



# The San Diego Chemist

American Chemical Society  
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San Diego Section  
February 2015

## ALGAE FOR RENEWABLE CHEMICAL PRODUCTION



### Michael Burkart, Ph.D.

Professor of Chemistry and Biochemistry  
Associate Director, California Center for Algae Biotechnology  
University of California at San Diego, La Jolla, CA

**DATE:** Tuesday, February 10, 2015

**TIME:** 6:00 PM Social Hour, Light Meal  
7:00 PM Lecture

**PLACE:** University of California San Diego  
HSEC Auditorium, Skaggs School of Pharmacy  
Pharmacy Lane  
San Diego, CA 92121

**RSVP:** By Friday, February 6, 2015  
<http://michaelburkart.eventbrite.com>

**Parking:** Parking passes provided for Lot P604 starting at 5:30pm



#### ABOUT THE SPEAKER:

Mike Burkart grew up in Arlington, Texas, and, as a teenager, spent weekends with his dad prospecting for oil. He received a B.A. in chemistry from Rice University in 1994 and a PhD from The Scripps Research Institute in 1999. After an NIH postdoctoral fellowship at Harvard Medical School, he initiated his own research group at the University of California, San Diego, in 2002. He is currently Professor of Chemistry and Biochemistry at UC San Diego and Associate Director of the California Center for Algae Biotechnology (Cal-CAB). His research includes natural product synthesis, biosynthesis, and metabolic engineering.

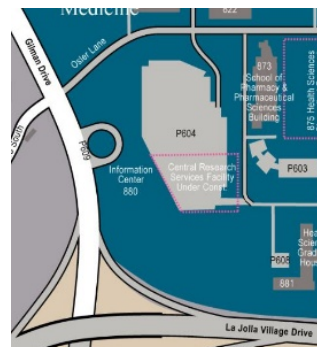
#### ABOUT THE PRESENTATION:

San Diego is a world center for algae research, and California is an ideal location to build both the research as well as the production aspects of algae biotechnology. The California Center for Algae Biotechnology (Cal-CAB) has helped facilitate academic, industrial, and joint research efforts and commercial partnerships. Professor Burkart will describe Cal-CAB's efforts and some of his own research toward renewable fuels and petroleum replacements.

#### Sponsored By:

**Waters**  
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#### Map of event:



### CHAIR NOTES

Dear ACS Members:

I hope everyone is safe from the holidays and enjoying the New Year. The Executive Committee met on January 8<sup>th</sup>. We have filled all the committee chair positions, except for the law committee chair. If you are a chemist with law experience, I invite you to consider taking this position. In the past, the law committee chair has coordinated lunch lectures with current topics in patent law. New committee chairs can continue established programs, or they can bring new ideas and re-define the role. Please look over all of the committees and volunteers if you think you could bring new ideas. You can contact me or the committee chairs directly if you are interested in volunteering.

2015's theme of "Chemistry outside the Box" is off to a great start. January had a presentation from Matthew Bio and the Academics-2-Industry crew's visit to UCLA. February brings another interesting chemistry lecture from **Michael Burkart**.

**Matthew Bio** from Amgen Small Molecule Process and Product Development spoke on January 13<sup>th</sup> at TSRI on the development of an intein-based conjugation platform for the synthesis of Fc-fusion proteins. There were over 65 attendees, with many new faces in the crowd, who heard about the newest, scalable technologies of merging natural and unnatural peptides to provide improved *in vivo* characteristics. This chemistry bridges the boundary between synthetic chemistry and biochemistry and highlighted some promising results.

The members of the Academics-2-Industry lecture series made their biennial visit to UCLA on Jan 20<sup>th</sup> and 22<sup>nd</sup>. In 2013, **Professor Neil Garg** gave our 5-part lecture series into his coursework of Chem 241F, Special topics in Organic Chemistry. This year, the seminars were an open to the public event with similar success. 30 students, ranging from undergrads to post-docs, attended the lectures, providing an engaging dialogue between audience and presenter. Books were raffled at the conclusion of the talks and many more chemistry students at UCLA have a realistic understanding of what a career in medicinal chemistry entails.

**Michael Burkart**, Professor at UCSD and Associate Director of the California Center for Algae Biotechnology, will be speaking on February 10<sup>th</sup> at the Skaggs School of Pharmacy at UCSD. This talk will provide another example of how chemistry and biology can work together to solve problems of modern society. San Diego is a hub for biofuel research, and we will be introduced to the latest research toward renewable fuels and petroleum replacements. Registration link: <http://www.michaelburkart.eventbrite.com>.

Our monthly meetings feature industry-leading speakers and are excellent networking opportunities. If you are passionate about the chemistry you are doing or have not seen topics relevant to your research presented by the ACS, let me know and we will do our best to accommodate you. We are in the planning stages of an ACS-West Coast Analytical Symposium to be held in April. This event will be geared toward early career analytical chemists and hopes to provide them with an opportunity to present at a meeting and network with other local analytical chemists. We are committed to making this and other great ideas happen in 2015. In addition to our need for volunteers, these events happen because of the financial support of local companies. If your organization would be interested in sponsoring an ACS event, please send me the name of an appropriate contact and I will be in touch. Your support benefits the entire San Diego chemistry community!

Ben Pratt, 2015 Chair

American Chemical Society – San Diego Section

E-mail: [bpratt@sandiegoacs.org](mailto:bpratt@sandiegoacs.org) -- Web: [www.sandiegoacs.org](http://www.sandiegoacs.org)

### FREE EVENT ANNOUNCEMENTS FOR NON-PROFIT ORGANIZATIONS!

Does your non-profit organization have an upcoming event that might be of interest to members of the ACS – San Diego Section? If so, please send your announcement to our 2015 Chair Ben Pratt at [bpratt@sandiegoacs.org](mailto:bpratt@sandiegoacs.org). Once approved, Ben will see that your announcement is published on our website ([www.sandiegoacs.org](http://www.sandiegoacs.org)) and, if received by the 23<sup>rd</sup> of the month before the event, in *The San Diego Chemist* newsletter. This is a free service of the ACS – San Diego Section. Take advantage of it!

### ATTENTION ADVERTISERS

**Did you know** that *The San Diego Chemist* is the only monthly e-newsletter that targets chemists and chemical engineers in San Diego and Imperial Counties? As soon as our newsletter is uploaded on [www.sandiegoacs.org](http://www.sandiegoacs.org) a separate notification is sent to the **2,400 members** of the ACS-San Diego Section, each potential customer for your products and services! **Quick turnaround:** Ad copy submitted by the 23<sup>rd</sup> of each month will be published by the 30<sup>th</sup> of that month. For more information, please contact:

Renate Valois, [renate@sandiegoacs.org](mailto:renate@sandiegoacs.org).

**THE SAN DIEGO CHEMIST**, the official newsletter of the San Diego Section of the American Chemical Society, published on a monthly basis, can be viewed at <http://www.sandiegoacs.org/newsletter/>.

All contents are published at the discretion of the Section's Executive Committee. Events of interest to chemistry professionals in the community may be included in the events calendar as space permits and are subject to editing for brevity. Advertisements and announcements from the chemistry community are accepted at published rates. The deadline for items submitted is **the 23<sup>rd</sup> of the month** for publication by the end of that month.

**Advertisers:** Ad prices as of January 1, 2015:

Size (w x h)	Number of Issues & Price/Issue	1	3	6
2" x 3"		\$ 75	\$ 68	\$ 58
4.5" x 1.5"		\$ 80	\$ 74	\$ 67
4.5" x 4.75"		\$200	\$184	\$163
8.5" x 5.5"		\$400	\$360	\$310
full page		\$655	\$590	\$510

Discounts will be available for issues not shown  
Please send your jpg to:

**Renate Valois** at [renate@sandiegoacs.org](mailto:renate@sandiegoacs.org).

Make checks payable to:

**American Chemical Society** and mail to:

**Bill Szabo, Treasurer**  
3950 Mahaila Avenue, B-36  
San Diego, CA 92122

### SECTION E-MAIL LISTSERVER!

Get up-to-the-minute reminders of local events and develop dialogs with your fellow members!

To subscribe to our moderated listserver:

1. Send an e-mail with SUBSCRIBE TO LISTSERVER in the subject line, and your name and e-mail in the body of the message to Ken Poggenburg at [jkp135@att.net](mailto:jkp135@att.net).
2. If you receive a message from the postman, reply to confirm that you wish to be added to the list, otherwise it will not take effect.
3. You will receive reminders approx. 5-7 days prior to upcoming events and messages of general interest to members.
4. To post topics for discussion, or informational items to the listserver members, send the message to [sandiego-chemist-l@ucsd.edu](mailto:sandiego-chemist-l@ucsd.edu).
5. If the moderator approves the post, it will be sent to the members.

**NOTE:** That is the letter "l", not the number "one" following the word "chemist".

### Executive Committee Meeting Dates 2015

6:00 – 8:00 pm

<b>Thursday</b>	<b>February</b>	<b>5</b>
<b>Thursday</b>	<b>March</b>	<b>5</b>
<b>Thursday</b>	<b>April</b>	<b>2</b>
<b>Thursday</b>	<b>May</b>	<b>7</b>
<b>Thursday</b>	<b>June</b>	<b>4</b>
<b>Tuesday</b>	<b>July</b>	<b>7</b>
<b>Thursday</b>	<b>August</b>	<b>6</b>
<b>Thursday</b>	<b>September</b>	<b>3</b>
<b>Thursday</b>	<b>October</b>	<b>1</b>
<b>Thursday</b>	<b>November</b>	<b>5</b>

**Meetings will be held at:**  
9381 Judicial Drive, Suite 160  
San Diego, CA 92121



**SheppardMullin**



Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

The San Diego Section of the American Chemical Society would like to thank our Corporate Sponsors. Here are a few examples of our annual outreach programs that are made possible by their generous donations:

**Mad Science** - Stage demonstrations for 4<sup>th</sup> and 5<sup>th</sup> graders which make science fun for kids! Last year the program was viewed by over 8000 students in low-income areas and from military families.

**ChemExpo** - A science event for middle and high school students held in Balboa Park annually for the past 27 years. It features live stage demonstrations and interactive booths that teach kids about applied science. Last year over 1000 local students participated!

**Monarch Elementary School Program** - This unique school accommodates children who are impacted by homelessness, and who would otherwise have little or no exposure to hands-on science.

**EarthFair** - We participate in the world's largest free annual environmental fair, held in Balboa Park.

#### **CONSIDER SPONSORSHIP OF THE ACS SAN DIEGO SECTION**

The San Diego Section of the ACS is looking for organizations that are committed to advancing science and education in the greater San Diego area by providing financial support. There are several ways to get involved and each one comes with its own benefits and privileges.

For further information please contact: Guln Erdogan, Chair, Fundraising Committee, [gerdogan@sandiegoacs.org](mailto:gerdogan@sandiegoacs.org)

#### **ACS Short Courses in La Jolla, CA**

The ACS will be holding 6 Short Courses in La Jolla, CA, **February 2 - 5, 2015**, to help you gain invaluable training in just a few days. Short Courses from the ACS give you the tools to stay on top of new technology, growing trends in the science industry, and basic skills you need to advance in your career all while interacting in a face-to-face environment with other professionals.

##### **Courses to be held include:**

##### **February 2 – 3, 2015**

Dispersions in Liquids: Suspensions, Emulsions, and Foams

Drug-like Properties: Optimizing Pharmacokinetics and Safety in Drug Discovery, Laboratory Safety

##### **February 4 – 5, 2015**

Pharmacokinetics and Safety Pharmacology for Chemists in Drug Development, Statistical Analysis of Laboratory Data, Structure Based Drug Design

Location: Sheraton La Jolla Hotel, 3299 Holiday Court, La Jolla, CA 92037

[See our 2015 locations and register today!](#)

#### **ACS-Hach Scholarships**

##### **ACS-Hach Second Career Teacher Scholarship**

Provides financial support for chemistry professionals to obtain a masters degree in education or teacher certification in chemistry. Award Amount: Up to \$6,000 for full-time study and up to \$3,000 for part-time study

**Application Period: February 1st – April 16th**

#### **CHEMISTRY JUDGES NEEDED**

Judging by professional societies at the 60<sup>th</sup> Annual Greater San Diego Science & Engineering Fair will take place on **Wednesday, March 25<sup>th</sup>, at 12:15 pm** in Balboa Park. If anyone is able to help choose exhibits for our Section's chemistry awards or wants more information, please contact Jim Shih at [jimshih@earthlink.net](mailto:jimshih@earthlink.net)

#### **ABSTRACT SUBMISSION NOW OPEN FOR PACIFICHEM 2015 IN HONOLULU**

Mark your calendars for the seventh [International Chemical Congress of Pacific Basin Societies \(Pacifichem 2015\)](#), **December 15-20, 2015**, in Honolulu, HI. [Abstract submission is now open](#) for the conference, which is hosted by ACS and sponsored jointly with the chemical societies of Australia, Canada, China, Japan, New Zealand, and South Korea. The theme for Pacifichem 2015 is "Chemical Networking: Building Bridges Across the Pacific," emphasizing the collaborative nature of chemistry as a multidisciplinary science, and the opportunities to network with Pan-Pacific research groups at the Pacifichem meetings.

[Submit your abstract today](#) for Pacifichem 2015; **the abstract deadline is April 3**. Housing opens February 2<sup>nd</sup>, and registration opens June 25<sup>th</sup>. [Visit the Pacifichem 2015 website](#) for other key dates, abstract submission links and parameters, housing and program updates, and all the latest meeting details.

**CHEMIST TO CONSULTANT:  
A PANEL DISCUSSION AROUND THE VARIOUS PATHS TO CONSULTING**

On November 6<sup>th</sup> the ACS monthly meeting was held at Janssen Research & Development, LLC. The panel discussion "Chemist to Consultant" featured **Dr. Ruo Steensma, Dr. Thomas R. Beattie, Dr. Dave Matthews, Dr. Ryan C. Smith, and Mr. Dinu Sen**. Short introductions by the panelists were followed by an engaging discussion with the audience, that continued past the end of the event. Thank you to **Ed Castellana** for planning the meeting and selecting the panelists. Additionally, thank you to American Laboratory Trading, DiscoverRx, and Duane Morris for sponsoring the event.



Mark Tichenor

**NATIONAL CHEMISTRY OLYMPIAD**

The Education Committee of the San Diego Section of the American Chemical Society (ACS) is pleased to announce that we will be participating in the 2015 U. S. National Chemistry Olympiad (USNCO). Students competing in the USNCO are eligible to be selected as members of the United States team for the International Chemistry Olympiad (IChO). Each year, the US sends a team of four students to compete with teams from approximately thirty countries at the IChO. The students participate in both theoretical and laboratory examinations over several days. Gold, silver, and bronze medals are awarded to the best performers and the IChO provides students the opportunity to interact with their peers from other countries. The 47<sup>th</sup> International Chemistry Olympiad will be held in Baku, Azerbaijan; July 20-28, 2015.

A preliminary screening of students through the administration of a standardized ACS examination will be held on **Saturday, March 21, 2015 at 9 am** and repeated on **Sunday, March 22, 2015 at 9 am** at the University of San Diego.

**We need volunteers to proctor these ACS examinations. Please contact Debbie Tahmassebi at [debbiet@sandiego.edu](mailto:debbiet@sandiego.edu) if you are interested.**

Mailings have gone out to chemistry teachers in all San Diego County high schools. If your child is interested in participating, please have them contact their chemistry teacher to express their interest in registering for the Olympiad.

**CONVENIENT, AFFORDABLE, PORTABLE INSURANCE COVERAGE FOR ACS MEMBERS**

There's a tremendous amount of value that comes along with your ACS membership — ACS Members have access to a suite of valuable professional and personal benefits, developed by colleagues in the chemical sciences and designed to meet their specialized needs.

Convenient — affordable — and you can take them with you, wherever your career takes you. The ACS Member Insurance Program provides a wide range of plans and coverage options, designed to help you build an insurance portfolio that's right for you.

As a benefit of your ACS membership, you and your family members are eligible for plans such as life, health, and property insurance. Additionally, we are always on the lookout for new products to help members with their ever-expanding insurance needs. Coming soon, ACS members will be able to take advantage of the Pearl Health Care Exchange — a private exchange marketplace where members can shop for competitively priced insurance coverage for themselves as well as their families.

Only you know what matters most, and ACS Member Insurance products were created with the unique needs of ACS members in mind. Visit our website, [www.acs.org/insurance](http://www.acs.org/insurance), to learn more about the various insurance plans available to you.

*Sponsored by the Board of Trustees, Group Insurance Plans for ACS Members — Your Colleagues Working For You.*

*ACS Members, get the most out of your membership by taking advantage of all the resources available through your Society. You can find complete details about member benefits from the ACS Member Insurance Program, as well as other resources, at [www.acs.org/memberhandbook](http://www.acs.org/memberhandbook). Not an ACS Member? Join today at [www.acs.org/joinacstoday](http://www.acs.org/joinacstoday) and start enjoying everything that comes along with being an ACS Member!*



## **DEVELOPMENT OF AN INTEIN-BASED CONJUGATION PLATFORM FOR THE SYNTHESIS OF FC-FUSION PROTEINS**

On January 13<sup>th</sup>, **Dr. Matthew Bio** from Amgen Small Molecule Process and Product Development spoke on the development of an intein-based conjugation platform for the synthesis of Fc-fusion proteins. Exogenous peptides typically have short half-lives *in vivo*. The ability to fuse exogenous peptides to the Fc-portion of an antibody has been shown to stabilize the peptide and allow for better drug pharmacokinetics. The lecture outlined Amgen's approach to this challenging endeavor and highlighted some of the ways in which approaching a biochemical problem with a strong synthetic background can lead to clean, efficient and scalable chemistry. The talk was very well attended and was followed by a question and answer session that covered topics from biology to synthetic chemistry. As more biologics join the numerous small molecules available for pharmaceutical use, having biology and chemistry groups collaborating toward a common goal will aid in the success of bringing new drug therapies to market. Chemists must be flexible in their approach and open to working with new ideas and constructs. It was a successful kickoff to the New Year.



**SUMMARY OF SAN DIEGO SECTION  
EXECUTIVE COMMITTEE MEETING MINUTES JANUARY 8, 2015**

Treasurer's Report - Highlights since last meeting:

2014 spent \$84K; revenues \$78K; total financial assets up \$25K over 1 year ago. The 2014 Annual Financial Report will be submitted to ACS National in January. Called for suggestions for investing \$58K from CD which matures in March.

2014 Annual Administrative Report - Mark Tichenor is ready to submit report, thanks to all committee chairs for filing the reports for the section report to Mark.

December Annual Meeting and Holiday Party - 62 attendees, good attendance compared to past years. Compliments to Mark Tichenor and Ben Pratt's talks, personal experience was appreciated. The venue received good reviews, will continue to plan the same location for 2015.

## **2015 PLANS**

January Meeting - We have the venue and speaker planned, attendance is 60, will promote again by email to give members a meeting reminder.

February Meeting - We have the venue and speaker planned. Will publish to members in upcoming newsletter.

March Meeting - Speaker request in process, will plan date and venue when details are ready.

YCC is presenting A2I at UCLA, Jan 20 and 22, 2015.

Project SEED - \$5000 funding secured. Dawn Eastman contacted by Guln Erdogan. Application deadline is January 31, 2015.

Innovative Projects Grant (IPG) proposal - Proposed Analytical Chemistry Symposium meeting will be planned for San Diego analytical chemists to present talks and posters. An application for IPG will be submitted by Julann Miller, letter from chair Ben Pratt, for the funding.

2014 IPG final report pending. Will request submission for January funding to be possible.

Greater SD Science and Engineering Fair - Judging for the 2015 event will be March 18<sup>th</sup>. We wish to have 10 volunteers for judging and selecting 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place winners in both Senior and Junior Divisions. Jim Shih and Ken Ajayi volunteered for 2015. We will publish in newsletter to recruit more judges.

SD Science and Engineering Festival - We will participate with a table for the Expo Day at Petco Park on 3/21; the YCC committee, led by Jean-François Brazeau, will plan activities.

2015 Chemistry Olympiad - March 21 and 22, 2015. Debbie Tahmassebi is requesting volunteers for exam proctors.

Picnic - Confirmed date: June 29, 2015.

MedChem Symposium - Confirmed date July 17, 2015.

ChemExpo - San Diego Miramar College Campus will host our National Chemistry Week event in October of 2015. Linda Woods will explore facilities services from the college. Chem Expo committee will meet to confirm plans and contract with Linda Woods.

2015 Budget - Submitted draft 2015 budget: projected revenues \$87K; projected expenses also \$87K. Motion to approve: unanimous.

Next meeting: Thursday, February 5th.



If you are interested in...

**Expanding** your analytical abilities

**Learning** about new applications

**Hearing** leading Industry and Academic experts discuss cutting edge research

**Networking** with experienced professionals across diverse disciplines

**Experiencing** scientific discussions as a **Participant** rather than a **Spectator**

**Then ... CoSMoS is for YOU!**

CoSMoS will be held at the Sheraton San Diego Hotel & Marina from **August 17-19, 2015**. Full conference details will be available soon on: [cosmoscience.org](http://cosmoscience.org)

The **Conference on Small Molecule Science** (CoSMoS) organized under the auspices of the Society for Small Molecule Science [a 501(c)(3) non-profit organization] creates a continuing discussion forum for research practices and instrumentation relevant to small molecule analysis and characterization and related practices.

## ACADEMICS TO INDUSTRY

The San Diego Section of the ACS held its sixth Academics to Industry event at the University of California at Los Angeles in two sessions on January 20<sup>th</sup> and 22<sup>nd</sup>. The Academics to Industry seminar series is designed to provide an introduction to medicinal chemistry for students with no industry experience. The event, hosted by **Professor Neil Garg**, was aimed at graduate and undergraduate students who are considering a career in the pharmaceutical industry.

Five short seminars were presented by medicinal chemistry professionals from the San Diego biopharmaceutical industry. The presenters were **Ben Pratt** from Akarna Therapeutics, **Graeme Freestone** from Dart NeuroScience, L.L.C., **Mark Tichenor** from Janssen Research and Development, L.L.C., **Ryan Clark** from Inception Sciences, and **Chris Smith** from Takeda San Diego. The speakers shared their experiences in transitioning from academic to private sector research, and discussed the skills needed to learn in this transition. Five seminars covered the following topics: 1) *In vitro* Biology, 2) Barriers to Drug Exposure 3) Drug Metabolism, 4) *In vivo* Biology, and 5) Fragment-Based Drug Discovery. The students were highly engaged and challenged the speakers with thoughtful questions about the material in the seminars. After the seminars, the speakers joined the students for lunch and shared their industry perspective on career choices, and their excitement for working in drug discovery.

Over the past four years, this event has also been presented at The Scripps Research Institute, University of California at San Diego, and University of California at Santa Barbara. The organizers of "Academics to Industry" plan to continue this event twice each year at Southern California universities.

For details on upcoming events, speaker bios, and an overview of content, visit our new website at <http://www.academicstoindustry.com/>



## [Act Soon to Save on Registration for the ACS National Meeting in Denver!](#)

Time is running out on early bird registration discounts for the upcoming [249<sup>th</sup> ACS National Meeting & Exposition in Denver, CO, March 22-26, 2015](#). Thousands of chemical professionals will come together to explore the overarching multidisciplinary theme of the meeting, "Chemistry of Natural Resources."

Join us for this five-day meeting packed with learning opportunities that will enrich your experience and cultivate new ideas and new contacts. Program highlights will include [Presidential symposia](#) on nanotechnology and the transnational nature of science, the [Kavli Foundation Lecture Series](#) on advances in fighting microbial infections and the frontiers of catalysis, and a [Plenary Session](#) exploring topics in energy transportation, water conservation, and biofuels development. Plus, the [ACS Career Fair](#) will put job seekers together with employers, [ACS Short Courses](#) will offer on-site training and professional education, and the [ACS Exposition](#) will showcase the latest publications, equipment, and professional services for every aspect of the chemical sciences.

Don't miss the Denver National Meeting! [Register today](#) for the best discounts, and visit the [Denver meeting website](#) for the latest details on housing, technical programming, social events, and more!







**Breakthrough Technologies Accelerating Diagnosis and Filling the Therapeutic Gap  
for Rare and Genetic Diseases**

According to a 2013 Rare Disease Impact Report conducted by Shire, the economic impact of diagnosing and management of rare disease is substantial. One of the key findings the report revealed is that it takes, on average, more than seven years for a rare disease patient in the US to receive an accurate diagnosis. There are 6,000 rare disease recognized by NIH and yet only approximately 200 of these illnesses have effective pharmacologic treatment coverage. There is a gap of medicines and therapies that can address certain unmet medical needs of rare disease patients that has major growth potential for pharma and device companies in the market for orphan disease.

Sino-American Biotechnology and Pharmaceutical Professional Association (SABPA) Medical Device and Diagnostic (MDD) Forum will bring together stakeholders of in research, academia, regulatory and investment to foster partnerships that will boost the development of medical device, drug, and biological products for rare disease patients; and ultimately improving the diagnosis, treatment and care of patients and their families.

**Agenda**

- 8:00 am **Breakfast and Registration**
- 8:45 am **Welcome and Opening Remarks**
- 9:00 am ***Solving the Unsolvable: the Genomics Revolution at Our Fingertips***  
Ryan Taft, Ph.D., Director Scientific Research, Illumina, Inc.
- 9:30 am ***Key FDA Challenges in Bringing Orphan Drugs to the Market in the United States***  
Michael Swit, J.D., Senior Director, Compliance & Regulatory, Legal, Illumina, Inc.
- 10:00 am ***Home-based Non-invasive Brain Monitoring for Individuals with Rare Neurological Conditions***  
Philip Low, Ph.D., Founder, Chairman & CEO, Neurovigil Inc.
- 10:30 am **Coffee Break**
- 11:00 am ***Venture Philanthropy: A Novel Approach for Funding Rare Disease Research***  
John Wetherell, Ph.D., Partner, Pillsbury Winthrop Shaw Pittman
- 11:30 am ***Panel Discussion: New approaches to overcome obstacles and drive discovery and innovation for faster patient impact***  
**Moderator:** Christina Waters, Ph.D., CEO & Founder, Rare Science  
**Panelists:** Christian Braemer, CEO & CO-Founder, Benefunder  
Hudson Freeze, Ph.D., Director, Human Genetics Program, Sanford Children's Health Research Center  
John Walmsley, Vice President of Product Development, Starfish Medical  
Kim Goodsell, Patient Advocate
- 12:30 pm **Closing Remarks**
- 12:45 pm **Lunch**

**2015 MDD Forum**

**Chair:** Caroline Cheung

**Co-Chairs:** Hua Gong, Ph.D. and Lei Zhang, Ph.D.

**When** 8:00 am - 2:00 pm, Saturday, February 7, 2015

**Where** Knobbe Martens (12790 El Camino Real, San Diego, CA 92130)

**Registration**

<https://s01.123signup.com/servlet/SignUp?P=15200891911428764000&PG=1520089182300&Info=>

**For event sponsorship, please contact** [sponsorship@sabpa.org](mailto:sponsorship@sabpa.org)



**CHEMISTRY FOR YOU AND YOUR KIDS**  
**IF CLEANING IS URGENT USE SOAP OR DETERGENT**

***You will need***

Eye protection Sheet of white unlined paper Lipstick Pencil Masking tape Blunt-end scissors Ruler	Food grater Cotton swabs Soap Dish detergent Laundry detergent Shampoo	Measuring cups Measuring spoons Water Plastic or paper cups White cloth rag Wax paper
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What do soap, dish detergent, shampoo, and laundry detergent, all have in common? Everyone knows they are all used for cleaning! In the following activity, you can test these grime busters on different surfaces to see which ones clean best!

*Soap and detergent can sting your eyes. Be careful doing these experiments!*

**CAUTION:** Graters have sharp edges. Be careful.

1. Cut your piece of paper in half lengthwise and use your ruler to divide it into 5 spaces. Label the spaces "water," "soap," "dish detergent," "shampoo," and "laundry detergent". Lay a piece of wax paper over the chart, fold the wax paper around the chart, and tape it on the back.
2. Use your masking tape and pencil to label your cups "water", "soap," "dish detergent," "shampoo," and "laundry detergent". Place 1/2 cup of water into each cup. Ask your adult partner to help you use a grater to grate two tablespoons of soap into a dish. Place all of your grated soap into the "soap" cup and stir with a cotton swab until the soap flakes dissolve.
3. Add 2 tablespoons each of dish detergent, shampoo, and laundry detergent to their labeled cups and stir with separate cotton swabs until they are well mixed. Place each cup in front of its space on the chart.
4. Use a lipstick to make a streak on the wax paper across your chart. Use your fingers to smooth out the lipstick so that it looks like the same thickness across all 5 spaces.
5. Use a separate cotton swab to put one drop of each liquid on the lipstick in each space. Do not touch the lipstick with your swab. Wait 3-5 minutes and rinse off the drops in a thin stream of water from the faucet. Which liquid cleaned the lipstick best? Which cleaned it the worst?
6. On your other half piece of paper, make the same chart you made before, but this time, don't cover it with wax paper. Make another streak of lipstick and smooth it out. Does the lipstick go on differently than before?
7. Add one drop of each liquid to the lipstick, wait 3-5 minutes, and rinse. Did the liquids clean the paper differently than the wax paper? Hold your chart up to the light to see your results better.
8. Pat a streak of lipstick on a piece of white rag. Smooth it out, add the drops of liquid, wait, and rinse. Did the liquids clean the lipstick from the cloth as well as from the paper or wax?
9. Put a little lipstick on each of the five fingertips of one hand. Rub your thumb and fingertips together to even out the lipstick. Dip one finger at a time into each liquid.
10. Ask you adult partner to rub each of your fingertips with a separate cotton swab for 3 seconds and rinse. Which liquid cleaned the lipstick off your finger the best? Was this the same as for the cloth, paper, and wax paper?

Excerpt: "The Best of WonderScience," pp. 74-75, Delmar Publishers, 1997

**SUBMIT ABSTRACTS FOR 2015 GREEN CHEMISTRY & ENGINEERING CONFERENCE**

Abstract submission is now open for the [19<sup>th</sup> Annual Green Chemistry & Engineering Conference \(GC&E\)](#), to be **held July 14-16, 2015**, in the Washington DC metro area, by the ACS Green Chemistry Institute®. With the conference theme "Catalyzing Innovation: Smarter Research, Greener Design, Better World," GC&E is the premier conference on Green Chemistry and Engineering. Hundreds of participants come together every year to share research as well as education and business strategies to ensure a green and sustainable future.

If you are interested in contributing your part to GC&E by presenting a paper, or would like to see a listing of topics to be covered, visit the [program page](#) at this year's conference website.

## ACS Webinars™

### **Featured Events**

ACS Webinars® is a free, weekly online event serving to connect ACS members and scientific professionals with subject matter experts and global thought leaders in the chemical sciences. Each session is about 60 minutes, comprised of a short presentation followed by Q&A with the speaker. Live presentations are held on **Thursdays from 2-3pm ET**. Recordings of the webinars are available online to ACS members at <http://acswebinars.org/>.

#### **Valentine's Day Chocolate**

**Thursday, February 12, 2015**

Discover the chemistry that separates the good chocolate from the bad.

#### **Chemistry in the Courtroom: Demystifying Science for Judge and Jury**

**Thursday, February 19, 2015**

The decision in many trials turns on which expert prevails. Join Dr. James Carver to learn how a chemist should behave in a courtroom.

#### **2015 Drug Design and Delivery Symposium Symposium Schedule**

##### **Module 1: Improving Drug Design Efficiency and Efficacy**

2/26/2015 Strategies to Improve Solubility of Drug Candidates

##### **Module 2: Activity/Potency Screening for Drug Lead and Candidate Optimization**

3/19/2015 Fragment-Based Drug Design Strategies

4/30/2015 Screening Strategies

5/28/2015 PAINS (pan-assay interference compounds)

6/25/2015 Positron Emission Tomography (PET) Labeling in Drug

Discovery & Development

7/30/2015 X-ray Crystallography in Drug Discovery

##### **Module 3: Enabling Drug Delivery**

8/27/2015 Choices and Trends in Solid Dosage Form Section (Salt, Cocrystal, Prodrug or Amorphous?)

9/24/2015 Delivery Options to Support Dose Escalation in Preclinical Toxicology and Pharmacodynamic ActivityStudies

##### **Module 4: Pharmacokinetics**

10/29/2015 Pharmacokinetic Considerations in Drug Design and Development

11/19/2015 Prodrugs in Drug Discovery

Visit the site to register for the monthly series:

<http://www.acs.org/content/acs/en/events/upcoming-acs-webinars/drug-design-2015.html>

### **2015 ACS REGIONAL MEETINGS**

[Central \(CERM\)/GLRM](#) May 27-30 Grand Rapids, MI

[Northeast \(NERM\)](#) June 10-13 Ithaca, NY

[Northwest \(NORM\)](#) June 21-25 Pocatello, ID

[Midwest \(MWRM\)](#) October 21-24 St. Joseph, MO

[Southeast \(SERMACS\)](#) November 4-7 Memphis, TN

[Western \(WRM\)](#) November 6-8 San Marcos, CA

#### **Hot Off the Press - First FREE Articles Online Now!**

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[renate@sandiegoacs.org](mailto:renate@sandiegoacs.org)

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### Attention Companies! Do you hire student workers?

If you have open positions in chemistry and biochemistry that would be of interest to college students, such as summer internship opportunities, here is a list of contacts you'll want to keep handy. The people listed below are the faculty advisors of the ACS Student Affiliate groups for all chemistry programs in San Diego County. These professors can get the word out to all chemistry and biochemistry majors at their schools about jobs, career fairs, open houses, etc.

#### California State University, San Marcos

Jacqueline Trischman [trischma@csusm.edu](mailto:trischma@csusm.edu)  
760-750-4206

#### Palomar College

Greg Elliot [gelliott@palomar.edu](mailto:gelliott@palomar.edu)  
658-531-1149

#### Point Loma Nazarene University

Sara Choung [SaraChoung@PointLoma.edu](mailto:SaraChoung@PointLoma.edu)  
619-849-2627

#### San Diego Mesa College

Dwayne Gergens [dgergens@sdccd.edu](mailto:dgergens@sdccd.edu)  
619-388-2609

#### San Diego Miramar College

Linda Woods [lwoods@sdccd.edu](mailto:lwoods@sdccd.edu)  
619-388-7434

#### San Diego State University (SDSU)

Mikael Bergdahl [bergdahl@sciences.sdsu.edu](mailto:bergdahl@sciences.sdsu.edu)  
619-594-5865

#### Southwestern College, Chula Vista

David Hecht [dhecht@swccd.edu](mailto:dhecht@swccd.edu)  
619-421-6700x5461

#### University of California, San Diego

Judy Kim [judyk@ucsd.edu](mailto:judyk@ucsd.edu)  
858-534-8080  
Gourisankar Ghosh [gghosh@ucsd.edu](mailto:gghosh@ucsd.edu)  
858-822-0469

#### University of San Diego

Tammy Dwyer [tdwyer@sandiego.edu](mailto:tdwyer@sandiego.edu)  
619-260-4030



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*The San Diego Chemist.*

Please contact Renate Valois at  
[renate@sandiegoacs.org](mailto:renate@sandiegoacs.org)



**UPCOMING EVENTS**

**DR. MICHAEL BURKART**

*Professor of Chemistry and Biochemistry  
Associate Director, California Center for Algae Biotechnology  
University of California at San Diego, La Jolla, CA  
Tuesday, February 10, 2015*

\*\*\*\*\*

**2015 SAN DIEGO FESTIVAL OF SCIENCE AND ENGINEERING**

**FESTIVAL WEEK: March 14-21, 2015**

**EXPO DAY at PETCO Park: Saturday, March 21, 2015**

<https://www.lovestemsd.org/>

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**249TH ACS SPRING NATIONAL MEETING & EXPOSITION**

*Denver, Colorado*

*March 22-26, 2015*

\*\*\*\*\*

**THE 60<sup>th</sup> ANNUAL GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR**

*Balboa Park Activity Center (2145 Park Blvd.)*

*For information please see <http://www.gsdsef.org/>*

*March 24 - 29, 2015*

\*\*\*\*\*

**SENIORS/RETIRES/CONSULTANTS/ETC. BREAKFAST**

*Coco's Bakery Restaurant*

*4280 Nobel Drive, San Diego, CA 92122*

*Tuesday, April 7, 2015*

*9:30 AM*

\*\*\*\*\*

**EARTH DAY - EARTHFAIR 2015**

*Balboa Park, San Diego, CA*

<http://www.earthdayweb.org/>

*Sunday, April 19, 2015*

\*\*\*\*\*

**SUMMER PICNIC**

*San Dieguito County Park, Solana Beach*

*Sunday, June 28, 2015*

\*\*\*\*\*

**FIFTY-/SIXTY-YEAR MEMBER LUNCHEON**

*Saturday, July 11, 2015*

*Vi at La Jolla Village*

*8515 Costa Verde Blvd., San Diego, CA 92122*

\*\*\*\*\*

**18<sup>TH</sup> ANNUAL SAN DIEGO MEDCHEM SYMPOSIUM**

*Price Center Theater at UCSD*

*Friday, July 17, 2015*

**250<sup>TH</sup> ACS FALL NATIONAL MEETING & EXPOSITION**

*Boston, Massachusetts*

*August 16-20, 2015*

\*\*\*\*\*

**CHEMEXPO**

**THEME: Exploring The Chemistry Of Dyes, Pigments, And Light**

*San Diego Miramar College, 10440 Black Mountain Road, San Diego*

*Saturday, October 24, 2015*

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**HOLIDAY PARTY**

*The Butcher Shop*

*5255 Kearny Villa Road, San Diego, CA 92123*

*Thursday, December 3, 2015*

**THE SAN DIEGO SECTION OF THE AMERICAN CHEMICAL SOCIETY  
WELCOMES ITS NEW MEMBERS**

Samantha Barrera  
Cynthia Berry  
Jason Bingaman  
Gang Chen  
Naneki Collins  
Connor Copeland  
Matthew Dixon  
Anton Gulevich

Lewis Hsu  
Joseph Jarrett  
William Kenealy  
Douglas Laine  
Yuanli Liu  
Melissa Marquez  
Connor Martin  
Sheridan Martini

John McGarry  
Markus Pompejus  
Trevor Purdy  
Md Golam Sarwar  
Brandon Selfridge  
Melinda Serrato  
Harmony Tipping  
Yulin Wang

**2015 EXECUTIVE COMMITTEE & COMMITTEE MEMBERS  
SAN DIEGO SECTION OF THE AMERICAN CHEMICAL SOCIETY**

**EXECUTIVE COMMITTEE**

<i>Chair</i>	Ben Pratt, Akarna Therapeutics, <a href="mailto:bpratt@sandiegoacs.org">bpratt@sandiegoacs.org</a>	(2015)	858-945-7893
<i>Chair-Elect</i>	Graeme Freestone, Dart NeuroScience LLC, <a href="mailto:gfreestone@sandiegoacs.org">gfreestone@sandiegoacs.org</a>	(2015)	858-246-8137
<i>Past-Chair</i>	Mark Tichenor, Janssen Pharmaceuticals, Inc., <a href="mailto:mtichenor@sandiegoacs.org">mtichenor@sandiegoacs.org</a>	(2015)	858-334-8914
<i>Secretary</i>	William Tolley, Seacoast Science, Inc., <a href="mailto:b_tolley@juno.com">b_tolley@juno.com</a>	(2015)	858-780-0978
<i>Treasurer</i>	Bill Szabo, <a href="mailto:bszabo1@san.rr.com">bszabo1@san.rr.com</a>	(2015)	858-550-0306

*Councilors*

Thomas R. Beattie	(2015)	858-587-1210
Hui Cai, WuXi AppTec	(2016)	858-361-8838
Desiree Grubisha, CSUSM	(2015)	858-254-5497
John Palmer, UCSD	(2017)	858-534-5906
Ken Poggenburg	(2016)	760-635-2573
David Wallace, Wallace Scientific Consulting	(2015)	858-638-1866

*Alternate Councilors*

Paul Bruinsma, Hewlett-Packard Company	(2017)	858-655-8322
Surya K. De, Sanford-Burnham Medical Research Institute	(2016)	858-337-4961
Julann Miller, Waters Corporation	(2017)	800-252-4752 x6802
John Schindler	(2016)	858-353-3943
Jim Shih, Eli Lilly & Co	(2017)	619-269-0117
Ruo Steensma, Steensma Consulting, Inc.	(2016)	858-205-9371

*Members-at-Large*

Ryan Clark, Inception Sciences, Inc.	(2017)	858-774-2095
Gulin Erdogan, Vertex Pharmaceuticals	(2015)	619-540-8321
Mark Rosen, Aetheria Therapeutics	(2017)	858-692-0639
Patrick Andrew Staley	(2015)	858-483-4297
Jean Wang, IriSys Inc.	(2015)	858-623-1520

**STANDING & SPECIAL COMMITTEES**

*Awards Nomination Committee*

Thomas R. Beattie (Chair)	858-587-1210
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*ChemExpo*

Paul Bruinsma (Chair), Hewlett-Packard Company	858-655-8322
Julann Miller, Waters Corporation	800-252-4752 x6802

*Communications Committee*

Paul Bruinsma, (Chair), Hewlett-Packard Company	858-655-8322
Surya K. De, Sanford-Burnham Medical Research Institute	858-337-4961
Desiree Grubisha, CSUSM	858-254-5497
Ken Poggenburg	760-635-2573
David Wallace, Wallace Scientific Consulting	858-638-1866
Renate Valois (Newsletter Editor)	619-692-0638

*Education Committee*

Haim Weizman (Chair), UCSD	858-534-2963
Joann Um (Co-Chair), Southwestern College	510-823-8637

*EarthFair*

Julann Miller, Waters Corporation	800-252-4752 x6802
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*Finance Committee*

Bill Szabo (Chair)	858-550-0306
Tom Beattie	858-587-1210
Graeme Freestone, Dart NeuroScience LLC	858-246-8137

*Fundraising Committee*

Gulin Erdogan (Chair), Vertex Pharmaceuticals	619-540-8321
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*Government Affairs Committee*

Hui Cai, WuXi AppTec (Chair)	858-361-8838
Ken Poggenburg	760-635-2573

*Law Committee*

**OPEN**

*Mad Science Program*

Thomas R. Beattie	858-587-1210
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*MedChem Symposium*

Mark Tichenor (Co-Chair), Janssen Pharmaceuticals, Inc.	858-334-8914
David Wallace (Co-Chair), Wallace Scientific Consulting	858-638-1866

*Membership Committee*

Mark Rosen, Aetheria Therapeutics	858-692-0639
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*Nominations Committee*

Jim Shih, Eli Lilly & Co.	619-269-0117
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*Picnic Committee*

Jim Shih, Eli Lilly & Co.	619-269-0117
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*Professional Development Committee*

Ruo Steensma, Steensma Consulting, Inc.	858-205-9371
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*Public Relations Committee*

John Schindler	858-353-3943
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*Retired Chemists Committee*

Ken Poggenburg (Chair)	760-635-2573
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*Seniors Breakfasts*

Thomas R. Beattie	858-587-1210
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*Women Chemists Committee*

Gulin Erdogan (Chair), Vertex Pharmaceuticals	619-540-8321
Abhi Sharma, Drug Delivery Experts	619-807-9044
Jayashree Srinivasan, Accelerate-Research	619-826-8004

*Younger Chemists Committee*

Jean-François Brazeau (Co-Chair), Celgene	858-882-5263
Corey Anderson, (Co-Chair), Vertex Pharmaceuticals	858-405-4734

*Voice Mail – San Diego Section*

619-687-5570