

WEST VALLEY STEM CLUB

OCTOBER 2023 NEWSLETTER

www.engineersaz.com

The WV STEM 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 Grandview Terrace, in the fourth-floor ballroom, at 14515 W. Granite Valley Drive, Sun City West, AZ. Guests are always welcome. Contact Phil Main: maintwin3@gmail.com, 623-826-0101 (cell).

OCTOBER 6 PROGRAM

The Science of Preventing Alzheimer's Disease

**Mike Malek-Ahmadi, PhD,
GStat Bioinformatics Scientist
Banner Alzheimer's Institute**



Dr. Malek-Ahmadi earned a BS from the University of Arizona, a MS from the University of South Florida, and a PhD from the University of Westminster. He has worked in the field of Alzheimer's disease research since 2003 and is an author on over 60 peer-reviewed journal articles in the areas of Alzheimer's disease, mild cognitive impairment, and normal aging. Dr. Malek-Ahmadi's current work at the Banner Alzheimer's Institute involves the analysis of clinical, neuroimaging, neuropsychological, and neuropathological data used toward identifying and characterizing pre-clinical Alzheimer's disease.

Abstract

Can scientists find a way to stop Alzheimer's disease before it ever affects your memory and thinking? Research efforts to prevent the disease are now focused on individuals who may be at risk for Alzheimer's but do not show any symptoms. This fascinating presentation will provide an overview of how Alzheimer's disease is defined before symptoms appear and how it is being used to develop preventative therapies.

Science of Arizona Groundwater Aquifer Replenishment
TGen's Pancreatic Cancer Research

Other Topics – (Please feel free to contact Peter Rauen, Rick Cecil, or a Board Member with the name of a potential STEM speaker, contact information, and the proposed topic).

In addition, the Board is researching participating in these field trips again this year:

- ASU Earth & Space Exploration Day
SATURDAY, NOVEMBER 4, 2023, 10:00 AM – 2:00 PM
- City of Surprise - SciTech Festival & Booth
SATURDAY, NOVEMBER 18, 2023, 10:00 AM – 2:00 PM

(If you know of a location accepting group tours, please contact George Zieglgansberger, Club VP, who will coordinate the tour, or please let one of our Board members know).

The Scholarship Committee did a great job raising significant donations and awarding three scholarships of \$3,000, \$1,500 and \$1,500 to three outstanding STEM students who are transferring to ASU in the Fall as incoming STEM Juniors. Carol Mungas, Treasurer, is coordinating confirming the ASU enrollment and the payment of the first half of the scholarship money for the Fall Semester. I want to thank all of you for your donations and support of the Club's Scholarship Program.

In addition, last year the Club's website went down, and after some additional research, and a meeting on April 20th, Bonnie Williams has taken the lead on the Website Committee to work with the Board of Directors to reactivate and update the Club's website, www.engineersaz.com. After visiting the Club's website, if you have any recommendations, please feel free to let us know. Also, notice across the top of the web page is the pulldown menu which contains additional Club information.

In November, the Nominating Committee will be taking Club officers nominations for the 2024 calendar year. Please notify me or Steve Sumner if you have a person to be considered. The slate of officers will be presented to the Club at the November meeting for a December meeting vote.

In closing, I hope you have a safe and healthy Fall, and we look forward to seeing you at the next meeting. We appreciate your support!

PRESIDENT'S MESSAGE

Jim Schlenvogt

Hello Again Everyone! I hope you had a terrific summer. Your Board of Directors is looking forward to an interesting year of meetings, speakers, field trips, and other activities. Please feel free to make meeting reservations for you and a guest or two. Following are some of the future luncheon meeting topics for which the Club has written commitments from the speakers:

Science of Preventing Alzheimer's Disease
James Webb Telescope Project

WEST VALLEY STEM OCTOBER 2023

2023 OFFICERS

President	Jim Schlenvogt
Vice President	George Zieglgansberger
Secretary	Darrell Armbruster
Treasurer	Carol Mungas
Asst. Treas.	Dave Campbell

COMMITTEE CHAIRPERSONS

Programs	Peter Rauen/Rick Cecil
Membership	Philip Main
Reservations	Philip Main
Luncheons	Jim Schlenvogt
Scholarship	Jim Schlenvogt
Member at Large	Hal Lind
Newsletter	Dave and Karen Campbell
Website	Bonnie Williams
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: js3820@msn.com

Hubble. The telescope completed building and testing in summer 2021 and was successfully launched from Kourou, French Guiana on an ESA Ariane V rocket on December 25, 2021. Some of the best early science that JWST has done starting in summer 2022, as inspired by Hubble Wide Field Camera 3 will be reviewed.

The main and most dramatic discoveries by JWST will be discussed. For example, how much cosmic star-formation has produced its own dust and has been hidden in its own dust. I will put the formation of the Earth 4.5 billion years ago in perspective when other galaxies were already twice as old!

Last, I will show Webb's beautiful Deep Field images that have revealed the most distant galaxies which produced the dust out of which the Earth and the solar system were later formed. In particular, I will show the most dramatic JWST images of gravitationally lensing clusters, which are the most massive known gravitational structures in the universe, with masses up to several thousand trillion Solar masses. Einstein predicted that such massive objects would bend the light from objects behind them, although he did not think this could be observed. Yet, Webb has shown us dramatic examples of these massive clusters bending background galaxy images into the most beautiful and exotic arc-like structures. Even better yet, Webb has shown a number of very distant stars going across the "near-infinity magnification" lines so Webb could observe them. Webb was designed to see the epoch of First Light ... and now it is indeed observing some of the first stars directly, viewing the universe through the eyes of Einstein.

TREASURER'S REPORT SEPTEMBER 2023

Gross General Fund Balance **\$9,642.88**
(Scholarship payments have been made and an additional \$3,000 is to be paid in January)

Membership **79**

The 50/50 for June was \$56 plus the \$56 donated back by Jim Schlenvogt for the Scholarship Fund. Thank You!

NOVEMBER 3 PROGRAM

The World of Webb, and Seeing Through the Eyes of Einstein

Dr. Rogier Windhorst

**Regents' and Foundation Professor, JWST
Interdisciplinary Scientist, Arizona State University**



Dr. Windhorst's research is in astronomy, cosmology, galaxy formation and evolution, the cosmic dark ages and the epoch of First Light, and astronomical instrumentation. Since the early 1990's, his group at ASU has contributed significantly to unraveling the formation and evolution of distant galaxies with the Hubble Space Telescope. He is one of the world's six Interdisciplinary Scientists

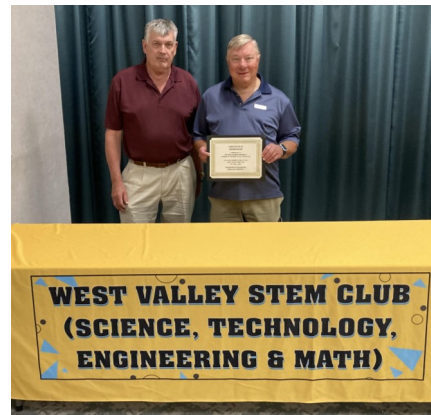
for NASA's 6.5 meter James Webb Space Telescope (JWST) launched in 2021. His group at ASU plans to use JWST to map the epoch of First Light in detail. Dr. Windhorst holds a Ph.D. in Astronomy, a M.Sc. in Astronomy and Physics, and a B.Sc. in Astronomy, Physics and Mathematics from the University of Leiden.

Abstract: This talk will provide a summary of the 6.5 meter NASA James Webb Space Telescope (JWST), the near--mid-IR sequel to

JUNE 2 PROGRAM

The Review of the Electric Vehicle Industry

Gary Graunke



2024 MEMBERSHIP DUES

Dues for 2024 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

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