



SDG-11 SUSTAINABLE CITIES AND COMMUNITIES.



The UNESCO Chair in Knowledge Systems for Integrated Water Resources Management (IWRM), established in 2014 at COMSATS Institute of Information Technology (CIIT), now COMSATS University Islamabad CUI Wah, Pakistan, represents a significant achievement in the field of water resources management both for the institution and for the broader academic and research community in Pakistan.

The purpose of the Chair is to advance the understanding and application of integrated systems in managing water resources. This includes a comprehensive approach that involves research, training, documentation, and the sharing of knowledge on water resources. It facilitates international collaboration, particularly among researchers and academic staff from Pakistan and institutions around the world. This not only enriches the academic environment but also helps improve water management strategies in Pakistan, which is crucial given the country's water scarcity issues and agricultural reliance on irrigation.

The establishment of the UNESCO Chair marks CUI-Wah as a key player in the global conversation on sustainable water management and positions the institution as a leader in research and education in this critical field. By being

part of this UNESCO initiative, CUI is aligned with global best practices and has access to cutting-edge research and international collaboration, which can significantly enhance the quality of education and research in water resources management.

This milestone also highlights Pakistan's growing commitment to addressing water-related challenges through education, research, and international cooperation. The IWRM approach promoted by the UNESCO Chair aims to create sustainable water management strategies that are inclusive, resilient, and adaptable to the country's diverse environmental and socio-economic needs.

In essence, the UNESCO Chair at CUI is helping foster a global network of expertise that will benefit not only Pakistan but also contribute to global efforts in managing water resources sustainably.

Workshop on the Hydrological Modelling Application of SWAT

The UNESCO Chair on Knowledge Systems for (IWRM) organized a one-day Workshop on the Hydrological Modelling Application of SWAT on February 28, 2023 in collaboration with the Department of Civil Engineering. The resource person, member IWRM / Lecturer, Engr. Summera

Fahmi from the Department of Civil Engineering shared her knowledge and expertise on Hydrological modelling techniques to identify the watersheds, Soil, and Water Assessment Model (SWAT) of the Gilgat, Pakistan to study, water quality, sediment and effects of climate change. The researchers from the CUI Abbottabad, PCRWR and Workshop on Hydrological Modelling Application of SWAT Clean Water and Sanitation Ensure Availability and Sustainable Management of Water and Sanitation for graduate/ undergraduate students from CU Wah Campus attended the workshop. The UNESCO Chair on Knowledge Systems for Integrated Water Resources Management (IWRM), Prof. Dr. Muhammad Abid, T.I., in his closing remarks emphasized on the capacity building in the adaptation of improving technologies



Access to clean water, sanitation, and effective waste management in urban settings is essential for sustainable communities.

University/HEI	Source of Drinking Water (Surface Water/ Groundwater)	Type & Specifications of water filtration facility installed	No. of Facilities	Capacity of Filtration Facility (liters/hour)	No. of students being served
COMSATS University Islamabad, Sahiwal Campus	Surface Water	RO Plant	<ul style="list-style-type: none"> ● Pure Water ● Free Water Supply 	500 gallons	3400 plus students



Celebrations of World Water Day - 2023

In recognition of World Water Day an annual United Nations (UN) observation day held on every March 22 arranged a seminar on "Accelerating Change for Water Security in a Changing Climate: Innovative Solutions for Improved Resilience" on March 16, 2023. The aim of the seminar is to build the attention of society on the importance of water security and sustainable management of freshwater resources, and the effects of climate change on our livelihood. This year, the theme of the World Water Day is "Accelerating Change". The speaker Dr Amjad Masood, Senior Scientist, an expert in Hydrology and Climate Change at Basin Scale in Water Resources and Glaciology Section of Global Change Impact Studies Centre (GCISC), Islamabad, Pakistan .

He highlighted the issues faced by Pakistan due to climate change. The Chief Guest of the seminar was the Vice Chancellor of the University of Wah, Prof. Dr. Jameel Un Nabi. In his remarks he appreciated the importance of water as a natural resource and it



uses in our daily lives. He encouraged the youth to take an initiative to save water and avoid its wastage in daily usage for the betterment of the community. The closing remarks presented by the UNESCO Chair on Knowledge Systems for IWRM/ Director Campus. He discussed the future need of wastewater recycling that freshwater makes up only 2% of the total water on Earth, which humans use every day.

Energy-efficient urban infrastructure and access to clean energy contribute to sustainable cities

This relates to building resilient infrastructure and promoting sustainable industrialization, supporting SDG 11's goal of creating resilient and inclusive urban environments.

University-Industry Linkages:

Office of ORIC Focal Person CUI Sahiwal signed a MoU with the Pak Elevators (SME -Pvt.) Ltd to strengthen the industry academia linkage on 14 July 2023 (MoU attached). Job and paid Internship placement of CUI Sahiwal graduates is a key feature of the MoU in addition to Research Collaboration. Moreover, Pak Elevators has placed one job and two paid internships for the students of ECE CUI Sahiwal Campus.



purpose of the training was to educate the participants on the effective preparation of e-course folders, which can be used for online teaching.

Training Objectives: The training session aimed to provide the following objectives:

- Understand the importance of e-course folders for online teaching.
- Learn how to organize and structure e-course folders.
- Develop skills to create effective course content, including multimedia materials.
- Understand the importance of accessibility and inclusivity in e-course folders.
- Learn how to upload and manage e-course folders on learning management systems

The participants gained valuable knowledge and skills on how to create effective and accessible e-course folders.



Trainings/Workshops

The details of seminars & workshops including the CPD based activities are as follows:

Training on Preparation of E-Course Folders by Mr. Syed Khawar Hussain

The Department of Mechanical Engineering conducted a training session on the preparation of E-course folders. The session was conducted by Syed Khawar Hussain Shah, an experienced faculty member of the department. The

Seminar on Fire Safety of Lithium Ion Batteries

The Department of Mechanical Engineering conducted a Seminar on "Fire Safety of Lithium

Ion Batteries". Dr. Ghulam Abbas Gohar was the speaker guest for the said seminar.



Industrial Visit – Sitara Chemicals Faisalabad

The Department of Mechanical Engineering arranged an Industrial visit of BSME Students to "Sitara Chemicals Faisalabad". Dr. Muhammad Abid and Mr. Khawar Hussain accompany the students



The ground breaking ceremony for the construction of New Academic Block-1 (125,000 sqft) was held on April 12, 2023 at CUI Wah Campus. The Honorable Rector CUI, Prof. Dr. T. Afzal inaugurated the construction works by lifting the curtain from the plaque. On the occasion Director Campus, Prof. Dr. Muhammad Abid, T.I., members CUI Syndicate, Department / Section Heads, Faculty Members, representatives from the NESPAK and the construction company were present. The ground breaking ceremony for the construction of Academic Block-I was an important milestone for the Campus's growth. It was a momentous occasion that symbolized the University's dedication to academic excellence and a commitment to the betterment of society..



PUBLICATIONS

Publications Title	Author	Publisher	Impact Factor	Weblink
Design and assessment of energy management strategy on rail coaches using solar PV and battery storage to reduce diesel fuel consumption	Abdullah Tariq Sipra Fawad Azeem	Elsevier	9	NULL
Design of hybrid power system for COMSATS University Islamabad using homer pro software	Amir Rashid Muhammad Ehsan Javed Rashid	International Journal of Engineering, Science and Technology	7.155	NULL
Monsoon flood risks in urban areas of Pakistan: A way forward for risk reduction and adaptation planning	Azka Zia	Elsevier	8.7	https://www.sciencedirect.com/science/article/abs/pii/S0301479723004401
Optimal Retrofitting of MCH-Toluene Dehydrogenation system: Energy and Technoeconomic Analysis	Muhammad Anas Maqbool Javed Khan Muhammad Haris Hamayun, Faisal Ahmed*	Elsevier	11.53	https://www.sciencedirect.com/science/article/abs/pii/S0196890423003953
RL-IoT: Reinforcement Learning-based Routing approach for Cognitive Radio-enabled IoT Communications	Muhammad Ibrar Safdar, Tauqeer; Malik, Kaleem; Afzal, Ayesha; Ibrar, Muhammad; wang, lei; Song, Houbing; Shah, Nadir	IEEE Internet of Things Journal	10.238	https://ieeexplore.ieee.org/document/9905718

Total Publications :43, only High Impact Factor Publications are highlighted here.

During 2023 several research projects initiated **One million PKR** earned through these projects, **“Linear Adaptive filter based Multipath Distance Detector Algorithm for GNSS Spoofing Detection”** was initiated by Department of Electrical and Computer Engineering of CUI Wah Campus.

