

# Making Waves

NEWS FROM THE

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

MAY  
2019



*USPCASW visiting scholars Fiza Mansoor and Jiya Sonani attend Certificate Night. The event capped a productive exchange semester.*



**USAID**  
FROM THE AMERICAN PEOPLE



**W**e had a very special moment to start 2019. Personally, [receiving the Sitara-i-Imtiaz](#) was one of the most rewarding experiences of my career. And for the USPCASW team, it recognized the great work we have been doing to establish the U.S.-Pakistan Center for Advanced Studies in Water at MUET. The award gave me and the entire USPCASW team a chance to reflect on all that we have accomplished. The numbers are astonishing.

- More than 130 applied research projects completed
- More than 10 peer-reviewed journal articles published or under review, jointly authored by MUET and University of Utah, Colorado State University, and University of Nevada, Las Vegas partners
- More than \$2.75 million in external funding for MUET researchers
- More than 120 student and faculty semester exchanges completed
- More than 14 training missions to Pakistan to deliver 500-person days of instruction and dozens of learn-by-doing workshops

And much more to come in 2019. More impressive is the significant positive impacts of these activities, such as:

- Improved capacity of Government of Sindh Planning & Development Department, Irrigation Department, Irrigation & Drainage Authority, and others to efficiently and equitably manage water
- More sustainable industrial systems by advancing wastewater treatment in Karachi industry
- Characterizing risk detection and treatment of multi-drug resistant bacteria in drinking water and sanitation systems in Hyderabad and Jamshoro
- Collaborating with non-governmental organizations to characterize environmental, clean water, and sanitation challenges in the Tharparkar region, hospitals and schools in Sindh, and urban areas of Hyderabad and Karachi
- Partnering with communities working to improve quality of life and ecosystems in the Indus Delta region
- And through the cultural aspect of the semester exchanges, more globally competent communities at the University of Utah and Colorado State University

I am extremely proud of the many accomplishments of the USPCASW team made possible by the support of USAID, the Higher Education Commission of Pakistan, and the talented faculty and students at MUET, University of Utah, Colorado State University, UNLV, and so many other partners. I look forward to continuing to pursue a level of excellence consistent with the Sitara-i-Imtiaz award.



**STEVE BURIAN, PROJECT DIRECTOR**



**13**

Spring Exchange Seminars focused on Utah's Water Cycle and its parallels to Pakistan's

**12**

Seed grants funded by USPCASW

**14**

Number of training missions completed to date





## USPCASW WORKS TO CLOSE WATER RESEARCH GENDER GAP IN PAKISTAN



*Spring 2019 Exchange scholars and faculty at MUET before departing Pakistan for Exchange experiences in Utah and Colorado. Courtesy Mehran University of Engineering and Technology.*

**W**orldwide, women are disproportionately affected by issues of water scarcity and sanitation. Consequently, adequate female representation in research and policy is especially important to ensure a future where clean water is available to all.

Recognizing the critical role women play in advancing water security, the USAID-funded U.S. – Pakistan Center for Advanced Studies in Water has been intentional in pursuing a gender balance in its programming since the Center’s founding in 2014. The 11 women and 11 men who traveled from

Jamshoro, Pakistan to study at the University of Utah and Colorado State University this Spring are a testament to those efforts—they are the first group of Exchange scholars in the program to represent parity across genders.

“From the start, there was the challenge of enrolling female students,” said Dr. Bakhshal Lashari, project director at Mehran University of Engineering and Technology. He remarked that water research is not a field that female students in Pakistan traditionally show interest in. “In year one we brought a number of female students in and now we have almost 34 percent



## USPCASW WORKS TO CLOSE WATER RESEARCH GENDER GAP IN PAKISTAN

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[females enrolled in USPCASW at MUET]. We're really excited, but of course, there is more work to do."

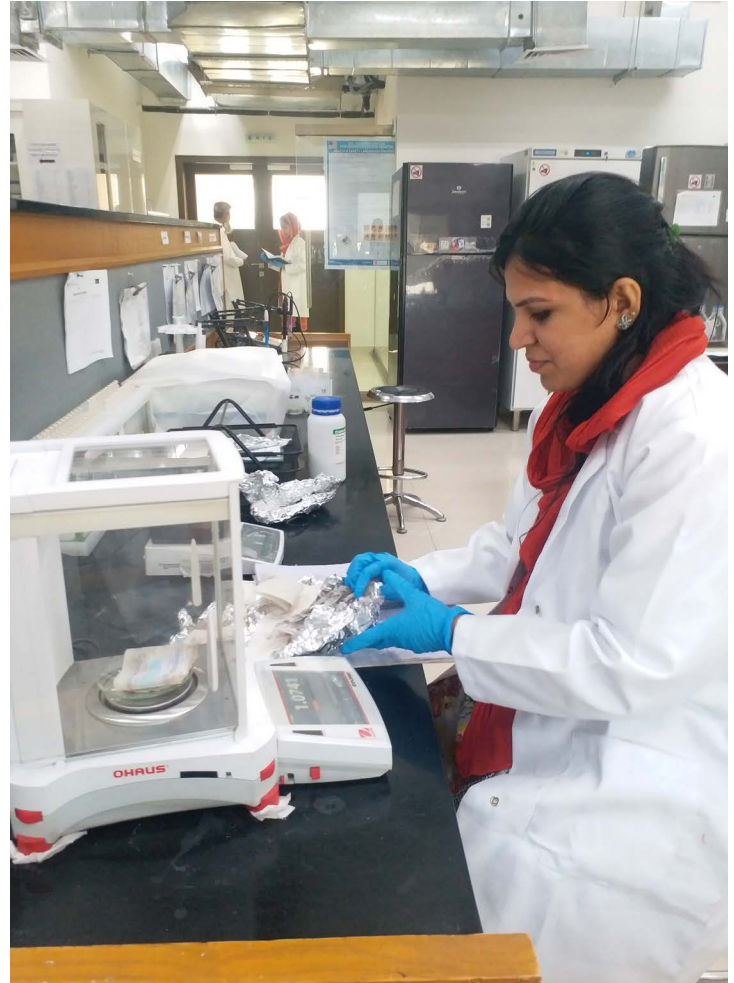
Achieving gender parity on the Exchange program

Achieving gender parity on the Exchange program is a milestone for the Center—one that indicates the quality of students in both genders is rising and leading to equal representation based on merit.

is a milestone for the Center—one that indicates the quality of students in both genders is rising and leading to equal representation based on merit. U Civil Engineering professor and USPCASW mentor Jennifer Weidhaas noted that "We know we have been successful in our gender equity efforts, when we don't try to select candidates based on gender and yet we still end up with a gender balanced group."

USPCASW continues to strive to create a space that is welcoming and equitable to all students. "We are mainstreaming inclusion into all USPCASW programs and policies. This focus is having positive benefits for all professors and students involved in USPCASW by increasing awareness, reducing implicit bias and promoting gender parity across all partner institutions," said Steve Burian, U Civil Engineering professor and USPCASW project director.

The Center continues to develop the Gender Equity program and Women's Resource Center at MUET, has fostered social interaction by creating a cafeteria on MUET's campus where women and men are welcome to eat together, and actively seeks applicants from all underrepresented populations, including socio-economic and religious minorities. "We have invited people from all over the country to participate in our program, not just Sindh," noted Lashari. "The big challenge was how to reach out. But we've organized the entry test centers all over the country so that applicants can appear at their convenience all over Pakistan."



*Marvi Sharma is working on a comparative study of synthetic and natural feminine sanitary products for market availability, community acceptance, health implications and eco-friendliness.*

Speaking to the student experience at MUET, Water, Sanitation & Health Sciences scholar Marvi Sharma said "initially I was nervous about gender preferences, but I realized that there is equal opportunity for both genders in this center. They really encouraged female students and provide [an] environment where women benefit from different opportunities. This built in me and other female candidates the confidence to move shoulder by shoulder with men, setting behind the engraved norm about females being inferior."





## RESEARCH Highlights



Several University of Utah School of Medicine faculty traveled to Pakistan this spring to conduct two studies aimed at identifying pathways through which antimicrobial resistance is transferred within communities. The studies were designed to assess the prevalence of multiple drug resistant Enterobacteriaceae in communities and hospital settings.



Dr. Zubair Ahmed, from MUET, joined the Spring Exchange for intensive research and training. Working with Drs. Jennifer Weidhaas and Ramesh Goel from the U, Ahmed began work on three manuscripts for publication. He also spent time this semester working on a concept note for the establishment of an Eco-innovation unit at USPCASW.



Dr. Mercedes Ward has spent about 50% of the year in Pakistan working with Assistant Professor Muhammad Ali, Study Coordinator Qaimuddin Mahar, and a team of USPCASW students and alumni. The team has conducted over 250 interviews with farmers to understand how asymmetries in social power affect irrigation management performance.



Dr. Steve Burian, director of The U Water Center and the U.S.-Pakistan Center for Advanced Studies in Water at the U, was awarded the Sitara-e-Imtiaz (Star of Excellence), one of Pakistan's highest civilian honors appreciation for Burian's continued leadership on critical water issues.

## In the SPOTLIGHT



**CALEB GRIFFIN** recently joined the USPCASW team as the writing instructor. Caleb enjoys helping students present their research in a polished, professional manner. His instruction enriches the Exchange program experience through classroom instruction and editing services and he equips scholars with a better understanding of the English language in an academic context. Caleb has previously worked for a non-profit specializing in education, and most recently taught English in Morocco for two years as a Peace Corps Volunteer.



## EXCHANGE *by the* NUMBERS

100

Approximate  
hours of research  
completed

100

Approximate  
hours of writing  
instruction

5

Technical Field  
Trips completed

10

Hours of  
professional  
development

### COURSES IN

Global Health, Spatial Modeling,  
Climate Dynamics, Groundwater  
Hydraulics, Air Pollution  
Control, Data Science and Ma-  
chine Learning, and  
Applied Econometrics

## EXCHANGE *Notes*



Visiting scholars compete for the golden and silver mic awards as a way to practice their presentation skills.



Students visited one of Salt Lake's Water Reclamation facilities to learn the sewage treatment process for residential, commercial and industrial customers.



Students received climbing instruction in Big Cottonwood Canyon just outside Salt Lake City. The opportunity presented a hands-on chance to learn about Salt Lake's watershed and how it overlaps with outdoor recreation as well as the criticality of teamwork, trust, and leadership. (Visit us on Instagram to see the video!)



Jiya Sonani, Muhammad Arfan, and Rafia Khanzada participated in the Environment and Sustainability Research Symposium, hosted by the U's Global Change & Sustainability Center.



VIDEOS, STORIES, AND PROGRAM INFORMATION AT

[water.utah.edu/uspcasw](http://water.utah.edu/uspcasw)



**The U.S.-Pakistan Center for Advanced Studies in Water is training a new generation of engineers and water professionals in order to solve the water security challenges of the twenty-first century.**

In Pakistan, reliable drinking water is accessible to less than 15% of the population, inadequate sanitation contributes to preventable waterborne diseases leading to a child's death every two minutes, and inefficient management of water leads to supply losses greater than 50%. To forge solutions, USAID formed a strategic partnership between the University of Utah and Mehran University of Engineering and Technology (MUET) in 2015. The resulting Center fosters a nexus of higher education, government, business and communities working together to effectively guide sustainable development policy through water research.

**MAY 2019**

# Making Waves

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

## EXECUTIVE COMMITTEE

**Steve Burian**, USPCASW Project Director & Professor, Civil and Environmental Engineering

**Aslam Chaudhry**, Chief of Party/Deputy Project Director & Research Professor, Economics

**Mike Barber**, Department Chair, Civil and Environmental Engineering

**Cheri Daily**, Director of External Relations and Global Programs, Office for Global Engagement

**Jim VanDerslice**, Professor, Division of Public Health

**Pat Shea**, Private Practice Attorney & Research Professor, Biology

**Court Strong**, Associate Professor, Department of Atmospheric Sciences

**Jennifer Weidhaas**, Associate Professor, Civil and Environmental Engineering

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**Caleb Griffin**, Writing Instructor

**Ming Li**, Finance and Grants Manager

**Cecily Sakrison**, Communications Specialist

**Davey Stevenson**, Engagement Specialist

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**Azhar Zaheer**, Entrepreneurial Specialist

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