

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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SEPTEMBER 2011 NEWSLETTER TOPICS

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Reminder

September Dinner Meeting

Reminder

When the Flowing Gets Tough, Rheology Gets Things Moving

Dr. Gerald Fuller

Abstract

Complex fluids surround us and are essential to living systems, processing of materials, foods, and personal products. The complexity of their microstructure leads to very nonlinear flow responses and the science of rheology attempts to describe and predict this behavior. This presentation will introduce research in the laboratory of Professor Fuller that examines a variety of rheological problems connected with non-Newtonian fluid interfacial behavior. Two



examples that will be explored in detail concern the rinsing with complex liquids to clean solid substrates and the stability of the tear film of the eye. The presentation will also highlight the work of Ms. Alison Logia, a high school intern in the laboratory, who is exploring droplets

of one miscible liquid impacting a reservoir of a second liquid.



Alison Logia and Gerald Fuller hard at work

September Dinner Meeting

Date: Thursday, September 15th, 2011

Time: 6:30-7:30 Dessert and Coffee Reception

7:30-8:30 Presentation

Location: Stanford Chemical Engineering Gazebo (directions on SCV-ACS website)

Speaker: *Dr. Gerald Fuller*, Stanford Professor, Chemical Engineering Department
Alison Logia, Project SEED summer intern

When the Flowing Gets Tough, Rheology Gets Things Moving

Cost: \$10.00 per person

Reservations: www.scvacs.org
Sally Peters 650-812-4994

Reservations MUST be made by Monday, September 12th, stating your name, address, company 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, September 14th, you will be invoiced following the dinner meeting.

Chair's Message



As I sit down to write this message, school has sprung! The fall 2011 school year has started for Santa Clara county students, and you can hear the sound of chemistry textbooks cracking open everywhere! And with the fall semester, National Chemistry Week is right around the corner—October 16-22! This year's theme is "Chemistry—Our Health, Our Future!"—focusing on the chemistry of nutrition, hygiene and medicine.

Encourage your kids' teachers or Scout troop leaders to participate in our First Annual NCW Illustrated Poem Contest.

The illustrated poem, in any style, should be fun, motivational, informative, and inspire students to learn about the chemistry of health and medicine. (See

continued on next page

Chair's Message, continued from front page

www.chemistryweek.org for more guidance). One winner in each category will be chosen by the SCV Executive Committee to move on to the National poem contest. The top poem in each category will receive cash awards. First place winners receive \$300 and second place winners receive \$150. Categories include K-2nd, 3rd-5th, 6th-8th, and 9th-12th grades. Entries are due to me, your NCW Coordinator, by October 17th, so help your favorite chemistry teachers plan ahead in their curriculum. Gain recognition for your budding chemist and their school by supporting this exciting contest!

And back by special request this year for NCW, we'll be returning to the Martin Luther King Jr. Library in San Jose to celebrate! Our hands-on experi-

ments are sure to be a hit with the younger set, so bring your kids, grandkids, neighbors and friends to this fun, FREE, hands-on public outreach event. Saturday, Oct. 22, 10am-1pm.

If you'd like to help your local school celebrate National Chemistry Week, we have supplies, experimental protocols and ideas to help! Why not go in to help your child's class learn about freezing point depression via making ice cream? Or get slimed? We all know that hands-on science is key to sparking the interest of our youngest chemists, so I hope you'll get involved in NCW this year. Email me or send me your ideas and opinions on Facebook. Search for Santa Clara Valley ACS and click on "Like" to have the NCW discussions stream directly to you.



Stained Glass Glue

Many artists spend time making their own materials to create a work of art that is unique to them. They may be looking for a certain texture, color, interaction with light or special ability to be molded, bent, twisted or carved in a certain way. Creating the right material requires a lot of experimentation until the result is exactly what the artist needs. In the activity below, you can make a colorful art material that looks bright in the light!

Materials:

- Yogurt or Pringles lid or Styrofoam bowl
- Small plastic cup
- Elmer's glue
- Water
- Popsicle stick
- Food coloring
- Liquid dish detergent
- Toothpick

Procedures:

1. Place about 1 teaspoon of Elmer's glue in a small plastic cup. Add about 1/4 teaspoon of water. Mix with a Popsicle stick.
2. Pour the glue and water mixture into a lid or Styrofoam bowl. Tilt the lid or bowl all around until the glue solution completely covers the inside surface.
3. Place a little liquid dish detergent in a small cup. Place two or three drops each of different colored food coloring on the glue solution.
4. Put a very small amount of detergent on the end of a toothpick. Touch the center

of each food coloring drop and quickly remove the toothpick. Do not stir.
5. Experiment with touching the food coloring again with detergent or adding more food coloring and touching it with detergent.

Think about this ...

Colored material such as colored glass has been used for centuries to make beautiful stained glass. Glass makers use chemicals in different combinations to produce the many different colors of glass for stained glass artwork. The combination of the design, the colors, and the effect of the light passing through the material can create wonderful works of art.

Can you think of a way of using your Stained "Glass" Glue to make a stained glass design that light can shine through? Hint: Wax paper might be a good surface to work on. Good Luck!

Where's the Chemistry?

Elmer's glue has water in it plus a much longer, more flexible chemical called polyvinyl acetate. These long flexible molecules are moving around in the water like intertwined strands of boiling spaghetti. When the food coloring drops are added, they are prevented from spreading out much by the combination of water and polyvinyl acetate molecules. When the detergent is added, detergent molecules help to break up this combination and allow the food coloring to flow more easily.



Volunteer Opportunity ACS 2013 Western Regional Meeting Organization

In October 2013, the Santa Clara Valley and California Sections of the American Chemical Society will co-host a four day Western Regional Meeting to be held in the vicinity of San Jose. To be successful, such a meeting requires careful organization and planning. The process has begun with the naming of three meeting general co-chairs - Natalie McClure (SCV), Neal Byington (Cal), and Lee Latimer (Cal). Now the time has arrived for a comprehensive organization to be put together to carry the planning and execution of the meeting forward.

The meeting organization needs chairs for such functions as Publicity, Exhibits, Registration, Events, Housing, and Program, among others. Organizers are needed for symposia, events, and tours. Volunteers will be needed to assist in helping each meeting function meet its goals and in assisting during the four days of the meeting itself. As this is a cooperative effort of the two ACS sections, volunteers from each section are encouraged and co-chairs for some of the major activities will be named.

If you are interested in becoming part of the group committed to making the 2013 ACS Western Regional Meeting a scientific, financial, and social success, please contact one of the general co-chairs. Now is the time to become part of this exciting and worthwhile activity.

Natalie McClure (650) 906-7831
nmclclure@drugregulatoryaffairs.com

Neal Byington (510) 882-8530
neal@byington.org

Lee Latimer (510) 207-1762
lhlattimer@mindspring.com



Advancing Business Practices with Green Chemistry

UC Berkeley Extension and the UC Berkeley Center for Green Chemistry are developing innovative multidisciplinary coursework in green chemistry so professionals can update their business processes, meet requirements, and stay competitive. From the European Union's REACH regulations to the California Green Chemistry Initiative, new economic and legal incentives now make sustainable green chemistry practices a must-do for many businesses.

These Extension courses address the challenges faced by professionals—in chemistry, engineering, public policy, toxicology, and business—who need to work collaboratively with colleagues on global opportunities in green chemistry. The Certificate Program in the Essentials of Green Chemistry offers a comprehensive education that prepares professionals to

lead the development of sustainable chemical products and processes in their businesses and communities.

The certificate curriculum consists of five required courses (10 semester units) and a varied number of elective courses for a minimum of 14 semester units (210 hours of instruction). Students may take up to five years to complete the curriculum. Alternatively, students can take individual courses as needed to better understand a specific topic.

Certificate courses include:

- Principles of Green Chemistry
- Decision Making and Comparative Risk Assessment
- Green Chemistry and Chemicals Policy
- Alternatives Assessment: Chemicals, Materials, Products, and Processes
- Business and Financial Planning for Green Chemistry Innovation

- Current Topics in Green Chemistry
- Toxicology and Risk Assessment

UC Berkeley Extension provides world-class quality education coupled with the convenience of online, weekend, and evening course schedules designed for working adults. Learn the skills to keep your methodology up-to-date and your company's products marketable. Apply the principles of sustainability to your practice, and be at the forefront of tomorrow's green chemistry successes. Learn more at extension.berkeley.edu/cert/greenchem.html.



SACNAS Annual National Meeting

October 27-30, 2011

The 2011 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS, www.sacnas.org) National Conference "Empowering Innovation and Synergy Through Diversity" will take place in the heart of Silicon Valley—San Jose, California—the birthplace of the world's high-tech industry.

Join us October 27-30 for four days of scientific research presentations, professional development, networking, exhibits, culture, and community! Interdisciplinary, inclusive, and highly interactive, the SACNAS annual national meeting offers an unparalleled venue for the advancement of scientists and science students. National ACS will be a sponsor for this exciting event, please see <http://sacnas.org/events> for agenda, events and registration details.



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 August

| | | |
|--------------------------|-------------------------|--------------------------|
| Matthew G. Berlin | Dr. Christine Isborn | Andrew Galen Scheuermann |
| Ulhas Bhatt | Dr. Kristie Jo Koski | Dr. Feng Shi |
| Mariano Caunday | Dr. Oleg Kostko | Salma Siraj |
| Dr. Jonathan Chen | Dr. Kevin Krogman | Dr. David P. Smith |
| Laura Cooper | Dr. Heather J. Kulik | Akira Sugisaki |
| Barney Cruz | Christina Li | Nguyen Thai |
| Dr. Nazanin Davani | Levi Lowry | Alexey Titov |
| Dr. Melissa Fardy | Dr. Kenneth W. Lux | Pratik Verma |
| Dr. Francine S. Farouz | Dr. Robert J. Madix | Emily Ai-Mei Wang |
| Dr. Cynthia Marie Friend | Andrey Malkovskiy | Dr. Samuel M. Webb |
| Kevan Hassanzadeh | Claire Elizabeth Parker | Mark A. Witschi |
| Sondra Hellstrom | Ryan L. Patman | Yaoyan XI |
| Lara Henry | Dr. Marija Prhac | Beth Ann Zito |
| Timothy Mark Hightower | Dr. Richard C. Quinn | |



Call for Nomination Petitions

By Karl Marhenke, SCV Secretary

It's nearly time for our annual election, as mandated by our bylaws, to elect or re-elect a Secretary, a Treasurer, and a Chair Elect.

The Section membership has declined compared to other ACS Sections, therefore we are losing one Councilor position, and one Alternate Councilor position. Starting in 2012, we will have 7 of each, instead of our former 8.

We have three Councilors whose terms end on December 31, 2011, and we can only replace two of them. We also have three Alternate Councilors whose terms end, but one of them has chosen to resign, leaving two to be replaced.

The present Councilors and Alternates can choose to run for reelection, and doing that has become the norm, very often resulting in a ballot with no contested races (e.g., two names on the ballot, and directions to vote for no more than two).

We ask for your help to change this often criticized situation: nominate a friend or colleague for one of the above positions.

All we need is a petition, consisting of a sheet of paper with:

- The name of the office
- The name of the proposed candidate
- The signatures and printed names (so that we can read them and verify their eligibility to sign) of 15 or more Section members.

You and the proposed candidate can both be signers.

Please send petitions to:

Karl Marhenke, Secretary, Santa Clara Valley Section
1710 Wilshire Drive, Aptos CA 95003-2836

Petitions must be received by Friday, September 30, 2011.

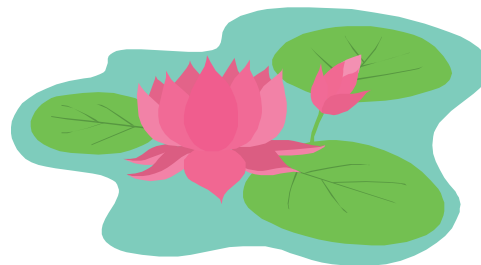
Section Affiliates cannot participate in the election in any way.

Student Members cannot run for office, but they may sign petitions and they may vote.

The qualifications for running for office are:

1. Be a member of the Santa Clara Valley Section (except as noted above)
2. Agree to serve if elected.

Number 2 is the hard one! It's the main reason we have trouble avoiding uncontested elections, despite our 3300 members.



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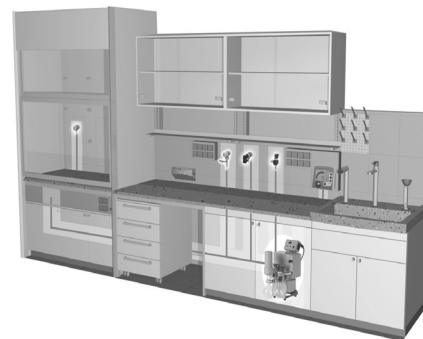
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CHEMPLOYMENT ABSTRACTS SEPTEMBER 2011

For a complete list of current abstracts, please visit: www.scvacs.org/Local_Folder/abstract.htm

CHEMPLOYMENT ABSTRACT 3965

Position Title: Assistant Professor of Biophysical Chemistry (tenure-track)

Job Description: The successful candidate is expected to establish an externally-funded and productive undergraduate research program in experimental biophysical chemistry, contribute to departmental research and teaching objectives, and demonstrate the ability to effectively teach physical chemistry and general chemistry (for details visit www.scu.edu/hr/careers/faculty.cfm)

QUALIFICATIONS DESIRED:

Education: Ph.D. in Physical Chemistry, Biophysical Chemistry, or closely allied field.

Experience: Postdoctoral experience in physical chemistry, biophysical chemistry, or closely allied field is strongly preferred. College teaching experience is highly desirable, and experience in teaching a diverse student population is preferred.

LOCATION, SALARY, EMPLOYER:

Job Location: Santa Clara, CA

Salary: Competitive, depending upon experience.

Employer: Santa Clara University, a highly-ranked Jesuit, Catholic institution with an ACS-approved undergraduate program and a housing program, is an EO/AA employer committed to excellence through diversity.

Application Instructions: All materials should be sent in electronic form (Word and/or PDF format) to ChemApp@scu.edu. For specific information about required application materials, visit www.scu.edu/hr/careers/faculty.cfm or <http://www.scu.edu/cas/chemistry/job-opportunities.cfm>

CHEMPLOYMENT ABSTRACT 3966

Position Title: Development Associate II, Process Development and Manufacturing (Job Code 4711)

Job Description:

- Primary responsibility will be to perform process optimization experiments for Geron's Telomerase Inhibitor Program (imetelstat sodium and others) and the peptide-paclitaxel conjugate GRN1005
- Maintain and operate the Akta Oligopilot 100 DNA synthesizer, LC-MS, HPLCs, UV, Ultra Filtration, Lyophilizer and other equipment as assigned.
- Test and analyze R&D samples, API and drug product samples from contract manufacturers as needed.
- Perform Routine laboratory work such as synthesis of target compounds, standards, analysis of samples, API and drug product according to their specifications.
- Conduct experiments based on statistical software such as design expert.

QUALIFICATIONS DESIRED:

Education: BS/MS in Chemistry with a minimum of 2-5 years experience in synthesis of small molecules, peptides and/or oligonucleotides/nucleosides

Experience:

- Experience in synthetic organic chemistry especially in heterocycles and coupling reactions.
- Experience in NMR, HPLC, LCMS, UV and interpretation and presentation of the results to the team.
- Proficiency in Word, Excel, PowerPoint, ISIS draw or ChemDraw
- Familiarity with GMP practices and knowledge of CFR, ICH guidelines.

LOCATION, SALARY, EMPLOYER:

Job Location: Menlo Park, CA

Salary: DOE

Employer: Geron is developing first-in-class biopharmaceuticals for the treatment of cancer and chronic degenerative diseases. The company is advancing anti-cancer therapies through multiple Phase 2 clinical trials in different cancers by targeting the enzyme telomerase and with a compound designed to penetrate the blood-brain barrier.

Application Instructions: Please submit resumes to hr@geron.com with the Job Code in the subject line. Resumes can also be sent to:
Attn: Human Resources, 230 Constitution Drive, Menlo Park, CA 94025 or via fax at (650) 473-7759

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| | | | |
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| 2010-2012 | Sally Peters | 650-812-4994 | Sally.Peters@parc.com |
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| 2011-2013 | George Lechner | 408-226-7262 | glechner@aol.com |
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| 2010-2012 | Natalie McClure | 650-906-7831 | nmclure@drugregulatoryaffairs.com |
| 2010-2012 | Stephanie Gehling | 408-429-9681 | s_gehling@hotmail.com |
| 2011-2013 | Mark Kent | 408-736-0989 | markkent@yahoo.com |
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FUTURE MEETINGS

- Sep 15** Monthly Section Meeting
Dr. Gerald Fuller, Professor,
Chemical Engineering Department,
Stanford University
When the Flowing Gets Tough,
Rheology Gets Things Moving
- Oct 16-22** National Chemistry Week
- Oct 26** Johnson Symposium
Department of Chemistry
Stanford University
www.stanford.edu/dept/chemistry/events
- Oct 27-30** SACNAS National Conference
San Jose, CA
<http://www.sacnas.org>
- Nov 10-12** Western Regional Meeting
(WRM 2011)
Pasadena, CA
www.wrmacs.org/index.html
- Nov 17** Community College Teacher/Scholar
Award