Newsletter November 2012

Santa Clara Valley Section

American Chemical Society

Volume 34 No. 11

NOVEMBER 2012 NEWSLETTER TOPICS

- 2012 Teacher-Scholar Awardee
- Chair's Message
- Reminder: November Dinner Meeting
- Review of the September SCVACS Dinner Meeting by Dr. Kristin Sainani
- Unlikely Pair Share Toxin
- Book Review: The Methuselah Man
- BUBBLE Grant Awarded
- Annemarie Ross wins 2012 Stanley C. Israel Regional Award
- New Members List for October

2012 Teacher-Scholar Awardee

Dr. Cinzia Muzzi of De Anza College is this year's winner of the Teacher-Scholar award. This award is presented annually to a Santa Clara Valley Community College professor for their excellence in teaching and for a commitment to their students that goes well beyond the classroom. The faculty of De

Anza College has decided to go ahead and offer the department honorarium as two \$250 scholarships to be offered in the spring.

Dr. Muzzi earned her PhD in organic chemistry from UC Davis in 2000, and she also received Bachelor's degrees in Spanish and Chemistry from UC Davis in 1993. Dr. Muzzi began her teaching career as a chemistry instructor with Truckee Meadows Community College (TMCC) from 1999 to 2004. During her tenure with TMCC, Dr. Muzzi volunteered with the local ACS chapter and served as Chair, Secretary and

Treasurer. She also coordinated the section's National Chemistry Week outreach programs and was TMCC's representative with the Minority Affairs for the National Institute of Health and the Quality Undergraduate Education Project.

Since the Fall of 2004, Dr. Muzzi has taught chemistry as a

faculty member with the Department of Chemistry at De Anza College. She is a fulltime tenured member and currently teaches general chemistry and organic chemistry in De Anza's new Science Center. She and the other members of the chemistry department have worked to incorporate state of the art equipment and technology into the courses and laboratory experiences for De Anza's science students. Dr. Muzzi has served on De Anza's Curriculum Committee and the Institutional Planning and Budget Team,

continued on next page

Chair's Message

For the last few years, we have awarded the Community College Teacher-Scholar Award at the November dinner meeting. The American Chemical Society gives awards for excellent teaching at the high school, college and university levels. The SCV Teacher-

Scholar award is the first in the nation to recognize the contributions of community college chemistry instructors to science education.

The Teacher-Scholar award honors an outstanding faculty member, active or emeritus, from any of the 13 community colleges in the Santa Clara Valley Section's



territory (San Mateo, Santa Clara, Santa Cruz, San Benito and Monterey Counties). The award consists of a plaque and a check for \$500 for the winner, with another \$500 check being donated to the winner's chemistry department. The publicity surrounding these awards is

expected to increase the visibility and respect accorded to community college science education, both by other chemists and the general public.

The Teacher-Scholar award is the brainchild of Harry Ungar, one of our Alternate Councilors and an emeritus faculty member in the Chemistry Department

at Cabrillo College in Aptos, California. Harry was also an innovator of ChemEd Bridges, an NSF funded program that offered travel support for community college faculty to attend ACS meetings.

The past winners of the Teacher-Scholar award are:

2009: Jeanette Medina, Cañada College 2010: TR Dickson, Cabrillo College

2011: Madeline Adamczewki,

San Jose City College

The Teacher-Scholar award is the most recently instituted award presented by the Santa Clara Valley Section.

We also present the Harry and Carol Mosher award to the candidate whose work has recognized and encouraged outstanding work in chemistry, advanced chemistry as a

continued on next page

Teacher-Scholar Awardee, continued from front page

and has served on several ad hoc committees

Dr. Muzzi was previously the editor for SCVACS newsletter and has been a regular participant in the SCVACS National Chemistry Weeks events. At the national level, Dr. Muzzi was a meeting program chair for the ACS Division of Chemical Education at the both the 2004 and 2010 national ACS meetings in San Diego and San Francisco. She has served on the ACS Division of Chemical Education's Programs Committee for 11 years and is currently the appointed chair for the Division of Chemical Education's Personnel and Nominations Committee. Dr. Muzzi will also serve as the ACS Division of Chemical Education Representative for the ACS Western Regional Meeting in 2013. She has been a co-editor and contributing author of the Survival Handbook for the New Chemistry Instructor, Prentice Hall, 2004, and a Contributing author for And Gladly Teach: A Resource Book for Chemists Considering Academic Careers, ACS, 2004.

Please join the SCVACS in congratulating Dr. Muzzi on being the 2012 recipient of the Teacher-Scholar Award.

Chair's Message, continued from front page

profession, and has volunteered service to ACS. The Harry and Carol Mosher award is usually presented at the January dinner meeting, but will be presented in February this year to accommodate the travel schedule for the recipients.

The SCV Section also presents the Ottenberg Service Award and the Radding Award at the annual picnic meeting in early July. The Abraham Ottenberg Service Award recognizes members who have rendered outstanding service to the Section. The Shirley Radding award is presented to the nominee who has demonstrated dedicated, unselfish leadership, service, and significant contributions, over a sustained period of time, to industrial or applied chemistry and to the American Chemical Society at local, regional and national levels.

Please join us at the November dinner meeting to help celebrate the 2012 Teacher-Scholar award, and at the upcoming meetings for the other SCV awards.

Volunteers are welcome at all SCV events. Please contact any of the Section officers www.scvacs.org or simply show up at an event.

Reminder

November Dinner Meeting

Science is Elementary

Dr. Tzipor Ulman, Executive Director and Founder at Science is Elementary

Many of the issues facing the US and the world today can only be solved by science and engineering: global warming, access to clean water and air, and cures for cancer, diabetes, and other diseases. Yet according to a recent Index of Silicon Valley,

local companies are having a hard time filling positions that require a science or engineering degree and many of the students who arrive to pursue advanced degrees in California return to their home countries. To sustain Silicon Valley's innovation culture, we need to "grow" our own scientists and engineers. But we are not meeting this challenge today. About half of Silicon Valley's 5th graders scored below proficient on the state science test (CST).

Additionally, only 20% of the college students surveyed for a recent study felt that their K-12 education prepared them extremely well for their STEM college courses. When asked what could have prepared them better, responses included "more application, less theory" and "more opportunities for hands-on experience and programs." How do we make science relevant and engaging, especially for the youngest students? What are some fun, inquiry based activities that can be done with students at the youngest age?

Biography

Tzipor Ulman, PhD, is the founder and Executive Director of Science is Elementary (SiE). Tzipor has a passion for science education along with solid experience in the corporate and non-profit sectors. While a graduate student at Stanford, Tzipor co-taught an interdisciplinary course in "science for non-scientists." While teaching, she realized that many students who had not already developed an interest in science were either lost or uninterested in the subject matter. Sadly for them, science had come too late. If those students had been exposed to science at a younger age, perhaps they would have maintained a lifelong interest in the field. Thus, the idea for SiE was born.

Before founding SiE, Tzipor worked with Fortune 500 and startup clients as a



business strategy consultant at Helmer & Associates, consulting on matters ranging from technology spin-offs to corporate business opportunities. She has also served on the boards of several non-profit organizations. In college, Tzipor was a mentor and tutor and later a site coor-

Reminder

dinator for Project Step-Up, a mentoring and tutoring program in some of Cleveland's toughest inner city schools. She was also a volunteer math and science tutor at Mountain View High School and a private tutor for public and private school students.

Tzipor is the proud mother of two boys in whom she has instilled a curiosity about the world and the way things work. She holds a PhD in physical chemistry from Stanford University and a BSc in Chemistry from Case Western Reserve University.

November Dinner Meeting

Date: Thursday, November 15, 2012

Time: 6:00 p.m. Social Hour 7:00 p.m. Dinner

8:00 p.m. Presentation

Speakers: Dr. Tzipor Ulman

Science is Elementary Executive Director and Founder

at Science is Elementary

Location: Biltmore Hotel & Suites 2151 Laurelwood Boulevard

Santa Clara, CA

\$26.00, Broiled pork loin or Cost:

Vegetarian stuffed manicotti

Reservations: www.scvacs.org

Sally Peters 650-854-4614

Reservations should be made by November 12th stating your name, address, company or school affiliation, number of people in party. Watch the web site for more information. If you are unable to honor your reservation and do not cancel by Wednesday, November 14th, you will be invoiced following the dinner meeting.

Review of the September SCVACS Dinner Meeting

Here is the first installment of my initiative to involve student contributions to the Silicon Valley Chemist. Please enjoy a brief review of Dr. Sainani's September dinner meeting presentation by a local high school student, followed by a couple of testimonials from students of Skyline Community College. Lastly, be sure to review the appended links to learn more about and utilize Dr. Sainani's writing tips.

> - Nathaniel Zuckerman SCVACS Newsletter Editor

Scientific writing is important so that other scientists can analyze results of experiments and even duplicate another's work. Oftentimes, scientific writing can be unnecessarily difficult to read. On September 20,



Dr. Kristin Sainani and SCVACS Councilor Peter Rusch

Dr. Kristin Sainani spoke about ways to make scientific writing easier to comprehend with a few simple rules. The three main points she made were to cut out unnecessary words, use the active voice (subject-verbobject), and use vivacious verbs. She gave many examples of these guidelines. Most of the examples given cut the original sentence in half and still retain the same meaning with the important addition of clarity. The advice was great for both scientific writing and any other writing.

One of Dr. Sainani's points keyed in on a common practice in scientific writing of the use of verbs that are derived from nouns. I never thought about how words like expression came from express, and it was something that I never considered when writing. Identifying these verbs and returning them to the noun form is just one simple way to clarify scientific statements. An important take home message from this speech caused me to realize that you should not only think about the grammar and the spelling in a piece of writing, but one should also think about how the reader will feel reading your paper.

> Rebecca Medina High School freshman

Dr. Kristin Sainani's lecture was engaging and helpful. As a science major doing research at Skyline College, I deal with the challenges of reading and writing about science. I now feel more prepared and confident about my science writing skills. Attending the seminar with many professionals was also very encouraging and provided an opportunity to network.

> Irene Yim Student at Skyline Community College

Attending the lecture by Dr. Sainani at Cañada was a great experience, even though I am not a science major. Not only was it a great chance to meet new people, the lecture was well organized and informative, as to how to clean up and create a better representation of any type of written work.

> Jaimelynn B. Alvarez Student at Skyline Community College

Please check out Dr. Sainani's writing webinars, her website and an article about her free online writing course with Coursera.org.

http://acswebinars.org/writewellandprosper

http://www.stanford.edu/~kcobb/

http://news.stanford.edu/news/2012/october/science-writing-mooc-100812.html

Unlikely Pair Share Toxin By Sarah Everts (C&E News)

You wouldn't expect a great orange tip butterfly and a predatory sea snail to have much in common, but researchers in Austria have discovered that the animals have the same chemical defense weapon: a 63-amino-acid peptide toxin called glacontryphan-M. The compound blocks the action of a voltage-gated calcium channel required for body movement in ants, spiders, lizards, frogs, birds, and even mammals (Proc. Natl. Acad. Sci. USA, DOI: 10.1073/pnas.1209632109). Gert Lubec and colleagues at Medical University of Vienna made the discovery after grinding wings from the butterfly Hebomoia glaucippe for a proteomics analysis designed to figure out why so many bird, ant, and insect predators avoid consuming the butterfly's wings, choosing instead to feast on its tiny body. The team discovered that the wings contain glacontryphan-M, a potent toxin previously found only in the sea snail Conus marmoreus.



The researchers note that they are now looking to see whether glacontryphan-M is also found in other poisonous animals to answer the evolutionary question of why a butterfly and a sea snail share a specific toxin.



The great orange tip butterfly and the spotted sea snail share a chemical defense mechanism (images from Wikimedia Commons).

The Santa Clara Valley Section of the American Chemical Society is the copyright owner of all material published in The Silicon Valley Chemist. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without advance permission in writing from the editor, particularly for commercial purposes. Authorization to photocopy items for limited internal or personal use, or the limited internal or personal use of specific clients, is granted by the Executive Committee of the Santa Clara Valley Section of the American Chemical Society.

Book Review: The Methuselah Man

Written by Will Dresser Reviewed by Howard Peters, Ph.D., J.D.

In 2009 I was fascinated with *Sacrament of Fear* (2007) by local first-time author Will Dresser and reviewed it here. I consider it and this, his second Wes Franklin novel, to be of the enjoyable science-in-fiction genre of novels promoted by familiar Stanford Chemistry Professor Emeritus Dr. Carl Djerassi (*www.djerassi.com*).

The general plot of *The Methuselah Man*:

Dr. Wes Franklin, a one time child prodigy in medicine, science and engineering, is now a member of a loose civilian covert international intelligence network called the Cloister of Akhenaten. He and his shapely Stanford computer jock colleague are called in to sort out the mysteries surrounding the life of one Jared Keenan Cain, an enigmatic now dying man, who apparently has a near perfect genetic code and the power to heal himself of any injury or illness – forever?

The high action plot sets the stage quickly in a Colma, CA cemetery with the words of Dr. Joe Rosenfeld, "God, I never knew a man who wanted so much to be dead...or deserved it more." The action continues to high tech Menlo Park/Palo Alto, CA in the center of the Silicon Valley (but in this case

the area is better labeled: Biotech Bay). There are overtones of secret illegal government agency intrigue at the highest levels of the federal government, impersonation of federal officers, assassination plots, murder, disarmament, etc. Dresser skillfully keeps you engaged as the story unfolds with events that at times do pleasantly stretch the scientific mind and credulity. The characters are believable and at times endearing. For those who enjoy high action, The Methuselah Man delivers - with travels to Washington DC, Monterey CA, shootings, a wild car chase on the Big Sur highway and finally a move to Las Vegas NV where Jared Keenan Cain apparently commits slow-motion suicide with an unforgettable massive public stroke of violence... or does he?

The book is a page-turner, and at times reads like a Greek tragedy. An underlying unanswered moral question - "Is the ability to live forever a good thing." Man has sought it and the Fountain of Youth in vain for thousands of years. This reader found at times *The Methruselah Man* was also akin to reading *MacBeth* as a high school senior with lots of thoughtless action and mayhem. A reading of *MacBeth* at age 60 is at a different level after you have had time to deal with weak men

and driven women, etc. It is the same with *The Methuselah Man*. The next time I read it I will get more out of it – and so will you.

Available at *www.amazon.com* in hard copy and KINDLE format.

The first Wes Franklin novel starts with "Truth never happens in real time." Purchase it on the Internet at www.sacramentoffear. com/index.htm. I highly recommend it. www.scvacs.org/newsletter/news0902hi.pdf

- About the Author -

Will Dresser was a transplant from Illinois and earned a degree in Political Science and did graduate work in Counseling from North Illinois University in DeKalb. His travels have taken him all around the world, including a seven-month stay in Peshawar, Pakistan – a place very much in today's headlines - where he did electronic intelligence gathering for the U.S. Air Force. Will was this reviewer's able paralegal in Palo Alto, CA in a patent law firm that continues to specialize in Intellectual Property related to chemistry, and biotechnology. He is now retired and lives in Las Vegas. The Methuselah Man is his second Wes Franklin novel. He plans to publish more - and I eagerly await his next 'Wes Franklin' thriller, Terminal Rock.

BUBBLE Grant Awarded

For the second year, the BUBBLE Grant of up to \$500, has been awarded to a middle school science teacher. The teacher's application gives a good explanation of the need and proposed use of the funds:

The Jerry D. Holland Middle School has faced severe budget cuts for the past several years. The school does have some of the basic science equipment needed to teach, but they are still reaching into the paper-based labs because the school does not have some of the essential tools to really get the students engaged. Through this grant opportunity, they hope to acquire materials that will aid us in our physical science teaching. The school will use this money for 36 digital timers, to work into our STEMS activities focused on calculating rate of change, specifically in the areas of chemical reaction rates, acceleration, and velocity. The timers are essential in real-life

applications to calculate the speed of everyday objects. The money will also be used to purchase micro chemical plates. The micro chemical plates which allows a reduction in the amount of chemicals used in the reaction based chemistry units and also the study of acid-base chemistry. Currently, we use test tubes, which require significantly more of our limited chemical supply, and instead of having multiple students per group; we will be able to allow students a more individualized experience.

The Committee awarded the full amount of the requested funds.

Each year the BUBBLE Grant is funded, up to \$500 is available for K -12 science class projects. Applications by science teachers can be made through the ACS Santa Clara Valley Section web site: www.scvacs.org



Annemarie Ross wins 2012 Stanley C. Israel Regional Award

from ACS Diversity eBrief

The 2012 Stanley C. Israel Regional Award for Advancing Diversity recipient is professor Annemarie Ross. She is an assistant professor at the National Technical Institute for the Deaf, is a champion of diversifying the chemical sciences and a valuable leader to NTID, the ACS, and the scientific community. As a

deaf professional, skilled scientist, and caring educator, Professor Ross is an ideal role model to the hundreds of students with disabilities that she has directly helped to find successful careers in chemistry.



She was chosen by the NTID student body to receive the prestigious 2012 Faculty Humanitarian Award. In addition to being deaf and hard-of-hearing, her students are largely from traditionally underrepresented groups and a majority are female students. She was a successful employee at IBM,

but decided to return to NTID to "give back to the Deaf community" and leads by example when she shows students how to be successful because of their disability, and not "despite" it.

She is a member of several ACS committees, including the national Committee on Chemists with Disabilities — a committee of the Minority Affairs group - and often is looked to for her expertise in the area of diversifying the chemical enterprise. Professor Ross and others were recently featured in an award-winning video for the Campaign for Disability Employment's "What can YOU do?" contest, which has been shown — with tremendous impact by the upper administration of the United States Department of Labor at a recent summit. She is also active in outreach to children with disabilities, encouraging them to pursue education/careers in the sciences.

Professor Ross is not only changing peoples' minds/attitudes about diversity, she is actively working (with profound results) to diversify the field.

Welcome to the Santa Clara Valley Section of ACS

Each month the section receives a spreadsheet from national ACS with the names of members new to our section. The members are either new to ACS, have transferred in from other areas, or are the newest members — students. To welcome you to the section and get to know you, the Executive Committee offers new members a free dinner!! To encourage you to attend a monthly section dinner meeting, we would like you to be our guest. When you register, make certain to mention that you are a new member and you and a spouse (or friend) will be our

guests. The dinner meetings are often the 3rd Thursday of the month at a local spot, somewhat convenient to the entire section. If you are unable to attend in the evening, perhaps you would join us for an outreach event, like judging a science fair, participating in the Chemistry Olympiad, or a National Chemistry Week event in October. Then, there is our annual wine tasting and awards picnic in July. The local section is a volunteer organization. Please attend an event, volunteer to help, and get to know your local fellow chemists. Welcome!!

New Members List for October

Neel Alkoraishi Mohammad A. Alsayah Dr. Alexander Ayzner Krista Barzen-Hanson Shane Boyd Prof. Noah Z. Burns Dr. Ta Sen Chou Dr. Lily Chu Livia S. Eberlin Nigama Ekkad Lucas Flagg Rachel Freed Erika Geihe Dr. M J. Greene Bro. David Gutierrez Sunhee Hwang Ivan Ivanov

Dr. Robert S. Kuczenski

Dr. Igor Leontyev Kenneth M. Light Brian Andrew Loy Dr. Dan Marquess Firouzeh Mohadjerani Ross Moretti Meisam Movassat William Hoang Nguyen Samba Reyes Njie Jr. Dr. Ganapati R. Pamulapati Bruce Drury Phebus Niko R. Pogorevcnik Dr. Karthikan Rajagopal Ali Joseph Rastegar Dr. Eric Rau Dr. Jennifer K. Schwartz Dr. Hui-Wen Shih

Sara Sievers Dr. George C. Stafford Jr. Eric Stenehjem Jeffrey Stocker Andrea Sutherland Kristina Ellice Tan Dr. Hanafi Tanojo Dr. Andrew Michael Thomas Anita C. Tong Dr. Michael Vestel Lu Wang Olivia Wells Dr. Shao-Yong Wu Dr. Yi Yuan Dr. Hai-Ren Zhang Dr. Yong Zhu Andrew T. Zill

The Vacuum Solution for Lab Renovations

VACUU • LAN® local vacuum networks



The convenience of central vacuum...

- one pump supports up to 8 vacuum workstations
- · conserves precious bench space
- whisper-quiet without sound-proofing

The performance of dedicated pumps!

- vacuum to 1.5 Torr; optional electronic control
- minimizes interference between workstations

Details at www.vacuu-lan.com



Five Decades of Vacuum Innovation

www.vacuubrand.com

info@vacuubrand.net

888-882-6730





To receive an email when our newsletter is published on our web site, sign up at: http://www.scvacs.org/newsletter/

SANTA CLARA VALLEY SECTION

2012 Section Officers

| 2012 0000 | ion Omeers | | |
|-------------|---------------------|--------------|------------------------------------|
| Chair | Natalie McClure | 650-906-7831 | nmcclure@drugregulatoryaffairs.com |
| Chair Elect | Jeanette Medina | 650-306-3255 | medinaj@smccd.edu |
| Past Chair | Abby Kennedy | 209-640-2005 | akennedycali2007@yahoo.com |
| Secretary | Karl Marhenke | 831-688-4959 | karlmar@cruzio.com |
| Treasurer | Ihab Darwish | 650-594-1654 | darwishis@yahoo.com |
| Councilor | rs | | |
| 2010-2012 | Linda Brunauer | 408-554-6947 | lbrunauer@scu.edu |
| 2010-2012 | Sally Peters | 650-854-4614 | sallybrownpeters@gmail.com |
| 2010-2012 | Peter Rusch | 650-961-8120 | pfrusch@aol.com |
| 2011-2013 | George Lechner | 408-226-7262 | glechner@aol.com |
| 2011-2013 | Herb Silber | 408-924-4954 | hbsilber@science.sjsu.edu |
| 2012-2014 | Abby Kennedy | 209-640-2005 | akennedycali2007@yahoo.com |
| 2012-2014 | Ean Warren | 650-329-4554 | ewarren@scvacs.org |
| Alternate | Councilors | | |
| 2010-2012 | Lois Durham | 650-322-3507 | ldurham9398@sbcglobal.net |
| 2010-2012 | Natalie McClure | 650-906-7831 | nmcclure@drugregulatoryaffairs.com |
| 2010-2012 | Stephanie Bachmann | 408-429-9681 | s_gehling@hotmail.com |
| 2011-2013 | Mark Kent | 408-736-0989 | marklent@yahoo.com |
| 2011-2013 | Harry Ungar | 831-708-2049 | haungar@cruzio.com |
| 2012-1014 | Lisa Milstein | 510-624-4019 | lisa.milstein@balazs.com |
| 2012-2014 | David Parker | 408-615-4961 | dparker@santaclaraca.gov |
| Newslette | r | | |
| Editor | Nathaniel Zuckerman | 408-802-7443 | nathanielzuckerman@gmail.com |
| ChemPloy | ment Abstracts | | |
| Director | Charles Sullivan | 650-728-7034 | cdansullivan@sbcglobal.net |
| | | | |

FUTURE MEETINGS

| FUTURE MEETINGS | | | | |
|--|---|--|--|--|
| Nov 3-4 | SPLASH–Stanford: Learning program for 7th-12th grade students www.stanfordesp.org | | | |
| Nov 14 | BioScience Forum | | | |
| | www.biosf.org/programs.htm | | | |
| Nov 15 | Tzipor Ulman, Founder and Executive Director of Science is Elementary Teacher-Scholars Award Biltmore Hotel & Suites Santa Clara, CA www.scvacs.org | | | |
| Nov 13, 20, 27 | Department of Chemistry Seminars San Jose State University | | | |
| www.sjsi | u.edu/chemistry/Seminars/index.html | | | |
| Jan 13-18 | 21st Winter ACS Fluorine Conference St. Pete Beach, FL p://fluorine.sites.acs.org/21stwfc.htm | | | |
| Jan 17 | Santa Clara Valley Section Meeting | | | |
| Jan 13-18 | Stanford Distinguished Alumni Lecture Series, Dr. Daniel Gamelin | | | |
| https://chemistry.stanford.edu/events/sessler-lectures | | | | |