

VALLEY ENGINEERING, SCIENCE & TECHNOLOGY CLUB

March 2020 NEWSLETTER

www.engineersaz.com

The Engineers Club is a social organization which meets monthly for lunch with a speaker on a topic of interest. Spouses and guests are invited and many attend regularly. Short field trips are occasionally scheduled. Membership is open to anyone who has worked in or has an interest in Engineering, Science or Technology. Meetings are held at 11:30am on the first Friday of each month (unless otherwise noted), October through June, at Briarwood Country Club, 135th and Meeker in Sun City West, AZ

MARCH 6 PROGRAM

Smart Sewers for Smart Cities: Informing on Public Health through Wastewater Analysis

Speaker: Adam J. Gushgari, PhD, PE ASU



Adam Gushgari received his PhD in Civil/Environmental Engineering at Arizona State University where he focused on a new monitoring technology called “wastewater-based epidemiology”. Following his PhD graduation, he co-founded AquaVitas LLC – a company focused on using wastewater monitoring

as a tool to help curb the opioid epidemic – a crisis that has impacted him personally. A born and bred Arizona native – Adam uses his unique background of land development civil engineering, analytical chemistry, and his personal experiences to assist community stakeholders in understanding their drug and health problems through wastewater monitoring.

Abstract: Data-informed decision making has never been more important than it is today. Governments and stakeholders routinely utilize big-data to make informed policy decisions and education campaigns to positively impact the lives of their constituents, but the efficacy of their strategies is heavily impacted by the quality of datasets considered in their decisions. Wastewater-based epidemiology (WBE), a relatively new field of science focusing on extracting chemical data from wastewater samples, has seen significant worldwide adoption of the technology to understand the prevalence of drug abuse at the community level. The European Union has seen incredible success in WBE monitoring through their SCORE network, and nationwide campaigns are being established in Canada, Russia, China, and Australia. While a nationwide campaign has not yet been established in the United States, many state and local governments have implemented smaller regional sampling campaigns to understand drug abuse in their communities and how their policy and actions impact their constituents. This presentation will briefly cover the history of the technology, domestic and international WBE successes, and the current ways that the field is being developed to address other public health and safety concerns.

2020 VEST LUNCHEON DATES

April 3, May 1, June 5, October 2, November 6,
December 4

SCHOLARSHIP COMMITTEE UPDATE

Your VEST Scholarship Committee has been hard at work this past month. The Scholarship Committee is one of the long standing committees of the Club with the goal to recruit qualified student(s) who are entering their Junior Year in a qualified four-year Engineering, Science or Technology University. The VEST Scholarship Committee includes the following members: **Carol Mungas, Karen Campbell, George Zieglgansberger, and Jim Schlenvogt (Chairperson)**. On January 30th, the Committee met with the Glendale Community College (GCC) personnel and students and toured the GCC - Science, Technology, Engineering, and Math, (STEM) and the Engineering Science Technology Departments’ facilities areas. This was a very interesting and informative tour.

The GCC Scholarship applications were due on February 12th and the Committee received five applicants. The Committee reviewed the applications and selected the top three students for the February 28th on-campus interviews and will be deciding on awards by Mid-March. All of these young scholars are deserving and the Committee will do its best with the funds available. This is why it is so important that this Club keep up its work in fund-raising for the scholarships we award each year. These scholarship students will be attending future VEST meetings to provide more information on their backgrounds and to thank the VEST Club for their 2020-2021 scholarship donations. Everyone at the VEST Club can be proud their scholarship donations will assist the future generation of STEM university graduates!

APRIL 3 PROGRAM

Rapidly Deployable Infrastructure for Humanitarian Assistance

Speaker: Alexander Mobley ASU



Alexander Mobley is a USAF veteran with a bachelor’s degree in Engineering. His current role as Testbed Manager for LEAPS includes responsibilities such as space capacity development, safety review and

approval, testing plan development, design and fabrication management, parts ordering, budgeting, and personnel management of student workers. Mr. Mobley has co-led several hands-on workshops and bootcamps training over 120 veterans, students, and industry personnel in microgrid solutions, and personally developed over 15 hours of train-

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ing content for interactive lessons including simulation-based design and hands-on technology evaluation. He has researched and fabricated multiple prototypes relating to microgrids and training such as the Mobile Microgrid Training Platform.

Arizona State University's Laboratory for Energy And Power Solutions (LEAPS) recently deployed a containerized medical clinic with integrated power and water filtration in the northern region of Uganda. This clinic services a population of 12,000 refugees from South Sudan where the existing medical staff estimates visitation at 205 patients a day.

Thanks to project funding and support from several sources such as the Office of Naval Research (ONR) and Medical Teams International (MTI) this platform has the potential to act as a blueprint for similar use cases in a wide variety of settings. As a portion of this project the team worked with local in-country vendors and contractors to increase the likelihood of continued support and maintenance. After evaluating the successes and challenges of this endeavor, a framework of understanding can be formed, and best practices established towards the next versions of this system.

TREASURER'S REPORT FEB 2020

General Fund Balance:	\$ 8,277.77
Scholarship Fund:	\$ 1,626.00
Membership Total:	132

February 50/50 was \$ 68.00 - Congratulations to winner Charles Gilmore who donated \$63.00 to the Scholarship Fund. Thank you Charles!

FUTURE MEETINGS

May 1

Building the Future of Airpower: Whatever the load,
the F-35 can carry it

Speaker: David R. Clementi, Maj, USAF

RESERVATION POLICY

The cost of the monthly luncheon is \$24.00 cash or check. The reservation deadline is 6 PM Monday before the meeting. **Late reservations cannot be guaranteed the regular meal.** Call Chuck Wasik at 623-537-9196 to cancel your reservation. Note that the full cost of the luncheon will be charged for "no-shows" and cancellations after 5 PM on Monday before the meeting. Please have cash or make out your check in advance.

LUNCHEON MENUS

March 6: #1 Roast Turkey, Dressing, Mashed Potatoes Cranberry Sauce and Chef's Vegetable **or #2: Shrimp Scampi** in garlic butter sauce, Savory rice pilaf or pasta, Chef's Vegetable. Both entrées include Ice Cream Parfait Sundae, Caramel sauce, whipped cream & Pecans (**Grilled Vegetable Plate or Fruit Plate also available**)

April 3: #1 Citrus Chicken Breast, Pan Seared Chicken Breast with Citrus Herb Sauce, Rice Pilaf, Green Beans with Cherry Tomatoes **or #2: Baked Citrus Herb Crusted Alaskan Cod Fillet** with Savory rice pilaf and a vegetable. Both entrées include Ice Cream Sundae, Chocolate Sauce, Whipped Cream & Chopped Nuts (**Grilled Vegetable Plate or Fruit Plate also available**)



The Future of Energy is Bright
February 7 speaker: Donald Chung, APS, Energy Innovation
For more information on our speakers, please visit our website at www.engineersaz.com

