VALLEY ENGINEERING, SCIENCE & TECHNOLOGY CLUB

December 2018 NEWSLETTER **www.engineersaz.com**

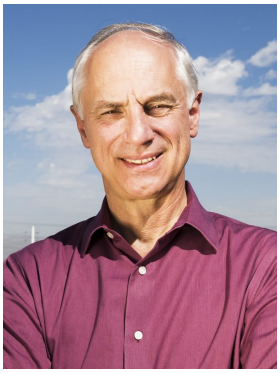
The Engineers Club is a social organization which meets regularly for lunch with a speaker on a technical topic. Spouses are invited and many attend regularly. Short field trips are occasionally scheduled. Membership is open to anyone who has worked in or related to the engineering or scientific fields. 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)544-0942 to let us know you are coming.

DECEMBER 7 PROGRAM

Mopping up our CO2 Waste

Klaus S. Lackner, PHD, ASU



Dr. Klaus Lackner is the director of Center for Negative Carbon Emissions and professor at the School of Sustainable Engineering and the Built Environment of the Ira A. Fulton Schools of Engineering, Arizona State University. Lackner's research interests include closing the carbon cycle by capturing carbon dioxide from the air, carbon sequestration, carbon foot-printing, innovative energy and infrastructure systems and their scaling properties, the role of automation, robotics and mass-manufacturing in downscaling infrastructure systems, and energy and environmental policy.

In 1999, he was the first person to suggest the artificial capture of carbon dioxide from air in the context of carbon management. His recent work at Columbia University as Director of the Lenfest Center for Sustainable Energy advanced innovative approaches to energy issues of the future and the pursuit of environmentally acceptable technologies for the use of fossil fuels.

Abstract: The use of fossil fuels produces vast amounts of carbon dioxide (CO_2) waste, which accumulates and lingers in the atmosphere for millennia. This waste management problem represents a huge economic opportunity for those who can dispose of past and future emissions. Technology and storage capacity necessary for disposal exists. Still missing is an affordable technology for recovering the excess CO_2 from the environment. Biomass growth offers one option, but it cannot scale to the necessary size. Direct air capture of CO_2 is a scalable technology that could compensate for past emission as well as all remaining emissions. It also could provide the carbon feedstock for synthetic fuels that store and transport renewable energy. There is no question that CO_2 can be removed from air. It has been done for decades. The challenge is to make the process efficient and affordable. Air capture is still in its infancy and needs to be advanced, demonstrated, and deployed. I will discuss our approach to direct air capture and explain how it can become an affordable and scalable option for reinventing the world's energy infrastructure.

JANUARY 4 PROGRAM

"Whalecome" to studying the ocean in Arizona!

Charles Rolsky, PHD student, ASU

I am a PhD student and researcher in Biodesign's Center for Environmental Health Engineering at ASU where I study plastic pollution and the relationship between plastics and the environment.

Abstract: I conduct research in Rolf Halden's lab, within Biodesign's Center for Environmental Health Engineering. Here, I work on marine and aquatic microplastics which have emerged as a major source of concern within many ecosystems and environments. Recently, we studied the fate of contact lenses as they are improperly disposed of down the drain. The identification, fate, and impact of plastics are only now starting to be understood and we have developed several analytical tools to help improve upon this. We are collaborating with ASU's Fulton School of Engineering on several projects pertaining to microplastics as well as with many groups around the world.

I have also worked for several years on using non-invasive research methods to collect species health information. This includes fecal samples from wild species such as killer whales. Through this information, we can gather all kinds of knowledge pertaining to hormonal activity in the realm of stress, reproduction, and overall species health.

I have been a TA for over six years and actively participate in science outreach programs aimed at empowering budding scientists from elementary school to high school. I also run a non-profit where we design and sell clothing that have sciencey designs and all proceeds go to various charities from groups that train therapy dogs for at-risk kids to plastic pollution advocacy.

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2018 OFFICERS

President	Tod Hamilton	623-910-2042
Vice President	Steve Sumner	623-544-7775
Secretary	Doris Palmer	623-815-8143
Treasurer	Carol Mungas	763-639-3922
Asst. Treas.	Don Block	623-546-0557

COMMITTEE CHAIRPERSONS

Programs	Rick Cecil	360-402-1695
Membership	Philip Main	623-748-8222
Reservations	**Dave Whitehouse**	**623-544-0942**
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	Open	
Hospitality	Doris Palmer	623-815-8143
Past President	Jackie Rice	623-572-8089

TREASURER'S REPORT NOVEMBER 2018

General Fund Balance: $ 8,863.96
Scholarship Fund: $ 1,854.00
Membership Total: 151

October 50/50 $ 36.00 - winner was Chuck Wasik and he donated his entire winnings to the Scholarship Fund! Thank You!

2019 Membership dues are now payable—$20.00

LUNCHEON MENUS

December 7: #1 Chicken Marsala or #2 Baked Alaskan Cod Both entrées will come with Spinach salad, Basamti rice, Sautéed Squash w/Onions, and Blondie Brownie. ***(Grilled Vegetable Plate or Fruit Plate also available***)

January 4: #1 Slow Roasted NY Striploin Steak or #2 Grilled Salmon Both entrées will come with salad, herb roasted potatoes, green beans almondine and chocolate Moose ***(Grilled Vegetable Plate or Fruit Plate also available***)

RESERVATION POLICY

The cost of the monthly luncheon is $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.

2019 VEST LUNCHEON DATES

January 4, February 1, March 1,

April 5, May 3, June 7

VEST NOTES

The Board is looking for members who are interested in serving this Club.

We currently have openings for someone to serve as Vice President and for a Committee Chairperson for Field Trips. This would involve planning and scheduling trip(s) or tour(s). See Tod Hamilton for additional information.

We will have elections of new officers at our December meeting. If you are interested in serving as an officer or Chairperson please talk with Tod Hamilton.

FUTURE MEETINGS

February 1

Title: New Commercial Space

Speaker: James Bell PhD, ASU

Meet Olli: The World's First Co-created Self-Driving Vehicle

November 2 speaker: Lucas Creasy, VP Engineering, Local Motors

For more information on our speakers, please visit our website at www.engineersaz.com