Miguel Fraga

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# profile

Miguel Fraga is a Master of Business Administration student at The University of Texas at El Paso (UTEP) with a Bachelor of Science degree in Engineering Leadership with interest in project management and operations. He has been awarded by the National Institute of Health to conduct environmental engineering research at UTEP and Rice University. International experiences in which he has participated include: UTEP’s Global and Regional Sustainability Engineering Program at Piura, Peru, an engineering education internship at Berekuso, Ghana, and service learning disaster relief projects in Puerto Rico and the Philippines. Academically, he has been recognized with ten merit-based scholarships. Miguel founded the Engineers for a Sustainable World -UTEP student chapter and currently serves as the Annual Conference Coordinator.

# Education

The University of Texas at El Paso El Paso, TX

**Master of Business Administration** May 2019

Relevant Coursework: Corporate Engagement, Organizational Behavior, Financial Accounting

GPA: 3.4/4.0

The University of Texas at El Paso El Paso, TX

**Bachelor of Science in Engineering Leadership** 2018, Cum Laude

Relevant Coursework: Engineering Functional Value, Senior Capstone Design

Senior Honors Thesis: Solar-Powered Point-of-Use Reverse Osmosis Desalination of Brackish Water. *Advisor*: Dr. W. Shane Walker

GPA: 3.5/4.0

# PROFESSIONAL Experience

The University of Texas at El Paso – Civil Engineering Dpt. El Paso, TX

Research Assistant 2016-Current

* Designed a small scale solar-powered point-of-use reverse osmosis desalination system for brackish water under the supervision of Dr. Shane Walker.
* Tested different water quality parameters indluding: conductivity, pH, alkalinity, total dissolved solids (TDS), dissolved ions by ion chromatography (IC), and dissolved metals by inductively coupled plasma optical emission spectroscopy (ICP-OES).
* Prepared a year-long senior honors thesis formatted as a research paper to be published in a scientific academic journal.
* Presented research findings at several national conferences and an international conference.

Atlas Regeneration Technologies El Paso, TX

Research and Development - Intern 2018 – 2019

* Assist the principal investigator on a research grant from the NSF’s Small Business Technology Transfer office in the development of novel technologies for sensing hardness and other constituents in water and other liquid streams.
* Design detailed project plans with engineering, manufacturing, sales, and marketing ideas to manage all aspects of product development and production.

Lawrence Livermore National Laboratory Livermore, CA

Environmental Functional Area – Summer Intern 2018

* Provided support in wastewater collection system model development by developing a modeling instrument using macros in M.S. Excel.
* Investigated different modeling approaches and assumptions by communicating with other departments such as the engineering and construction departments.
* Gathered available collection system information (invert and pump station locations) and CAD files electronically into a single database to support modeling.
* Performed technical assignments of a basic degree of complexity and provided advanced technical support for model development.

# Leadership engagement

Engineers for a Sustainable World – UTEP Student Chapter El Paso, TX

Annual Conference Coordinator 2018 – Current

Founding President 2017 – 2018

* Led a team of eight student leaders and 50 student members to become a nationally recognized student chapter.
* Managed six different interdisciplinary projects including projects in Puerto Rico and the Philippines.
* Led a rainfall harvesting project implemented in Presidio, TX to receive the “2018 Rain Catcher Award” by the Texas Water Development Board.
* Coordinated fund solicitations from university available funds and local industries resulting in more than $70,000 USD in earnings for the organization.
* Coordinated logistics for the annual three-day event: “Sustainable Solutions Competition”
* Led the chapter the be selected as host for the 2019 Annual Conference.

UTEP President’s Advisory Committee on Sustainability El Paso, TX

Member 2017 – Current

* Provide a student perspective on the suggested sustainability guidelines and activities the university should implement.
* Collaborate with two professors and a computer science student to create a campus-wide sustainability website to showcase university’s efforts.

# Volunteering

Disaster Relief Bridge Reconstruction Utuado, Puerto Rico

Student Leader 2018

* Led a team of 10 UTEP students and 40 New Mexico State University students to design and build a pedestrian suspension bridge under the guidance of 4 professional engineers.
* Learned the fundamental concepts of construction management and bridge design.
* Fundraised over $40,000 USD to cover bridge expenses as well as airfare, food, and lodging through fundraising events and corporate sponsorship.
* Managed to build strong relationships with the community through radio and TV shows aired locally and nationally.

Water Filter Distribution Cagayan de Oro, Philippines

Student Leader 2018

* Led a team of six UTEP students and alumni to distribute water filtration systems to a community severely affected by past natural disasters in the region.
* Fundraised over $6,000 USD to cover filter expenses, airfare, food, and lodging through fundraising events and corporate sponsorship.
* Distributed 100 point-of-use filter to local families and provided guidelines on how to properly maintain them.

# Honors and awards

*National Institute of Health (NIH) BUILDing SCHOLARS Program* 2015-2018

*NASA Columbia Crew Memorial Grant* 2015

*Bob and Diane Malone Leadership Institute Scholarship* 2014-2017

*Xerox HCLP Scholarship* 2016-2017

*TRAX International Endowment Scholarship* 2017

*STARS Scholarship Fund* 2014-2016

*National Action Council for Minorities in Engineering (NACME) Scholarship* 2017

*College of Engineering Dean’s List* 2013-2018