



*virtu*AIChE®

This month's meeting:

Primary (with live discussion/live chat) Wednesday, September 27 at 9 pm ET (US) / 1 am GMT

Alternate 1 (with live discussion/live chat) Thursday, September 28 at 7 am ET (US) / 11 am GMT

Alternate 2 (with live discussion/live chat) Thursday, September 28 at 1 pm ET (US) / 5 pm GMT

Language is the Future of Chemistry

By: Andrew White



Large language models (LLMs) are beginning a new era of chemistry, where LLMs can connect and reason about experiments, tools, and databases to accomplish open-ended tasks in chemistry. This is creating both new opportunities in accelerating chemistry, but also increasing the challenge of interpretation of model outputs. Andrew White will summarize his recent work on applying LLMs to authentic chemical challenges, their ability to use tools, access scientific literature, and how we can force them to explain themselves.



Andrew White is an Associate Professor of Chemical Engineering at the University of Rochester with affiliate appointments in Chemistry, Biophysics, Materials Science, and Data Science. He has a Ph.D. in Chemical Engineering from the University of Washington and did postdoc training in Chemistry at the University of Chicago. White's research group studies the deep learning and molecular simulation of peptides and small molecules. He and his group work on the adaption of deep learning to chemistry and materials, with research on graph neural networks, explaining deep learning models, large language models, and Bayesian optimization. Andrew has won young investigator awards from NSF and NIH, professional society awards in chemical engineering,

teaching awards from the University of Rochester, and engineer of the year in Rochester, NY. Andrew's group is currently funded by the DOE, NSF, and NIH.

All VLS meetings are free to attend and open to all, but registration is required.

September Meeting Registration Information

Primary

(Live Presentation/Live Chat)

September 27 at 9 PM ET (US) / 1 AM
GMT

Register in advance for the

[Primary Meeting](#)

Alternate 1

(Recorded Presentation/Live Chat)

September 28 at 7 AM ET (US) / 11
AM GMT

Register in advance for the

[Alternate 1 Meeting](#)

Alternate 2

(Recorded Presentation/Live Chat)

September 28 at 1 PM ET (US) / 5
PM GMT

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 July 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 July winner – **Rajesh Xavier**.



Q: What made you want to be a chemical engineer?

A: As a child, I was always fascinated by the STEM activities and all the medicinal drug usage of chemicals by my veterinarian dad to treat animals from diseases. This led to me focusing more into the STEM activities and becoming an engineer.

Q: What school(s) did you attend?

A: Undergraduate: Osmania University, Telangana, India (Chemical Engineering)
Graduate: National University of Singapore (Environmental Engineering)
Graduate: New Jersey Institute of Technology (Chemical Engineering)

Q: What kind of jobs have you had?

A: Technical Process Coordinator, Dupont Singapore Fibers Ltd, Singapore
Pressure Safety Design Engineer, Bayer Crop Science, Kansas City, MO
Principal Process Engineer, Bayer Crop Science, Kansas City, MO
Expert Chemical Engineer, Bayer Crop Science, St. Louis, MO

Q: Where do you live?

A: I currently live in Wildwood, Missouri.

Q: Why did you join the Virtual Local Section?

A: VLS is the easiest way to engage yourself in the world of engineering at your fingertips, sitting in your house. I wanted to take advantage of that flexibility. It also helps me learn new things, new perspectives, and gain some professional development hours for my professional license.

Q: Any hobbies that are connected to chemical engineering

A: I have a big Koi fishpond in my backyard with at least 50-60 koi fish in it. I spend most of my free time working on improving water quality in the pond with aeration, UV filtration, etc.

AIChE Virtual Local Section Elections

The 2024 *candidates* for election of the open positions on the Virtual Local Section *Leadership Committee are listed below with their statements*. If you wish to nominate yourself as a petition candidate, your formal request is due by **September 30, 2023**, to Steve Treese, VLS Past Chair and Nominating Committee chair.

AIChE Virtual Local Section

Candidate Statements for Elections to 2024 Executive Committee

Senior Vice Chair Candidate (3 Years Remaining)

Arokiaraj (Raj) Alphones

I am looking to run for the Senior Vice Chair position for the AIChE Virtual Local Section (VLS) Executive Committee. Currently, I am working as a Health, Safety, and Environment (HSE) Engineer at Nouryon Surface Chemistry with a focus on air permitting and compliance. Prior to joining Nouryon, I have worked as an Environmental Engineer for a consulting firm and as an Environmental Permit Specialist in the Office of Air, Texas Commission of Environmental Quality. I graduated from Coimbatore Institute of Technology with a B. Tech in Chemical Engineering (2001) and completed my Masters in ChE (2009) and PhD in ChE (2018) from Lamar University. Air pollution control was my field of research during my doctorate degree and water treatment was my focus during my master's degree. I work towards developing a sustainable environment for all living organisms by applying the process knowledge gained from chemical engineering to reduce the resulting environmental impacts.



I have been a member of AIChE since 2014 and joined VLS in January 2023. I am the Vice Chair for AIChE VLS since June 2023. In addition, I do volunteer as a judge for middle and high school science competition (Austin Science Education Foundation), proposal reviewer for Undergraduate Grants in Aid of Research (Sigma Xi, The Scientific Research Honor Society), and peer reviewer for three leading publishers (Elsevier, Springer Nature, and Taylor & Francis).

I have enjoyed the connections and networking with chemical engineering professionals within VLS as well as in professional networking platforms. As a Vice Chair, and working within the VLS Executive Committee, I found my efforts rewarding to help steer VLS members as well as set direction for the VLS to ensure "No Chemical Engineer is Left Behind". I look forward to stepping into Chair leadership to continue setting our future direction so that all VLS members broaden their own talents as chemical engineers.

If elected, I will participate in joint Executive Committee activities, prepare the email campaign, the announcements in AIChE-wide newsletters, the announcements in AIChE Academy, and materials for the VLS website. I commit to completing the Virtual Local Section Chair track.

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Vice Chair Candidate (4-year Sequence)

Amir Razmi

I followed AIChE from 2001 when I was studying for a Bachelor of Chemical Engineering. I Found VLS, during the pandemic, in 2020, when looking for an opportunity to stay in touch with the other experts of the field and hear about the updates from them. I am so happy that I found this section that gave me what I was looking for, chance of connection and learning.

I got my BS and MSc in Chemical Engineering. My Master thesis was about applications of membrane processes for wastewater treatment. The journey continues by working as a process design engineer working on EPC projects of petrochemical, oil and gas refineries including a lead engineer role in the EPC project of the biggest gas treatment plant of the middle east. I have led process engineering design of startup companies of biofuels and carbon capture. Currently, I am working as an engineer with SoCalGas. Through all of these experiences I practiced my knowledge of chemical engineering to help people to experience a better life.

In addition to my regular jobs, I am a member of the board of design thinking program of UC Riverside. I am currently serving as co-chair of the sustainability council of SoCalGas – a group of volunteers engaging in inspiration of sustainability in their community.

This background will let me understand chemical engineering and let me help AIChE VLS to enhance our virtual community for connection, learning and growth across the digital landscape and facilitate their engagement in the fast-changing world of engineering.

Secretary Candidate (2-year Term)

Marissa Martine

Hi there! My name is Marissa Martine, and I am looking forward to the opportunity to hopefully serve as the Secretary of the AIChE Virtual Local Section. I graduated from Rowan University with my B.S in Chemical Engineering in 2021 and am currently pursuing my masters in the fall for Chemical Engineering at Rowan. Even though I am still new in my career, I think networking with professionals from all over is essential to growing my skills as an engineer. I am excited to learn from the Executive Committee and share these experiences with my fellow members of AIChE Young Professionals Committee.

I have been involved with AIChE since my undergrad started in 2017. I have served on several leadership boards in AIChE, including the Rowan Student Chapter President and the Chairman of the AIChE Executive Student Committee. I want to contribute to building an environment where individuals can share expertise and learn from what another to help solve problems and make the world a better one to be in.



Director Candidate – Position 1 (3-year Term)

Paul Shuey

I am running for Director of the AIChE Virtual Local Section (VLS) Executive Committee.

I have served in this position before. After a three-year hiatus, I am answering this year's call to step up and help, by throwing my hat in the ring.

I graduated from Georgia Tech with a BCHE. I am a Professional Engineer licensed in Arkansas. I am also a Certified Safety Professional registered with the Board of Certified Safety Professionals. Like many of you, my work history has evolved from jobs in direct chemical processing to work that applies engineering principles. I have worked for Hercules Aerospace, Atlantic Research Corporation, Lockheed Martin, and others. I currently work for Leidos as an analyst.

If elected, I hope to help continue the excellent work done by the Executive Committee in leaving no chemical engineer behind by seeking relevant and engaging Chemical Engineering related presentations and providing positive support to help ensure board actions also continue to advance this goal.



Director Candidate – Position 2 (3-year Term)

Fortune Adekoqbe

I am, fundamentally, an engineer who seeks to learn, innovate, and positively impact others. During my undergraduate ChemE program, I served on a number of leadership committees. I held the position of Vice President in my university's energy club, Team Manager for the university's Shell Eco-marathon team, Lead Tutor of the university's Google Developer Students Club, and Lead AI Researcher at the government-sponsored NITDA hub.

Additionally, I became the Vice President of my university's AIChE Student Chapter and subsequently, the Student Liaison for the AIChE VLS. Through these experiences, I have grown to appreciate AIChE as a community and the opportunities it provides to chemical engineers at various stages. The AIChE VLS, in particular, has afforded me the chance to learn from established professionals on topics I wouldn't ordinarily explore. I have gained a wealth of knowledge from attending and hosting these sessions over the past two years as the Student Liaison, and I am eager to extend my contributions as a Director.

Furthermore, I bring a unique perspective as a software developer with a focus on machine learning engineering and technical writing. I am confident that the skills I've acquired in the early stages of my career are transferable and can be further honed through my continued service to the AIChE VLS.



2023 Intern and Co-op Presentation Competition Schedule

The 2023 Intern and Co-op Presentation Competition will be the topic of our October meeting. The timeline follows:

- 10/2/2023 - Abstracts due
- 10/9/2023 - Students notified of acceptance
- 10/16/2023 - Presentations due
- 10/19/2023 - "Dry run" to test Zoom connections/audio/video
- 10/25/2023 - Competition

Submit questions to Marc Clithero, Competition Chair, at marc.clithero@btinternet.com.

To submit an abstract go to <https://www.aiche.org/community/sites/local-sections/virtual-local-section/forms/2023-intern-and-co-op-presentation-competition-abstract-submission-form>

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
Sep 19-21	International Congress on Sustainability Science & Engineering (ICOSSE '23)
Sep 20	September 2023 TSC Meeting
Sep 26-28	International Congress on Particle Technology
Sep 26-27	2023 Chemical Ventures Conference
Oct 3-4	2023 Industry 4.0: Digital Transformation Conference (IDTC23)
Oct 4	CCPS South East Asia Regional Meeting
Oct 4	CCPS Virtual Trinidad & Tobago Meeting
Oct 17-18	2023 Ethylene Middle East Technology Conference (EMET)
Oct 17-19	6 th International Conference on CRISPR Technologies
Oct 18	CCPS and DNV Present Process Safety in Africa
Oct 19	CCPS Latin America Regional Meeting
Oct 22-24	2023 AfroBiotech Conference
Oct 24-25	2023 Global Conference on Process Safety and Big Data
Oct 24-25	2023 Diversity and Equity Accelerator through Learning for Startups
Oct 24-26	2023 OTC Brazil
Nov 5-10	2023 AIChE Annual Meeting
Nov 8-9	November 2023 TSC Meeting
Nov 15-17	2 nd Cell Free Systems Conference
Nov 15-17	5 th Battery and Energy Storage Conference
Nov 27-29	7 th CCPS Global Summit on Process Safety
Nov 27-30	ChemE Show

Upcoming VLS Meetings

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

Dates	Topic
Sep 27-28	Language is the Future of Chemistry
Oct 25-26	Student Competition
Nov 15-16	Fusion
Dec 13-14	Holiday Social

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. To view a recording as a VLS member, click on the link to go to the recording. Checkout and use the “Purchase with Money” option. The cost should show as \$0.00. Purchase the recording.

Date	Event
Jul 2023	Creating a Sustainable Lifecycle for Chemical Manufacturing Plants
Jun 2023	LA100 Roadmap: LA's Path to 100% Carbon Free Energy by 2035
May 2023	Higher Goals, Lower Emissions: Recharging the Chemical Industry [only until Nov. 2023]
Apr 2023	Engineering Ethics: Challenges for Innovation and Society
Mar 2023	Alternatives to Toxic Substances
Feb 2023	Introduction to an Atmospheric Radiation Model
Jan 2023	Applied Thermodynamics for CO2 Capture
Nov 2022	Modeling and Digital Twins for Process Development
Oct 2022	Decarbonization of Chemical Manufacturing by CO2 Electrolysis
Sep 2022	Anaerobic Digestion: Sustainability through Organic Waste Management
Aug 2022	Boost Green and Sustainable Chemical Development with AI
Jul 2022	The TurboPy Approach to Learning Python
Jun 2022	Automation Cybersecurity: Connectivity's Double-Edged Sword
May 2022	Evaluating our Assumptions: The Need for Diverse Perspectives
Apr 2022	Lessons on Incident Investigations
Mar 2022	Converting CO₂ into useful products?? What's up with that??
Feb 2022	2022 Student Co-Op and Internship Competition hosted by Noah Meeks
Jan 2022	Biomimicry: Green Chemistry Innovations Inspired by Nature
Nov 2021	Reimagining Energy and the Case for Greening Companies
Oct 2021	Don't Wake Sleeping Dragons: Managing Often-Overlooked Ignition Hazards
Sep 2021	Beyond Unconscious Bias Training: What Works?
Aug 2021	How can nuclear energy help fight climate change?
Jul 2021	Automation of Process Simulation and Data Analytics with MATLAB
earlier meetings	https://www.aiche.org/node/140121/redux-events

The Virtual Local Section's Executive Committee

Officers

Chair:	Fred Fischl
Senior Vice Chair:	Charlie Brown
Vice Chair Pro Tem:	Arokiaraj Alphones
Immediate Past Chair:	Steve Treese
Secretary:	Laura Gimpelson
Treasurer:	Jacob Matthews

Directors

Member Care	Andrew Riederer
Programming	Kirsten Rosselot
Newsletter	Shannon Brown
Member Feedback	Dhananjay Ghonasgi
Publicity/Website	Paul Adamson
Student Competition	Marc Clithero

Contact info for VLS leadership:

<https://www.aiche.org/community/sites/local-sections/virtual-local-section/leadership>

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@aiiche.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 (at lg_environmental@bellsouth.net), to receive one hour of continuing education credit for attending this meeting.