WEST VALLEY STEM CLUB

June 2021 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 **Currently we are not meeting in person, but are continuing monthly programs by Zoom.**

JUNE 4 PROGRAM

"Marine LIDAR Technologies and Applications"

Andrew Griffis Ph.D
Chief Executive Officer, The Sensor Group LLC

Andrew Griffis obtained his BS in Engineering from Milwaukee School of Engineering, his MS degree from Marquette University and his Ph.D from University of Massachusetts Amherst. Dr. Griffis has been Chief Exectutive Officer of The Sensor Group LLC (TSG) since January, 2009.

The Sensor Group LLC (TSG) is an OEM imaging products company based in Tucson, Arizona. Their development team enjoys ready access to many electro-optical technologies and technologists in the Tucson area. TSG has in-house design and development facilities for custom camera cores, fiber faceplate bonding, multi-axis motion control, package design and production prototype testing. In addition, on site plastic and metal fabrication tools support rapid prototyping and testing.

Andrew Griffis Ph.D. has been growing businesses and developing sensing products for over 20 years. Products include microwave imaging for geoscience, non-contact thermographic devices for industrial IoT, airborne and underwater LIDAR systems, infrared 2D/3D imaging and monolithic flash LIDAR devices. He holds patents in thermographic condition-based maintenance, LIDAR, IR imaging/sensing, medical acoustics and mobile surveillance. Andy founded The Sensor Group in 2009 to serve production airborne LIDAR opportunities for the US Navy. Dr. Griffis has been working with such LIDAR systems for over 25 years.

Marine LIDAR is a subset of the rapidly expanding global market for commercial time of flight (TOF) 3D imaging devices. The most prominent exemplar is the navigation LIDAR used for autonomous vehicles that are driving the ADAS market. However, LIDAR is not new — it has been around for more than 40 years as a remote sensing tool. Only in the past 10 years has it become a significant commercial device, owing to the growth of robotics and vehicle automation. So it is timely to look at LIDAR technology and consider its utility for our companies and products.

This program will focus on that subset of the overall LIDAR market, Marine LIDAR, and discuss:

- Basics of imaging in water in terms of physics and associated challenges
- Geometries and technologies that are useful for producing LIDAR data in water
- Airborne Marine LIDAR systems in use today and data produced by those systems

PRESIDENT'S MESSAGE
Steve Sumner

We have finally reached the end of the 2020-2021 season. It has been a rough season for the Club. We have lost members as a result of having to have virtual meetings. We are now down to a membership of slightly over fifty (50) members. As I said last month, please talk up our club so that we might increase our membership.

The Board was hoping there would be more acceptance of our virtual meetings but I know folks missed the social aspect of meeting in person. I actually think our virtual meetings worked out pretty well. We even developed breakout rooms so that folks could be socially involved. We do plan to begin meeting In-Person starting with the October, 2021 meeting. At this time, the venue has not been determined. However, the Board is still leaning toward Briarwood due to our familiarity with the facilities.

I am not able to attend today's presentation as I will be some place on Interstate 80 in Nebraska. I thought about signing onto the meeting site by cell phone, but I didn't think my wife would like me to be driving and at the same time watching the presentation!

To close this message, I want to say thank you to those folks who have stuck with us for a very tough season. Have a safe summer whether you are in Arizona or wherever your travels may take you.

PLANNED OCTOBER SPEAKER

Torrey Graf (Invited), Burns & McDonnell
"Solar/ Renewable Projects in the Southwest"

WEST VALLEY STEM June 2021 NEWSLETTER

2021 OFFICERS

President	Steve Sumner
Vice President	Jim Schlenvogt
Secretary	Marilyn Dumond
Treasurer	Carol Mungas
Asst. Treas.	Dave Campbell

COMMITTEE CHAIRPERSONS

Programs	Peter Rauen & Jim Schlenvogt
Membership	Philip Main
Reservations	Philip Main
Luncheons	Peter Rauen
Scholarship	Jim Schlenvogt
Member at Large	Peter Rauen
Member at Large	George Zieglgansberger
Newsletter / Website	Dave Campbell
Event Audio	Hal Lind/Doug Totel
Event Computer	Paul Scherer
Publicity	Lance Berglund
Field Trips	Open
Hospitality	Open

Email the Board at: board@engineersaz.com

TREASURER'S REPORT April 2021

General Fund Balance: $ 8147.90
Membership Total: 51

Don't forget to renew your membership for 2021. Mail $25 checks to Phil Main at 17604 N Buntline Dr Sun City West, AZ 85375. Please consider a donation for scholarships!

2021 VEST MEETING DATES

June 4, October 1, November 5, December 3

A GRATEFUL SCHOLARSHIP RECPIENT
By Michelle Patterson

In 2019, I was awarded one of the VEST scholarships to help support my first year transition from a community college to ASU. I am proud and excited to report that, earlier this month, I graduated with my BSE in Industrial Engineering! As a parent of 6, earning my degree was difficult enough, but I am even more proud of this accomplishment given the challenges presented by the pandemic. When the school moved to online learning in late 2020 and my kids were sent home too, I very seriously considered putting my degree on hold until things were back to normal. One of the biggest reasons that I chose to finish out the semester was knowing that, between this scholarship, grants, and a few other small awards, I would be finishing my junior year debt free. It was enough to push me through the last several weeks. I am so very grateful that I did, because it led to some fantastic experiences in my senior year.

First, my professors recognized my drive; I earned their recommendations and was accepted for the 4+1 program. As a result, I am already halfway through my Master's degree (I will complete it in May 2022)! They also recommended me to lead one of the NASA ASU Psyche Interdisciplinary Capstone projects. I led a team of Astrophysics, Electrical, Mechanical, and Systems Engineering majors to develop a testbed that would simulate the surface of the asteroid Psyche (complete with simulated reduced gravity system and magnetic field), and a Robotic Explorer that would be capable of traversing it. It was such a challenging but rewarding project. I've included a picture of Dappy (short for ADAPT, the Autonomously Driven Adaptable Psyche Tank). As a direct result of this project, I was also recommended to join another team that is being funded by NASA to build cube satellites. I will be working with this team through the summer and next year while I finish my Master's Degree.

From a less academic perspective, pushing through that very rough junior year also gave me some unique experiences to highlight in other scholarship applications, and I completed my senior year with no student loans. This was so important because (as I shared with you all 2 years ago!), my husband and I had 3 kids of our own, and then took over guardianship of our nieces and nephew when his brother passed away. We were now a family of 8 squeezing into a small 3 bedroom house. About 6 months ago, we were able to buy a much bigger home, which (this is not an exaggeration) saved 6 small lives during our extended quarantine period!! My husband works in the mortgage industry and has told me so many times about having to deny people because they just have too much student loan debt. SO, I cannot say thank you enough because your scholarship gave me the emotional and financial support I needed to push through an outrageously challenging time, which in turn led to some experiences and opportunities that I could not have anticipated in the last year and, most importantly, my family's financial security was not derailed so that I could accomplish my dreams. Thank you!!

PLANNED NOVEMBER SPEAKER

Dr. Matt Huentelman, TGEN
"Aging of the Brain & Alzheimer's Research"