

WEST VALLEY STEM CLUB

November 2022 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. Guests are always welcome. Contact Phil Main: maintwin3@gmail.com, 623-826-0101 (cell).

NOVEMBER 4 PROGRAM

The Use of Extracellular Vesicles as Carriers of Information From Different Tissues and Extracellular Vesicle Cargo for Monitoring the Body

Dr. Kendall Van Keuren-Jensen, Professor Neurogenomics Division, Deputy Director Research Resources, Director Center for Noninvasive Diagnostics, TGEN



Dr. Van Keuren-Jensen received her Ph.D. from Stony Brook University at Cold Spring Harbor Laboratory in New York where she studied the role of activity-regulated genes in synaptic transmission and neuronal morphology. Following her Ph.D., she was a postdoctoral fellow at Harvard Medical School for a short time before coming to TGen. She also has a Master's degree in

Pharmacology and Toxicology from the University of Kansas, and she double majored in Biology and Anthropology at Boston University.

Abstract: Diseases and injuries of the central nervous system (CNS) are difficult to diagnose, monitor, and treat. The development of reliable mechanisms for early detection of illness and injury may help to prevent secondary insult cascades and reduce long-term deficits in patients with neurological conditions. Permanency of damage to the CNS is time sensitive, in many cases once neurological involvement is severe enough to cause clinically detectable symptoms, the damage becomes irreversible. Due to the inaccessibility of the tissue, molecular changes in the CNS are difficult to monitor. There has been significant interest in the utility of circulating RNA as a proxy for monitoring CNS injury and disease. Circulating protein, RNA, metabolomic, and lipidomic materials are released from cells, protected from degradation in extracellular vesicles or bound to proteins. This molecular information, from every tissue, gets into bodily fluids (such as blood, urine and saliva) and provides information about pathogenic processes associated with disease, injury, inflammation and damage in a minimally invasive way. Extracellular vesicles and RNA binding proteins provide us with a new handle for monitoring and understanding disease progression, identification of biomarkers, assay development, and therapeutic discovery. The minimally invasive nature for collecting extracellular information from biofluids allows for frequent sampling, with the potential to closely monitor pathophysiological mechanisms of traumatic injury and disease. Our lab examines the RNA cargo of extracellular vesicles using several different sequencing platforms (Illumina, Oxford Nanopore, 10x Genomics) and a diverse set of bioinformatics tools for analysis.

PRESIDENT'S MESSAGE

Jim Schlenvogt

Hello again! I hope you are having a terrific fall season. In October, the Club had good attendance at our first meeting. In addition, we had ten people attend the field trip on October 15th to ASU's Earth & Space College – Open House. It was very interesting to learn about the many exploration projects ASU students and faculty is actively engaged in.

For November, we had to do some juggling on the speakers when we were notified the Taiwan Semiconductor speaker will not be available until March, 2023. We were very fortunate to have several choices for our speaker and TGen was able to provide Dr. Kendall Van Keuren-Jensen to talk about leading edge medical research. In addition, we will have the 2023 election of Club officers, who will take office January 1, 2023.

In December, our monthly program will be on a critical topic for the Southwest: Water Supply from the Colorado River System. Also, we hope to have an announcement related to where the 2023 meetings will occur and a discussion of the Pro's and Con's.

The Board has approved setting up a table at the 2022 Surprise SciTECH Festival on December 10th, 10am to 2pm, at the Mark Coronado Park parking lot at 15850 N. Bullard Ave. in Surprise. This is part of the Club's community outreach and efforts to recruit new members. Come and see the robots and all of the fun projects.

This summer, a review of the meeting location became very urgent when Briarwood provided the new pricing increases for 2022/2023. We expected some price increases in the menu items; however, Briarwood added significant costs to the meeting including a \$150 room charge and an increase in the price of dessert by \$2.64.

So you ask, how is your \$30.00 spent each month? Assuming we average 30 people at the luncheon meetings, following is a breakdown of the costs for your \$30.00: Luncheon menu item between \$16.00 to \$17.00, Service Charge & tips @ 24% total: \$3.84 to \$4.08, Sales Tax @ 6.3%: \$.1.25 to \$1.33; Room Charge including tax: \$5.32; The Club pays for the Speaker's and Guest's meal: \$2.64. This leaves a few cents or nothing for the Club's Scholarship Fund. This example is eliminating the \$6.59 dessert and not raising the meal cost to \$35 to \$40. In conclusion, this is why the Board decided it is important to investigate a less expensive venue. We welcome your input.

Have a safe and healthy fall season, and we look forward to seeing you again at the next meeting. Thank you for your support of the Club!

WEST VALLEY STEM November 2022

2022 OFFICERS

President	Jim Schlenvogt
Vice President	George Zieglgansberger
Secretary	Marilyn Dumond
Treasurer	Carol Mungas
Asst. Treas.	Dave Campbell

COMMITTEE CHAIRPERSONS

Programs	Peter Rauen/Jim Schlenvogt
Membership	Philip Main
Reservations	Philip Main
Luncheons	Jim Schlenvogt
Scholarship	Jim Schlenvogt
Member at Large	Hal Lind
Newsletter / Website	Dave and Karen Campbell
Event Audio	Hal Lind/Doug Totel
Event Computer	Paul Scherer
Publicity	Lance Berglund
Field Trips	George Zieglgansberger
Past President	Steve Sumner

Email the Board at: board@engineersaz.com

FIELD TRIPS

EARTH AND SPACE EXPLORATION DAY AT ASU

On Saturday, October 15, members of WVSTEM carpoled to the Earth and Space Exploration Day held at ASU. The Open House lasted from 10am to 2pm with three programs and many exhibits. A total of ten people participated.



Left to right: Jim Schlenvogt, Eugene Krajeck, Eugene's Guest George Zieglgansberger, Paul Scherer, Gary Graunke

TREASURER'S REPORT OCTOBER 2022

General Fund Balance: \$6,447.93
Membership Total: 51

OCTOBER 7 PROGRAM

**The Science Behind Alien Encounters:
UFOs Are Real
Dr. Robert E. Farrell**



December 2 Program

Water Supply from the Colorado River System

Rachel Von Gnechten,
Water Resources Engineer
Arizona Department of Water Resources

2022 WV STEM MEETING DATES

November 4, December 2

2022 MEMBERSHIP DUES

Dues for 2022 are \$25.00 of which half goes to the Scholarship Fund. **Please consider making an additional donation to the Scholarship Fund** (put scholarship in the memo line). Please mail your check(s), made out to West Valley STEM to: Philip Main, 17604 N Buntline Drive, Sun City West, AZ 85375-5148, maintwin3@gmail.com, 623-748-8222 (Home), 623-826-0101 (Cell)