

THE CAPITAL CHEMIST

A Publication of the Chemical Society of Washington Section of the American Chemical Society

Virtual CSW Meeting on April 21st

Wednesday, April 21, 2021 - 12:00-1:00 ET

This will be a Zoom meeting. There is no charge to attend, but you must register in advance. Register Now: https://american-chemical-society.zoom.com/meeting/register/tZAsdeuqqz4uEtRB_dCD4aTT4Dj4pzDIGTZi

Marty Mulvihill, Ph.D.

Co-Founder and Managing Partner
Safer Made

“Leveraging Green Chemistry to Produce Sustainable Materials & Safer Products”

Speaker Bio

Marty Mulvihill is the co-founder and a managing partner in Safer Made, a mission-driven venture capital fund investing companies and technologies that reduce human exposure to harmful chemicals. Safer Made invests in teams that bring safer products and technologies to market, tell a unique story, have the potential to change their sectors, and protect our health and natural world. Marty's experience as a chemist showed him that safer product solutions already exist and need attention and capital to get to market.



Marty is also an advisor at the Berkeley Center for Green Chemistry, which he helped create and where he served as the initial Executive Director from 2010-2015. Marty's has helped develop technologies that help provide access to clean drinking water and the creation of safer chemicals and materials based on biological feedstocks. He has developed safer chemicals and materials for the personal care, construction, electronics, and textile industries. Marty Mulvihill received his Ph.D. in 2009 from the University of California, Berkeley in Chemistry.

Abstract

Safer Made's mission is to help eliminate hazardous chemicals from consumer products and their supply chains. We believe this is a great time to be thinking about the ways we use chemicals and products to promote health without negatively impacting the natural world. The trend toward products and brands that embody principles of safety and sustainability will continue to grow. In the 5 years since we started Safer Made, we have seen the number and diversity of investor interested in safer consumer product grow significantly. We work with both consumer VC fund who are focusing more and more on health and wellness brands, as well as materials funds who are now taking a much closer look at CO₂ and other sustainability metrics. This talk will explore how Green Chemistry innovations can address the need for safer and more sustainable materials in consumer products.

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April 2021

Inside this issue:

- Join us virtually for the April CSW Meeting
- Remember CSW Past President Dr. Elise Brown
- Learn about this year's CCED theme, and participate in a local event
- See the highlights from last month's meeting
- Plan to virtually attend the May CSW Meeting

In Memoriam: Dr. Elise Ann Brown

Elise Ann Brown, NIH, USDA scientist

Elise Ann Brown, 92, a research pharmacologist at the National Institutes of Health from 1962 to 1979 who then was a toxicologist with the Agriculture Department until her retirement in 2003, died January 4th at her home in McLean, Virginia. The cause was metastatic pancreatic cancer, said her son Terrence Brown.

Dr. Brown was born Elise Ann Brandenburger in Jacksonville, Florida. In the 1970s, she filed a lawsuit against NIH alleging sex discrimination in pay and advancement; her son said she won back pay but decided to leave for the USDA soon afterward. She was a past chapter president of the Chemical Society of Washington (local chapter of the American Chemical Society).



Chemists Celebrate Earth Week - April 19-24, 2021

Theme: "Reducing Our Footprint with Chemistry"

For years, chemists have been promoting a better world through recyclable plastics, cleaner-burning fuels, phosphate-free detergents, environmental monitoring, and green chemistry initiatives. To promote the positive role that chemistry plays in the world, ACS established the Chemists Celebrate Earth Week (CCEW) public awareness campaign. During CCEW, ACS members and chemistry enthusiasts celebrate by coordinating



events and communicating the importance of chemistry. ACS will celebrate Earth Day through CCEW 2021 from April 19-24 with the theme, "Reducing Our Footprint with Chemistry." Our environmental footprint includes the energy, food, water, and materials we use or leave behind. By reducing our footprint, it means we are living more sustainably. You might wonder why it is important to live sustainably—and there are many reasons. It is probably best described by the expression, "Leave no trace." This means trying to make sure that the planet stays the way we found it, by not consuming or discarding anything that changes how the planet looks or behaves. To live sustainably, we need to reduce our footprint. How can we do that, and how can chemistry help us? This is the basis of this year's CCEW theme.

Earth Day was first officially recognized on April 22, 1970 as a way to demonstrate support for a healthy environment, raise awareness about environmental issues, and remind people that we all need to contribute to a sustainable planet. For years, chemists have been promoting a better world through recyclable plastics, cleaner-burning fuels, phosphate-free detergents, environmental monitoring, and green chemistry initiatives. The ACS joined the Earth Day celebration on April 22, 2003.

The Chemical Society of Washington (CSW) will once again participate in Chemists Celebrate Earth Week (CCEW) activities. However, due to continued global, federal, state, and local governmental directives on social

distancing and limitations on gatherings to address the COVID-19 pandemic, the ACS Committee on Community Activities (CCA) will again encourage the planning of virtual events and the sharing of digital resources for CCEW 2021.

The electronic version of the *Celebrating Chemistry* newsletter for CCEW, as well as additional information about this year's CCEW celebration, is available from the ACS website at www.acs.org/ccew.

CCEW Illustrated Poem Contest - Deadline is Monday, April 25, 2021

As part of the Chemists Celebrate Earth Week (CCEW) activities, the American Chemical Society is sponsoring an illustrated poem contest for students in kindergarten through 12th grades. Students are asked to write and illustrate a poem using the Chemists Celebrate Earth Week 2021 theme, "Reducing Our Footprint with Chemistry." This year's theme looks at how chemistry protects and affects the planet. Our environmental footprint includes the energy, food, water, and materials we use or leave behind. By reducing our footprint, it means we are living more sustainably. Planet Earth provides humans with the natural resources we need to survive and thrive. Chemistry is the science that has helped us use both renewable and nonrenewable resources to transform our lives. Chemists invent and design many of the materials that make items we use every day, from electronics to medicine. Every day, our actions as humans have impacts on the earth and the environment. Some of these actions are beneficial, while others are not. We can each do our own part to protect the planet by making small changes in our lives, like switching to biodegradable plastics and buying less one-time-use stuff. Your illustrated poem should show some of the ways chemistry is contributing to cleaning our water, reducing waste, and designing sustainable materials.

Detailed rules and guidelines are available on the Chemists Celebrate Earth Week website; <https://www.acs.org/content/acs/en/education/outreach/ccew/plan-an-event/illustrated-poem-contest.html>.

All Entries must provide the information that the ACS requests via the online entry form and adhere to the rules set by the ACS. Teachers at schools in the Chemical Society of Washington area are encouraged to have a contest at their school, and then submit the school's winning entries using the ACS online submission forms available on the ACS website (<https://www.acs.org/content/acs/en/education/outreach/ccew/plan-an-event/illustrated-poem-contest.html>). Please select "Chemical Society of Washington" in the "Your Local Section Contest" dropdown on the form. Entries must be received by Monday, April 25, 2021 at 11:59pm ET.

Earth Day 2021 Clean-Up and Footprint Reduction

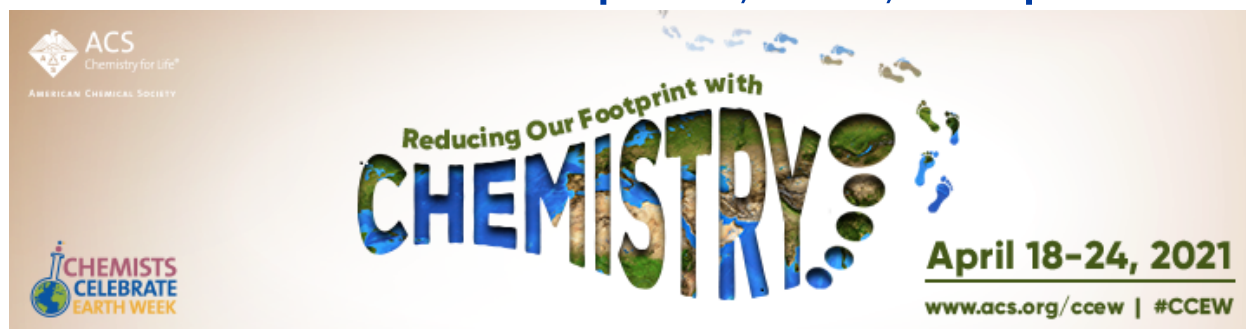
Spend Chemists Celebrate Earth Week 2021 (or sometime during the month of April) outside to give back by taking away trash or reducing your footprint!

- Spend a morning (or a whole day) helping to clean a local outdoor space while maintaining a safe social distance.
- Take a before picture of a trash-laden trail or path/sidewalk near your home, clean it up (protected by your PPE), and snap an after picture (or an after selfie) of the clean area! Or share a photo of your collected materials or of your footprint reduction efforts aligned with the CCEW theme *Reducing our Footprint with Chemistry!*



Submit your photos to CSW by email (csw@acs.org) by April 26. The CSW Environmental and Sustainability Committee will create and post a *Clean Up Collage* for the May newsletter and website to highlight the devotion and care that members of CSW have towards the Earth. PPE: gloves (nitrile, rubber, latex), a trash bag (or grocery bag), and a face mask (and optional pick up wand). Hope you can join us! Twitter: @ACS_CSW

CCEW Joint Virtual Event - April 23, 2021, 5:00 p.m. ET



On Friday April 23, 2021 at 5 pm, the Chemical Society of Washington will be celebrating Earth Week 2021 by hosting an event in partnership with the STEM ED Community Club at Montgomery College, Rockville. The aim of this event is to bring public awareness to this important theme and to highlight what it means and why is it important to live sustainably. The STEM ED Club will coordinate the event with the CSW Education and Outreach Committees. The event will highlight a guest speaker, Emma Hubbard, who will present her innovation project for generating green energy. She is a student whose project was a finalist for the Quarter Zero Cup (an online entrepreneurial competition) and won the Helyx International Youth Research Summit in 2020.

In addition, The Club will engage the participants and attendees of this virtual event with interactive links from the ACS website and guide them with individual carbon footprint calculations. The electronic version of the Celebrating Chemistry newsletter for CCEW will be used as a resource too.

Please click on the link below to register for this virtual event. The Zoom information will be sent out prior to the event. There is no fee to attend, but you must register:

https://docs.google.com/forms/d/e/1FAIpQLScCu8FLRKqklyOUWzRjhOLS3OUOmGHxYxC3VNff0Ia_HgNVoQ/vlewform

Virtual CSW Meeting on May 13th

Thursday, May 13, 2021 - 12:00-1:00 ET

This will be a Zoom meeting. There is no charge to attend, but you must register in advance. Register Now: <https://american-chemical-society.zoom.com/meeting/register/tZAlduqrTgqHNyajZBF9p9lqTLCcpG4eOeL>

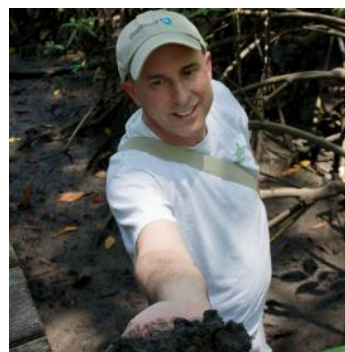
Patrick Megonigal, Ph.D.

Associate Director of Research
Smithsonian Environmental Research Center

"Methane Production and Emissions in Trees and Forests"

Speaker Bio

Pat Megonigal is Associate Director of Research at the Smithsonian Environmental Research Center. He received BS and MS degrees from Old Dominion University, and a PhD from Duke University. Dr. Megonigal is an ecosystem ecologist with research interests in carbon and greenhouse gas



cycling in wetlands and forests, particularly as they relate to global change. As Lead Investigator of the Smithsonian's Global Change Research wetland, Dr. Megonigal directs long-term research programs focused on the stability of tidal wetlands faced with accelerated sea level rise, as Director of the Coastal Carbon Research Coordination Network he is organizing a global research community to advance the pace of discovery in coastal wetland carbon research and application. Pat Megonigal has authored over 120 peer-reviewed publications. He is a Fellow of the Ecological Society of America, Soil Science Society of America (SSSA), and Society of Wetland Scientists. He received a SSSA Presidential Citation, the Smithsonian Institution Secretary's Research Prize, the Renewable Natural Resources Foundation's Outstanding Achievement Award, and the Soil and Water Conservation Society's Merit Award. <https://serc.si.edu/labs/biogeochemistry>

Abstract

Forest ecosystems are important to managing global climate change because they take carbon dioxide from the atmosphere and store it in wood. Scientists have just recently learned that forests are also important sources and sinks of methane, a powerful greenhouse gas that accounts for 18% of global warming. Methane is emitted by both living and dead trees but it is not clear where the methane is made. Methane may be produced by microbes in soils and transported through trees; it may be produced by microbes inside the trees themselves; or it may be produced by sunlight striking trees in the absence of microbes. I have been studying methane emissions from trees over the past decade. I will review the state of the science on the production, consumption, transport, and emission of methane by living and dead trees, how emissions vary in space and time across forest gradients of soil moisture, and what the fact that trees emit methane means for the role of forests as global carbon sinks.

Recap of CSW Virtual Meeting, March 11, 2021

If you missed the CSW March 11th meeting, you missed the presentation of CSW's Outreach Volunteer of the Year award, but you can still hear the great presentation by Matt Hartings on "The Chemistry We Learn in our Kitchen"! We apologize that we failed to record the introduction of the speaker and the very beginning of his talk.

View the recording: https://american-chemical-society.zoom.com/rec/share/cfF4bAAVJIDWR3lgT7BsPlzV1P6QSaN98HbyjT3GQTN2XEIUneHzZYi5_OxKdLK7.dMAZ_FN2vs02gDac

Food/Cookbooks mentioned in this lecture:

- *Chemistry in Your Kitchen* by Matthew Hartings
- *On Food and Cooking* by Harold McGee
- *The Food Lab* by J. Kenji Lopez-Alt
- *Salt Fat Acid Heat* by Samin Nosrat
- *BraveTart* by Stella Parks
- *The Flavor Equation* by Nik Sharma
- *The Taste of Country Cooking* by Edna Lewis
- *The Essentials of Italian Cooking* by Marcella Hazan
- *The Perfect Scoop* by David Lebovitz
- *The Sioux Chef's Indigenous Kitchen* by Sean Sherman
- *The Joy of Cooking* by Irma Rombauer
- *Ratio* by Michael Ruhlman
- *The Flavor Matrix* by Michael Briscione
- *Liquid Intelligence* by Dave Arnold



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The **Chemical Society of Washington (CSW)** is the local ACS Chapter for the Washington, DC area and serves approximately 3,500 members.

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CSW Calendar of Events

April 19-24: Chemists Celebrate Earth Week

April 21: CSW Monthly Meeting

April 23: CCEW Virtual Event

April 25: Illustrated Poem Contest Deadline

April 26: Deadline to submit photos for the Clean up Collage

May 13: CSW Monthly Meeting