

Palo Alto Rotary Pinion

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Editor: LYLE CONNELL

PRESIDENT KATIE SEEDMAN called the meeting to order and led us in the Pledge of Allegiance.

Visiting Rotarians included Charlie Wasser from the San Jose East Club, who is offering Rotary logo clothing for sale, and Cecelia Babbirk of the Cupertino Club, who is also the District Foundation Committee Chair.

We had several guests. Our speaker Keith Devlin came as a guest of DANA TOM. Walt Thomas Hays came as a guest of his father the esteemed WALT HAYS. DARYL SAVAGE brought her guest Sam Savage, her husband, and Ron Roth. Philippe LeConte was the guest of MIKE COUCH.

DICK FREEMAN of the We Care Committee announced that BERT ROSE fell and injured his pelvis. DIANA DIAMOND's son, Kent, passed away suddenly. She would love a card or email, but not a phone call at this time.



TOM GRACON presented opening remarks. He noted that many of us are helping kids and grandkids grow up, and we face the question of whether to raise them for their future world or the world we lived in. Much of what we know is now useless. For example, block printing and cursive are totally useless. Driving a stick shift is also useless. In the future, it may not even be useful to know how to parallel park, as the car will do it for you. Travel will not be the same because the thrill of seeing a place for the first time will not occur - one can view any location in advance on the internet.

There is also the challenge of figuring out what the future is going to be. Nobody would have guessed that a child would be making telephone calls on an Apple watch. And, of course, no one will remember the thrill of listening to the Lone Ranger on the radio. However, we will all muddle through and our grandchildren will teach us things.

The next Rotary Social is being held on March 25th at the home of LE LEVY at 690 Greer. Members are invited to bring a beverage or a snack.



We will be voting next week on 2016 Officers.

President's Club: JACKIE SCHOELERMAN joined the President's Club for \$200 in gratitude for BRIAN STEEN referring a client.

GEOFF ZIMAN joined in honor of his new great-granddaughter Debra, but did not reveal how many he had.

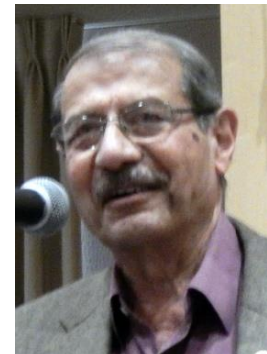


BRUCE GEE

made a presentation about the Crab Feed Fundraiser on March 19. Tickets are available now. Among the live auction items are two cruise offerings: Castles and Campaigns to France, England, Belgium, the Netherlands, and

Germany on the Sea Cloud II, and a Black Sea cruise aboard the Island Sky.

WALT HAYS introduced new member AKRAM PIRACHA. He is a former member of the Islamabad Club for 15 years. AKRAM said he went from Stamford, Connecticut, to Stanford here, and that this club is the best because it meets at the best time.



DANA TOM introduced our speaker, Keith Devlin. DANA asked us how many loved math when we were growing up and how many love math as an adult? Dr. Devlin has



inspired many on an understanding of math including Stanford students and National Public Radio listeners across the country. He is a co-founder and Executive Director of Stanford's H-Star Institute, a co-founder of the Stanford Media X Research Network, and a Senior Researcher at CSLI. He is a World Economic Forum Fellow, a Fellow of the American Association for the Advancement of Science, and a Fellow of the American Mathematical

Society. His current research has focused on the use of different media to teach and communicate mathematics to diverse audiences. He is the co-founder and President of BrainQuake, an educational technology company that creates mathematics learning video games. He has written 32 books and over 80 published research articles. In 2003, he was recognized by the California State Assembly for his "innovative work and longtime service in the field of mathematics and its relation to logic and linguistics." Dr. Devlin is also the Math Guy on National Public Radio. In his free time, he is an avid road and mountain cyclist.



Dr. Devlin gave a fascinating presentation on mathematics interfaces. He started out by noting we now conduct math like an orchestra conductor, controlling all of the parts on our computing devices. He told us that venture capital in the educational technology field is booming, but over half goes to higher education and adult education, less than half to K-12. Only \$50 million dollars of investment went into classroom oriented technology, which is \$1.00 per student in the country. The most money is going to teacher needs and school operations. What educators really want are curriculum products.

To have the biggest bang for the buck, we need to look at the math interface on the devices that our students are using. Dr. Devlin said that the first math interfaces were symbols on clay tablets and papyrus. When Fibonacci introduced Hindu Arabic notation to the western world in Italy, it led to international finance. The Hindu Arabic math arithmetic still provides a daunting interface, particularly for small children. It creates a symbol barrier.

Dr. Devlin told us about research into street mathematics. Children in markets in Brazil were very good at making complicated change calculations amounts, to 98% accuracy. When the same problems were presented to them on pencil and paper, they were only 37% correct. The street mathematics does not use standard algorithms. It uses algorithms that come naturally to the children.

Dr. Devlin said that the answer to this difference in performance must be in the interface. He also noted that motivated and engaged people will do better than those looking at problems when they are abstract and decontextualized.

He noted that everyone can do everyday math, except for a small percentage that have dyscalculia. Dr. Devlin asked why do we use the symbols that we do. Algebra was developed in the 9th century. When the printing press came along, the mathematical symbols could be copied with accuracy. One of the first books to be printed with movable type was a book of commercial arithmetic. However, for some problems the symbols get in the way.

Dr. Devlin showed us a video game called Wuzzit Trouble that his company developed which allows children to give accurate answers to very complicated mathematics problems. He noted that there are approximately 25,000 apps for math learning, but only 8 are trying to break the symbol barrier.

The new product was tested with third graders who were exposed for only two hours over a month period, and showed a 16% to 20% improvement. The game even caused an improvement in fractions, which was not part of the game, in a test made in Finland. He also noted that stories may be able to produce the same results. Dr. Devlin recommended to us a book called Mathematics Education for a New Era by A.K. Peters. His website is www.profkeithdevlin.org.

In a response to questions, he noted that Kumon-type style training would be perfect to prepare children for an early 19th century career. He said that we live in a world where computation flows like water, and we should act accordingly.

PROGRAMS & EVENTS

February 29, Eduardo Bunge Ph.D., Associate Professor, Palo Alto University: "Using Technology to Strengthen Resiliency in Students"

March 7, Gary Griggs, PhD., UCSC Director of Marine Sciences: "Climate Change and the California Coast"

March 14, Richard Martin, Antony and Isabelle Raubitschek Professor in Classics, Stanford University: "Odysseus in Silicon Valley: Archaic Hero for a Contemporary World"

March 19 Annual Crab Feed, Mitchell Park Community Center

March 21, Nelson Pedreiro, Director, Science and Technology, Lockheed Martin Advanced Technology Center: "Driving the Future Through Innovation."