

Electrochemical Energy Storage: Progress and Opportunities to Impact Energy and the Environment

Amy C. Marschilok
Stony Brook University

DATE: Thursday, April 22, 2021
TIME: 7:00 - 8:00PM
PLACE: Your Computer
RSVP: <https://amymarschilok.eventbrite.com>



ABOUT THE SPEAKER:

Amy Marschilok is an Associate Professor in the Department of Chemistry at Stony Brook University, where she also holds an Adjunct Faculty position in the Department of Materials Science and Chemical Engineering. She holds a joint appointment as Scientist and Energy Storage Division Manager in the Interdisciplinary Science Department at Brookhaven National Laboratory. She serves as Deputy Director for the Center for Mesoscale Transport Properties, an Energy Frontier Research Center funded by the U.S. Department of Energy. Dr. Marschilok was previously employed as a Senior Scientist in the Medical Battery Research and Development Group at Greatbatch, Inc., where she was recognized as a Visionary of the Year.

Her current research centers on materials and electrode concepts for high power, high energy density, extended life batteries. She is also interested in electrochemistry-based approaches for materials synthesis and characterization. She has mentored over 50 student researchers and co-authored over 185 publications.

THE PRESENTATION:

Batteries are ubiquitous in our everyday lives and often appear as black boxes. However, the chemistry inherent to their function is diverse and complicated. This talk will highlight progress and opportunities for employing electrochemical energy storage to build a green energy future. Examples of mechanistic insight gained from *in-situ* and *operando* characterization of functional systems will be highlighted.

CHAIR NOTES

Dear ACS Members,

I hope the start of spring is treating everyone well. We had our third Executive Committee Meeting of 2021 virtually on Zoom on Thursday, March 4th. We had a great turnout to discuss upcoming events, including exciting seminars as well as outreach activities and Mad Science programs.

On Thursday, March 8th, **Ainissa Ramirez, PhD**, an award-winning materials scientist and science communicator, joined us and presented "How Materials Shape Us". During her talk, which was based on stories in her book "The Alchemy of Us", she detailed how the invention & development of items such as the telegraph cable & the actual copper cable, the light bulb, the clock & the accuracy of it, and the Polaroid film shaped how we behaved and experienced, both positive and negative. She highlighted some of the lesser-known inventors whose accomplishments may have been overshadowed by the more well-known inventors who received much of the credit. We had over 220 online registrations and over 130 attendees.

On Thursday, April 22nd, at 7PM, we will have **Amy Marschilok, PhD**, Associate Professor in the Department of Chemistry at Stony Brook University, to discuss "Electrochemical Energy Storage: Progress and Opportunities". This talk will highlight progress and opportunities for employing electrochemical energy storage to build a green energy future.

Here are some upcoming, community-wide, large-scale events (held virtually):

- ACS Spring National Meeting & Exposition, April 5 - 16, 2021
<https://www.acs.org/content/acs/en/meetings/acs-meetings.html>
- San Diego Festival of Science & Engineering STEAM Week, April 22-May 2
<https://www.lovestemsd.org/steam-week-events-2021>

Our next Executive Committee meeting will take place on Thursday, April 1st, at 6pm on Zoom. I invite all members who wish to become more involved in the Section to join us. Bring your ideas, your suggestions, and your unique talents to help make 2021 a wonderful year. Please contact me at jshih@sandiegoacs.org to receive Zoom log in details.

James J. Shih, 2021 Chair
San Diego Section of the American Chemical Society
E-mail: jshih@sandiegoacs.org
Web: www.sandiegoacs.org

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 2021 Chair, **Jim Shih** at jshih@sandiegoacs.org. Once approved, Jim will see that your announcement is published on our website (www.sandiegoacs.org) and, if received by the 20th 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 20th of each month will be published by the end of that month.

For more information, please contact:
Renate Valois at 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 23rd of the month** for publication by the end of that month.

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full page	\$655	\$590	\$510

Discounts will be available for issues not shown

Please send your jpg to:

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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.
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 2021

6:00 – 8:00 pm

Thursday	April	1
Thursday	May	6
Thursday	June	3
Thursday	July	8
Thursday	August	5
Thursday	September	2
Thursday	October	7
Thursday	November	4

Zoom Meetings until further notice



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 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!

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



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Are you looking for new and effective ways to recruit undergraduate students interested in becoming secondary (grades 7-12) chemistry teachers? Funded by the NSF, [Get the Facts Out](#) critical tools to help your teacher recruitment efforts by providing free, research-based, user-tested resources and data to use in sharing the facts about the teaching profession with students and faculty members.

[Learn more about the program](#) - and how you can get started. [Get the Facts Out](#) is a partnership between the Colorado School of Mines and ACS, the American Physical Society, the American Association of Physics Teachers, and the Association of Mathematics Teacher Educators.

POSTPONED

HPLC 2020 IN SAN DIEGO

Due to the extraordinary circumstances we have all found ourselves in surrounding the coronavirus (COVID-19) pandemic, we are genuinely disappointed to announce that we must postpone the HPLC conference based on CDC guidance and shelter-in-place orders. As the health and safety of all of our participants remains our primary concern, the HPLC conference is postponed and will take place at the same location on **June 18-23, 2022** at the Town and Country Hotel and Conference Center in San Diego, CA.

LOOKING FOR VOLUNTEERS



The Executive Committee of the [Division of Organic Chemistry](#) of the American Chemical Society and the Department of Chemistry at the University of California, San Diego, invite you to attend the 47th National Organic Chemistry Symposium. **This biennial event will be held from Sunday, June 27, to Thursday, July 1, 2021, at UCSD.**

For more information please see <https://nationalorganicsymposium.org/>.

For volunteers please see <https://nationalorganicsymposium.org/organizers/>

Volunteer opportunities include chairing sessions during the plenary talks, judging the poster sessions, and running registration tables and social events.

VOLUNTEERS NEEDED EARTH DAY - EARTHAIR 2021 <http://www.earthdayweb.org/>

New Date: Sunday, September 19, 2021, Balboa Park • 10am - 5pm

San Diego ACS volunteers will set up a table in the Children's Activity Area. This special area has crafts, games, face painting, storytelling, and hands-on activities for children of all ages. Activities are intended to educate, entertain and inspire youth, in the spirit of Earth Day.

Please contact **James Caldwell**, jcaldwell@sandiegoacs.org, to volunteer **Sunday, September 19, 2021**. We need 3-4 persons for each of the 3-4 hour shifts on **September 19**. Please support us and share your care for our earth, chemistry education, and the San Diego ACS!

THE YCC PRESENTS CHEMISTRY TRIVIA NIGHT!

Join us for a night of fun, excitement, and teamwork. Register a team or register on your own and make some new friends. This event is open to all.

When: Thursday, April 15, 2021, at 7 PM **Register here:** <https://forms.gle/Qvd67aqxP29vov1Z7>

HOW MATERIALS SHAPED US
Ainissa Ramirez, PHD

A remarkable 130 people Zoomed in to hear **Dr. Ainissa Ramirez** talk about "How Materials Shape Us" on Tuesday, March 9. **Dr. Ramirez** shared her gift as both a material scientist and as a storyteller as she led us through events in history where technology influenced our lives in unexpected ways. She amused us with the story of the woman who sold time, charmed us with the explanation of how the necessary brevity of the telegram influenced the writing style of Hemingway, and inspired us with the persistence of a young chemist who exposed the use of Polaroid's cameras to create passbooks to track Black citizens in apartheid South Africa.

The stories that **Dr. Ramirez** related can be found in more complete form in her new book titled "The Alchemy of Us: How Humans and Matter Transformed One Another". As a self-proclaimed science evangelist, **Dr. Ramirez** brought home the notion that our work as chemists often shapes the lives of people in our community. Though there was a cautionary tone to some of the stories, she left us all full of hope and wanting to hear more about this diverse group of inventors and the ways they changed our culture and our everyday lives.

Jackie Trischman

CONGRATULATIONS TO THE WINNERS OF THE
67th ANNUAL GREATER SAN DIEGO SCIENCE AND ENGINEERING FAIR

Senior Awards

- 1st Jessie Gan
12th Grade, San Diego Jewish Academy
Calculating ENTH Domain Membrane Bending Constants for Continuum Modeling through CGMD
- 2nd Alejandro Berkowitz
9th Grade, Canyon Crest Academy
The Structure and Mechanisms of Alpha-Synuclein in Relation to Parkinson's Disease
- 3rd Daniel Wang
11th Grade, Torrey Pines High School
Tackling COVID-19: A General Approach to Develop Novel "Superglue" Drugs

Junior Awards

- 1st Sarah Gao
8th Grade, Pacific Trails Middle School
Stop the Staph: Targeting the Antibiotic Resistant Protein NorA
- 2nd Hafsah Kazi
8th Grade, Bright Horizon Academy
Impact of Metals and Natural Remedies on Planaria
- 3rd Kai Kinsley
7th Grade, St. Gregory the Great Catholic School
Bubble Mania

The 2021 GSDSEF was conducted virtually using the zFairs.com app, in which judges could view the student projects online in advance and then conduct live interviews with selected students on our judging day, Tuesday, March 16th. We thank our colleague ACS judges: **Jerry Albert, Tom Beattie, Mark Glassy, Jim Shih** and **Jackie Trischman** for their indispensable efforts.

Ken Poggenburg

**SUMMARY OF THE SAN DIEGO ACS SECTION
EXECUTIVE COMMITTEE TELECONFERENCE
MARCH 4, 2021**

Treasurer's Report – Deferred Treasurer's Report as Desiree was unable to attend the meeting

Feb. Monthly Seminar – Ajay Nirula, SARS-CoV-2 Neutralizing Antibodies for the Treatment of COVID-19, 80-90 attendees, good Q&A following presentation

Chemistry Olympiad – March 27, two volunteers as proctors at this point, ~2-hour commitment

Finance Committee – Committee recommendation is to liquidate ~\$100K in VWENX shares, proposal to purchase \$50K bond fund VBIRX and put the balance in SDCCU Great Rate Savings account to be used for education and outreach; recommendation to revitalize fundraising committee

Motion: liquidate 1300 shares of VWENX fund, invest \$50K of proceeds from Vanguard Admiral shares, place balance in SDCCU savings, -- **Approved**

March Monthly Seminar – Tuesday, March 9, Ainissa Ramirez, 142 registrants to date, link to the meeting to come to those registered by email 2 days before

Greater San Diego Science and Engineering Fair – Three judges registered at this moment, some problems with judge registrations, March 16

Law Committee – Planning a Chemical Angel Network seminar -- part of AIChE / ACS, cost \$20 to participate

Future Monthly Seminars – April: Amy Marschilok on batteries; May: Janan Hayes on development of traditional dyes; June: Ryan Shenvi – Scripps Research on challenges of being researcher and parenting; July - William Tarpeh on wastewater; Aug. - Oscar Vasquez-Mena on sensors; Paul Jagodzinski on inclusion

Discussion to Return to In-Person Events – ExComm members asked to consider when it will be deemed safe to hold add in-person options to meetings

Mad Science – Scheduled five shows in 2021, two already held; outside entities not welcomed to support presentations even where schools hold in-person sessions

YCC – The Meet-and-Greet in December proved successful, so committee has scheduled similar event at Miramar College as a virtual event for March 5, 10:45 to 11:45; another event in planning for April or May, may ask ExComm for judges

Setting Up Mechanism for Processing of Credit Card Purchases – Looking into setting up credit card processing for paying for Newsletter advertisements; SDCCU business credit card would charge annual fee; other options include Venmo and Square, neither has transaction fee

USPS Bulk Mailing Permit – USPS says no need to pay until we need it, then pay the fee, which will allow bulk mailing for the following 365 days

Section's Website – Betasoft - company in India - offers to rebuild Website for \$1000 and will optimize for mobile devices, appears to be a legitimate organization; Orange County Section has a volunteer from the Section who manages their website; however, this arrangement requires extensive learning and time investment for the webmaster

Earth Day – No plans for Section to participate with ACS National's event, James working on local Earth Fair in the Fall

Next meeting: April 1

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2021 ACS REGIONAL MEETINGS

Northwest Regional Meeting (NORM)	May 9-11	Online
Great Lakes Regional Meeting (GLRM)	June 6-9	Online
Middle Atlantic Regional Meeting (MARM)	June 9-12	Online
Northeast Regional Meeting – NERM 21	October 8-11	Boston, MA
Midwest Regional Meeting (MWRM)	October 21-22	Springfield, MO
Rocky Mountain Regional Meeting (RMRM)	October 21-23	Tucson, AZ
Southwest Regional Meeting (SWRM)	October 31-November 3	Austin, TX
SERMACS 2021 sermacs2021.org/	November 10-13	Birmingham, AL

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For information contact:

Renate Valois –

renate@sandiegoacs.org

UPCOMING EVENTS

VIRTUAL EVENT

ACS SPRING NATIONAL MEETING 2021

<https://www.acs.org/content/acs/en/meetings/acs-meetings.html>

April 5-16, 2021

VIRTUAL EVENT

ELECTROCHEMICAL ENERGY STORAGE: PROGRESS AND OPPORTUNITIES TO IMPACT ENERGY AND THE ENVIRONMENT

AMY C. MARSCHLOK

**Research Professor
Stony Brook University
April 22, 2021**

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April 24-May 2021

262nd ACS NATIONAL MEETING & EXPOSITION

**Atlanta, Georgia
August 22-26, 2021**

EARTH DAY - EARTHFAIR 2021

Balboa Park, San Diego, CA

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

New Date: Sunday, September 19, 2021

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

Doaa Alsagri
Evan Clarke
Silvia De Dea
David Garcia
Eddy Kapelczak
Stephen Munoz
Thomas Scattolin
Bin Wang

**2021 EXECUTIVE COMMITTEE & COMMITTEE MEMBERS
SAN DIEGO SECTION OF THE AMERICAN CHEMICAL SOCIETY**

EXECUTIVE COMMITTEE

<i>Chair</i>	Jim Shih, Eli Lilly & Co, jshih@sandiegoacs.org	(2021)	626-826-3561
<i>Past Chair</i>	James Caldwell, Accelagen, Inc., jcaldwell@sandiegoacs.org	(2021)	815-262-9697
<i>Chair-Elect</i>	Juan P. Gonzalez-Gonzalez, Southwestern College, jgonzalez3@swccd.edu	(2021)	619-813-8520
<i>Secretary</i>	William Tolley, Seacoast Science, Inc., b_tolley@uno.com	(2021)	858-780-0978
<i>Treasurer</i>	Desiree Grubisha, Heron Therapeutics, desgrubisha@gmail.com	(2021)	858-254-5497

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Thomas R. Beattie	(2021)	858-293-3012
Hui Cai, WuXi AppTec	(2022)	858-361-8838
Desiree Grubisha, Heron Therapeutics	(2021)	858-254-5497
Valerie Kuck	(2023)	973-744-5510
Jackie Trischman, CSUSM	(2022)	858-414-3323
David Wallace, Wallace Scientific Consulting	(2021)	858-638-1866

Alternate Councilors

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Julann Miller, Waters Corporation	(2023)	800-252-4752 x6802
Ken Poggenburg	(2022)	760-635-2573
Ben Pratt, Pratt Pharma Consulting LLC	(2022)	858-945-7893
Shannon Woodruff, HP Inc.	(2023)	949-735-9021

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Joann Um, Southwestern College	(2022)	510-823-8637

STANDING & SPECIAL COMMITTEES

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Valerie Kuck (Co-Chair)	973-744-5510
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ChemExpo

Jackie Trischman, CSUSM	858-414-3323
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Desiree Grubisha, Heron Therapeutics	858-254-5497
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Renate Valois (Newsletter Editor)	619-692-0638
David Wallace, Wallace Scientific Consulting	858-638-1866

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Tammy Dwyer USD	619-260-4030
Barbara Sawrey	858-729-0689
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Joan Schellinger, USD	619-260-7960

EarthFair

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Finance Committee

Bill Szabo (Chair)	858-550-0306
Tom Beattie	858-293-3012
James Caldwell, Accelagen, Inc.	815-262-9697

Fundraising Committee

OPEN

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Ken Poggenburg	760-635-2573

Law Committee

Ryan C. Smith, Duane Morris LLP	619-744-2220
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Mad Science Program

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

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OPEN

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OPEN

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Alexander Rovira, Janssen Research and Development	858-784-3013
Brittany P. Witherspoon, Janssen Research and Development	619-373-2436

Voice Mail – San Diego Section

619-687-5570