

# VALLEY ENGINEERING, SCIENCE & TECHNOLOGY CLUB

DECEMBER 2017 NEWSLETTER [www.engineersaz.com](http://www.engineersaz.com)

The Engineers Club is a social organization which meets regularly for lunch with a speaker on a technical topic. Spouses are invited and many attend regularly. Short field trips are occasionally scheduled. Membership is open to anyone who has worked in or related to the engineering or scientific fields. 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  
Visitors are always welcome - - just call Reservations at (623)546-9112 to let us know you are coming.

## DECEMBER 1 PROGRAM

### Shooting the Moving Target in Cancer Combat Dr Li Liu, ASU



Dr. Liu. M.D., M.Sc, is an assistant professor of Biomedical Informatics and the director of the Bioinformatics Core Lab, Biodesign Institute at Arizona State University. She also holds an adjunct assistant professorship at Mayo Clinic

School of Medicine. With a special emphasis on molecular evolution, Dr. Liu develops novel computational methods to study the genetic basis of human diseases. She has published more than 40 peer-reviewed papers in prestigious journals including *Cell* and *Nature*. With her clinical collaborators around the world, Dr. Liu translates these scientific discoveries into clinically actionable items to improve patient care.

Cancer, as an evolutionary process, is born with a heterogeneous and dynamic nature. Precision identification and intervention of cancer shall consider the past, present and future of each tumor. With NextGen sequencing technologies, we can now catch a glimpse of this evolutionary process. However, is it possible to use these static snapshots to help hit the moving target? How close or how far are we to apply it in clinical practice? In this interactive workshop, we will introduce the basic concepts of molecular evolution and cancer subclones, examine the relationship of host, tumor and intervention as key players in an ecological system, and discuss the promises and challenges of cancer evolution in precision oncology.

## MEAL COST INCREASING

Due to increased food costs to the Club the Board has decided to raise the luncheon meal for 2018 from \$20.00 to \$22.00 starting with the January 5, 2018 meal.

## Notes From President Tod Hamilton:

Listed below are the 2018 dates of the VEST luncheon meetings:

**January 5, February 2, March 2, April 6, May 4, June 1, October 5, November 2, and December 7**

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2018 Club dues must be paid before the end of February for 2018 and remain at \$20.00.

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December is the month we elect officers for the coming year. The following have been nominated to serve in 2018: **for President, Tod Hamilton; for Vice President, TBD; for Treasurer, Carol Mungas; and for Secretary, Doris Palmer.**

## JANUARY 5 PROGRAM

### Chasing Gravitational Waves Nat Butler PhD, ASU

Nat Butler, assistant professor of School of Earth and Space Exploration at Arizona State University studies astrophysical transients. He observes the optical, IR, X-, and Gamma-ray emission from Gamma-ray Bursts (GRBs) and their afterglows in order to study the physics of jetting, the afterglow emission mechanisms, the nature of the progenitors, and potentially to use GRBs as cosmology probes. He is also an experimentalist focusing on robotic telescopes, data mining, and novel technologies for transient detection and followup.

The recent discovery of gravitational waves by Advanced LIGO and Virgo has vindicated a centuries-old prediction of general relativity, resulting in this year's Nobel prize for physics. Most im-

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## 2017 OFFICERS

President	Tod Hamilton	623-910-2042
Vice President	Leif Christensen	480-718-5589
Secretary	Doris Palmer	623-815-8143
Treasurer-Acting	Dave Campbell	623-518-4871
Asst. Treas.	Don Block	623-546-0557

## COMMITTEE CHAIRPERSONS

Programs	Rick Cecil	360-402-1695
Membership	Philip Main	623-748-8222
<b>Reservations</b>	<b>Dave Whitehouse</b>	<b>623-544-0942</b>
Luncheons	Susan Whitehouse	623-544-0942
Scholarship	Ralph Palmer	623-815-8143
Member at Large	Les Sherry	623-975-9081
Newsletter	Dave Campbell	623-518-4871
Event Audio	Hal Lind	623-546-6385
Event Computer	Richard Sarut	480-300-7251
Website	Dave Campbell	623-518-4871
Publicity	Lance Berglund	623-734-3737
Field Trips	Lanny Barness	623-546-3364
Hospitality	Doris Palmer	623-815-8143
Past President	Jackie Rice	623-572-8089

## TREASURER'S REPORT November 2017

General Fund Balance:	<b>\$5906.59</b>
Scholarship Fund:	<b>\$2191.42</b>
Membership Total:	<b>144</b>

## LUNCHEON MENUS

**December 1: #1 Beef Sirloin Kabob or #2 Pan Fried Trout Almandine.** Both entrées come with Salad, Rice Pilaf, Chef's Vegetable, Peppermint Ice Cream and a Cookie. (*Grilled Vegetable Plate or Fruit Plate also available*).

**January 5: #1 Roasted Pork Loin, or #2 Red Snapper.** Both entrées come with Salad, Creamy mashed potatoes, Corn O'Brien, & Ice cream brownie sundae. (*Grilled Vegetable Plate or Fruit Plate also available*)

## RESERVATION POLICY

The cost of the monthly luncheon beginning in Jan 2018 will increase to **\$22.00 cash or check**.

The reservation deadline is 6 PM Monday before the meeting.

**Late reservations cannot be guaranteed the regular meal.** Call Dave Whitehouse to cancel your reservation.

Note that the full cost of the luncheon will be charged for "no-shows" and cancellations after 5 PM on Wednesday before the meeting.

Please have cash or make out your check in advance.

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portantly, the detection of simultaneous electromagnetic radiation, first in gamma-rays and then as a fading x-ray/optical/infrared/radio afterglow, establishes that these events are real and associated with astrophysical phenomenon already somewhat well-studied. The combined detection and followup effort establishes a new window into the Universe and a new way of studying astrophysical objects. I will discuss our efforts to chase gravitational wave triggers using ground-based, mostly robotic telescopes. I will also discuss the event from August 2017, which reached us from a nearby galaxy 140 million light years away. Studies of the August 2017 event constrain fundamental physics and teach us about the Universe's brightest explosions (gamma-ray bursts), about the merging and exploding of neutron stars, and about the origin of precious metals in the Universe. Our community is well-equipped to chase and study future gravitational wave events, presuming more occur on a regular basis.

## FUTURE MEETINGS

February 2, 2018

Title: Exploring Ocean Worlds

Speaker: Alyssa Rhoden, PhD

ASU, Earth and Space Exploration



### The Science Behind Noah's Flood

Dr. Robert Ferrell (center)

For more information on our speakers, please visit our website at [www.e2engineersaz.com](http://www.e2engineersaz.com)