

# VALLEY ENGINEERING, SCIENCE & TECHNOLOGY CLUB

NOVEMBER 2015 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 had close ties to the engineering or scientific fields. Meetings are held at 11:30am on the first Friday of each month, October through June, at Briarwood Country Club, 135th and Meeker in Sun City West, Arizona.

Visitors are always welcome - - just call Reservations at (623)546-9112 to let us know you are coming.

## NOVEMBER 6 PROGRAM

### Entrepreneurship at Arizona State University

Audrey Iffert-Saleem, Executive Director  
Entrepreneurship and Innovation Initiatives  
Arizona State University



ASU is known for its deep commitment to entrepreneurship and its unique and effective approach to growing entrepreneurial enterprises. The teaching and practice of entrepreneurship is not confined to a single college or class, or to one center or research institute within the university. It is a mindset that is woven into the fabric of the university, permeating every activity.

Dr Iffert-Saleem coordinates the university-wide effort to advance entrepreneurship education. She is uniquely positioned to describe the role that the university plays in developing and supporting entrepreneurial outlook and skills. She has led the creation, implementation and institutionalization of several university-wide initiatives focused on entrepreneurship education.

Co-founder and co-owner of a creative services firm that has served clients including Car2Go, Dollar-A-Day and Target, she holds a doctorate in higher education leadership and an MA in human communication, both from ASU. Her research involves engaging college women in entrepreneurship experiences.

## DECEMBER 4 PROGRAM

### Risk Innovation

Professor Andrew Maynard, Director  
ASU Risk Innovation Center



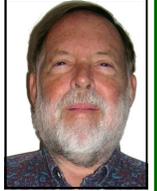
Risk is a fact of life—ultimately, it can't be avoided, and in many cases it's essential to making progress. Yet as individuals, organizations, and society more generally, we are remarkably poor at working within this reality to achieve our goals. Society has rules and regulations designed to manage risk and avoid serious harm. Yet in today's technologically complex and highly interconnected world, these are becoming less and less effective.

Andrew Maynard is a Professor in the School for the Future of Innovation in Society at ASU, and Director of the Risk Innovation Lab—a unique center focused on transforming how we think about and act on risk. He started his professional career as a physicist, obtaining his PhD from the University of Cambridge in England in 1993.

Over the past fifteen years, he has become increasingly involved in understanding the interface between technology innovation and society, working with governments, businesses, NGOs and other organizations to better understand how to develop new technologies responsibly. Professor Maynard is widely published, has testified before congressional committees, has served on National Academy panels, is co-chair of the World Economic Forum Council on Nanotechnology, writes a regular column for the journal Nature Nanotechnology and lectures widely on technology innovation and responsible development.

## NOTES FROM...

President Ralph Palmer



### Brain Implants

I've always been fascinated with the complexity of the 'black box' of human brains. Talk about an interesting engineering/scientific/technical project, how much more of a challenge do you need!? It seems the first step in understanding how the brain works would be to decipher the electrical signals our neurons produce. This requires inserting electrodes into the brain tissue. Unfortunately, this tradition can damage the brain and triggers an immune response, and it doesn't work for very long.

Professor Charles Lieber of Harvard University has designed a new nanoelectronic "mesh" structure that is more like the biological brain tissue and features the small size of cells and is very flexible.

Tiny electronic devices such as sensors and electrode stimulators can be built into the 'mesh' and all this can be injected through a needle to unfold and conform to its 3-D environment. Over time, neurons integrate with the mesh, providing 'communication' and stimulation of many single cells in a given region, thus creating the possibility of producing lasting memory, or shedding light on the brain's dysfunctions, like schizophrenia or Parkinson's disease, or addressing neurodegenerative diseases, even enabling the use of prosthetic limbs.

Stay tuned--the brain's 'doors' are opening!!



Kory Raffety of the Palo Verde Nuclear Plant is thanked by VP Jackie Rice and incoming Program Chair Rick Cecil.

## FUTURE MEETINGS

JANUARY 8

Raman Khurana, CEO, PerfOpt3D  
Leading Innovation Through Immersive Technologies

## 2015 OFFICERS

President	Ralph Palmer	623-815-8143
Vice President	Jackie Rice	623-572-8089
Secretary	Lee Roach	623-810-7413
Treasurer	Marilyn Pettigrew	623-337-4163

## COMMITTEE CHAIRPERSONS

Programs	Daryl Lund	608-250-0659
Membership	Philip Main	623-748-8222
<b>Reservations</b>	<b>Dave Whitehouse</b>	<b>623-544-0942</b>
Luncheons	Tod Hamilton	623-910-2042
Scholarship	Len Cohen	623-546-3741
Member at Large	Les Sherry	623-975-9081
Newsletter	Jim & Pat Ardis	602-363-2267
Event Support	Dick Stout	623-815-0985
Web Site	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	Dave Campbell	623-518-4871

## TREASURER'S REPORT OCTOBER 2015

**General Fund Balance: \$3876.42**

**Scholarship Fund Balance: \$5273.91**

**50 / 50 RESULTS: Bud Stouffer \$81 / Scholarships \$81**

## LUNCHEON MENUS

**November 6: #1 Turkey Medallions with Cranberry Sauce and Apple Walnut Stuffing or #2 Grilled Salmon.**

Both Entrées come with Salad, Mashed Potatoes, Green Beans Almandine, Vanilla Ice Cream and a Cookie.

*(Grilled Vegetable Plate or Fruit Plate also available)*

**December 4: #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)*

## RESERVATION POLICY

**The cost of the monthly luncheon is \$18.00 cash or check.**

The reservation deadline is 6PM Monday before the meeting.

Late reservations cannot be guaranteed the regular meal.

Call Dave Whitehouse if you cannot keep your reservation.

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

Please have cash or make out your check in advance.

**RESERVATIONS Dave Whitehouse (623) 544-0942**

## WELCOME NEW MEMBERS!

David Princehouse Janet Teegarden

Bill Butler Carol Mungas Jeffrey Myers

**Current club membership is 136**

## MEMBER SPOTLIGHT

*An occasional series of articles focusing on the background and careers of Club members.*

**Dave Campbell:** I grew up in the western suburbs of Chicago. My father was a ME from Purdue University so naturally at an early age I felt drawn to be the same. I enjoyed science and math in high school and at graduation had decided to attend the University of Illinois along with several of my friends and study EE. Over the summer of that year, I decided to transfer to Purdue and continue studying EE. During my junior year after barely completing back-to-back physics and higher math classes I decided to seek some counseling. Along the way I had taken some economics and business classes and a friend told me about a new school called Industrial Management which combined business and engineering. I had already decided that I wanted to work on the business side of engineering, science or technology so I switched into the IM school and was in their second graduating class. Thus began my career in technical sales and marketing.



My very first job was to sell scientific equipment and supplies to high schools, colleges, and universities. Under the NDEA (National Defense Education Act) program, federal money was being spent to build up the sciences in all areas and levels of education. I worked and travelled all over Illinois and Iowa calling on educational institutions. After 6 years I moved on to a smaller company that held a number of patents and innovative technology in the area of ion selective electrodes. I spent 8 years with this company and grew with them becoming the Regional Sales Manager for the Midwest.

Moving on from there I found another small innovative company with proprietary patented technology using chromatography to separate ions in almost any type of liquid matrix. It was with this company that I had some of my most memorable experiences. Being in sales and visiting customers at their offices and operations afforded me many behind the scene experiences that most people don't get to see. I've suited up in "bunny suits" at many FABS around the world and seen some of the most advanced chip technology at work. I've been in water filtration and sewage treatment plants, rendering plants (not very pleasant), food processing including beer and wine, steel mills, oil refineries, pulp and paper mills, engineering, science and technology labs in many of the major universities, along with biotechnology and pharmaceutical labs. One of the most memorable site visits was to a nuclear power plant that was under construction in the Midwest. I was working with their chemistry department on the analysis of trace ionic contamination in their water systems. At the plant site I was invited to go down into the reaction chamber which was still under construction. I recall that it was much larger than I had thought it would be and I was in awe, thinking that in the near future there would be a small controlled nuclear reaction going on where I was standing.

In 1982 I moved from Chicago to Sunnyvale CA to take a significant position as Director of Sales and worked with several other small and innovative technology companies in varying management positions. I finally retired in 2006 and moved to AZ where I continue to be active in the community, play some golf, and enjoy retirement.