

THE OFFICE OF RESEARCH, INNOVATION & COMMERCIALIZATION

ANNUAL NEWSLETTER 2023

VOLUME 4



2023 Highlights

- **20** new Research Projects were Submitted
- **06** Research Projects have been completed
- **10** Ph.D. fellowships are under process
- **06** Institutional Review Board meetings were organized and **100+** research proposals of Faculty and Students were evaluated and processed
- **12** IRIF Projects were funded
- For Partial Article Processing Charges (APC) **Rs. 450,000** were provide by ORIC
- **10** Copyrights & **06** Patent applications were identified
- **17** International & National Events including Conferences, Workshops, Seminars, Networking sessions, Poster Competitions, Intellectual Property Awareness and Commercialization activities were organized by ORIC in collaboration with other Departments

Achievement Alert



ORIC's continuous improvement in KPIs across Human Resources & Operations, Research Excellence, Innovation & Commercialization, Sustainability & Capacity Building has propelled FCCU from category Y to X in the HEC Annual Scorecard 2022-2023! Congratulations to the FCCU Faculty & Community for this remarkable achievement!



Dr. Jonathan Addleton,
PhD, MALD, BSc
Ambassador (Retired)
Rector, FCCU

Rector's Message

Welcome to this latest edition of the annual ORIC Newsletter, produced by Forman's Office for Research, Innovation and Commercialization (ORIC) and reflecting a wide range of programs conducted during the 2023 calendar year!

The pages that follow provide a useful summary for the work undertaken by ORIC during another exceptionally busy twelve months including an impressive set of lectures, conferences, research projects, academic papers, international travel, poster board presentations and other activities involving not only ORIC but also a wide range of other individuals, offices and departments across Forman. In keeping with ORIC's mandate, these connections often involve other institutions including commercial entities elsewhere in Pakistan. In some cases, this work involves international connections and partnerships as well.

Taken together, these ORIC-related activities reflect the breadth and depth of Forman's interest in both teaching and research as well as its commitment to a liberal arts education that is marked by innovation and creativity while also cutting across a range of disciplines and academic approaches. In addition, they indicate an interest in addressing important issues that are vital to Pakistan's future more broadly while also addressing global concerns.

Finally, let me take this opportunity to thank Dr. Kauser Abdullah Malik who heads Forman's Office for Research, Innovation and Commercialization, among other responsibilities. For much of 2023, those responsibilities included service as Minister of Agriculture for the caretaker federal government in Islamabad, demonstrating yet again Forman's commitment to public service as well as its interest in addressing "real world" concerns in ways that make a difference and have an impact.

Director's Message

As we reflect on the accomplishments and advancements of the year 2023, I am deeply gratified by our achievement of reaching the X-category of HEC Annual Scorecard. This significant milestone is a testament to the dedication and ingenuity displayed by every member of our esteemed FCCU community.

The Office of Research, Innovation, and Commercialization (ORIC) is mandated to facilitate high-quality Research, Innovation activities, and Commercialization in the university. ORIC has diligently supported faculty and researchers in channeling research-led initiatives, fostering innovation, facilitating commercialization, encouraging collaboration, and enhancing capacity building. Furthermore, ORIC has played a pivotal role in assisting researchers with grant processing and providing FCCU's Internal Research Grants as seed funding for faculty endeavors. We have also established meaningful partnerships with government organizations and industries, solidifying these connections through formal Memorandums of Understanding (MOUs).

In 2023, our focus has been on cultivating a culture of commercially viable research at FCCU, with the aim of facilitating the transition of innovative research products into the marketplace. It is heartening to observe the wheels of progress turning as faculty members increasingly consider acquiring intellectual property rights for their innovations. ORIC is poised to serve as the vital link between university research and the end-users in industry and society.

I extend my heartfelt appreciation to Rector, Dr. Jonathan Addleton and all our steering committee members, stakeholders, and supporters for their unwavering dedication and support. Your contributions have been instrumental in our success, and I am confident that together, we will continue to chart new paths and achieve even greater heights in the years to come.



Dr. Kauser A. Malik, H.I, S.I, T.I
Director Office of Research, Innovation and
Commercialization (ORIC)
HEC Distinguished National Professor
(Biotechnology)
Fellow Alexander von Humboldt Foundation
Fellow Pakistan Academy of Sciences
Fellow Third World Academy of Sciences

ORIC has facilitated in the submission of 20 new Research Projects in 2023

Sr.	Researcher	Department	Project Title	Funding Agency	Status
1	Dr. Sadia Zaheer	Physics	Waves and instabilities associated with magnetic reconnection in the Earth's magnetosphere: Theory and observations.	Pakistan Science Foundation	Applied
2	Dr. Rana Salman Anjum	KAM-SLS	Genetic and biochemical characterization of the MRN complex in Pakistani patients: A novel diagnostic marker development for breast cancer	Pakistan Science Foundation	Applied
3	Dr. Hamid Latif	Physics	CO2 capturing and its conversion into fuel for clean environment	Pakistan Science Foundation	Applied
4	Dr. Kauser Abdulla Malik	KAM-SLS	Exploring The Metagenome of Hudiara Drain for the potential of Bioremediation.	Pakistan Science Foundation	Approved
5	Dr. Ammara Shabbir	Physics	Tandem Photo electrochemical devices for sustainable hydrogen production	Pakistan Science Foundation	Applied
6	Dr. Laila Zafar Khalon	Physics	Formation of Nonlinear Structures by Electrostatic and Electromagnetic Waves in Multi-Component Plasma	Pakistan Science Foundation	Applied
7	Dr. Hamid Latif	Physics	Ion-track Etched Membrane based Water Treatment and Filtration System	Technology Development Fund HEC	Applied
8	Dr. Tanveer Ahmad	Economics	Yield Gap Analysis of Major Crops in Punjab, Pakistan: Causes and Implications	Thematic Research Grant HEC	Approved & completed
9	Dr. Muhammad Arsalan	KAM-SLS	Oxidative Stress in Severely Obese Children and Its impact on Metabolic Dysfunction.	Pakistan Academy of Sciences	Approved
10	Dr. Kauser Abdulla Malik	KAM-SLS	Microbiome profiling of Cotton Plant under cotton leaf curl disease attack	Pakistan Academy of Sciences	Approved
11	Dr. Muhammad Abbas	Chemistry	Highly Efficient, Sustainable Synthesis of Non-Covalent Mpro Inhibitors against SARS-COV-2 by Multi-Component Reaction	Rapid Technology Transfer Grant	Applied
12	Ms. Azma Batool	Economics	Global Social Norms Study	Global Social Norms	Approved & Completed
13	Dr. Muhammad Mustafa	KAM-SLS	Development of a Cost-effective SNP Detection Kit for Assessing the Likelihood of Breast Cancer	Pakistan Innovation Fund	Applied
14	Dr. Subbah Mir	Education	Street School Project	PUAN Alumni Small Grant	Not Approved
15	Dr. Shinho Chung	Environmental Sciences	Construction of Decentralized Wastewater Treatment Plants and Integrated Smart Management System in Lahore, Pakistan” for stable wastewater treatment.	Overseas Development Assistance – ODA (Republic of Korea)	Approved
16	Dr. Ayra Indriyas Patras	Political Science	Intersection of caste, gender, and labor by exploring the lived realities of Christian female sweepers in Lahore.	South Asia Partnership Program	Approved
17	Dr. Sara Rizvi Jafree	Sociology	Evidence based Intervention to Improve Social Policy for Maternal and Child Health using a Pre-Post Test Design	Al-Serash Research Fund	Approved
18	Dr. Muhammad Irfan	KAM-SLS	Enhancement of Omega-3 Fatty Acids in Maize	Local Challenge Fund	Approved
19	Dr. M. Ali Bhatti	Economics	Determinants of Commercialization of smallholder agriculture.	Pakistan Agricultural Research Board- CGS	Applied
20	Dr. Aftab Bashir	KAM-SLS	CRISPR-Cas mediated targeted mutagenesis of wheat TCP gene family for developing climate smart non-transgenic wheat. -CS0927	Agricultural Linkage Program	Approved

Internal Research & Innovation Fund

In 2023, ORIC has provided a funding of **3'260'000 PKR** for 12 IRIF projects to encourage research & Innovation culture at FCCU.

Sr.	Principal Investigator	Title of the Project	Department	Amount (PKR)
1	Dr. Sidra Mehnaz	Giving Sight to the Blind - ReVision	Computer Sciences	300,000
2	Dr. Muhammad Zubair Yousaf	Whole Genome Sequencing of human RNA viruses to develop isothermal amplification assay for specific diagnosis	KAM-SLS	300,000
3	Muhammad Rauf Butt	VITALCAREX – Advance health monitoring system for active aging	Computer Sciences	300,000
4	Muhammad Rauf Butt	AVARS (Automated Vehicle Accident Detection and Rescue System)	Computer Sciences	300,000
5	Dr. Syeda Ammara Shabbir	Mxene Based Heterostructures for Tandem Photoelectrochemical Water Splitting	Physics	300,000
6	Ms. Asma Basharat	Secure Vault: Revolutionizing Bank Locker Security Through IoT Technology and Research	Computer Sciences	130,000
7	Ms. Asma Basharat	Sensor-based Vehicular Assistance and Monitoring System	Computer Sciences	130,000
8	Dr. Sidra Minhas	Reverse Vending Machine (RVM) – PakSaaf	Computer Sciences	300,000
9	Dr. Hira Khalid	Design and Synthesis of Novel Small Molecule Inhibitors for Ovarian Cancer Treatment	Chemistry	300,000
10	Dr. Muhammad Abbas	Highly Efficient, Sustainable Synthesis of Non-Covalent M pro Inhibitors against SARS- COV-2 By Multi- Component Reaction	Chemistry	300,000
11	Dr. Abdul Haleem Khan	A study of the inhibitory activities of some thiols and copper thiolates against thioredoxin reductase	Pharmacy	300,000
12	Dr. Laiba Arshad	Tanacetum baltistanicum Crude Extracts as Possible Anti-Inflammatory Agent: A Focus on Oxidative Stress Modulation	Pharmacy	300,000

**120 Research
Articles have been
published in 2023 by Faculty
members & students**

ORIC HAS PROVIDED
Rs. 450,000
**AS ARTICLE PROCESSING CHARGES FOR 5
ARTICLES IN 2023**

2023 Events & Activities



Research Poster Exhibition
“From Reflection to Reification”
in Collaboration with
faculty of Humanities, English & Sociology



International Workshop on Science Journalism (Storytelling to communicate complex Science) in collaboration with Faculty of Humanities and KAM-SLS



International Conference on Mitigation and Adaptation for Climate Change- Focus on Agriculture and Food Security in collaboration with KAM-SLS



Information Session on Patents
by Mr. Yasser Mahmood of United Patents



COMSPEX Computer Science Senior Project Exhibition in collaboration with Department of Computer Sciences



Graduate Poster Competition Inquisition into Digital literary Studies in collaboration with English Department



Workshop on Fundamentals of Research for Undergraduate Students in Collaboration with Natural Sciences Dean's Office



International Conference on Soil Pollution and Remediation in collaboration with Department of Environment Sciences



Two-day workshop on Computational Tools for Drug Design and Discovery in collaboration with Chemistry Department & American Chemical Society



Pakistan Science Foundation's Two-day workshop on Project Formulation



Intra-business Competition in collaboration with School of Management, Young Entrepreneurial Platform and NIB Pakistan



Three-day workshop on Data Analytics Essentials with Python in collaboration with Department of Statistics



Entrepreneurial Fiesta 2023

ORIC Annual Steering Committee Meeting



The Office of Research Innovation and Commercialization – ORIC Steering Committee was a hybrid meeting (In-person & Online), held on 20th June 2023, at 4:00 pm in Conference room E-002, attended by the following:

In-Person

- Dr. Jonathan S. Addleton Chair/Rector
- Dr. Kauser Abdulla Malik Director ORIC
- Dr. Gloria Caleb Associate Vice-Rector
- Mr. Hammad Naqi Khan Director General, World Wildlife Fund
- Mr. Muhammad Idrees Chief Executive Officer, NovaMed Pharmaceuticals
- Dr. Hassan Amir Shah Dean of Natural Sciences, FCCU
- Dr. Aasia Khanum Professor, Department of Computer Sciences, FCCU
- Dr. Bushra Usman Associate Professor Entrepreneurship & Business
- Dr. Dildar Ahmed Professor, Department of Chemistry
- Dr. Farid A. Malik Professor of Operations Management, School of Business, FCCU
- Ms. Badia Raza Chief Marketing Officer
- Mr. Haroon Samson Senior Manager Research Operations & Development ORIC, FCCU
- Ms. Ayesha Aslam Manager Innovation and Commercialization ORIC, FCCU

Online

- Mr. Aezaz Hussain Chairman, Systems Ltd.
- Mr. Nadeem Khalid Chief Executive, Herbion Pakistan (Pvt) Ltd.



ORIC sponsored faculty members and students to showcase their work and represent FCCU at different platforms throughout the country.

- Dr. Saad bin Saleem, Assistant Professor Department of Computer Science was sponsored by ORIC to present his start-up (PakCyberLabs) idea for developing the Insider Threat Intelligence System has been selected in the pitching round of the Cybersecurity Ideas Cup Challenge 2023, which was held 6th December 2023 at the Air University, Islamabad.
- Physics Department 9 students attended a conference that was being conducted by the NCP (National Centre of Physics) and NUST (National University of Science & Technology) Islamabad, Sponsored by ORIC.
- ORIC sponsored the trip of Ms. Noor-us-Sabah, a student of Physics to attend a workshop in PINSTECH in Islamabad on August 29th 2023.
- Physics Research student Taha Azeem visited "The Centre for Advanced Studies in Energy, NUST" Islamabad for the fuel cell efficiency analyst for his research. July 2023.
- The Computer Sciences department team visited NUML University to attend a training on Super Computing for Big and AI for Computing from 25 to 27 August 2023. A team of three students and one faculty member attended the event Dr. Asma Basharat associate Professor was the team lead, the full sponsorship was provided by ORIC.
- Forman student Sakhawat Ali--Founder of Your Guide startup represented his start-up team in the final round of the National Ideas Bank National competition and won the Innovation award in the Services sector. The event was held in Sir Syed University of Engineering and Technology from March 17 -20, 2023, in Karachi sponsored and supported by ORIC-FCCU, where the President of Pakistan was the chief guest.



IN 2023, ORIC HAS FACILITATED FACULTY MEMBERS IN AVAILING 09 INTERNATIONAL TRAVEL GRANTS!



Activities to develop Industry-Academia Linkages



Networking session of ORIC with the Executive body of CropLife Pakistan Association



Informative and Interactive awareness session by Mr. Babar Sahib Din, Chairman Lahore waste Management Company in collaboration with Department of Environment Sciences



ORIC organized the visit of Mr. Mohammad Idrees - C.E.O - NovaMed Pharmaceuticals (Pvt) Ltd. to FCCU Research Labs.



Talk and Networking session on membrane Technology for Water and Wastewater Treatment: Research and Commercialization Perspective in collaboration with Department of Environmental Sciences



Mou Signing and interactive session with Dr. Sohail Naqvi, CEO of Knowledge Streams in collaboration with Department of Computer Sciences

In the year 2023, ORIC has focused on creating awareness among FCCU Researchers regarding Intellectual Property Rights and the importance of acquiring them. For this purpose we conducted one on one meetings with all faculties and as a result ORIC identified



10 copyrights applications from Computer Sciences Department



06 Patent applications from KAM-School of Life Sciences

ORIC moderated a MOU between KAM-School of Life Sciences and Dehqan BioSciences Pvt Ltd. from commercialization perspective. The time tenure was 6 months. Dehqan BioSciences did the quality control of its products in KAM-SLS Research Labs and in return gave very beneficial insights on how to successfully develop a commercially viable product. How to approach industry and commercialize it. As a result now KAM-SLS is in process of developing its own Research product.



MOU Signing ceremony between KAM-SLS and Dehqan BioSciences moderated by ORIC

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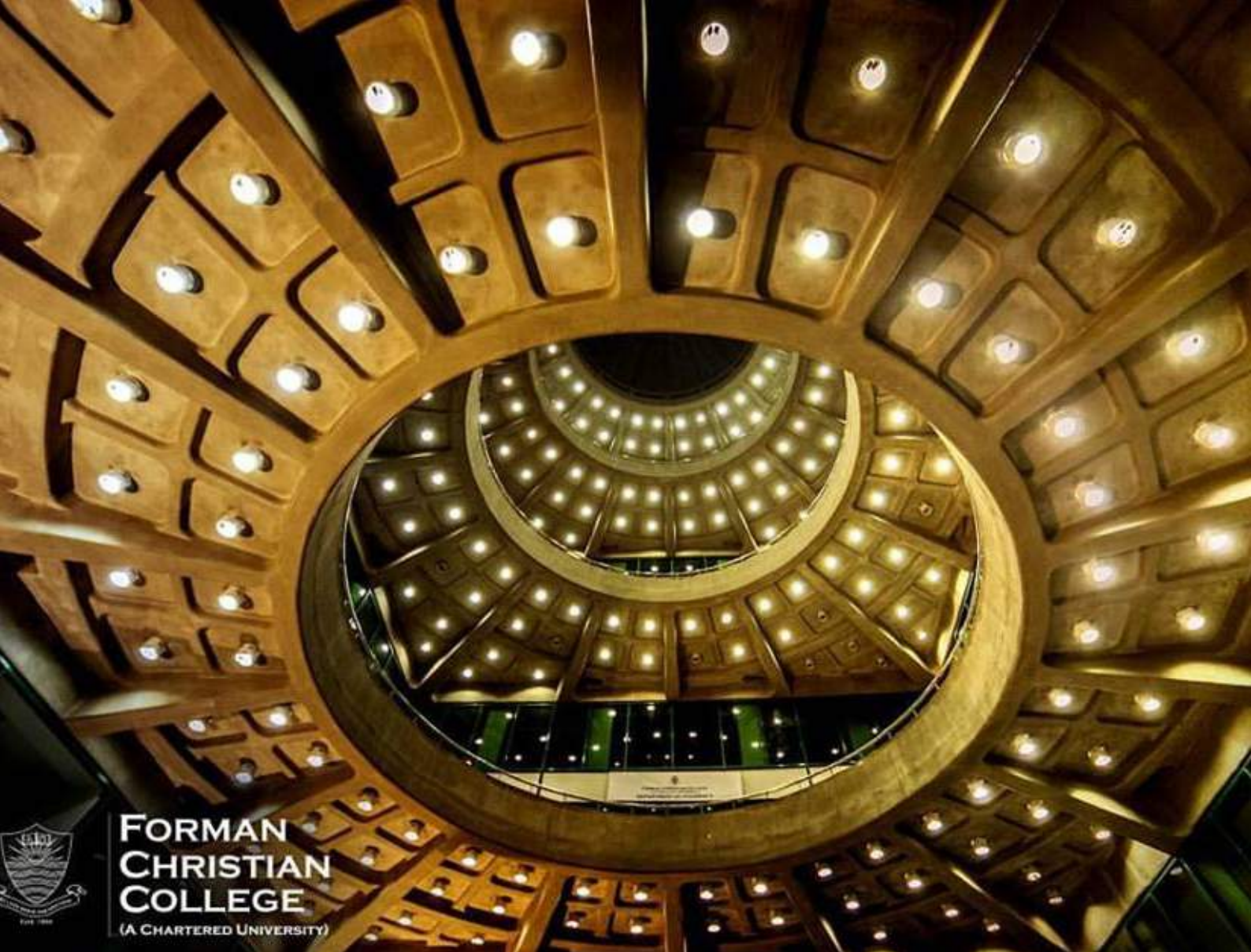
In order to get the full text of the research article under the ORIC community. kindly email at oric@fccollege.edu.pk, your requested Research article would be emailed to you



ORIC's team has also attended following mentioned trainings to polish their skills and get more command in their specific areas of work.


- Mr. Haroon Samson and Ms. Ayesha Aslam has attended the ORIC capacity building program by HEC on 16-18 August at Superior University Lahore.
- Mr. Haroon Samson and Ms. Ayesha Aslam attended One day training workshop on Intellectual property and Patent Filing on 22 Feb 2023 by Punjab Higher Education Commission.
- Ms. Ayesha Aslam and Mr. Steven Javed attended Training Seminar on Technology search and Development of technology and innovation support centres (TISC) IN Pakistan by WIPO and IPO Pakistan ON 30-31 October 2023 at UMT Lahore.
- Ms. Ayesha Aslam successfully completed the Training on Agile Project Management by HR FCCU on 28-31 August 2023.
- Mr. Haroon Samson attended The Higher Education Commission (HEC) organized dynamic two-day "Train The Trainers Workshop" in collaboration with Invest to Innovate at Jinnah University for Women, Karachi.






**FORMAN
CHRISTIAN
COLLEGE**
(A CHARTERED UNIVERSITY)

Connect with us

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