



# virtuAIChE®

*This month's meeting:*

*Primary (with live discussion/live chat) Wednesday, Jul 22 at 9 pm ET (US) / 1 am GMT  
Alternate 1 (with live discussion/live chat) Thursday, Jul 23 at 6 am ET (US) / 10 am GMT  
Alternate 2 (with live discussion/live chat) Thursday, Jul 23 at 1 pm ET (US) / 5 pm GMT*

## **Julia - A fresh approach to technical computing**

Presented by  
Viral B. Shah, PhD

Julia is a modern open source programming language, originally created in 2009, and now used by over half a million users worldwide. It was designed to solve the two language problem - and provides the ease of use of Python, R, SAS, or Matlab with the performance of C++ and Fortran. Today, Julia has over 2,500 community created packages, and the ability to use existing libraries written in other languages.

Julia is also at the forefront of scientific machine learning, with its focus on differentiable programming. These techniques make it possible to train ML and AI models with lesser data and accelerate modeling and simulation workloads by 100x.

With our products - JuliaTeam and JuliaRun, we help our customers adopt Julia and provide a path for translating existing software to Julia. This reduces hardware and software costs significantly, while providing a better Total Cost of Ownership.

Dr. Viral B. Shah is a co-creator of the Julia language. He is also Co-founder and CEO of Julia Computing. He received the James H. Wilkinson prize for Numerical software in 2019 for his work on Julia. Julia has been covered in Nature magazine and received over 1,000 citations. Viral received his Ph.D. in computer science from the University of California, Santa Barbara.



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

### May Meeting Registration Information

<b>Primary</b>	<b>Alternate 1</b>	<b>Alternate 2</b>
(Live Presentation/Live Chat)	(Recorded Presentation/Live Chat)	(Recorded Presentation/Live Chat)
Jul 22 at 9 PM EST / 1 AM GMT	Jul 23 at 6 AM EST / 10 AM GMT	Jul 23 at 1 PM EST / 5 PM GMT
Register in advance for the <a href="#">Primary Meeting</a>	Register in advance for the <a href="#">Alternate 1 Meeting</a>	Register in advance for the <a href="#">Alternate 2 Meeting</a>

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

## AIChE News

The AIChE hosts technical conferences around the world. Check [www.aiche.org/conferences](http://www.aiche.org/conferences) for registration and presentation information for this year's events.

Dates	Event
May 20 – Jul 22	On-line training session for Chemical Hazard Engineering Fundamentals (CHEF) for use with Risk Analysis Screening Tools (RAST)
Jun 29 – Jul 2	Sustainable Packaging Symposium 2020
Jul 8	The COVID-19 pandemic and the Future of Pharmaceutical Manufacturing
Jul 22 – 23	2020 BASF Sponsored CCPS Faculty Workshop
Jul 30	Computational Catalysis: A Process Intensification Tool
Jul 30	RAPID Webinar – Computational Catalysis: A Process Intensification Tool
Aug 3 – 5	International Congress on Sustainability Science & Engineering (ICOSSE '20)
Aug 3 – 5	RAPID@ICOSSE
Aug 4 - 5	2020 Chemours Sponsored Virtual CCPS Faculty Workshop
Aug 5	Process Intensification – Breakthrough in Design, Industrial Innovation Practices, and Education
Aug 5	RAPID Webinar: Process Intensification – Breakthrough in Design, Industrial Innovation Practices, and Education
Aug 12 – 14	Solar Energy Systems Conference '20
Aug 16	The 32 <sup>nd</sup> Ethylene Producers' Conference
Aug 16	The Intersection Between Process Safety and Process Intensification: An interactive RAPID/CCPS Workshop
Aug 17 – 19	2020 Virtual Frontiers in Particle Science and Technology
Aug 17 – 21	2020 Virtual Spring Meeting and 16 <sup>th</sup> GCPS
Aug 18 – 20	RAPID@Spring 2020
Aug 20	CCPS Australia Regional TSC Meeting
Aug 23 – 27	CHISA 2020
Aug 26	August 2020 TSC Meeting
Aug 26	Chemical Process Electrification: An Overview
Aug 28 – 30	2020 India Student Regional Conference
Aug 30 – Sep 3	65 <sup>th</sup> Annual Safety in Ammonia Plants and Related Facilities Symposium

## Upcoming VLS Meetings

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

Dates	Topic
August 2020	Molecular Modeling
September 2020	Student Presentation Competition
December 2020	State of the Section

## 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
May 2020	<a href="#">Challenges and Benefits of Remote Operator Training using Cloud-Deployed High-Fidelity, First-Principles Based Standard Operator Training Simulators (SOTS)</a>
Apr 2020	<a href="#">NASEM Chemical Engineering in the 21st Century Study: Give your input!</a>
Mar 2020	<a href="#">Is Your Focus Your Magic!</a>
Feb 2020	<a href="#">DIERS data/standards in HAZOPS of two phase flow</a>
Jan 2020	<a href="#">A Brief History of Measurement</a>
Nov 2019	<a href="#">Using Thermal Imaging to Guard Industrial Facilities</a>
Oct 2019	<a href="#">Python for chemical engineers: Getting started</a>
Aug 2019	<a href="#">Reactive Chemical Hazards</a>
Jul 2019	<a href="#">Should I Py or Should I Fortran?</a>
Jun 2019	<a href="#">Design Considerations for Organic Electronic Materials and Devices</a>
May 2019	<a href="#">Why Can't You Compete Without Virtual/Augmented Reality in Your Plant</a>
Apr 2019	<a href="#">The Chemistry of Bourbon: The "spirit" of molecules</a>
Mar 2019	<a href="#">Demystifying Professional Engineering Licensure and How to Put it to Work for you</a>
Feb 2019	<a href="#">Municipal Wastewater and Sludge Are a Resource, Not a Waste: Coping with Tightening Water Supplies and Limited Landfill Availability</a>

## 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.](#)

## Surviving Self-Quarantine: 3 Tips from an Astronaut

Al Sacco, a chemical engineer and astronaut, was isolated in orbit on the International Space Station, and he has some sage advice for those currently sheltering in place. [Review here](#)

## Notes from the Chair

By Dan Lambert

Thank you for registering for the June VLS Primary meeting. I wanted to share some information with you that I thought might be helpful.

1. If you were not able to attend the meeting or you'd like to watch it again, the link to the meeting is below:

<https://www.aiche.org/academy/webinars/next-digital-leap-ai-interactive-webinar>

2. Below is a link to a pdf of Dr. Sam Samdani's slides.

<https://www.aiche.org/community/sites/local-sections/virtual-local-section/events/next-digital-leap-ai-interactive-webinar>

3. Below is a list of a few resources that our speaker thought might be helpful. You got to love this innovation case example...keeping my fingers crossed on its reliability and scalability!

<https://www.zdnet.com/article/how-a-smartphone-coupled-with-machine-learning-may-become-a-simple-efficient-test-for-covid-19/#ftag=CAD-00-10aag7e>

FYI. What would this mean for future ChEs?

<https://www.zdnet.com/google-amp/article/ai-is-changing-the-entire-nature-of-compute/>

4. Attached is a list of some of your questions that were not answered at the meeting. Dr. Sam Samdani answered a few of these and provided a few illustrations below:
5. Nathan Leonard, our May speaker, asked me to share a link to his upcoming July 15th webinar. On this webinar he will be demonstrating an FCC (Fluidized Catalytic Cracker) model, in lieu of the Atmospheric Distillation Unit model he demonstrated on the AIChE webinar. The link is here:

<https://refiningcommunity.com/july-15-leveraging-the-cloud-for-refinery-operator-training/>

Let me know if you have any further questions or comments.

Thanks,

Dan Lambert, VLS chair

## The 2020 Spring/GCPS Meeting will be Held Virtually

As a safety measure amidst the pandemic, AIChE will deliver its 2020 Spring Meeting and 16th Global Congress on Process Safety (and co-located events) virtually. Will now be available via the internet from August 17–21. [Review here.](#)

## Free AIChE Academy Access for Professors and Students

Professors who are AIChE members can [apply](#) to use a broad range of content, free of charge, as a supplement to the courses they're teaching. As for students, a wide range of online content is already free as a part of student membership benefits simply by [logging into AIChE Academy](#), but the new program will also grant expanded access to additional courses if their professors have received special access. Students should ask their professors for information on how to access these additional courses.. [Review here](#)

## The Virtual Local Section's Executive Committee

### Officers

Chair: [Dan Lambert](#)  
Senior Vice Chair: [Paul Adamson](#)  
Vice Chair Pro Tem: [Aaron Sarafinas](#)  
Immediate Past Chair: [Kirsten Rosselot](#)  
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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@aiiche.org](mailto: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](#), to receive one hour of continuing education credit for attending this meeting.