





MEHRAN UNIVERSITY of Engineering & Technology

of Engineering & Technology Jamshoro, Sindh, Pakistan



U.S. - Pakistan Center for Advanced Studies in Water

Introduction:

U.S. - Pakistan Center for Advanced Studies in Water (USPCAS-W) has been established at Mehran University of Engineering and Technology (MUET) Jamshoro, with support from American People through the United States Agency for International Development (USAID) Pakistan under the Cooperative Agreement signed with USAID on December 12, 2014 for five years. The University of Utah, USA, is the partnering university providing technical assistance for advancing the development and sustainability of the Center. The tangible deliverables of the Center include postgraduate degree programs, applied policy research, facilitation of public-private partnerships, and provision of policy advice in a range of water related disciplines.

Main purpose of the applied research component is to deliver relevant and innovative research to meet the needs of industry, civil society and government.

Vision

To establish a world class education and research center dedicated to solving water related problems of Pakistan and to develop strong and productive liaison with local and international organizations aiming to support Pakistan' economic development.

Mission

To train present and future faculty, young scientists, engineers, managers and other stakeholders with state of the art techniques and cutting edge knowledge in the water sector. Through collaboration with academia, government and industry we will pursue applied research solutions to water sector problems and bring about policy reforms aiming to strengthen economy of Pakistan.



Message from the Vice Chancellor

It is indeed a special day in the life of students when they harvest the fruit of their efforts over the years in the form of conferment of degrees. And it is also a special day for the parents as well as for the faculty who can all feel proud of their achievements. As a Vice Chancellor of this university, I feel pleasure to extend heartiest greetings and congratulations to all those who would be receiving their degrees and outstanding performance awards at the second Graduation



Ceremony of the US-Pakistan Center for Advanced Studies in Water (USPCAS-W). I share the moments of happiness and joy with you, your parents and the faculty who contributed to lead you to this status.

I wish to draw your attention to the fact that it is not only degree that goes with you. There is vast learning experience and exposure gained during your student life - that will continue to be an important guide for you in shaping up your future. I urge all the passing out graduates to make informed decisions about their future and to utilize their knowledge and skills for solving the water-related problems of the society at large, and contribute to the sustainable development goals and economic uplift of the country.

On this occasion, I wish to recognize the pivotal role played by United States Agency for International Development (USAID) for their financial support, including this building where the center is housed and scholarship support to the students, the University of Utah (UU) for their continuing technical support in all the matters including capacity building, to HEC for their overall support, to the Government of Sindh for funding support for girls hostel and many other spheres of the development of the Center. I also wish to recognize the dedicated efforts of Center's faculty, administration and the support of Utah University's team in leading this center to the point of national center.

Once again, I convey my warmest congratulation to the graduating students and urge them to share their skills and experience in solving water-related problems of the society where you will be rewarded for your competence and devotion as you confront life's daily challenges. I express my thanks to the parents and guardians for their support and sacrifice. I pray for the success and happiness of the students receiving their degrees.

> **Prof. Dr. Muhammad Aslam Uqaili** Vice Chancellor MUET

Message from the University of Utah Project Director

On behalf of the University of Utah, USA, I wish to extend my warmest congratulations to the graduating class of 2016. With the financial support of USAID and the gracious administrative support of Mehran University of Engineering and Technology (MUET), the U.S.-Pakistan Center for Advanced Studies in Water (USPCASW) has emerged as a leader in water research, education, and training in Pakistan. It gives me great satisfaction to know that you have gained immensely from the USPCASW programs. It gives me greater satisfaction to know that you have contributed incredibly to the growth and success of USPCASW.



As I fondly reflect on the University of Utah partnership with MUET, I feel an appreciation

for the educational program we have established. The USPSACW degree programs have a foundation of applied research supported by an interdisciplinary curriculum and skill-building extra-curricular activities. The 32 graduates to date and the 221 in the pipeline have received personalized experiences. You, the graduating class of 2016, have been able to explore your interests in research, engage in independent scholarship, and lead new initiatives. It is especially exciting to see the first two doctorate degrees awarded in this batch, marking a major milestone in USPCASW's development. Although treating students as individuals is less efficient for an academic institution and more challenging for faculty and students to manage, we know it is more effective and rewarding for all in the end. I hope this personalized education approach remains a fond memory of USPCASW for you.

The degree you are being awarded is fundamentally about taking advantage of opportunities. You accepted the opportunity to pursue and enroll in the new USPCASW program at MUET. You embraced the opportunity to socialize into a new community, make new friends, and learn new customs and practices. You worked hard to elevate your abilities by fully engaging in the myriad learning opportunities in your graduate courses and research. You took full advantage of the opportunity to partner with mentors and colleagues and accept their critique. And this has resulted in an accomplishment very few can claim – completing a graduate thesis.

We at the University of Utah are extremely proud of your accomplishment. We have worked tirelessly from the launch of USPCASW in 2015 to continuously improve the programs to provide the most impactful experiences possible. We value our collaboration with your faculty to design and deliver a unique curriculum. We take pride in seeing your improvements gained from our mission training, exchange programs, online education, and mentoring. And we feel satisfaction seeing you grow networks, keep open minds to possibilities, and enthusiastically pursue your goals. I wish to express my deepest gratitude to the faculty and staff of USPCASW for their efforts to implement the programs and equip you with the knowledge and skills to seek success in your careers. Through their efforts they have translated to you a passion for water security, instilled a dedication to the pursuit of excellence, and inspired you to make a difference. In closing, I wish to share three recommendations as you enter the next exciting stage of your professional career. First, stay connected with your USPCASW network at MUET, in Pakistan, and around the world. Second, be curious and keep learning. And third, find a way to help your local community achieve water security.

Dr. Steven Burian

Project Director, U.S.-Pakistan Center for Advanced Studies in Water Professor, Civil and Environmental Engineering Director, Water Center University of Utah, USA

Message from the Project Director, USPCAS-W, MUET

At the outset, I feel proud that the second batch of students is passing out from the Center for Advanced Studies in Water. The center was established in Mehran University of Engineering & Technology Jamshoro, Sindh, Pakistan with the generous support of American people through United States Agency for International Development (USAID). The students of this batch were enrolled in August 2016 and constitute key product of the center entering into market as an ambassador of the center.



The Center feels fortunate enough that University of Utah, USA is the partner University for providing technical support in academic, research and capacity building programs. As a partnering university, the University of Utah and its academic and professional teams work jointly with us for growth and development of the Center and to ensure quality programs for the graduating students and the faculty. Besides, the students are also provided an opportunity of spending one semester at the University of Utah or other partnering university in the USA under exchange program for capacity building, applied research, and for exposure to the US education system.

Irrespective of the background, gender, color, and caste, all the students joining the Center are provided financial support to enable them to focus on their studies instead of worrying about their education and living expenses. The Center works very closely with the students as to ensure enabling education environment and enriching social, cultural and extra-curricular activities. Concisely, the center presents a unique learning environment entirely focused on Pakistan's water-related issues and their solution for sustained economic growth.

In last, I wish all graduating students a rewarding career and the opportunities to prove their capabilities in the field and contribute in resolving the Pakistan's water-related challenges in different disciplines.

Prof. Dr. Bakhshal Khan Lashari Project Director USPCAS-W – MUET

EnvEng

Environmental Engineering

The environmental engineering emphasizes learning in physical, chemical and biological processes, water and wastewater treatment design, air and noise pollution and control, hazardous and solid waste management, and environmental impact assessment.

Muhammad Wajid Ijaz



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	15-PhD-ENVE-06
Email:	wajidijaz331@gmail.com
Present Address:	C/O District Officer Environment, Jail Road, Sargodha, Punjab
Research Project Title:	

Predictive Modeling of Salinity Intrusion in Indus River Estuary, Pakistan

- □ To examine the morphologic response of indus reiver estuary under post-damming fluvial regimes using satellite and field data.
- □ To model the interaction of river discharge and tidal dynamics responsible for salinity intrusion in indus river estuary.
- □ To optimize the different scenario based hydrodynamic and channel shape modification solution through modeling for mitigation of salinity intrusion intro estuarine zone.

Name of	Prof. Dr. Rasool Bux Mahar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Prof. Dr. Altaf Ali Siyal
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Prof. Dr. Kamran Ansari
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro

Raima Mahmood



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-01
Email:	raimaamehmood@gmail.com
Present Address:	D-435, Ghazi , Country Comforts Scheme-33 Sector 15C Gulzar-E- Hijri, KHI
Research Project Title:	

Human Health Risk Assessment of Heavy Metals in Fish Species of Keenjhar Lake, Thatta

- □ To determine the heavy metal concentrations in fish species (muscles & liver) of Keenjhar Lake.
- □ To identify human health risks associated with consuming fishes obtained from Keenjhar Lake.

Name of	Ms. Uzma Imran
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Asmatullah
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Prograr	n: Environmental Engineering (ENV.ENG)	
Roll Number:	16-MS-ENVE-02	
Email:	qandeel018@gmail.com	
Present Address	: House No: 173 Pathan Goth Hussainabad Hyderabad	
Research Project Title:		
Water Treatment Through Neem Tree Products for Drinking Purpose		
Research Objectives:		
□ Toidentify	□ To identify the efficiency of neem seeds as a coagulating agent	
\Box To assess the viabilities of using neem oil as a disinfecting agent		
□ To compare the bio-coagulating efficiency of neem seeds with drumstick seeds		

Qandeel Khan

Name of
Supervisor:Ms. Uzma ImranAssistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-03
Email:	doulat.ram90@yahoo.com
Present Address:	B-15, Almustafa Town, Phase 2, Nasem Nagar, Qasimabad, Hyderabad

Doulat Ram

Research Project Title:

Removal of Anthracene from Water Using Granular Activated Carbon Prepared from the Seeds of Mucuna Mutisiana (Kharpat)

- □ To prepare granular activated carbon (GAC) from seeds of a native plant, Mucuna mutisiana (Kharpat), and examine their characteristics
- □ To determine the optimum adsorption capacity of anthracene onto Mucuna mutisiana (Kharpat) based GAC
- □ To investigate adsorption isotherm and a kinetic study of anthracene onto the prepared GAC that was produced from the seeds of Mucuna mutisiana (Kharpat)

Name of	Prof. Dr. Zubair Ahmed
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Ms. Uzma Imran
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)	
Roll Number:	16-MS-ENVE-04	
Email:	shansaleem12ch@gmail.com	
Present Address:	House Number 8B Shahbaz Coloney Tandoallahyar	
Research Project Title:		
Treatment of Sugar Distillery Effluent Using Anaerobic-Aerobic Membrance Bioreactor (AnAMBER)		
Research Objective	s:	
□ To investigate the suitability of an anaerobic-aerobic membrane bioreactor (AnAMBR) for treatment of distillery wastewater at different organic loading rates (OLR).		

Shan Saleem

□ To determine the optimum sludge retention time (SRT) for the treatment of sugar distillery effluent

Name of
Supervisor:Prof. Dr. Zubair AhmedProfessor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-06
Email:	soomroumama94@gmail.com
Present Address:	Flat No 9 Sachal Center Main Road Qasimabad, Hyderabad

Umama Soomro

Research Project Title:

Adsorption of Indigo Carmine Dye on Chemically Modified Adsorbent Prepared from Municipal Solid Waste

- □ To prepare and chemically modify (quaternize) the waste materials corn stover, paper and yard wastes for the treatment of Indigo Carmine dye.
- □ To gauge the capacity of the prepared adsorbent to adsorb Indigo Carmine dye.
- □ To investigate the adsorption mechanism (kinetic and equilibrium study) of Indigo Carmine on chemically modified adsorbent.

Name of	Dr. Zubair Ahmed
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-14
Email:	imranpunially@gmail.com
Present Address:	Village Gahkuch Tehsil Punial District Ghizer Gilgit Baltistan
Research Project Titl	e:

Imran Khan

Rick and Environmental Impact Assessment of GLOF in District Ghizer and Policy Implications

- □ To assess environmental and socioeconomic impacts of GLOF in Ghizer District.
- □ To evaluate the GLOF potential of Ghamu Bhar glacial lake.

Name of	Dr. Asmatullah
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Arjumand Zaidi
Co-Supervisor:	Senior Research Fellow, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-15
Email:	ahsan.latif37@gmail.com
Present Address:	House No: 58/1 Sheet No. 4 Model Colony Malir Karachi

Ahsan Latif

Research Project Title:

Impact Assessment of Effluents from kotri Industrial Area on Fish Sediment and Water on KB FeederCanal

- □ To detect the presence of selected heavy metals such as Arsenic, lead, cadmium, zinc, and Mercury in water and sediments at selected locations.
- □ To detect the bio-accumulation of heavy metals in fishes in KB Feeder.
- □ To assess the effectiveness of working of combined effluent treatment plant at Kotri on K.B. Feeder.

Name of	Ms. Uzma Imran
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-16
Email:	afaqmeo@gmail.com
Present Address:	Khetran House Kehkashan Street Number 7 Gulgusht Colony Multan
Research Project Title:	

Afag Ahmad

Investigation of Thermally Driven-Adsorption Desalination Technology for Water Purification

- □ To determine Coefficient of performance and Specific cooling effect of adsorbent water pairs at various temperature ranges of evaporator and adsorber beds.
- □ To find and compare the effective regeneration temperatures of various adsorbents using equilibrium close cycle analysis of duhring diagram.
- □ To investigate the applicability of adsorption desalination technologies for water desalination

Name of	Ms. Uzma Imran
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Asmatullah
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro

Agha Danish Ilyas



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-17
Email:	danshilyas@yahoo.com
Present Address:	H. No 1492 Block G Sector 11 1/2 Orangi Town Karachi

Research Project Title:

Microbial Assessment & Cost Benefit Analysis of Green Roof Water Recycling System (GROW) for Grey Water Treatment in Sindh

- □ To assess and optimize the nitrogen and phosphorous removal efficiency of GROW system.
- □ To evaluate cost-benefit analysis including environmental implications of GROW system.
- □ To suggest incentive/rebate program for implementing GROW System.

Name of	Dr. Syeda Sara Hassan
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of Co-Supervisor:	Engr. Mazhar ul Haq Rajput
Name of	Mr. Muhammad Ali
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro

Jassica Lawrence



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-19
Email:	jessicalawrence38@yahoo.com
Present Address:	C-626/2C , Eid Gah Road Sukkur
Research Project Title:	

Digestion of Linoleic Acid by Anaerobic Fluidized Bed Reactor

- □ To fabricate an anaerobic fluidized bed reactor
- □ To optimize the organic loading rate and hydraulic retention time of the AFBR based COD removal
- □ To determine the linoleic acid removal efficiency from the wastewater by using anaerobic fluidized bed reactor.

Name of	Dr. Rasool Bux Mahar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Zubair Ahmed
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro

Muhammad Raffae



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	16-MS-ENVE-21
Email:	raffaevistro@gmail.com
Present Address:	House # B-60, Mir Hassanabad, Hussainabad, Hyderabad
Research Project Title:	

Disinfection of Biofilms Formed in Drinking Water Distribution System Using Chlorine and Chloramines

Research Objectives:

- □ To determine the disinfectant type and the optimum dosage for the effective removal of bacterial communities.
- □ To study the disinfection efficiency on biofilm developed on different pipe materials.
- □ To assess the impacts of disinfectants on microbial diversity and community structure.

Name of
Supervisor:Dr. Rasool Bux MaharProfessor, USPCAS-W, MUET, Jamshoro



Huma Tariq

Degr	ee Program:	Environmental Engineering (ENV.ENG)
Roll N	lumber:	16-MS-ENVE-22
Emai	:	humatariqmalik@gmail.com
Prese	ent Address:	Near Madrassa Imdadia Opptt: Shell Pump, Alvi Street, Dub#2, Mansehra
Research Project Title:		
Characterization of Biofilm Formed in an Intermittent Drinking Water Distribution System at MUET, Jamshoro		
Rese	arch Objectives	s:
	¹ To characterize the microbial community, present in the biofilm with the help of molecular techniques using 16S rDNA gene Illumina MiSeq sequencing.	
	To compare the characteristics of biofilms formed on various plastic pipe materials.	

Name of
Supervisor:Dr. Rasool Bux MaharProfessor, USPCAS-W, MUET, Jamshoro



Degree Program:	Environmental Engineering (ENV.ENG)
Roll Number:	15-MS-ENVE-14
Email:	farhanwahid13@gmail.com
Present Address:	Qalandar Shahbaz Medical Store, Barecha Chowk, kotri, Jamshoro.
Research Project Title:	

Farhan Wahid

Performance Evaluation of Drinking Water Interventions in Chachro

- D To identify all the drinking water interventions in Tehsil Chachro, Tharparkar
- □ To evaluate the performance of drinking water intervention in Chachro, Tharparkar specially reverse osmosis plants through water quality testing and socioeconomic survey
- □ To know the perspective of the local people about the drinking water intervention

Name of	Dr. Rasool Bux Mahar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Ashfaque Ahmed Pathan
Co-Supervisor:	Professor, MUET, Jamshoro

Faiz Rafique Memon



Degree Program:	Environmental Engineering (ENV.ENG)	
Roll Number:	15-MS-ENVE-09	
Email:	faaizmemon1@gmail.com	
Present Address:	A/1714 Market Tower Road Hyderabad	
Research Project Title:		

Optimization of Pilot-Scale Trickling Filter for Wastewater Treatment at MUET, Jamshoro

- □ To quantify the amount of wastewater being generated from Civil, CRP and IEEM department.
- □ To characterize the wastewater quality prior to treatment by analyzing its physico0chemical parameters.
- □ To optimize the depth of media and hydraulic loading rate in the trickling filter for the effective removal of contaminants from wastewater

Name of	Dr. Rashool Bux Mahar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Ashfaque Ahmed Pathan
Co-Supervisor:	Professor, Civil Engineering Department, MUET, Jamshoro

HID

Hydraulics, Irrigation and Drainage

The HID program educates students in the field of open channel and groundwater hydraulics in combination with engineering principles and to support useful plant life, with minimum degradation of soil and water resources.

ALCONT. NO.



Ghulam Shabir Solangi

Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	15-PhD-HID-03
Email:	solangi_shabir@yahoo.com
Present Address:	H# No B-22, Faraz Villaz Phase II, Qasimabad, Hyderabad

Research Project Title:

Impact Assessment of Seawater Intrusion on Soil, Water and Vegetation of indus River Delta Using field & Satellite Data

- □ To determine the spatial and temporal change in vegetative cover of the Indus delta
- To quantify the spatial and temporal distribution of soil salinity in the delta
- □ To assess and map the quality of the surface and ground water bodies
- □ To determine the temporal variation in land Surface temperature (LST) using
- □ Remote Sensing and its effect on the flora of the delta
- □ To assess the impacts of seawater intrusion on socio- economic condition of the community living in Indus delta

Name of	Dr. Altaf Ali Siyal
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Muhammad Munir Baber
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro

Muhammad Azeem



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-01
Email:	engrazeem3@gmail.com
Present Address:	Ward No:2 Near Govt Girls High School Bhiria City

Research Project Title:

Comparative Study of Solar, Diesel and Electric Operated Tubewells on Irrigation Agriculture Command Area of Gul Minor in District Nausheroferoz

- To assess impact of tube wells on groundwater fluctuation and agricultural production in the study area
- □ To evaluate the performance of solar, diesel and electric operated tube wells in terms of their sustainability and fulfilling the water demand of farming community in the study area

Name of	Dr. Abdul Latif Qureshi
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Shafi Muhammad Kori
Co-Supervisor:	Professor, MUET, Jamshoro

Ahmad Abdur Rehman



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-03
Email:	balochahmedabdurrehman@yahoo.com
Present Address:	H#A/8 Hami Cooperative Housing Society, Khairpur Mir'S

Research Project Title:

Assessing the Effectiveness of linear Anionic Polyarcylamide (LA-PAM) as Seepage Reductant in Earthen Irrigation Canals

- □ To quantify the seepage losses before and after the LA-PAM applications.
- □ To assess the impact of LA-PAM on physical canal water quality parameters before and after LA-PAM application.
- □ To assess the cost-effectiveness of LA-PAM for seepage control (economic analysis).
- □ To develop a set of guidelines for similar studies to be replicated in Pakistan.

Name of	Dr. Muhammad Munir Babar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-05
Email:	uroosamemon11@gmail.com
Present Address:	House #177 Sultan Shah Colony Lalolashari Road Kali Mori Hyderabad

Uroosa Memon

Research Project Title:

Assessing Effectiveness of Raised Bed Irrigation in Comparison Too Conventional Irrigation Techniques for Growing of Cotton Crop under Climate Conditions of Lower Sindh

- □ To evaluate the impact on yield and yield parameters of cotton crop grown on raised-beds compared to conventional irrigation techniques (ridges, and flat-bed).
- □ To determine the water used and water productivity (WP) of raised bed and conventional irrigation techniques.
- □ To assess the soil salinity status under raised-bed and conventional irrigation technique

Name of	Dr. Muhammad Munir Babar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Nazur Gul
Co-Supervisor:	Research Officer, DRIP-PCRWR, Tandojam



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-07
Email:	sumaiyasheikh17@yahoo.com
Present Address:	
Research Project Title:	

Summaiya Shaikh

Evaluation of Fresh Groundwater Potential and Suitability for Urban/Sub-Urban Area of Hyderabad.

- □ To assess the potential of groundwater to be used for agriculture purpose in the study area and to map it in various zones.
- □ To analyze the groundwater quality in district Hyderabad and its suitability for agriculture purpose.

Name of	Dr. Abdul Latif Qureshi
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of Co-Supervisor:	Hizfa Abdul Salam Memon

Nadir Ali Nizamani



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-10
Email:	nadirnizamani@yahoo.com
Present Address:	A-39, Al-Abbas Society, Anwar Villas, Qasimabad, Hyderabad.

Research Project Title:

Evaluating the Effectiveness of Linear Anionic Polyacrylamide (LA-PAM) for Seepage Reduction of Unlined Canals in Sindh Pakistan

- □ To assess the effectiveness of LA-PAM to reduce seepage loss in relation to its effect on the amount of sediment concentration.
- □ To assess seepage rate before and after application of LA-PAM.
- □ To describe cost and application efficiency of LA-PAM.
- □ To provide guidelines for the application of LA-PAM to water delivery canals for water conservation purpose.

Name of	Dr. Muhammad Munir Babar
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of Co-Supervisor:	Hizfa Abdul Salam Memon



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-12
Email:	zulfi_jumani@yahoo.com
Present Address:	Ward No:02,Shah Muhala Bhria City District Naushero Feroze Sindh

Zulfiqar Ali

Research Project Title:

Water Balance Assessment for Optimum Groundwater Management Strategies in Irrigated Agricultureal Areas of Sakrand Distributary.

- □ To map spatial distribution of tube wells and determine aquifer parameters (Storage coefficient S and Transmissivity T) in the study area.
- □ To quantify the water balance in the command area of the selected distributary and to suggest groundwater management strategies using Visual MODFLOW flex 2014.

Name of	Dr. Abdul Latif Qureshi
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Waqas Ahmed
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-13
Email:	aqeel11ce111@gmail.com
Present Address:	P/O Behlani Taluka Mehrbpur Distt: N.Feroze Sindh

Ageel Ahmed

Research Project Title:

Performance Evaluation of Solar Tubewells for Waterlogging and Irrigation Intensity in District Shaheed Benazirabad

- □ To analyze the effect of the solar tube wells on groundwater quality, groundwater table, and the relief in waterlogged areas.
- □ To assess the impact of the solar tube wells on irrigation intensity in the study area.

Name of	Dr. Abdul Latif Qureshi
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Waqas Ahmed
Co-Supervisor:	Assistant Professor, MUET, Jamshoro

Nageena Makhdoom



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	16-MS-HID-15
Email:	nageenamakhdoom@yahoo.com
Present Address:	Banglow # 298 Abdullah Garden, Qasimabad, Hyderabad

Research Project Title:

Effect of Different Soil Moisture Depletion Levels on the Soil Salinity & Yield of Cotton Crop under Raised Beds

- □ To determine the yield and crop water productivity of cotton by practicing regulated SMD levels on raised-beds.
- □ To quantify salinity parameters in the soil profile under different SMD levels on raised-beds.
- □ To assess net income and water saving under different (SMD) levels in scheduled irrigation applied to cotton crop grown on raised-beds.

Name of	Dr. Muhammad Munir Babar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Nazur Gul
Co-Supervisor:	Research Officer, DRIP-PCRWR, Tandojam



Degree Program:	Hydraulics, Irrigation and Drainage (HID)
Roll Number:	15-MS-HID-03
Email:	halarrajper@gmail.com
Present Address:	H# No B-22, Faraz Villaz Phase II, Qasimabad, Hyderabad
Research Project Title:	

M. Halar Zaman

Land Cover Changes and Urban Heat Intensity Mapping of Karachi

- □ Map the urban heat islands (UHI) for the city of Karchi
- □ Develop the relationship between air and land surface temperature, how would the relationship will help in identifying urban heat island (UHI)
- □ Map the temperature trends in the Karachi caused by urban development
- □ Assess which area of Karachi heat intensified and needs to be relieved with vegetation cover and plantation

Name of	Mr. Waqas Ahmed
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of Co-Supervisor:	

IWRM

Integrated Water Resources Management

The IWRM program enhances students' knowledge and capacities to deal with multi-disciplinary aspects of water resource allocation and use under conditions of uncertainties.

Vengus Panhwar



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-01
Email:	venguspanhwar23@gmail.com
Present Address:	Banglow No: A-2 Quest Employees Colony Nawabshah
Research Project Title:	

Impact Assessment of Water Sector Interventions in the Potohar Region

Research Objectives:

□ To investigate the significant positive and negative impacts pre- and post-dam construction on rural communities in terms of economics, equity, and environment. The overall objective is to develop a water resource management plan for the Potohar region, keeping in mind three E's of IWRM as the basic units of development.

Name of	Dr. Arjumand Zaidi
Supervisor:	Senior Research Fellow, USPCAS-W, MUET, Jamshoro
Name of	Dr. Asmatullah
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-02
Email:	tahiralishaikh30@gmail.com
Present Address:	Banglow#03 Lady Willington Hospital Khairpur Mir'S

Research Project Title:

Assessing Hydrologic, Environmental and Socio Economic Impact of Thar Coal Field: A case study of Gorano Dam

Tahir Ali Shaikh

- □ To determine the annual seepage volume and the associated impact of seepage and solute transport on water quality in the perched aquifer.
- □ To determine the annual evaporation rate from the dam and the resulting salt deposition in the dam area.
- □ To determine the environmental and socio-economic impacts on the flora and on the people living near the periphery of the dam

Name of	Dr. Altaf Ali Siyal
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Kamran Ansari
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro

Nabeel Ali Khan



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-03
Email:	khannabeelali2011@gmail.com
Present Address:	H.No 154 Block C Unit 7 Latifabad Hyderabad
Research Project Title:	

Crop Water Stress Delectation by Remote Sensing: A Case Study of Colorado

- □ To estimate the actual crop water use by remote sensing algorithms.
- □ To estimate the potential crop ET by the ASCE-PM equation and crop coefficients.
- □ To estimate CWSI for the detection of crop water stress.
- □ To estimate TVDI for the detection of water stress conditions.
- □ To assess the performance of TVDI for crop water stress detection.

Name of	Dr. Arjumand Zaidi
Supervisor:	Senior Research Fellow, USPCAS-W, MUET, Jamshoro
Name of	Dr. Asmatullah
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-05
Email:	mehran4015@gmail.com
Present Address:	H# B-33, Phase#1, Gulshan-E-Bakhtawar Colny, Qasimabad, Hyderabad

Mehran Sattar

Research Project Title:

Performance Evaluation of Two Statistical Downscaling Methods in Complex Terrain: A Case Study of Pakistan

Research Objectives:

- □ To bias-correct and downscale 8 GCMs for annual mean temperature for a 31-year historical time period (1960-1990) using two methods.
- □ To evaluate the performance of two statistical downscaling methods: 1) Quantile-Mapping Delta (QMD) method; and 2) Delta Method (DM).
- □ To bias-correct and downscale 8 GCMs for annual mean temperature for a 31-year future time period (2040-2070) under RCP 4.5 and RCP 8.5 scenarios using the QMD method.

Name of
Supervisor:Mr. Ghulam Hussain DarsAssistant Professor, USPCAS-W, MUET, Jamshoro

Vipin Kumar Oad



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-06
Email:	vipinkoad@gmail.com
Present Address:	House # B/569 Berhaman Street Near Khatan Bazar Larkana

Research Project Title:

Determining Climate Change Impact on Sowing Date, Crop Period and Temporal Variation in Crop Water Requirement using Remote Sensing and GIS Tools: A case Study of Larkana District

Research Objectives:

- □ To prepare rice crop masks of Larkana District using Landsat satellite data.
- □ To quantify the change in sowing and harvesting dates and their synergistic impact on crop yield.
- □ To determine the impact of the shift in sowing and harvesting dates on spatial variation of the land surface temperature and on temporal variation in rice crop water demand in the Larkana District.

Name of
Supervisor:Dr. Altaf Ali SiyalProfessor, USPCAS-W, MUET, Jamshoro

Faris Ahmed Bhatti



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-08
Email:	farisahmedbhatti4@gmail.com
Present Address:	House No: C-477,Block-lii,Phase-l,Qasimabad,Hyderabad

Research Project Title:

Agricultural Water Use Optimization Using Cropping Systems Simulation Model (CropSyst) for Chickpea

- □ To simulate yield and biomass of chickpeas for the year 2016-17
- □ To use simulations to determine the relationship between irrigation application on yield (Crop Water Productivity Function)
- □ To simulate actual and potential evapotranspiration of chickpeas for the year 2016-17 at different depletion levels.
- □ To find the optimum irrigation requirement (highest Crop Water Productivity) for chickpeas.

Name of	Dr. Arjumand Zaidi
Supervisor:	Senior Research Fellow, USPCAS-W, MUET, Jamshoro
Name of	Dr. Asmatullah
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-09
Email:	salmanmohsin43@yahoo.com
Present Address:	Nb-181,Street # 04, Newmalpur, Nazimabad,Rwp, Pindora

Salman Mohsin

Research Project Title:

Assessment of Hydro-climatic impact on tidal Floodplane of Indus delta using RS and GIS tools

Research Objectives:

- □ To determine the spatial and temporal change of mangrove cover in the tidal floodplains of the Indus delta.
- □ To conduct a time series analysis of hydro-climatic variables on the tidal floodplains of the Indus delta.
- □ To assess the impact of climate change on mangroves cover in the tidal floodplains of the Indus delta.

Name of
Supervisor:Dr. Altaf Ali SiyalProfessor, USPCAS-W, MUET, Jamshoro



Degree Program:	Integrated Water Resources Management (IWRM)
Roll Number:	16-MS-IWRM-13
Email:	uzma_ali05@yahoo.com
Present Address:	H# 545, Second Floor Near Faisal Genral Store Sadiqabad Rawalpindi
Research Project Title:	

Uzma Jabeen

Application of System Dynamics Model to estimate the sustainability cost of Urban water supply: A case study of Hyderabad City

- □ Develop causal loop diagrams and stock-flow model to forecast and analyze future demand and supply of water by 2030
- □ Identify the impact of baseline, self-sustaining and external funding scenarios on the financial sustainability of the WASA Hyderabad to achieve SDG 6.1 by 2030

Name of	Ms. Rakhshinda Bano
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Muhammad Ali
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Integrated Water Resources Management (IWRM)	
Roll Number:	15-MS-IWRM-06	
Email:	shevaram50@gmail.com	
Present Address:	H# 16/B, Jamal Colony Sanghar	
Research Project Title:		
Flood Hazard Modeling in Lower Indus Basin-LBOD		

Sheva Ram

- □ To develop flood hazard map of 2011 floods along LBOD (left bank outfall drainage)
- □ To Asscess flood damages of 2011 floods along LBOD (left bank outfall drainage)

Name of	Mr. Waqas Ahmed Pathan
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Mr. Ghulam Hussain Dars
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro

WaSH

Water, Sanitation And Health Sciences (wash)

This program deals with the skills and knowledge to effectively implement water and sanitation interventions and work with community and community-based organizations and the local political structure. It assess the functioning and impacts of these systems, and implement solutions to improve the effectiveness and sustainability of existing systems.



Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-02
Email:	sumra_arain@yahoo.com
Present Address:	Flat No 8, Uroosi Hall, Sadiq Iqbal Plaza, Unit No 6, Latifabad, Hyderabad
Research Project Title:	

Sumra Hussain

Assessment of Water Sanitation & Hygiene (WASH) Facilities, Accessibility and Functionality in Primary Healthcare Centers of District, Hyderabad

- □ To assess the status and quality of WaSH services in selected public PHCs of Hyderabad
- □ To measure the clients' satisfaction and perception level with regard to WaSH services in public PHCs of Hyderabad.

Name of	Dr. Rasool Bux Mahar
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Jameel Ahmed
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro

Pashmina Iftikhar



Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-03
Email:	pashminaiftikhar@gmail.com
Present Address:	A-46, Street No. 1, Gospel Homes Complex, Qasimabad, Hyderabad.

Research Project Title:

Knowledge, Attitude and Practices regarding Menstruation with respect to WASH Facilities for Adolescent Girls of Public Schools of District Hyderabad, Sindh, Pakistan

- □ To assess the level of accessibility (availability and functionality) of existing WASH facilities in schools of Hyderabad, Pakistan.
- □ To assess the quality of WASH services provided to female students of Hyderabad, Pakistan.
- To assess the status and awareness of hygiene including menstrual hygiene management (MHM)

Name of	Dr. Jameel Ahmed
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Rasool Bux Mahar
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro

Ubed-Ur-Rehman

Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-05
Email:	ur_memon@yahoo.com
Present Address:	H.No A-179 Ghulam Shah Kalhora Colony Hyderabad

Research Project Title:

Water sanitation and Hygiene Resources and Students' Satisfaction Appraisal in Higher Education Institutes

- □ To evaluate the availability of WASH-related resources / facilities in HEI's of Jamshoro and Hyderabad
- To determine the satisfaction level of students regarding available WASHrelated resources / facilities
- □ To determine the association between available WASH-related resources / facilities and students' satisfaction in HEI's

Name of	Dr. Jameel Ahmed
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Rasool Bux Mahar
Co-Supervisor:	Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-07
Email:	imdadaliofficial@gmail.com
Present Address:	A-39, Al-Abbas Society, Anwar Villas, Qasimabad, Hyderabad.

Research Project Title:

Assessment of Waterborne Diseases, Health Care Cost and Health Seeking Behaviour in Urban Slums of Hyderabad

- □ To assess water-borne diseases in urban slums of Hyderabad.
- □ To assess healthcare cost in urban slums of Hyderabad.
- □ To evaluate the health-seeking behavior in urban slums of Hyderabad.
- □ To assess the behavior of people towards WASH.

Name of	Dr. Jameel Ahmed
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Syeda Sara Hassan
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-08
Email:	kanwar10ce54@gmail.com
Present Address:	Nand Lal Malhi Advocate And Stamp Vendar Qila Road Umerkot
Research Project Title:	

Kanwar Malhi

Water Quality and Health Risk Assessment of Harvested Rainwater in Tharparkar

Research Objectives:

□ The purpose of this study is to assess the quality of rain water harvested in Tharparkar, and to assess health risks associated with the use of rainwater. Being the only possible solution to scarcity, rainwater is harvested more in Tharparkar and the quality is not suitable for drinking. Rainwater is abundant during the monsoon season; it is economical and easy to harvest. People use this water, during a significant portion of the year. The quality of harvested rainwater changes over time in storage, and it becomes contaminated by various environmental effects. Therefore, a risk of health is always associated with its consumption.

Name of	Dr. Kamran Ansari
Supervisor:	Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Jameel Ahmed Soomro
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro



Degree Program:	Water, Sanitation & Health Sciences (WaSH)
Roll Number:	16-MS-WASH-10
Email:	Shaista.dinal1@gmail.com
Present Address:	SE Gulam Murtaza House Rehman Colony Sonikot Gilgit

Shaista Mubarak

Research Project Title:

Quantitative Microbial Risk Assessment of Waterborne Pathogens in Drinking Water Sources of Hyderabad Sindh Pakistan

- □ To determine the prevalence of rotavirus in drinking water sources,
- □ To determine efficiency of different disinfectants to remove Rota virus from water,
- □ To check the effects of physico-chemical parameters on the effectiveness of disinfectant of rotavirus,
- □ To recommend the cost effective disinfectant method for the removal of Rota virus from water.

Name of	Dr. Jameel Ahmed Soomro
Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro
Name of	Dr. Ayesha Tajammul
Co-Supervisor:	Assistant Professor, USPCAS-W, MUET, Jamshoro

SUSTAINABLE DEVELOPMENT GOAL 6:

6

Ensure Availability and Sustainable Management of Water and Sanitation for All