MAKING SCIENCE VISIBLE AND ACCESSIBLE: USING EXTERNAL REPRESENTATIONS TO LEVERAGE THE THREE DIMENSIONS OF THE NEXT GENERATION SCIENCE STANDARDS

Dr. Stacey Brydges
Associate Teaching Professor, Department of Chemistry and Biochemistry, UCSD

Dr. Thomas J. Bussey
Assistant Teaching Professor, Department of Chemistry and Biochemistry, UCSD

DATE: Saturday, May 14, 2016
TIME: 10:00 am – 12:00 pm
PLACE: Natural Sciences Building 2303, University of California, San Diego
DIRECTIONS: Please see: http://maps.ucsd.edu/mapping/viewer/default.htm; Building #128. There is free parking on weekends. Use Parking Lots P102, P103 or P104.
RSVP: Please register here: https://www.surveymonkey.com/r/ACS_K12_TeacherWorkshop

ABOUT THE PRESENTATION:
Science education often relies on external representations to provide tangible, working models from which students can construct, evaluate, and revise their internal representations (metal models) of abstract, non-experiential scientific phenomena. External representations range from static diagrams to dynamic animations, from simplistic, stylized illustrations to more complex, realistic presentations. However, prior research has shown that, while potentially beneficial, external representations can also lead to development or strengthening of alternative student conceptions. This interactive workshop will explore the educational literature on chemical representations and misconceptions, connections with NGSS, and implications for learning and teaching in K-12 classrooms. K-12 teacher participants will be encouraged to collaborate within working groups to construct and revise pedagogical materials and strategies.

ABOUT THE SPEAKERS:

Stacey Brydges is an Associate Teaching Professor of Chemistry and Biochemistry at the University of California, San Diego. An inorganic chemist by training, her scholarly interests have shifted to chemical education research and practices. This includes course and curriculum development, pedagogical reform, and K-12 programming that emphasizes science communication and literacy, and advances access to, and retention in, STEM education at the pre-college, undergraduate, and graduate levels.

Thomas Bussey is an Assistant Teaching Professor of Chemistry and Biochemistry at the University of California, San Diego. His research focuses on qualitative analysis of students’ perceptions of abstract or emergent science as mediated by external representations, students’ visual literacy skills, and research-based instructional strategies. He has also been involved in the planning, implementation, and evaluation of several professional development workshops including the Mathematics Integrated with Science through Technology (MIST) project and the Advancing Chemistry by Enhancing Learning in the Laboratory (ACELL) workshop.
Dear ACS San Diego Section Members,

At the beginning of April we marked the 75th birthday of the San Diego Local Section. The founding of the Section took place on April 7, 1941, at San Diego State College, and almost 75 years to the day at the same location, a birthday symposium was held in the Student Union at SDSU on Wednesday, April 6th. During the morning session, five notable local chemists (Marjorie Caserio, Julius Rebek, Jr., John Newsam, Jack Dixon and John Kozarich) gave amazing talks. After a break for lunch and posters, Nobel Laureate Richard Schrock took the stage and described the journey from his bedroom in Pacific Beach to collecting the most famous prize for chemistry from the King of Sweden.

The Academics-to-Industry seminar series had its 7th installment just a week or so ago at UC Santa Barbara. Six short seminars were presented by four medicinal chemistry professionals who are employed in the local San Diego biopharmaceutical industry. This originated in the Younger Chemists Committee from a 2011 ACS Innovative Projects Grant that was designed to provide an introduction to medicinal chemistry for students with no industry experience.

In the upcoming weeks we have a talk on Chemical Education aimed at local K-12 teachers, which is fully funded by an ACS “Bridging the Gap” Nano-Grant awarded to Joann Um of our Executive Committee.

And later in the month of May we have co-organized a one-day Supercritical Fluid Chromatography symposium with the Green Chemistry Group. This will take place on the campus of Dart NeuroScience on May 23rd.

Our next Executive Committee Meeting is Tuesday, May 3rd. All members are encouraged to attend if they have any ideas they would like to share or to become more involved in any way.

Cheers,

Graeme Freestone
2016 Chair
American Chemical Society – San Diego Section
E-mail: gfreestone@sandiegoacs.org
Web: 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 2016 Chair, Graeme Freestone, at gfreestone@sandiegoacs.org. Once approved, Graeme will see that your announcement is published on our website (www.sandiegoacs.org) and, if received by the 23rd 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 a separate notification is sent to the 2,500 members of the ACS-San Diego Section, each potential customers for your products and services! Quick turnaround: Ad copy submitted by the 23rd of each month will be published by the end of that month. For more information, please contact: Renate Valois, renette@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 23rd of the month for publication by the end of that month.

Advertisers: Ad prices as of January 1, 2015:

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Discounts will be available for issues not shown
Please send your jpg to:
Renate Valois at renette@sandiegoacs.org.
Make checks payable to:
American Chemical Society and mail to:
Bill Szabo, Treasurer
3950 Mahalia 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 kp135@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.
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 2016

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<tr>
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<td>Tuesday</td>
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Meetings will be held at:
9381 Judicial Drive, Suite 160
San Diego, CA 92121
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 4th and 5th 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 annually for the past 28 years. It features live stage demonstrations and interactive booths that teach kids about applied science. Last year over 1000 local students participated!

**EarthFair** – We participate in the world’s largest annual environmental fair, held in Balboa Park.

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**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 Jonathan Lockner, Interim Chair, Fundraising Committee, at jlockner@sandiegoacs.org

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**GET INVOLVED IN STEM EDUCATION – VOLUNTEER TUTOR OR PURSUE A PATH TO TEACHING WITH ENCORPS!**

The EnCorps STEM Teachers Program (www.encorps.org) provides STEM industry professionals with opportunities to tutor 1-2 hours a week in local middle and high schools. We also offer a program to explore a career in teaching, all free to our participants. Inspire the next generation of scientists and innovators! Find out more by joining one of our monthly free EnCorps 101 webinars, RSVP: http://encorps.org/webinar/

APPLY NOW for consideration into our 2016 cohort: www.encorps.org/apply

<table>
<thead>
<tr>
<th>Application Deadline</th>
<th>Interview Date</th>
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<td>May 9, 2016</td>
<td>May 16, 2016</td>
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**ORGANIZERS NEEDED!**

The San Diego Section of the American Chemical Society is looking for volunteers to organize an ACS Western Regional Meeting. Exact dates are flexible and yet to be determined, but it will be held between 2018 and 2020. We are currently looking to fill the positions of General Meeting Chair and Program Chair(s). If you are organized, work well with others, and want to expand your professional network to a national scale, you may be a great fit for either of these positions. The General Meeting Chair will be responsible for overseeing the planning of the meeting venue and logistics while the Program Chair(s) will fill events and speaker lists. Location, duration and desired attendance are based on the vision of the organizers. If you have an idea for a large meeting held here in San Diego, this is your way to make it happen.

For more information please contact:

Graeme Freestone, 2016 Chair
San Diego Section of the American Chemical Society
gfreestone@sandiegoacs.org

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**HELP INSPIRE LOCAL HIGH SCHOOL STUDENTS TO PURSUE A CAREER IN CHEMISTRY!**

Do you enjoy talking about how much you love chemistry? Would you like to help local high school students understand how they can have a successful career in science? High Tech High Chula Vista’s 10th grade chemistry teachers, Kaitlin Douglass and Dalya Almansour, are looking for professionals who utilize chemistry in their careers to speak to our students about possible career paths that they might take. HTHCV is a project-based learning school that is part of the large High Tech High charter school system in San Diego. Many of our students will be first generation college students and will be minorities within the science and engineering workplaces. We want to show them how exciting and rewarding careers in science can be, and engage them early on in discussions about their future career plans. We would only need a time commitment of approximately one hour. It would be great to hear about your education history, why you chose to pursue a career involving chemistry, the rewards and challenges of your career path, and why students should consider your career in the future. Please contact us at kdouglass@hightechhigh.org or damansour@hightechhigh.org if you are interested in helping us!

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You can help kids learn to understand and love science as a Chemistry Ambassador, and ACS is ready to help you do it. Volunteer with youth groups, summer camps, and scouts in your community. The Chemistry Ambassadors program has tips and resources to support your outreach to your neighbors or students in your area. The Chemistry Ambassadors program makes it easy to stay involved, whether you have a lot of time, or just a little. See www.acs.org/chemistryambassadors for more details.

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**LOOKING FOR VOLUNTEERS**

Laurie Simerson, an 8th grade Physical Science teacher at Lakeside Middle School in Lakeside, is requesting a Career Day speaker for May 22nd from approximately 8:30 am to 11:30 am. Speakers should have or have had a career in the physical sciences and be willing to speak to four separate classes of approximately 30 students.

Please contact Laurie Simerson at lsimerson@lssd.net or (619) 390-2636 if interested.

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**VOLUNTEER WITH KIDS & CHEMISTRY**

Kids & Chemistry is a community-based program that brings together scientists and children to do hands-on science activities. Volunteers include ACS members, ACS Student Chapters, and corporate groups. Volunteer efforts can be implemented as a full program administered by an ACS local section or by an individual as a one-time classroom visit. For more information please see: http://www.acs.org/content/acs/en/education/outreach/kidschemistry.html

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**CHEMISTRY CHAMPIONS CONTEST**

Chemistry Champions is back in 2016 – a contest to encourage and train younger chemists to explain their science to non-scientists. Semifinalists win a free trip to Washington, DC, in June 2016 for science communication training, and finalists get a trip to the National Meeting in Philadelphia. Any chemists 35 or under are eligible.

Check out the entries on YouTube and email questions to chemchamps@acs.org

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**APPLY NOW**

http://encorps.org/webinar/

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Check out the entries on YouTube and email questions to chemchamps@acs.org
Councilor Tom Beattie and William Tong, Chair of the Department of Chemistry and Biochemistry at SDSU, teamed up to organize a celebration of the 75th anniversary of the founding of the ACS - San Diego Section on April 7, 1941, at what was then San Diego State College.

The celebration, also labeled as the Inaugural Provost’s Distinguished Lecture and the 4th Annual San Diego ACS Section/SDSU Chemistry & Biochemistry Department joint meeting, featured in the morning session five prominent speakers from the San Diego science community: Marjorie Caserio (UCSD), Julius Rebek, Jr. (TSRI), John Newsam (Tioga Research), Jack Dixon (UCSD), and John Kozarich (ActivX).

At lunchtime, a poster session was held with 34 posters presented by undergraduate and graduate students from SDSU, SDSU/UCSD joint program, UCSD, USD and Cal State University, San Marcos. Timothy Montgomery (SDSU) and Effie Albitz (USD) were the graduate and undergraduate student poster winners. Each received a $150 award courtesy of Dr. Hui Cai and WuXi AppTec.

The afternoon session featured a talk by Richard R. Schrock. Nobel Laureate in Chemistry and a graduate of San Diego’s Mission Bay High School. Schrock, the Frederick G. Keyes Professor of Chemistry at M.I.T., gave a talk which combined a description of his award-winning chemistry research with recollections and photographs of growing up from his early years through the Nobel Prize Ceremony in Stockholm, Sweden. His talk attracted 500 attendees, including students from Mission Bay High, ACS members, and a large turnout from the SDSU community.
American Chemical Society
San Diego Section
75th Anniversary Celebration
Poster Competition

Awards sponsored by:

1st Place – Graduate Division

Timothy Montgomery
San Diego State University
"New Methods Towards the Total Synthesis of Azaspirene"
Dr. Bergdahl's Lab

1st Place – Undergraduate Division

Effie Albitz
University of San Diego
"Sterically-Controlled C-H Borylation of Phosphines"
Dr. Clark's Lab
Despite the picture-perfect weather, 40 students from the University of California at Santa Barbara spent part of Saturday, April 16, 2016, getting an introduction to medicinal chemistry from San Diego Section members Ryan Clark, Graeme Freestone, Ben Pratt and Mark Tichenor. Our host was Javier Read de Alaniz and the event was organized by his fifth-year graduate student Andrey Samoshin.

In this second trip to UCSB, we again found the students to be amongst the most enthusiastic and engaged of the seven groups we have presented to at four different universities. The questions asked during the seminar were thoughtful, and nearly half of the group joined us afterward to ask more questions about medicinal chemistry, get pointers for interviews, and advice for making the transition to careers in industry. Additionally, the follow-up contact we have received from several students makes it clear that the UCSB chemistry department is an excellent resource for San Diego companies, producing researchers that are not only talented, but have the drive necessary to be successful in the biopharma industry.

About Academics-to-Industry: Originating as an Innovative Project Grant (IPG) sponsored program in 2011, A2I is designed for chemists with no industry experience who are considering a career in the biopharmaceutical industry. We aim to provide an introduction to topics such as structure-activity relationships, structure-based drug design, barriers to exposure, metabolism, toxicity, pharmacokinetics, and in vitro and in vivo pharmacology that are often not adequately covered in chemistry graduate programs.
The Green Chemistry Group invites you to meet chromatography scientists representing pharmaceutical companies, research institutes and universities from around the world at the SFC Day San Diego.

When: Monday, May 23, 2016, from 8:00 a.m. – 5:00 p.m. Sign-in begins at 8:00 a.m.
Location: Dart NeuroScience, 12278 Scripps Summit Drive, San Diego, CA 92131
Cost: $25 Pre-registration is required. Attendance is limited – early registration is advised.
Registration: [http://www.greenchemistrygroup.org](http://www.greenchemistrygroup.org)

Keynote Talks:
David Pinkston, Kellogg Company - Chromatography with Supercritical Fluids: Promise, Progress, and Impact
Tim Tully, Dart Neuroscience LLC - DNS: A new model for drug discovery

Confirmed Speakers:
Bill Farrell, Pfizer
Kyung Gahm, Amgen
Mengling Wong, Genentech
Yun Huang, Pfizer
Lu Zeng, Takeda
John MacKay, Waters
Gerard Rosse, Dart Neuroscience LLC

Sponsors:

Hope to see you at this exciting event!
Symposium on Organic Synthesis and Catalysis at the University of San Diego  
May 6th, 1-5 PM

Keynote Speakers

Karen Goldberg, University of Washington
*Catalysis, Mechanistic Understanding and Collaboration as Tools to Sustainable Production of Chemicals and Fuels*

Phil Baran, The Scripps Research Institute
*Translational Chemistry*

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<tr>
<td>1:00-1:15</td>
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<td>1:15-1:45</td>
<td>Mitch Malachowski (USD)</td>
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<td>1:45-2:45</td>
<td>Phil Baran (Scripps)</td>
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<tr>
<td>2:45-3:30</td>
<td>Intermission with poster session</td>
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<tr>
<td>3:30-4:00</td>
<td>Timothy Clark (USD)</td>
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<tr>
<td>4:00-5:00</td>
<td>Karen Goldberg (Washington)</td>
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For a full schedule, [click here](#).

Free parking is available for the event. For directions and parking instructions, [click here](#). Limited reserved parking is available for faculty and distinguished guests. Please email Timothy Clark ([clarkt@sandiego.edu](mailto:clarkt@sandiego.edu)) to reserve a spot.

*Symposium Sponsored by:*
DATE: Sunday, June 26, 2016

WHERE: San Dieguito County Park, Solana Beach, at Lomas Santa Fe Drive and El Camino Real. Lomas Santa Fe exit off of I-5, one mile east to Highland Drive park entrance. Left onto Highland, immediate right into the park. Pay parking fee ($3.00/car, free for seniors). At booth, proceed to Area #3 Parking. Note: the San Diego County Fair will cause heavy traffic on I-5 near the Lomas Santa Fe exit. Please allow extra driving time!

TIME: 11:30 AM – 4:00 PM
(food served from approx. noon to 3 PM)

WHO: Youngsters, seniors, in-betweensters, guys, gals, chemists, recovering chemists, guests and other friends of the ACS!

WHAT: BBQ, cold drinks, games and prizes for children of all ages. Please bring a homemade dessert to enter the Best Dessert Contest. Prizes will be awarded! If you bring a cold dessert, bring a cooler. Guests with special dietary needs should provide for them.

RSVP: As soon as possible but no later than Wednesday, June 22nd, by registering at http://sdacs2016picnic.eventbrite.com/. Please tell us how many adults and how many children (with their ages) will be in your party, as well as total number of vegetarians.

• Younger Chemists: Schmooze and network! Invite your friends! Make it WORK for you!

• Women Chemists: Meet and greet! Make this event a “Meeting Within a Meeting”! Share your ideas!

Chef Jim Shih

Volunteers Needed for Morning Setup!
Please contact Jim Shih to sign up: tel. 626-826-3561
e-mail: jimshih@earthlink.net
Treasurer's Report - Received ~$19K as annual allotment, $8,100 as local section dues, $2,540 in sponsorships; sponsorship target of $25,000 voted by ExComm for this year; expenditures: National Meeting expenses: $300 (three councilors still to report travel expenses); receivables: expecting $5K reimbursement from National for hosting the National Meeting; YTD ~$5k surplus; assets of $330K, just purchased 12-month CD for $50K; May 15 taxes due

Western Region By-Laws Amendments – Proposal to add Southern Nevada Section to Western Region and modify fund distribution from Western Regional Meetings

Motion: Accept amended By-Laws - Approved

SD Festival of Science & Engineering – 24,000 attendees according to Festival’s website, steady stream of visitors to SDACS display

ACS National Spring Meeting in San Diego – 16,400 attendees, Section booth offered candy and key rings

Greater SD Science and Engineering Fair – Four Senior Division winners, 3 in Junior Division

75th Anniversary Celebration at SDSU - ~500 attending, 2 poster awards

ACS Fellows Nominations – Submitted two nominations – Ken P. and Bill S.

A2I – Presentation scheduled for Apr. 16 at UCSB

May Monthly Meeting – Joann using Nano-Grant to sponsor education talk at UCSD, targeting HS teachers

Law Committee Seminar – Planning a seminar for June

50- 60-Year Member Luncheon – Sent e-mail to each honoree asking about holding this event on a weekday vs. a weekend; responses were favorable, planning for Tom Ham’s Lighthouse Restaurant

Fundraising – A few responses to inquiries to date; had 2 sponsorship commitments for the Analytical Symposium

Senior Chemists Breakfast – April 14, Denny’s on Clairemont Mesa

MedChem Symposium – July 15, 5 speakers set, one open slot, starting search for sponsorships, expecting 300 attendees

ACS Project SEED – USD has been awarded a grant

Picnic – June 26, firmed up rentals

Year-end Wrap-up – Suggestion to hold event at Sufi Mediterranean Cuisine rather than Butcher Shop

Motion: Hold event at Sufi Approved

Green Chemistry Symposium – May 23, sponsored by Green Chemistry Group and SDACS at Dart, 9 speakers, not expecting this to become an annual event

West Coast Analytical Symposium – Sept 20, organizers pleased with last year’s symposium and welcomes this year’s edition, 2 sponsorships already

Committee Chairs – Education Committee needs to be revitalized; Membership Chair - looking for replacement who would send welcome letter to new members and letter to members whose membership is lapsing to ask for reasons for not renewing

Senior Chemists Grant – Mini-Grant offered by Senior Chemists Committee to increase involvement of retired chemists

Next meeting: May 3
CHEMPTION 781

**Position Title**
Chemical Production Supervisor

**Job Description**
"Hands-on" supervisor requiring experience in manufacturing and process engineering
Develop complete understanding of chemistries, production lines, and equipment
Schedule workflow, manage inventory and production staff
Analyze results and develop corrective action where required (CAPA)
Develop and document Stand Operating Procedures such as process instructions, work instructions, form, etc., to properly document necessary processes
Comply with Health, Safety and Environmental regulations
Communicate and provide input to maintenance for troubleshooting and maintaining of equipment
Transfer of R&D products into scaled up production materials
Implement new technologies
Spec out new equipment

**QUALIFICATIONS DESIRED**

*Education*
Bachelor’s degree (B.S.) in Chemistry (preferably Organic)

*Experience*
Two-to five years experience in Process Engineering - Background in Engineering
Experience with ISO, Batch Chemical or Pharmaceutical Manufacturing
Must be hands-on (conduct experiments, physically move/work with chemicals)
Strong leadership, decision-making and problem-solving skills

*Description of Company*
Designer Molecules, Inc. (DMI) is located in San Diego, CA, and develops and manufactures unique organic molecules used by formulators in the electronic and other high tech markets

*Application Instructions*
Email résumé to support@designermoleculesinc.com or fax to (858)348-1123

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CHEMPTION 782

**Position Title**
Chemical Sales Professional

**Job Description**
Chemical Sales Professional position available at Designer Molecules, Inc. Requires advanced degree in organic chemistry, proven sales track record, travel in North America approximately 80% of the time. Compensation includes salary, commission, and generous benefit package. Must maintain existing accounts and identify new customers, markets, and applications for existing DMI products

**QUALIFICATIONS DESIRED**

*Education*
Advanced degree in organic chemistry

*Experience*
Two or more years Sales or Service experience
Proficient in comprehensive math skills including basic statistics
Computer proficient (Excel, Word, PowerPoint)

*Description of Company*
Designer Molecules, Inc. (DMI) is located in San Diego, CA and develops and manufactures unique organic molecules used by formulators in the electronic and other high tech markets. [www.designermoleculesinc.com](http://www.designermoleculesinc.com)

*Application Instructions*
Email résumé to support@designermoleculesinc.com or fax to (858)348-1123
CHEMISTRY FOR YOU AND YOUR KIDS

CELERY CLIMB

You will need
- Safety glasses
- 4 same-size stalks of fresh celery with leaves (use the pale-green inside stalks)
- Kitchen knife
- Crayon or pencil
- Metric ruler
- 4 clear-8-ozz plastic cups half-full or purple water (use 10 drops of red food color and 10 drops of blue food color for each cup of water)
- Paper towels
- Swivel-type vegetable peeler

1. Lay the 4 pieces of celery in a row on the table or counter so that the place where the stalks and the leaves meet matches up. Have your adult partner cut the ends of the celery so that the stalks are all 10 cm in length.

2. Put the 4 stalks in the cups of purple water (1 stalk/cup) and record the time that you put them in.

3. Label 4 paper towels in the following way: "2 hours," "4 hours," "6 hours," and "8 hours."

4. Every 2 hours from the time that you put the celery into the cups, remove one of the stalks and put it onto the correct towel. For example, the stalk that you remove after 2 hours in the purple water will be placed on the "2 hour" towel. The next stalk that you remove 2 hours later will be placed on the "4 hour" towel, and so on.

SAFETY TIP: BE SURE TO HAVE YOUR ADULT PARTNER DO ALL THE CUTTING AND PEELING IN THIS ACTIVITY.

<table>
<thead>
<tr>
<th>CELERY CHART</th>
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<tbody>
<tr>
<td>Distance purple water traveled (in cm)</td>
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<tr>
<td>----------------------------------------</td>
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<tr>
<td>Distance purple water traveled (in cm)</td>
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</table>

5. After each stalk is removed from the water, ask your adult partner to carefully peel the rounded part of the celery stalk with the vegetable peeler. This will allow you to see how far up the stalk the purple water has traveled. Measure the distance the purple water has traveled up the stalk and record this amount (in centimeters) in the chart above.

6. Graph the distance traveled by the purple water in each stalk against the time on the grid below. Connect the dots. Is the result a straight line? Did the water travel the same distance each time? Why or why not?

CELERY GRID

<table>
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<tr>
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<tbody>
<tr>
<td>Time in Cup (hours)</td>
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<tr>
<td>8</td>
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Distance of water traveled up celery stalk (cm)

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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.

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Gourisankar Ghosh
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858-822-0469
Judy Kim
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858-534-8080

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MAKING SCIENCE VISIBLE AND ACCESSIBLE:
USING EXTERNAL REPRESENTATIONS TO LEVERAGE THE THREE DIMENSIONS
OF THE NEXT GENERATION SCIENCE STANDARDS
Dr. Stacey Brydges, Associate Teaching Professor, Department of Chemistry and Biochemistry, UCSD
Dr. Thomas J. Bussey, Assistant Teaching Professor, Department of Chemistry and Biochemistry, UCSD
Natural Sciences Building 2303, University of California, San Diego
Saturday, May 14, 2016, 10:00 am – 12:00 pm

**********
GREEN CHEMISTRY GROUP
SFC DAY SAN DIEGO
Dart NeuroScience
12278 Scripps Summit Drive, San Diego, CA 92131
Monday, May 23, 2016, 8:00 am – 5:00 pm

**********
SUMMER PICNIC
San Dieguito County Park, Solana Beach
Sunday, June 26, 2016

**********
SENIORS/RETIREES/CONSULTANTS/ETC. BREAKFAST
Denny’s
4280 Clairemont Mesa Blvd, San Diego
Thursday, June 30, 2016, 9:30 am

**********
FIFTY-/SIXTY-YEAR MEMBER LUNCHEON
Tom Ham’s Lighthouse Restaurant, 2150 Harbor Island Drive, San Diego
Tuesday, July 12, 2016

**********
19TH ANNUAL SAN DIEGO MEDCHEM SYMPOSIUM
Price Center Theater at UCSD
Friday, July 15, 2016

**********
252ND ACS FALL NATIONAL MEETING & EXPOSITION
Philadelphia, Pennsylvania
August 21-25, 2016

**********
SECOND ANNUAL ACS-WEST COAST ANALYTICAL CHEMISTRY SYMPOSIUM
Dart NeuroScience, 12278 Scripps Summit Drive, San Diego, CA 92131
Tuesday, September 20, 2016, 9:00 am – 5:00 pm

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

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