



virtuAIChE®

This month's meeting:

*Primary (with live discussion/live chat) Wednesday, May 26 at 9 pm ET (US) / 1 am GMT
Alternate 1 (with live discussion/live chat) Thursday, May 27 at 7 am ET (US) / 11 am GMT
Alternate 2 (with live discussion/live chat) Thursday, May 27 at 1 pm ET (US) / 5 pm GMT*

Biomimicry: Green Chemistry Innovations Inspired by Nature

Presented by Mark Dorfman,
Senior Principal and lead chemist at Biomimicry 3.8

We may assume that the functions required by commercial chemicals and materials are different from the functions required by organisms. Upon closer look, however, the overlap of common functions may surprise you—everything from non-stick coatings to lightweight polymeric materials. Not only have organisms solved for the same set of functions, but after 3.8 billion years of R&D, the solutions are often elegant and sustainable. Organisms, after all, have to manage chemical and material production, use, and disposal in the same place where their offspring need to survive and thrive. Mark Dorfman's presentation will provide an overview of the key principles behind nature's life-friendly chemistry and share examples of biomimetic inventions inspired by nature's genius.



Mark Dorfman is a New York City-based Senior Principal and lead chemist at Biomimicry 3.8, where his work is centered on the premise that living organisms, by necessity, have developed sophisticated, highly effective, life-friendly chemistries that could inspire provocative, high-performing, sustainable technology for modern society. Mark seeks out and applies the design principles of nature's time-tested chemical strategies to the development of innovative solutions to the toxic chemical and material challenges facing the

21st century. Prior to Biomimicry 3.8, Mark worked in the non-profit sector researching and writing case-studies on industrial chemical pollution prevention and wastewater management practices that ultimately influenced the creation of federal and state pollution prevention policies.

**Note that registration for VLS meetings is required.
Our meetings are still free to attend and open to all.**

May Meeting Registration Information

Primary	Alternate 1	Alternate 2
(Live Presentation/Live Chat)	(Recorded Presentation/Live Chat)	(Recorded Presentation/Live Chat)
May 26 at 9 PM EST / 1 AM GMT	May 27 at 7 AM EST / 10 AM GMT	May 27 at 1 PM EST / 5 PM GMT
Register in advance for the Primary Meeting	Register in advance for the Alternate 1 Meeting	Register in advance for the Alternate 2 Meeting

After registering, you will receive a confirmation email containing instructions for joining the meeting, along with add-to-calendar links.

Introducing Our March's Meeting Raffle Winner!

Every month, a dues-paying member who signed in for the duration of the monthly webinar is selected at random to win a free year of VLS membership (Executive Committee members and previous winners during the current year are ineligible). We are pleased to introduce our March winner – Michael Martin.



Q: What made you want to be a chemical engineer

A: As early as my grade school years, it was clear that math and science were areas where I could excel, and during my high school science classes, I found chemistry to be my clear favorite. It was my high school advanced physics teacher who opened the door to engineering, as he spent time describing different careers. From the moment we discussed chemical engineering, I just knew that was what I wanted to do.

Q: What school did you go to?

A: I earned my BS in chemical engineering at Drexel University (Philadelphia, PA).

Q: What kind of jobs have you held?

A: I have had a number of different engineering positions and responsibilities ranging from process/product development to production support to capital project management to process improvement to operations leadership. I have generally worked for companies where engineers have to "wear many hats" and fill the needs that arise.

Q: Where do you live?

A: I live in Fayetteville, NC, though I have routinely traveled to support multiple manufacturing locations. Unfortunately, my travel has currently been suspended due to Covid.

Q: Why did you join the Virtual Local Section?

A: Sadly, my connection with AIChE has always been a strained one for a number of reasons, though I see that changing now. I'm a new member of the VLS, and the virtual nature of the VLS removes one of the roadblocks. The other thing that I find exciting about the VLS is the range of topics, which I haven't found previously.

Q: Any hobbies that are connected to chemical engineering

A: I'm not sure if it is surprising, but I don't have any chemical engineering-related hobbies. My hobbies are mostly related to sports and family.

The Future of Remote Work – A Snapshot of What Employees Are Saying

by Dr. Lucia Feng, President & CEO
OnCareerSuccess Inc.

March 2021 marks one full year from the government-mandated business shutdowns that began in mid-March 2020 to stop the spread of COVID-19.

ADP National Employment Report issued on March 23, 2021, estimated the US labor market lost nearly 20 million jobs within two months of March and April 2020. The jobs lost amounts to about 15% of all jobs, or one in every 6 US workers [1]. By end of March 2021, ADP estimates only about 10 million of those lost jobs are recovered, and that the US employment level is about 93% of its value compared to February 2020. The San Francisco-Bay Area economy, for example, was possibly the hottest in the U.S. in February 2020; it now has a battered job market. Economists estimated that it could take at least two years for two of the three major urban centers in the Bay Area region, and up to five years for the San Francisco region, to recover the jobs lost in the two months of 2020 [2].

Many companies adapted and made a significant paradigm shift at the start of the national lockdown in March 2020 to have their employees to do remote work, i.e. work from home.

The CDC reports about 28% of US population is fully vaccinated as of April 25, 2021 [3]. As vaccination administration steadily improves in scale and efficiency since January 2021, companies and employees are planning and discussing post pandemic working arrangement. A hybrid virtual model that combines work from home with some in-person time at the office appears a most likely scenario.

Although many companies may not yet know – or do not want to share yet because it's work in progress – what the final arrangements are for the post pandemic workplace, many employees however are reporting anxiety because they have not heard enough about their employers' plans such as guidelines, policies, and expectations, and want to have more certainty about their post COVID-19 work environment.

Whether you are a single contributor or a manager, anxiety is a factor to be concerned with because "anxiety is known to decrease work performance, reduce job satisfaction, and negatively affect interpersonal relationships with colleagues, among other ills. The loss of productivity because of poor mental health – including anxiety – might be as high as \$1 trillion per year for the global economy." [4] Additionally, you may also lose talented employees or team members as employees could consider leaving for a different company due to concerns over returning to work in-person fully onsite.

Below is a partial list of McKinsey's findings pertinent to the U.S. on "What Employees are Saying About the Future of Remote Work" [4]:

- Employees in organizations with clearer communication about post-COVID-19 remote work policies feel included and show nearly 4.8x increase in productivity and well-being
- 40% of employees surveyed reported they have not yet heard any vision from their organizations about post pandemic work. Another 28% said they got only 'vague' communication.
- For the 68% of individuals at organizations who are not being communicated to about the future arrangement of post pandemic work, 47% of survey participants expressed concern or anxiety about the future

- 49% of survey respondents say they feel some symptoms of burnout. The lack of clear communication about post pandemic work arrangement also contributes to employee burnout. It is noted that this 49% number may still be an underestimate because employees who are experiencing burnout are less likely to participate in surveys, and that the most burned-out employees may have already left the workforce – for example women.

According to the U.S. Bureau of Labor Statistics, 2.2 million women left the workforce by October 2020 due to various factors caused or intensified by COVID-19 – namely, shuttered schools, lack of childcare, pay disparities, lack of public policy to support working women, and disproportionate job loss [5].

- Individuals who feel anxious because of a lack of clear communication about the future of work are 2.9x more likely to feel moderate to high levels of burnout
- About 28% of employees surveyed say they would consider leaving if their organizations returned to in-person onsite work
- 31% of employees surveyed in the U.S. would like to work remotely full time. Over 50% would like to work from home for three or more days every week once the pandemic is over
- More than half the employees surveyed indicate they want a more flexible hybrid virtual-working arrangement in which employees can sometimes be in-office and sometimes be working from home
- Employees who are parents to children age 17 or under are found to prefer remote working, while employees having no children under 18 are nearly three times more likely to prefer to work in-person. Overall the majority still prefers flexible work arrangement.

Here are some proposed actionable next steps:

1. Uncertainty about the future of work arrangement is causing anxiety, affecting employee well-being and causing burnout. As an employee, empower yourself to discuss with your management about your concerns and to seek clarity and availability of policy or guidelines on the post pandemic work environment. Your manager or company cannot read minds – if you don't share your thoughts or hope, people and organizations don't know them and therefore don't have input with which to make policy or decisions.
2. If you are in leadership roles, reach out to and communicate more with your team members. Engage your employees - ask them to share any concerns or anxiety they may have about future remote work arrangement. Although you may not have all the information or the final arrangement for the future of work post pandemic is not yet decided, it's still better to share more while qualifying the information you are sharing is work in progress and may likely be subject to change. These communications will help improve the employee's well-being, reduce anxiety, enhance productivity and increase trust between you/management and the employee.
3. Companies and organizations which are adaptable and flexible with work arrangement would likely be rewarded with talent retention – and successes in new talent recruitment, along with productivity gains. Make effective use of technology that minimizes the barriers between work from home and in-office work to provide your employees and team members the best productive and working experience. Employees want to work for companies and organizations that focus on their well-being and that are sensitive to their needs regarding in-person work onsite and in remote work. Companies that can offer employees better flexibility on work environment and for day-to-day work that result in

better work-life balance while maintaining collaboration for individuals and teams are generally rewarded with better products and services that result in positive business growth and revenues.

Summary

Embrace the changing employee attitudes that the future of work is hybrid workplace. Your personal career success, and the corporate success, depends on whether the employee and the company leadership use the opportunity to jointly create a workplace that is better for everyone.

References:

1. "COVID-19 Toll on US Employment: One Year Look Back", ADP Research Institute, March 23, 2021.
2. "Bay Area recovers only third of lost jobs", The Mercury News, p. C09, March 18, 2021.
3. "How is the COVID-19 Vaccination Campaign Going In Your State?", Health News, NPR, April 26, 2021.
4. Alexander, A. De Smet, M. Langstaff and D. Ravid, "What Employees Are Saying About the Future of Remote Work", McKinsey Insights, April 2021.
5. "K.A. Edwards, "Women Are Leaving the Labor Force in Record Numbers", Rand Corporation, November 24, 2020.

AICHe News

The AICHe hosts technical conferences around the world. Check www.aiche.org/conferences for registration and presentation information for this year's events.

Dates	Event
May 11	Safe Zone Ally Training Workshop – Level 2
May 13	RAPID Technology Showcase Featuring HTRI
May 16 – 19	International Conference on Accelerated Carbonation for Environmental and Material Engineering (ACEME 2021)
May 18 – 19	2021 Delaware Chemical Ventures Conference
May 18 – 20	2 nd PD2M Future of Pharmaceutical Manufacturing Conference
May 18	Generating Outrageously Good Ideas
May 21	2021 Sustainable Energy Corps Workshop
June 1 – 2	2021 International Chemical Ventures Conference
June 8	PD2M Emerging Modalities
June 8 – 10	2021 Process Development Symposium
June 9 – 12	Procesa 2021: AICHe Latin America Student Regional Conference
June 9 – 10	2021 Dow Sponsored Virtual CCPS Faculty workshop
June 15 – 18	2021 Synthetic Biology: Engineering, Evolution & Design (SEED)
June 17	Explosion Prevention & Protection Options for Dust Collection Systems
June 24	CCPS Latin America Regional TCS Meeting
June 30	2021 Process Development Symposium Europe
June 30	Small Scale LNG – Is it a Deal Breaker?

Upcoming VLS Meetings

The VLS has monthly meetings. The following meetings have firm dates and speakers.

Dates	Topic
June 2021	Renewable Energy Storage
Sep 2021	Student Intern Competition

Past VLS Meetings

The VLS records its monthly meetings and archives them on the AIChE Academy website in case you missed a meeting or are looking for a particular topic. See below for current recordings.

Date	Event
Feb 2021	Overcoming the Challenge of Applying Chemical Engineering Principles to the Art of Winemaking
Jan 2021	DIERS Technology Fundamentals II: VLS January 2021 Webinar
Nov 2020	Protecting Lives and Livelihood: Hazardous Materials Classification and its Impact to the Supply Chain
Oct 2020	Chemical Safety Board (CSB) Accidental Release Reporting Rule
Sep 2020	Internships and Undergraduate Education
Aug 2020	Physical Property Models to Design Better Chemical Products
Jul 2020	Julia - A Fresh Approach to Technical Computing
Jun 2020	The Next Digital Leap to AI (An Interactive Webinar)
May 2020	Challenges and Benefits of Remote Operator Training using Cloud-Deployed High-Fidelity, First-Principles Based Standard Operator Training Simulators (SOTS)
Apr 2020	NASEM Chemical Engineering in the 21st Century Study: Give your input!
Mar 2020	Is Your Focus Your Magic!
Feb 2020	DIERS data/standards in HAZOPS of two phase flow
Jan 2020	A Brief History of Measurement
Nov 2019	Using Thermal Imaging to Guard Industrial Facilities
Oct 2019	Python for chemical engineers: Getting started
Aug 2019	Reactive Chemical Hazards
Jul 2019	Should I Py or Should I Fortran?
Jun 2019	Design Considerations for Organic Electronic Materials and Devices
May 2019	Why Can't You Compete Without Virtual/Augmented Reality in Your Plant
Apr 2019	The Chemistry of Bourbon: The "spirit" of molecules
Mar 2019	Demystifying Professional Engineering Licensure and How to Put it to Work for you
Feb 2019	Municipal Wastewater and Sludge Are a Resource, Not a Waste: Coping with Tightening Water Supplies and Limited Landfill Availability

We're in this Together

The ongoing COVID-19 situation has provided us with a reminder that even in uncertain times, AIChE is a diverse community of people who lead, create, inspire and learn—together. AIChE is here to help. Knowing that many of our members are working virtually, AIChE has created this page to act as a hub for online content, access to communities, and communication updates. [Learn more.](#)

The Virtual Local Section's Executive Committee

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Did You Know?

You can visit [the VLS website](#) for more information on the Virtual Local Section's mission, activities, and membership. Also at this website, AIChE student members and VLS members can watch previous webinars for free.

Subscription Information

Current fully paid members of the Virtual Local Section receive this newsletter. If you wish to update your email address, contact the AIChE's New York Office for Permanent Address Corrections at xpress@aiche.org or 1-800-242-4363.

Continuing Education Credits

Members of AIChE can receive 1 hour of continuing education/professional development credit for attending Virtual Local Section webinars. Send your name, the certificate number on your professional engineer's license, and the licensing entity (state or country) in which you are licensed to our Secretary, [Laura Gimpelson](#), to receive one hour of continuing education credit for attending this meeting.