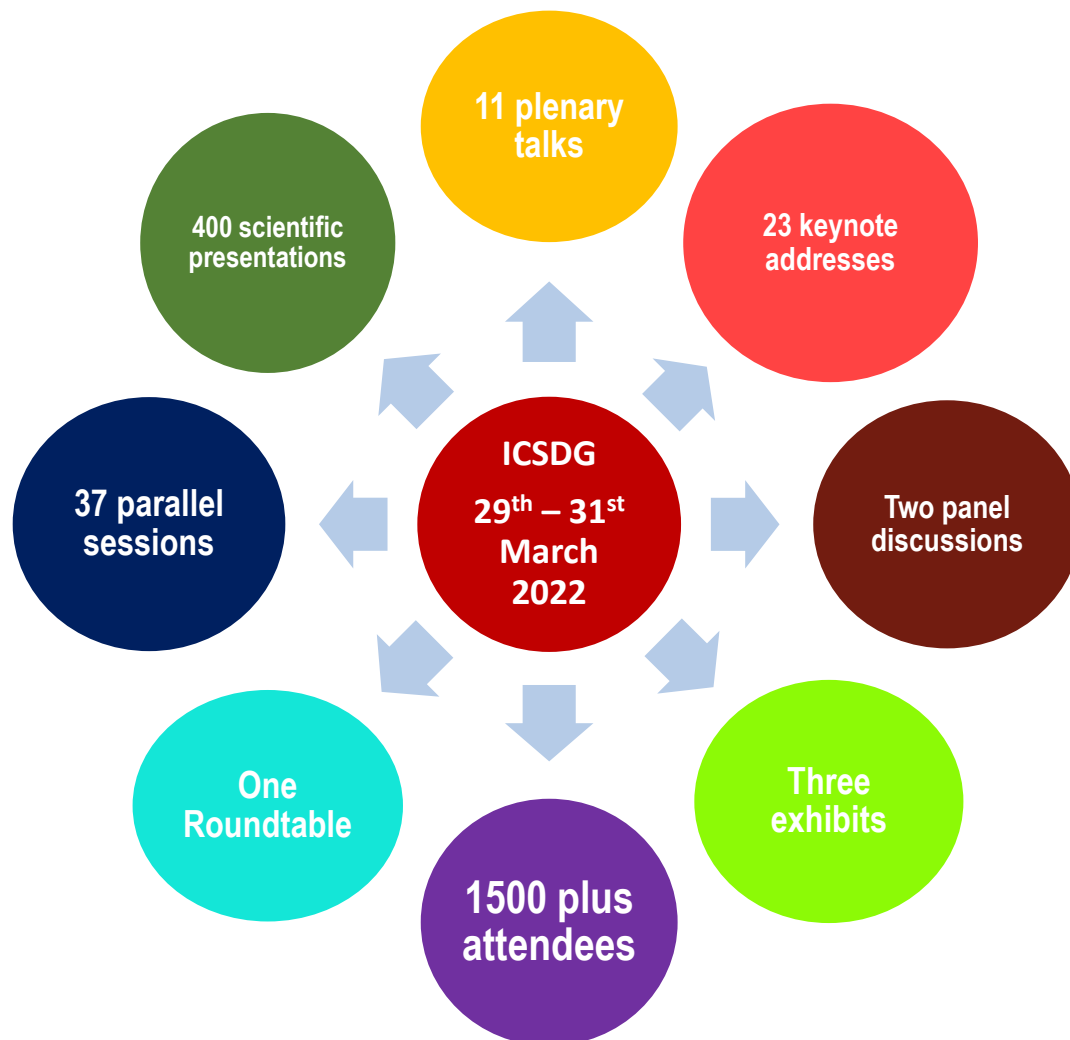
Under the patronage of the worthy Vice Chancellor, Prof. Dr. Bushra Mirza, the 1st International Conference on Sustainable Development Goals (ICSDG 2022) was organized by the Office of Research, Innovation & Commercialization (ORIC) and Directorate of Research, Lahore College for Women University, Lahore from 29th to 31st March 2022. The conference with the theme “Localizing SDGs through academia” focused on United Nations 2030 Agenda for Sustainable Development which covers a wide range of interrelated goals, including poverty eradication and economic growth, social inclusion, environmental sustainability and peace for all people by 2030. The conference was first of its kind in the history of LCWU with more than 20 academic departments of the university working simultaneously in addressing and managing the different themes. PKR 4.0 million (in cash/kind) were raised as sponsorship from academia and industry for ICSDG 2022. Industry sponsor included, Qasim Ali Shah Foundation, Izhar Group, Chiltan Pure, Seasons Group, Ehsan Chappal Store, Hardees, Mcdonalds, Denim by Mood and ChenOne Interiors. Academic sponsors included United States Educational Foundation (USEFP) and Pakistan Science Foundation (PSF).

Prof. Dr. Zabta Khan Shinwari (distinguished national professor), Mr. Qasim Ali Shah (author and motivational speaker), Mr. Mudassir Riaz Malik (Director General Social Welfare Punjab) and Mr. Zaigham Mehmood Rizvi (Chairman Task Force PMs Naya Pakistan Housing Scheme) and Prof. Dr. Qammer Hussain Abbasi (Reader, James Watt School of Engineering, University of Glasgow) were the keynote and invited speakers at the inaugural session of the conference and the closing ceremony was graced as chief guest by Prof. Dr. Shahid Mahmood Baig, Chairman Pakistan Science Foundation.

About 1500 people participated in the conference, including participants from Africa, Asia, Europe, United Kingdom, and USA. More than 600 scientific abstracts were received out of which 400 were accepted and presented in 37 parallel sessions. The conference comprised of 11 plenary talks and 23 keynote addresses in addition to three exhibits, one industry roundtable and two panel discussions spanned over three days.



The conference pointed out areas that need urgent action to rescue the SDGs and deliver meaningful progress for people and the planet by 2030. The scientific sessions pointed out areas including poverty and hunger eradication, improving health and education, promoting climate change, and generated a wide range of potential solutions and proposals for how to better integrate efforts to better tackle these interlinked global crises and accelerate action to address these issues.





INAUGURAL CEREMONY
 YOU ARE CORDIALLY INVITED TO PARTICIPATE IN
 1ST INTERNATIONAL CONFERENCE ON
SUSTAINABLE DEVELOPMENT GOALS
 UNDER THE PATRONAGE OF WORTHY VICE-CHANCELLOR
 PROF. DR. BUSHRA MIRZA (T.I)
 LAHORE COLLEGE FOR WOMEN UNIVERSITY
 DATE: 29TH MARCH 2022 TIME: 9:00AM-2:00PM
 VENUE: IQRA AUDITORIUM LCWU LAHORE
STRIVING FOR BETTER PLANET

INAUGURAL CEREMONY PROGRAM
 1ST INTERNATIONAL CONFERENCE ON
SUSTAINABLE DEVELOPMENT GOALS

29TH MARCH 2022

8:00AM-9:30AM	REGISTRATIONS & GUESTS TO BE SEATED IN IQRA AUDITORIUM
9:30AM-9:45AM	RECITATION, WELCOME AND OVERVIEW OF THE CONFERENCE
9:45AM-10:00AM	ADDRESS BY THE WORTHY VICE CHANCELLOR, LCWU
10:00AM-10:20AM	KEYNOTE SPEAKER 1 (HONORABLE QASIM ALI SHAH)
10:20AM-10:40AM	KEYNOTE SPEAKER 2 (PROF. DR. ZABTA KHAN SHINWARD) (S.D)
10:40AM-11:00AM	KEYNOTE SPEAKER 3 (HONORABLE MR. MUDASSAR RIAZ MALIK)
11:00AM-11:15AM	ADDRESS BY THE CHIEF GUEST: MR. ZAIGHAM ABBAS RIZVI, CHAIRMAN NAYA PAKISTAN HOUSING TASK FORCE
11:15AM-11:45AM	REFRESHMENTS
11:45AM-12:00PM	INAUGURATION OF ART EXHIBIT AT NIHQ ART GALLERY, EXHIBIT ON REDUCING, REUSING AND RECYCLING, EXHIBIT OF MENTAL HEALTH AND WELL BEING AND POSTER FOYERS
12:00PM-12:30PM	PLENARY TALK BY PROF. DR. QAMMER ABBASI
12:30PM-1:00PM	PLENARY TALK BY DR. SAMAR MUBARIK MAND (NL, HL, SD)
1:00PM-2:00PM	LUNCH

CLOSING CEREMONY INVITATION
 1ST INTERNATIONAL CONFERENCE ON
SUSTAINABLE DEVELOPMENT GOALS
 DATE: 31ST MARCH 2022 TIME: 3:30PM-5:00PM
 VANUE: IQRA AUDITORIUM LCWU LAHORE

03:30 TO 03:40 PM	CONFERENCE REPORT
03:40 TO 03:55 PM	ADDRESS BY WORTHY VICE-CHANCELLOR LCWU
03:55 TO 04:05 PM	ADDRESS BY THE CHIEF GUEST
04:05 TO 04:15 PM	VOTE OF THANKS
04:15 TO 04:30 PM	DISTRIBUTION OF SHIELDS & CERTIFICATES
04:30 TO 05:00 PM	REFRESHMENTS



Glimpses from the Inaugural Session





ORIC LCWU Annual Report 2022







ORIC LCWU Annual Report 2022



Exhibits





ORIC LCWU Annual Report 2022





Glimpses from the Concluding Session





ORIC LCWU Annual Report 2022





ORIC LCWU Annual Report 2022



Glimpses from the Scientific Sessions



Scientific session on SDG 9 and 17, Industry Innovation & Infrastructure and Partnership for goals, led by Scientific Chair, Dr. Aqsa Shabbir, Director ORIC and Dr. Saima Farhan, Chairperson Computer Science



Scientific session on SDG 6, Clean water & Sanitation led by Scientific Chair, Prof. Dr. Zohra Kiyani, Chairperson Physics



Scientific session on SDG 8, Decent Work and Economic Growth led by Scientific Chair, Dr. Samia Nasreen, Chairperson Economics.



Scientific session on SDG 3, Good Health and Wellbeing led by Scientific Chair, Prof. Dr. Amina Muazzam, Chairperson Psychology



Scientific session on SDG 11, Sustainable cities and communities led by Prof. Dr. Atiq ur Rahman & Dr. Aysha Hanif and SDG 10, Reduced Inequalities led by Dr. Nausheen Mazhar, Chairperson Geography



Scientific session on SDG 3, Gender Equality led by Scientific Chair, Prof. Dr. Amina Muazzam, Chairperson Psychology



Scientific session on SDG 16, Peace led by Prof. Dr. Syeda Faleeha Zahra Kazmi, Chairperson Persian



Scientific session on SDG 1, No Poverty led by Scientific Chair, Prof. Dr. Masooma Abbas Zaidi Chairperson Research Center of Art and Design



Scientific session on SDG 2, Zero Hunger led by Scientific Chair, Prof. Dr. Erum Akbar Hussain, Chemistry



ORIC LCWU Annual Report 2022



Scientific session on SDG 7, Affordable and Clean Energy and SDG 17, Partnership for Goals was led by Dr. Sadia Murawwat, Chairperson Electrical Engineering and Dr. Saima Farhan, Chairperson Computer Science. Provincial Minister for Social Welfare and Baitul Mal, Mr. Syed Yawar Bukhari served as Chief Guest for the sessions.



Scientific session on SDG 14 Life under Water led by Scientific Chair, Prof. Dr. Farzana Rashid, Zoology



Scientific session on SDG 15, Life on land led by Scientific Chair, Prof. Dr. Zubaida Yousaf, Chairperson Botany



Pre Conference Workshops

1st International Conference on Sustainable Development Goals 2022
29th -31st March
Lahore, Pakistan

15 LIFE ON LAND

17 PARTNERSHIPS FOR THE GOALS

1st International Conference on Sustainable Development Goals 2022
29th -31st March
Lahore, Pakistan

Under the patronage of Worthy Vice Chancellor Prof. Dr. Bushra Mirza (T.I)
Office of Research, Innovation & Commercialization in collaboration with Directorate of Research
Lahore College for Women University is organizing a pre-conference workshop

Addressing SDG Goal 15: Life on Land

CONTRIBUTION OF LIFE SCIENTISTS TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS

WEDNESDAY, FEBRUARY 23, 2022
10.30 AM- 12.30PM
VENUE: STUDENTS SERVICE CENTER, LCWU

Prof. Dr. Zaheer ud Din Khan
Ph.D. King's College, London, Distinguished Professor, Department of Botany, GC University, Lahore
+92 42 99203801-9, Ext. 343 | icsd@lcwu.edu.pk
sdg.conference@lcwu
<https://www.facebook.com/SDG-Conference-LCWU-2022>

Prof. Dr. Tahira Aziz
Chairperson, Department of Environmental Science /Controller of Examinations, Lahore College for Women University, Lahore
+92 42 99203801-9, Ext. 343 | icsd@lcwu.edu.pk
sdg.conference@lcwu
<https://www.facebook.com/SDG-Conference-LCWU-2022>

REGISTER NOW

Registration Fee from outsiders (only female) -----Rs. 1000/-
Registration fee LCWU (faculty/students)-----Rs.500/-

Addressing SDG Goal 17: Partnerships for the Goals

OBJECTIVES OF INTERNATIONALIZATION

FRIDAY, FEBRUARY 18, 2022
10.30 AM- 12.30PM
VENUE: G-35, SOCIAL SCIENCE BUILDING, LCWU

Ms. Saima Asghar Riaz
Experienced TESOL, Higher education, and Internationalization Specialist
CEO and Co-Founder Solutions to Enhance Professional Skills (STEPS),
Representative of Pakistan and UAE in University of Warwick, UK

REGISTER NOW

Registration Fee from outsiders (only female) -----Rs. 1000/-
Registration fee LCWU (faculty/students)-----Rs.500/-

Pre Conference Workshops arranged under SDG 15, Life on Land conducted by Prof. Dr. Zaheer ud Din Khan and SDG 17, Partnership for Goals conducted by Ms. Saima Asghar Riaz



Glimpses from the Conference Dinner



Conference dinner at POET restaurant Lahore on the second day of conference





ORIC LCWU Annual Report 2022



Tour of the Greater Iqbal Park & Lahore Fort on the second day of Conference



Musical Evening



Musical evening by the Government College University's Nazir Ahmad Society on the first day of Conference



Media Coverage



Daily Notable

Wednesday, March 30, 2022, 26 Shaban, 1443 | Rs 10 | Pages 4 | Registered | CPL No. 401 | Volume: III, Issue No CCLIX | Lahore
 www.thedailynotable.com | Dailynotable@gmail.com | Founder, Editor Attaul Wadood | NE. A. M. Zeeshan | www.facebook.com/Daily-Notable

The three-day 1st International Conference on Sustainable Development Goals (ICSDG 2022)

Lahore: According to the sources of Daily Notable, The three-day 1st International Conference on Sustainable Development Goals (ICSDG 2022) organized by the Office of Research, Innovation & Commercialization and Directorate of Research, Lahore College for Women University, Lahore began here with the 2030 Agenda for Sustainable Development covering wide range of inter-related goals, including poverty eradication and economic growth, social inclusion, environmental sustainability and peace for all people by 2030.

The conference was jointly organized by Lahore College for Women University in collaboration with Pakistan Science Foundation, the SDGs Section of the Ministry of Planning & Development & Special Initiatives, the SDGs Support Unit Government of Punjab and Qasim Ali Shah Foundation. The conference aims to provide a platform for the academic community to get exposed to international research on the SDGs and highlight the various ways in which academics can help in achieving SDGs. Prof Dr Bushra Mirza

Vice-Chancellor of Lahore College for Women University appreciated the efforts of ORIC and Director Research on the successful execution of the first SDG conference. While addressing the occasion Dr Bushra Mirza emphasized that this conference was a big opportunity for scholars to find new directions in their future research with a special focus on solving problems relating to SDGs. While mentioning the commitment of Pakistan to Sustainable Development Goals, she reiterated that without understanding the gender per-

spective, striving for achieving SDGs might become difficult. Mr Zaigham Mehmood Rizvi, Chairman of Naya Pakistan Task Force, while addressing the audience talked about government initiatives to target various SDGs challenges faced by Pakistan. Art Exhibition in NHQ Art Gallery showcasing art projects of IVAD faculty and the students was inaugurated by Mr Mudassar Riaz Malik director-general of social welfare Punjab. The poster foyer was inaugurated by Chief Guest, Prof. Dr Zabta Khan Shinwari (S.I) (T.I) and Prof. Dr Qa-



Lahore: Prof Dr Bushra Mirza Vice-Chancellor of Lahore College for Women University in a group photo with other officials during The three-day 1st International Conference on Sustainable Development Goals (ICSDG 2022)-PUNA

mmar Abbasi, University of Glasgow. At this conference various national and international researchers, scholars and academicians will be presenting their papers and posters. The conference is chaired by Dr Aqsa Shabbir, Director

ORIC and Prof. Dr Amina Muazzam, Director Research. Dr Muhammad Afzal Dean of Faculty of social sciences LCWU, Mr Qasim Ali Shah, Prof. Dr Zabta Khan Shinwari also attended the conference. - PUNA



EXPRESS NEWS THE EXPRESS TRIBUNE URDU E-PAPER ENGLISH E-PAPER WATCH EXPRESS NEWS LIVE

SHARE

لاہور کالج برائے خواتین یونیورسٹی میں پائیدار ترقیاتی اہداف پر پہلی بین الاقوامی کانفرنس
 لاہور (نامہ نگار خصوصی) لاہور کالج برائے خواتین یونیورسٹی میں پائیدار ترقیاتی اہداف پر پہلی بین الاقوامی تین روزہ کانفرنس منعقد کی گئی۔ کانفرنس کی صدارت وائس چانسلر ایل سی ڈبلیو یو پروفیسر ڈاکٹر بشری مرزانے کی۔ کانفرنس کا مقصد تعلیمی حلقوں کو ایس ڈی جیز میں بین الاقوامی تحقیق سے روشناس کرانے کے لیے ایک پلیٹ فارم مہیا کرنا تھا ڈاکٹر محمد افضل، قاسم علی شاہ، پروفیسر ڈاکٹر زابتا خان شنواری اور ڈی سوشل ویلفیئر مدثر ریاض ملک سمیت قیطنی و طالبات نے شرکت کی۔ وائس چانسلر پروفیسر ڈاکٹر بشری مرزانے کانفرنس کے کامیاب انعقاد پر ڈائریکٹر اور کوریسپنڈنٹ کی کاوشوں کو سراہا۔ انہوں نے کہا کہ یہ کانفرنس اسکالرز کے لیے ایس ڈی جی ایوز سے متعلق مسائل کے حل پر خصوصی توجہ کے ساتھ اپنی مستقبل کی تحقیق میں نئی سمتیں تلاش کرنے کا ایک بڑا موقع ہے۔



لاہور کالج فار وین یونیورسٹی میں انٹرنیشنل کانفرنس سے اس چانسلر اس چانسلر ڈاکٹر بشری مرزا خطاب کر رہی ہیں (فونو پاکستان)



لاہور کالج فار وین یونیورسٹی میں طالبات ٹرائن میں ریکی ایچ، ریجری ہیں

اس کی سی سی آر جیٹ میں ایچ اور پی ایچ اس میں
 دو سبب آدمی تھا جو کہ ہوں کا عاشق، ریشمی لوگوں
 دو نہ سن کے گا تری صدا
 کامیاب اور اپنے حاسدوں کیلئے بھی پال تھا۔
 جو چلا گیا اسے بھول جا
 جو لوگ اسے ڈرتے رہے، وہ بوقت ضرورت ان
 لیکن خود کو کیسے بھلا یا جاسکتا ہے

لاہور کالج میں پائیدار ترقیاتی اہداف پر کانفرنس کا آغاز، نمائش کا بھی افتتاح
مستقبل کی تحقیق میں نئی سمتیں تلاش کرنے کا موقع ہے، ڈاکٹر بشری مرزا، شیخ رشیدی

لاہور (خبر نگار) لاہور کالج برائے خواتین یونیورسٹی میں پائیدار ترقیاتی اہداف پر پہلی بین الاقوامی تین روزہ کانفرنس شروع ہوئی۔ کانفرنس کی صدارت اس چانسلر پروفیسر ڈاکٹر بشری مرزا نے کی۔ کانفرنس کا مقصد تعلیمی ماحول کو ایس ڈی جیز میں بین الاقوامی تحقیق سے روشناس کرانے کے لیے ایک پلیٹ فارم مہیا کرنا تھا۔ ڈاکٹر محمد افضل، قاسم علی شاہ، پروفیسر ڈاکٹر زانا خان شتواری اور ڈی سوشل ویلفیئر ڈر ریاض ملک سمیت قیامی و طالبات نے شرکت کی۔ لاہور کالج فار وین یونیورسٹی کی وائس چانسلر پروفیسر ڈاکٹر بشری مرزا نے کانفرنس کے کامیاب انعقاد پر ڈاکٹر کینڈا اورک و ریورسٹی کی کاوشوں کو سراہا۔ انہوں نے کہا کہ یہ کانفرنس اسکالرز کے لیے ایس ڈی جی ایف سے متعلق مسائل کے حل پر خصوصی توجہ کے ساتھ اپنی مستقبل کی تحقیق میں نئی سمتیں تلاش کرنے کا ایک بڑا موقع ہے۔ نیا پاکستان ٹاسک فورس کے چیئرمین شیخ محمود رشیدی نے کہا کہ پاکستان کو ریجنل مختلف ایس ڈی جیز چیلنجز سے نمٹنے کے لیے حکومتی اقدامات کے بارے میں بتایا۔ این ایچ کیو آرٹ گیلری میں نمائش کا افتتاح ڈی جی سوشل ویلفیئر ڈر ریاض ملک نے کیا۔

یو ایو ویسٹین سے 0.75 فیصد بچے
 محروم رہے، ہریانہ یو ایو پروگرام
 لاہور (جنرل ریپورٹر) ہریانہ یو ایو پروگرام کے مطابق پنجاب میں یو ایو کے خاتمے کی قومی مہم کے دوران 2 کروڑ 20 لاکھ سے زائد بچوں کو یو ایو سے بچاؤ کی دیکھیں قرآنم کر کے مطلوبہ پورتن حاصل کی گئی۔

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 روزنامہ بریں لاہور 2022



لاہور کالج برائے خواتین یونیورسٹی پائیدار ترقیاتی اہداف پر بین الاقوامی کانفرنس
ڈاکٹر محمد افضل، قاسم علی شاہ، پروفیسر زانا خان شتواری اور ڈر ریاض ملک کانفرنسیاں

لاہور (جنرل ریپورٹر) لاہور کالج برائے خواتین یونیورسٹی میں پائیدار ترقیاتی اہداف پر پہلی بین الاقوامی تین روزہ کانفرنس منعقد کی گئی۔ کانفرنس کی صدارت اس چانسلر پروفیسر ڈاکٹر بشری مرزا نے کی۔ کانفرنس کا مقصد تعلیمی ماحول کو ایس ڈی جیز میں بین الاقوامی تحقیق سے روشناس کرانے کے لیے ایک پلیٹ فارم مہیا کرنا تھا۔ ڈاکٹر محمد افضل، قاسم علی شاہ، پروفیسر ڈاکٹر زانا خان شتواری اور ڈی سوشل ویلفیئر ڈر ریاض ملک سمیت قیامی و طالبات نے شرکت کی۔ لاہور کالج فار وین یونیورسٹی کی وائس چانسلر پروفیسر ڈاکٹر بشری مرزا نے کانفرنس کے کامیاب انعقاد پر ڈاکٹر کینڈا اورک و ریورسٹی کی کاوشوں کو سراہا۔ انہوں نے کہا کہ یہ کانفرنس اسکالرز کے لیے ایس ڈی جی ایف سے متعلق مسائل کے حل پر خصوصی توجہ کے ساتھ اپنی مستقبل کی تحقیق میں نئی سمتیں تلاش کرنے کا ایک بڑا موقع ہے۔ نیا پاکستان ٹاسک فورس کے چیئرمین شیخ محمود رشیدی نے کہا کہ پاکستان کو ریجنل مختلف ایس ڈی جیز چیلنجز سے نمٹنے کے لیے حکومتی اقدامات کے بارے میں بتایا۔ این ایچ کیو آرٹ گیلری میں نمائش کا افتتاح ڈی جی سوشل ویلفیئر ڈر ریاض ملک نے کیا۔

یونیک

جنگل جھوڑ



Entrepreneurship & Incubation





Launch of Khadija-Tul-Kubra Business Incubation Center

LCWU as a leading partner in the entrepreneurial consortium comprising of Virtual University of Pakistan (VU) and Fatima Jinnah Medical University (FJMU) inaugurated the establishment of Khadija-Tul-Kubra, Business Incubation Center on 12th October 2022.



The business incubation center is named after 'Hazrat Khadija-Tul-Kubra' the first Muslim woman and wife of Holy Prophet (PBUH), who is a role model for all businesswomen. It is being established under a HEC funded PKR 40 Million Project which was won under the dynamic leadership of Prof. Dr. Bushra Mirza by Director ORIC, Dr. Engr. Aqsa Shabbir (Project Lead) and Dr. Muhammad Zia ul Haq (co-lead) at ORIC, LCWU. This project will lead to the formation of a BIC at VU and FJMU. The honorable Vice Chancellors, ORICs, top management of the three universities and prominent industry leaders attended the ceremony.

Vice Chancellor LCWU Prof. Dr. Bushra Mirza while speaking on inaugural ceremony stated that the purpose of this grant is to accelerate the successful development of start-up and fledgling companies by providing women entrepreneurs with an array of targeted resources and services. The meeting lauded HEC



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as it is profoundly committed to the cause of fostering SMEs and playing an instrumental role in effective management of BICs. Rector VU Prof. Dr. Arshad Saleem Bhatti said that now is an era of innovation, disruption and entrepreneurial passion and we have inculcated in the foundation of this business incubation center. Vice Chancellor FJMU Prof. Dr. Khalid Masood Gondal stated that the consortium will help the country to achieve its goals of sustainability and livelihood and become a seat of learning for the entire Pakistan.

The consortium will offer capacity-building training programs, mentorship, and establish industry linkages to startups selected by BICs of the three respective member universities. The consortium has already begun its recruitment drive for its new cohort.





ORIC LCWU Annual Report 2022





Meeting of the Steering Committee

The inaugural of the BIC was followed by the first meeting of the steering committee. The committee formulated the guidelines for establishing industry-academia linkages to strengthen BIC. It also determined the criteria of BIC’s staff hiring.

Office of Research, Innovation & Commercialization
Lahore College for Women University

**Khadija-Tul-Kubra
Business Incubation Center Steering Committee
(HEC funded Project)**

Khadija-Tul-Kubra Business Incubation Center Steering Committee Lahore College for Women University	
Prof. Dr. Bushra Mirza (T.I)	Vice Chancellor, Lahore College for Women University, Lahore
Prof. Dr. Waqar Mehmood	Director Khawarizmi Institute of Computer Science, University of Engineering & Technology, Lahore
Mr. Almas Hyder	CEO, SPEL Technology Support Limited, Lahore
Mr. Hamed K Latif	CEO, TTI laboratories
Mr. Haris Ateeq	Former Vice President Lahore Chamber of Commerce & Industry
Dr. Kaiser Rafiq	CEO, Discover Pakistan & AFOHS Club
Mr. Najam Mazari	CEO & Founder, ChiltanPure Pakistan
Mr. Kashif Junaid	CEO, Denim By Mood
Mr. Hassan Yousaf Shah	CEO, Hassan Shah and Associates, Chevening Alumni Association Representative
Dr. Aqsa Shabbir	Director ORIC & Associate Professor Electrical Engineering, Lahore College for Women University, Lahore
Dr. Muhammad Zia-ul-Haq	Senior Manager ORIC, Lahore College for Women University, Lahore

Entrepreneurial Consortium

Virtual University of Pakistan

Lahore College for Women University

Fatima Jinnah Medical University



ORIC LCWU Annual Report 2022



Visit of HEC's Evaluation Team

16 February 2022: HEC's evaluation team visited LCWU and met the worthy VC LCWU Prof. Dr. Bushra Mirza and discussed the way forward for entrepreneurship. Dr. Aqsa Shabbir presented the proposal put up by LCWU for the grant in front of the evaluation team. The evaluation analyzed different aspects of the proposal and also held discussions with the consortium members.





26th May 2022: 1st Installment of Business Incubation Center to LCWU was released by HEC



SITE VISIT BY HECs EVALUATION TEAM



Meetings with BIC Consortium Partners

Various meetings for BIC were held with our consortium partners Virtual University (VU) and Fatima Jinnah Medical University (FJMU) at LCWU. All the partners decided to hire the BIC Manager and BIC Director posts at their respective universities. It was also mutually agreed to launch the advertisement for first cohort of BIC (February 2023 – July 2023). Both the meetings were chaired by Director ORIC Dr. Aqsa Shabbir and attended by Directors and teams of VU and FJMU ORICs.



Entrepreneurial Training

ORIC LCWU arranged entrepreneurial training with reference to USAID-HESSA institutional project “LCWU Entrepreneurship program” under ORIC’s Centre for Entrepreneurship and Social Development (CESD). Prof. Dr. Masooma Abbas conducted the session for selected faculty of eight departments (Applied Psychology, Computer Science, Electrical Engineering, Graphic Design, Interior Design, Management Sciences, Pharmacy). The main objective of the program was project based learning for the students by bridging the industry-academia gap. It will provide the students an opportunity to do the necessary need assessment in their field and work in a collaborative environment with the industry experts to hone their entrepreneurship skills under faculty supervision. CESD will also serve as a foundry for Khadija tul Kubra Business Incubation Centre being established by ORIC.





HESSA Capacity Building and Knowledge Sharing Summit

LCWU being a partner university in USAID funded Higher Education System Strengthening Activity (HESSA) project, a six-member delegation from LCWU participated in annual capacity building and knowledge sharing summit under HESSA from 26th – 28th July 2022 at PC Bhurban. Dr. Aqsa Shabbir Director ORIC as focal person led LCWU in Student Entrepreneurship thematic area. The summit brought together representatives from all universities to strengthen the mechanisms for students support services in their respective institutions.

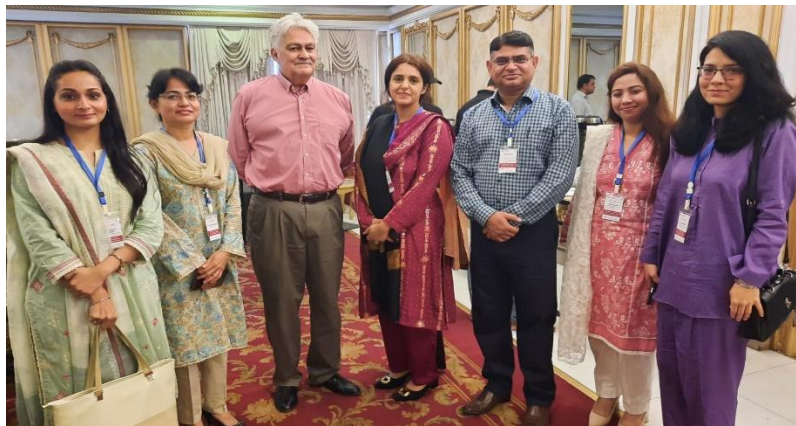




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LCWU delegation with University of Utah delegation



**With VC PIDE Dr.
Nadeem ul Haq**

**With VC Kohsar
University Prof. Dr.
Habib Bukhari**



Zindagi Prize Social Entrepreneurship Program

LCWU became part of Zindagi Prize by Innovator Garage JS Bank funded Social Entrepreneurship program. It is Pakistan's largest social entrepreneurship program for over 100 universities. It aims to create a culture of innovation



and entrepreneurship and offers a startup case challenge for university students to bring sustainable ideas into execution.

Dr. Aqsa Shabbir visited Mehran UET's National Incubation Center to discuss networking opportunities with the team (June 2022).



Visit of NIC LUMS

28th November 2022: ORIC LCWU team accompanied by their consortium partners ORIC Virtual University and ORIC FJMU visited the LUMS National Incubation Center (NIC). ORIC LCWU as the leading partner in the entrepreneurial consortium organised the visit to discuss collaborative initiatives and promote networking and collaboration through joint ventures. The opportunities and services offered at Makers lab NIC were also discussed. ORIC LCWU aims at providing necessary and affordable amenities/resources to its first cohort of Khadija-Tul-Kubra BIC start ups.





Call for K-BIC's 1st Cohort

Transform Your Dreams into Successful Businesses!

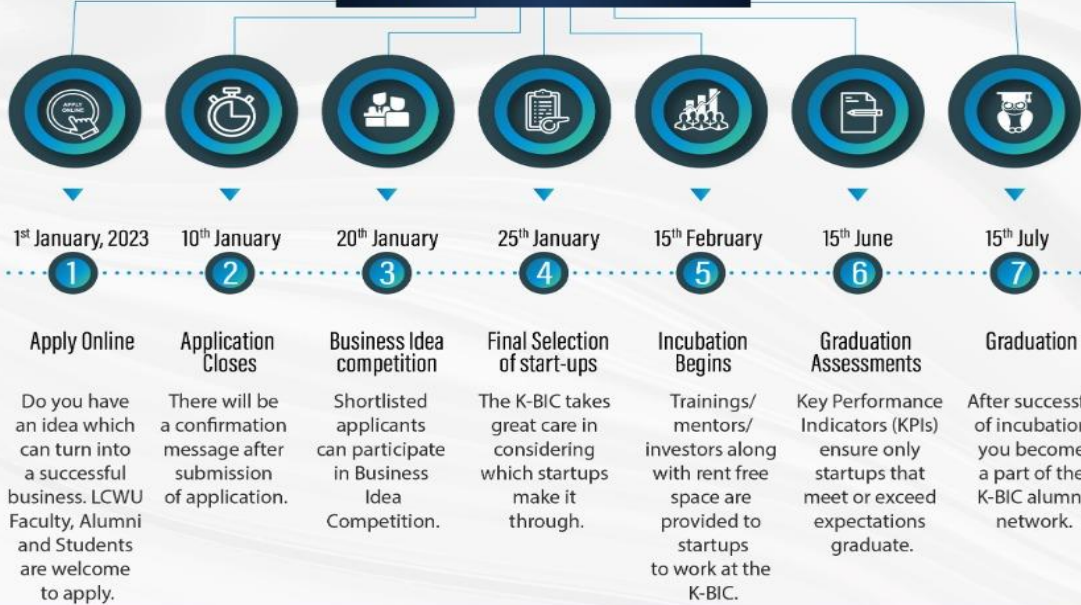


BE A Game Changer

To Make an Impact, Disrupt a Norm!



Application Steps!





Seminar on Entrepreneurship

ORIC LCWU (Dr. Zia Ul Haq, Dr. Mobina Ulfat, Dr. Nudra Malik, Ms. Saima Gulzar and Ms. Anum Asghar) organized a seminar on entrepreneurship for the students on 13th December 2022. The team from National Incubation Center LUMS was invited for the awareness session.

The purpose of the seminar was to develop an understanding of the first steps to develop ideas into startups/successful business plans. The session was attended by the students of Computer Science, Graphic Design, Textile Design, and Botany. The seminar is a step towards the announcement of applications for the first cohort of Khadija tul Kubra Business Incubation Centre being established.





LCWU as Community Partner for Entrepreneurship World Cup

We are proud to announce that Lahore College for Women University participated as a Community Partner for Entrepreneurship World Cup National Finals held on 24th November 2022 at Arfa Software Technology Park, Lahore. Dr. Zia ul Haq represented ORIC at the event along with students from different departments of the university.



Participation at inaugural ceremony of Kinnaird Business Incubation Center



*Dr. Aqsa Shabbir, Director ORIC,
Prof. Dr. Erum Akbar Hussain,
Tenured Professor Chemistry and
Dr. Nudra Malik, Senior Manager
ORIC at the inaugural ceremony of
Kinnaird Business Incubation
Center on 7th November 2022.*



With Principal Kinnaird College for Women Prof. Dr. Rukhsana David at the inaugural ceremony of Kinnaird Business Incubation Center

Khadija Tul Kubra BIC, Site Work In Progress



1st November 2022: Work in Progress-Site Visit of Khadija tul Kubra Business Incubation Center by Project Director Mr. Zulfiqar Moeen, Director ORIC, Dr. Aqsa Shabbir, Incharge Interior Design department Ms. Farhana Naz, Mr. Khichi, and Dr. Zia ul Haq for planning and development



Logo of Khadija Tul Kubra Business Incubation Center Launched



Faculty Trainings for HEC's Technology Development Fund



8th December 2022: Led and facilitated by Dr. Nudra Malik and Ms. Saima Gulzar from ORIC, a delegation of LCWU scientists, Prof. Dr. Bushra Nasim, Prof. Dr. Erum Akbar (Chemistry), Dr. Khajista Jabeen and Dr. Sumaira Iqbal (Botany), Dr. Sumaira Sajjad (Zoology), Dr. Saima Farhan (Computer Science), Dr. Sahar Zia (Geography), Dr. Salma Waseem and Dr. Hina (Physics) attended a training on HEC's Technology Development Fund organized by HEC at Kinnaird College.

8th December 2022: Led and facilitated by Dr. Zia-ul-Haq from ORIC, a delegation of LCWU scientists Prof. Dr. Saima Sharif, Dr. Shagufta Naz (Zoology), Dr. Ali Sharif (Pharmacy) and Dr. Taskeen Raza (Electrical Engineering) attended a training on HEC's Technology Development Fund organized by HEC at LUMS.





9th Dec 2022: Led and facilitated by Dr. Mobina Ulfat from ORIC, a delegation of LCWU scientists, Dr. Neelma Munir (Biotechnology), Dr. Sana Ahmad (Chemistry), Dr. Fatima Anjum (Computer Science), Dr Sumera Batool (Mass communication) and Dr Muhammad Tanveer Khan (Pharmacology) attended the training on HEC's TDF organized by HEC at Superior University.



Training conducted by Director ORIC



13 Dec 2022: Director ORIC, Dr. Aqsa Shabbir delivered two talks/trainings to MS/MPhil students at University of Agriculture, Faisalabad who are recipients of USAID merit and need based scholarships. The first talk was on “Entrepreneurship and Commercialization of Research” and the other one was delivered on “Grants Initiation and Management”.



International Summit on Higher Education & Workforce Development

Nov 29 - Dec 1: Dr. Aqsa Shabbir, Director ORIC, as part of a delegation from LCWU attended an International Summit in Islamabad on Higher Education & Workforce Development in the 21st Century organized under the Higher Education System Strengthening Activity (HESSA) project. The summit allowed for interaction between different stakeholders and deliberations on improving the research, innovation and commercialization landscape in the country. HESSA project will provide support and capacity building to ORIC LCWU.





Seminar on Advance Career Planning and Opportunities for Higher Education

28 September 2022: ORIC LCWU organised a seminar on Advance Career Planning and Opportunities for Higher Education. The resource person was Mr. Hassan Yousaf Shah, Chevening scholar and representative of Chevening Alumni Association. Faculty and students were briefed about the application procedure, scholarship pre-requisites and selection criteria for foreign scholarships, particularly Chevening. The motivational and informational seminar was attended by Chairpersons Dr. Asma Shahid Kazi and Dr. Ghazala Noureen, Director ORIC Dr. Aqsa Shabbir and Senior Managers ORIC, Dr. Nudra Malik, Dr. Mobina Ulfat and Dr. Zia ul Haq.



Annual Project Exhibition of Department of Electrical Engineering

16 August 2022: Department of Electrical Engineering organized the annual project exhibition of students in collaboration with ORIC. Students presented their solutions to society's problems through their projects. The exhibition was inaugurated by the worthy Vice Chancellor, Prof. Dr. Bushra Mirza.

Prof. Dr. Muhammad Azhar Naeem and Prof. Dr. Kamran Abid from Institute of Electrical, Electronics and Computer Engineering Punjab University, Mr. Tariq Malik from Safe City Authority, Prof. Dr. Ghulam Abbas from University of Lahore, Dr. Saima Farhan and Dr. Huma Tauseef from Computer Science Department served as judges for the exhibition. The BS, 8th semester students presented their final year



Lahore College for Women University Department of Electrical Engineering organized the annual project exhibition

Lahore: According to the sources of Daily Notable, Lahore College for Women University Department of Electrical Engineering organized the annu-





ORIC LCWU Annual Report 2022



projects whereas 4th and 2nd semester students presented their semester projects. A poster session was held for MS thesis students.





British Council and HEC's Capacity Building Training

Several faculty members from Biotechnology, Botany, Computer Science, Economics, Pharmacy, Physics, Punjabi and Zoology departments of LCWU participated in British Council and HEC's Capacity Building Program/Training for Researchers, delivered by Coventry University from 26th to 29th July 2022. The training focused on research grants winning and management skills.





Degree Show of Interior Design Department

ORIC Collaborated with Interior Design Department for their 7th degree show which took place on 7th and 8th June at Alhambra Art Gallery. Thesis projects of final year students were exhibited who presented various designs of 3D pictures and models.

INTERIOR DESIGN DEPARTMENT
In collaboration with ORIC,
Lahore College for Women University, Lahore

Cordially invite you to the opening of

DEGREE SHOW 2022

TUESDAY 7th JUNE, 2022 AT 04:00 P.M

The degree show will remain open till 10th June, 2022

VICE CHANCELLOR
PROF. DR. BUSHRA MIRZA (T.I.)
LAHORE COLLEGE FOR WOMEN UNIVERSITY LAHORE
will Inaugurate the show

Guest of Honour MR. MIAN KASHIF ASHFAQ CEO Chenone Interiors	Guest of Honour MR. ZULFIQAR ALI ZULFI Executive Director Lahore Arts Council	Guest of Honour PROF. DR. MUHAMMAD AFZAL Dean Faculty of Arts & Social Sciences LCWU, Lahore
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VENUE:
Alhambra Art Gallery
Shahrah-e-Quaid-e-Azam, Lahore.

شعبہ انٹیریئر ڈیزائن لاہور کالج برائے خواتین یونیورسٹی کے ذریعہ اہتمام ساتویں ڈگری شو کا انعقاد
صوبہ پنجاب کی خواتین کی تعلیمی حالت نے اہم کردار کے ذریعے معاشرے میں ادنیٰ اور سماجی مسائل کے حل کی تلاش پر توجہ دینا
لاہور (جھمکام سے) شعبہ انٹیریئر ڈیزائن لاہور کالج برائے خواتین یونیورسٹی کے ذریعہ اہتمام ساتویں ڈگری شو کا انعقاد کیا گیا۔ انٹیریئر ڈیزائن کی تعلیمات کے
کالج برائے خواتین یونیورسٹی کے ذریعہ اہتمام ساتویں ڈگری شو کا انعقاد کیا گیا۔ انٹیریئر ڈیزائن کی تعلیمات کے
صوبہ پنجاب کی خواتین کی تعلیمی حالت نے اہم کردار کے ذریعے معاشرے میں ادنیٰ اور سماجی مسائل کے حل کی تلاش پر توجہ دینا
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انٹیریئر ڈیزائن کی تعلیمات کے ذریعہ معاشرے میں ادنیٰ اور سماجی مسائل کے حل کی تلاش پر توجہ دینا



شعبہ انٹیریئر ڈیزائن لاہور کالج برائے خواتین یونیورسٹی کے ذریعہ اہتمام ساتویں ڈگری شو کا انعقاد کیا گیا





Degree Show of Textile Design Department

ORIC Collaborated with Textile Design Department for their degree show which took place from 8th to 10th August at Alhambra Art Gallery. Thesis projects of final year students expressed the nostalgia and emotions attached to LCWU in their artwork exploring different mediums. Silk painting using abstract designs were amongst the display work.



Meeting of Women Engineers Development Committee

23rd May 2022: 2nd Meeting of Pakistan Engineering Council's Women Engineers Development Committee was held at PEC regional office. There was consensus on improving networking among women engineers and highlighting women engineers' success stories. Dr. Engr. Aqsa Shabbir represents LCWU in the committee.



Session on Career Counseling by HBL

1st July 2022: Under the MOU signed with Habib Bank Limited (HBL), ORIC LCWU in collaboration with Computer Science, Electrical Engineering and Management Sciences organised a session on career counselling and job prospects in the banking sector for senior year students. The resource person for this career talk was Sara Beg. She is working at HBL as Head Talent, Diversity & HR Relationship Management. Sara Beg guided the students



on different career paths in the banking sector and the internship/recruitment process. Awareness on HBL's customized service "HBL Nisa" which is a dedicated platform for women was also given. The session was informative and was well received by the students. Number of students' queries were also addressed by the HBL team. The session was organized and moderated by Senior Manager ORIC, Dr. Nudra Malik and facilitated by the CODs Dr. Saima Farhan, Dr. Sadia Murawwat and Dr. Muhammad Fiaz.

Session with Admission Directors from US Universities

23rd February 2022: ORIC under the lead of Dr. Aqsa Shabbir Director ORIC, organized an interactive session for the faculty, PhD scholars, MS and BS students who are interested in pursuing higher education in the renowned educational institutions in USA. Session was hosted by Dr. Zia- Senior Manager ORIC and ORIC team. Admission Directors Mr. Amir Sadafi from University of Colorado-



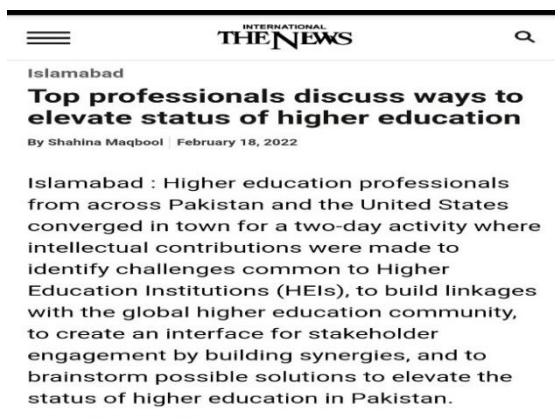
Boulder and on behalf of Dr. Ludmi Herath, Caci Colley from University of Houston-Victoria (UHV), USA shared details of the programs, admission processes and scholarship opportunities at their universities. Dr. Amina Muazzam, Director Research joined the session. Students and faculty members from different faculties also participated in the session enthusiastically. Worthy Vice Chancellor, Prof. Dr. Bushra Mirza interacted with the guests in her office and appreciated this initiative to encourage female students to pursue admissions in USA.

HESSA Inaugural stakeholder consultative meeting

Dr. Aqsa Shabbir (Director ORIC), Dr. Arham Shabbir (Director QEC) and Dr. Sumaira Sajjad (Director Student Affairs) participated in Higher Education System Strengthening Activity (HESSA)'s inaugural consultative meeting organized by University of



Utah, University of Alabama and USAID in Islamabad from 15-16 February 2022. Dr. Shabbir's experience with HESSA project is shared on their webpage: <https://hessa.utah.edu/stories/hessa-helps-pakistani-higher-ed-leader-reimagine-her-role/>



Dr. Aqsa Shabbir from Lahore College for Women University said, "HESSA is an excellent initiative which will bring improvements in the quality of higher education. We have taken the first step already as this event provided participants with a great networking opportunity where we were able to shortlist common problems."

Other participating senior leadership of HEIs also expressed similar sentiments over the prospects of HESSA emerging as a game-changer in shaping the future of higher education in Pakistan.



Research Capacity Building Workshop for Director ORICs

21-23 Feb 2022: Dr. Aqsa Shabbir participated in Research Capacity Building Meetings/Workshops hosted by HEC and British Council held at Faisalabad Serena Hotel from 21st – 23rd February 2022. Prof. James Brusay and Prof. Eleanor Gaura from University of Coventry conducted the workshops for the participants. Later Dr. Shabbir earned a certification of Research Grant Management from University of Coventry.





Acknowledgement

“No one who achieves success does so without acknowledging the help of others.”

ORIC LCWU is indebted to **Web TV LCWU, Mass Communication Department**, especially **Dr. Naveed Iqbal and his team** for their support and tireless services.

We acknowledge the contributions of **Dr. Sahar Zia** who served as Senior Manager ORIC from June 2021 to March 2022, in addition to her responsibilities as a faculty member in the Department of Geography. We are grateful to former **Directorate of Research** which existed till June 2022 and former Director Research, **Prof. Dr. Amina Muazzam** for their services to research management at LCWU.

We extend our gratitude to Higher Education Commission of Pakistan, Punjab Higher Education Commission, Pakistan Engineering Council, Chambers of Commerce, LCWU offices (vice chancellor office, registrar, controller examination, estate office, purchase, treasurer, audit, IT, Deans office) and faculty and staff at LCWU.

CONTACT US



04299203801-09 Ext: 343



oric@lcwu.edu.pk



www.lcwu.edu.pk (ORIC)



Social Sciences Block office #G27

ORIC LCWU ACHIEVEMENTS

**ORIC LCWU ranked X
category for the first time
HEC ORIC ranking 2021-2022**

**Number of HEC Recognised
Universities in Pakistan= 230+**

ORIC LCWU ranks:

***1st among Women Universities
of Pakistan***

9th overall in Punjab

***11th among General Universities
of Pakistan***

23rd overall in Pakistan

