

WEST VALLEY STEM CLUB

April 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).

APRIL 1 PROGRAM

Cryptocurrency and Blockchain Technology

Dr. Rida Bazzi, Associate Professor,
School of Computing and Augmented Intelligence, ASU



Prior to joining ASU in 1996, Dr. Bazzi served as an assistant professor at Florida International University in the 1995-1996 academic year and prior to that he was a senior consultant at I-Cube, a startup company in Cambridge, Massachusetts. His areas of expertise include distributed computing, fault tolerance and computer

security. Dr. Bazzi hold a M.Sc. And Ph.D. in Computer Science from Georgia Institute of Technology in 1994, and a B.E. Computer and Communications Engineering, American University of Beirut, Lebanon 1989.

Abstract: What are cryptocurrencies like Bitcoin? Who owns the cryptocurrency “banks”? What is the Blockchain Technology that is the underpinning of cryptocurrencies? What uses does it have besides cryptocurrencies? These are all questions that will be addressed at the April presentation. Is it safe to invest in cryptocurrencies? What are the risks? Who are the cryptocurrency “miners” and why does it take so much energy to “mine” a Bitcoin?

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)

2022 WV STEM MEETING DATES

April 1, May 6, June 3,
October 7, November 4, December 2

PRESIDENT’S MESSAGE

Jim Schlenvogt

Hello everyone! Following is a summary of the first 2022 Field Trip:

Location: City of Surprise Wastewater & Water Injection Facilities, Southeast Corner of Cactus & Litchfield

Date: February 23, 2022 9:00 AM to 11:00 AM

Participants: Marilyn Dumond, Phil Main, Doug Totel, Paul Scherer, & Jim Schlenvogt

Tour Guide: Lee Lambert – Director, Water Resource Management

Weather: Approximately 0.4 inches of rain, Mid-50 degrees

Walking Distance: Approximately 5-6 City Blocks

Recommended Accessories: Comfortable walking shoes, face mask, suitable outdoor clothes
Tour Limited to five participants max.

Tour Highlights:

- Overview of the Plant Site and the Plant’s Operations
- 24/7 Operations, 65 Employees
- Tour of the Main Administration Building
- Tour of the Safety Training area. (The women’s water hydrant team won national recognition for assembling a water hydrant in 90 seconds).
- Tour of the Water Treatment and Wastewater Sampling and Testing Lab
- Outdoor tour of the Wastewater Treatment Facilities
- Overview of the Water Injection Well Field area
- Tour of the Biosolids, (state of the art) Treatment Facilities
- Overview of the Solar Panels area
- Return to the Main Administration Building for the conclusion.
- Next Field Trip scheduled for March 30, 2022 at 9:00-11:00 AM

Finally, we encourage any active Club members to attend the monthly Board of Director’s meeting. The meeting is at 9:30 am, the third Monday of the month at the Briarwood CC. If you are interested in attending the next Board meeting, please contact me or a Board Member. In 2022, we will have many interesting programs and other activities. Please feel free to bring a guest!

THANK YOU!

WEST VALLEY STEM April 2022

2022 OFFICERS

President	Jim Schlenvogt
Vice President	George Zieglsberger
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 Zieglsberger
Past President	Steve Sumner

Email the Board at: board@engineersaz.com

TREASURER'S REPORT March 2022

General Fund Balance: \$ 7, 684.16

Membership Total: 81

February 50/50 was \$ 65.00 - Congratulations to winner George Zieglsberger who donated his winnings to the Scholarship Fund. Thanks!

MAY 6 PROGRAM

Isometric Projection of Video Signal Brightness Variations in Real Time and Discoveries

Peter Schumacher



Pete Schumacher became interested in electronics and pursued the hobby of Amateur Radio from age 14. He studied Electronics Engineering Technology at Central Technical Institute in Kansas City Missouri. He joined the U.S. Air Force in 1966, becoming an aircraft electrician and studied advanced electronics via correspondence with the University of Wisconsin, Madison.

In 1970s he was hired as production manager for Interpretation Systems, Inc. of Lawrence, Kansas where he was active in the development and installation of an image enhancing product known as the VP-8 Image Analyzer. This product led to the discovery of the 3-D properties of the Shroud of Turin image at Sandia Laboratories in Albuquerque and to

his involvement in the most famous and largest scientific investigation ever to study a single artifact.

In 1978, he began his own company and was granted three hardware and firmware patents which were implemented in products used for image processing, remote sensing, raster-to-vector and vector-to-raster conversion, large format video data capture, and geographic information systems applications.

He retired from his electronics career in 2006. He is founder of the Shroud Exhibit and Museum in Alamogordo, New Mexico, and is now a deacon in the Diocese of Las Cruces.

Abstract: The analog circuitry is used to regenerate an optical image which can be rotated and tilted on a cathode ray tube (CRT) display. This is used to display an isometric projection of the real time brightness variations of an applied video signal.

Scientists ran an experiment in a lab at Sandia Laboratories. The circuits described produced a unique output for one image which does not occur with other images. This result has been investigated by many scientists since 1976. It prompted the launch of the largest scientific investigation ever to study a single artifact. It has been used to produce several 3-dimensional models of the contour of the body of the person viewed on the Shroud of Turin. It suggests a potential for proposed new methods of extracting data from video image formats for 3-D printing.

A method developed by a close associate of the author will be discussed in general terms. Examples of models he produced will be displayed. Other methods will be proposed by the author for possible future development.



MARCH 4 PROGRAM

The Science of Steel and Sacrifice:
Delving Deeply into the Science of USS Arizona

Dr. Donald Johnson and Dr. David Conlin