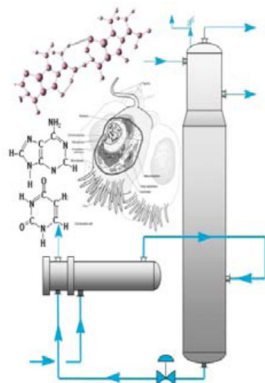


September Newsletter

Chicago Section

www.aiche.org/Chicago

September 2020



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AIChE Chicago September Meeting

Safety and Thermal Management of Li-ion Batteries for e-Mobility Applications

Said Al-Hallaj, PhD
Dept of Chemical Engineering, UIC
AllCell Technologies, LLC



Date: *Monday, Sept 28, 2020*

Where: Zoom

Cost: *No Registration Fee. Voluntary Donation in link.*

Registration and Information:
<https://www.cvent.com/d/v7q36l>

All attendees must register to get the passcode for the meeting.

Agenda

5:30-5:45: Zoom Meeting Opens

5:45-6:00: Section Announcements

6:00-7:30: Technical Presentation, Q&A

Chair Corner

This year has obviously been one of extraordinary tragedy, challenge, and disruption. For virtually everyone, life and study/work have changed in far-reaching ways that would have seemed inconceivable in just the recent past. Fortunately, the Chicago Section of AIChE finds itself in a strong position, both financially and in having such motivated and talented board members and other volunteers who work tirelessly to advance our mission. A debt of gratitude is especially owed to Jarad Champion, our 2019-2020 Chair, for driving excellence and operational efficiency, clearly articulating our mission, being extremely engaged and helpful, and contributing to the success of the Chicago Section.



I would like to introduce myself as the 2020-2021 Chair of the Chicago Section of AIChE. Since 2005, I have worked in the area of reactor and process modeling in bp's Refining Technology & Engineering group in Naperville. I have also greatly enjoyed being an adjunct professor at Illinois Tech since 2015, teaching undergraduate courses on process design and chemical process simulation. My involvement with the Chicago Section of AIChE began in 2018 when I served as Treasurer. I was a postdoctoral research associate at the University of California at Berkeley after earning a Ph.D. at Rutgers University, and am a licensed professional engineer in Illinois. My wife, Maura, and I have lived in Aurora since 2005 and enjoy raising our two daughters (11 and 15).

As a reminder, our section's mission is shown below:

- Promote excellence in chemical engineering education and local practice
- Advance the development and exchange of relevant knowledge
- Uphold and advance the profession's standards, ethics and diversity
- Enhance the lifelong career development and financial security of chemical engineers through networking
- Stimulate collaborative efforts among industry, universities, and professional societies
- Achieve excellence in operations of the Chicago Section

These are clear, worthy, and timeless aspirations. In light of current circumstances, it will be essential for us to embrace digital technologies to maintain and grow the effectiveness and reach of the Chicago Section. I am reminded of Microsoft CEO Satya Nadella's comment that Microsoft had "seen two year's worth of digital transformation in just two months". This statement certainly rings true and such technology will, at least for some time, play a role in so many of our activities, including monthly meetings, outreach, Young Professionals, etc. We are currently exploring how best to conduct online events seamlessly and in a cost-effective manner, while fostering a sense of connectedness, shared learning, and camaraderie that is so important during emotionally trying and economically uncertain times.

My personal goals for the year are to:

- Ensure that all virtual events maintain high levels of quality and engagement
- Judiciously deploy funds to best advance our mission
- Increase the visibility and membership of the Chicago Section

Even though the incremental cost of joining the Chicago Section of AIChE is quite small, some people may not do so because of a lack of awareness of what we do and what the benefits are. Our push to increase visibility and membership will have multiple parts, but you can help by connecting us with chemical engineers at companies and other institutions that may not currently have any Chicago Section members. You are encourage to contact aichechicago@gmail.com with any information about new contacts, if you would like to help us tell the Chicago Section story in your organization, or if you are interested in becoming a volunteer.

Jeffrey Zalc

AIChE Chicago Section Chair

AIChE Senior Member

NOMINATIONS REQUESTED FOR THE ERNEST W. THIELE AWARD

The Ernest W. Thiele award is sponsored by BP and recognizes the outstanding contributions to our profession by a Midwest region chemical engineer. This award was established by the AIChE Chicago Section and is presented annually to a Midwest region AIChE member. This internationally recognized award consists of an engraved plaque and \$1,000 honorarium presented at a monthly section meeting.

Nomination forms and additional information can be obtained from the Thiele Committee Chair.

Completed nominations are due to the committee chair no later than **April 01, 2021**.

One of the highest honors a distinguished chemical engineer can receive is our AIChE Chicago Section Thiele award. Please consider nominating a deserving engineer for this prestigious award.

Jeffrey Zalc

BP Solutions, P&O

phone: 630.881.5478

email: jeffrey.zalc@bp.com

September Meeting Information

Said Al-Hallaj, PhD

“Safety and Thermal Management of Li-ion Batteries for e-Mobility Applications”

Speaker's Bio:

Said Al-Hallaj is the co-founder of All Cell Technologies LLC, a Li-ion battery manufacturing company, founder and CEO of NETenergy, a thermal energy storage company, and a Research Professor of Chemical Engineering at the University of Illinois at Chicago (UIC). Dr. Al-Hallaj earned his B.Sc and M.Sc in Chemical Engineering from Jordan University of Science and Technology (JUST) and a Ph.D in Chemical Engineering from the Illinois Institute of Technology (IIT). Said co-authored a book entitled “Hybrid Hydrogen Systems” and has published several book chapters and numerous numbers of peer reviewed and conference journal papers. Said is the co-inventor of several issued and pending patent applications in the areas of renewable energy, energy storage and water desalination.

Abstract:

A major engineering problem being faced by Li-ion battery manufacturers is the requirement for thermal management due to the transient heat generation of lithium cells during discharge and charge. Li-ion reactions operate most efficiently between 15 and 35 °C. At lower temperatures sluggish electrochemistry re-

actions and increased electrolyte viscosity limits performance, and at higher temperature, parasitic side reactions result in rapid degradation of battery life.

Another challenge currently facing the Li-ion battery industry is the serious concern over fire/explosion hazard. Over-charging, over-discharging, overheating, or physically damaging Li-ion cells can lead to rapid exothermic degradation reactions of cell materials, especially the volatile organic liquid electrolytes. The resulting gas formation results in the release of explosive fumes from the cell. The major hazard is the energy released from a cell failure propagating to neighboring cells, resulting in an uncontrollable thermal runaway event which has previously resulted in major automotive fires, recalls on various portable electronic device models, grounding of entire airline fleets, and large-scale investigations in stationary energy storage system fires including the recent battery fire incidents in the US and South Korean.

This work provides an overview of recent developments in thermal management of Li-ion batteries in various electrical mobility applications. An overview of AllCell's passive thermal management with phase change composite (PCC) technology will be presented with discussion of commercial case studies.



To Register:

<https://www.cvent.com/d/v7q36l>

2020 –2021 Chicago Section Officers

Congratulations to Elected 2019-2020 AIChE Chicago Section officers

Chair: Jeff Zalc



Chair-Elect: Ha Dinh



Vice Chair Meeting Program: Christopher Nicholas



Treasurer - McKay Rytting



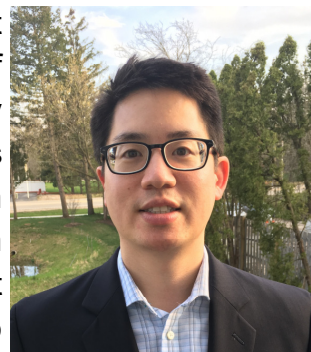
Secretary - Ignasi Palou-Rivera

Ignasi Palou-Rivera is currently the Technology Platform Director of the RAPID Manufacturing Institute. RAPID is the Modular Chemical Process Intensification Institute (MCPIC) for Clean Energy Manufacturing that was established in 2016 by the DOE's Advanced Manufacturing Office and run by AIChE. Ignasi received a Ph.D. in Chemical Engineering from the University of Wisconsin-Madison in 1998, and has held several professional positions in the areas of process development, modeling and optimization, techno-economic analysis, and life-cycle and sustainability analysis, and R&D management. A Senior Member of AIChE, Ignasi has been heavily involved with the Sustainable Engineering Forum (SEF) (Chair for 2018-19) and current member of the Managing Board of the IfS. He is also a member of the CAST Division and the Chicago Local Section.



Director at Large : Robert Tsai

Bob Tsai is an R&D engineer in the Process Design Development group at Honeywell UOP, where he supports the development and optimization of new technologies. He has been with the company for 10 years, previously working in Engineering Innovation and Process Modeling roles, and has been granted over 10 patents during his career. Bob obtained a BS in Chemical Engineering from the University of Illinois at Urbana-Champaign in 2005 and PhD in Chemical Engineering from the University of Texas at Austin in 2010. He was Co-Chair of Programming for the AIChE Chicago Section from 2016-2018 and served as the Chair and then Past Chair of the section during the past two years.



YP News

Greetings Young Professionals,

The AIChE Chicago Young Professionals will not be hosting in-person social events for the foreseeable future out of an abundance of caution during the ongoing global pandemic.

Despite the hiatus in face-to-face events, the Young Professionals Committee (YPC) still plans on staying active, planning for the future, and working towards our objective of connecting young professionals with each other and the ChemE field at large.

Now is also a great time to volunteer with the YPC as we work to operate in a whole new way. Want to be part of the action? Have some great ideas or questions? Make sure to reach out to Ruben (rubenbarajas321@gmail.com) and let him know it!

Stay safe,

Meet AIChE's 2020 Election Candidates

In March, AIChE's Nominating Committee announced the slate of candidates for president-elect, treasurer, and directors for the Institute's 2020 election. Statements from the candidates appear below.

The president-elect will be elected to a three-year term, serving one year each as president-elect, president, and past president. The treasurer and the directors are elected for three-year terms.

Important dates

Voting by paper and electronic proxy ballot will begin on **September 14** and end on **October 19**. The election results will be announced on November 16, during the Annual Business Meeting.

For President Elect

John G. Ekerdt

John G. Ekerdt is an accomplished academician and visionary academic leader. He combines a wealth of experience in leading the research aspects of a school of engineering, a department of chemical engineering, and interdisciplinary research programs, with a passion for teaching and education and a sense of duty to build excellence and to serve others. He is the Dick Rothwell Chair and Associate Dean for Research in Engineering at the University of Texas at Austin (UT-Austin). He received his BS from the University of Wisconsin-Madison and his PhD from the University of California, Berkeley.



He began teaching at UT-Austin in 1979, where he has mentored more than 50 PhD students and written textbooks on reaction engineering. Among John's honors are the Stine Award from AIChE's Materials Engineering and Sciences Division (MESD) and the American Society for Engineering Education's Chemical Engineering Division Award for leadership in chemical engineering education. He is a Fellow of AIChE and the American Association for the Advancement of Science (AAAS). John's service to AIChE over 40 years includes several leadership positions.

He was a founder of the Balcones Fault (TX) Local Section; Meeting Program Chair for the 1991 Spring Meeting and 2004 Annual Meeting; MESD Chair (2002); Chemical Engineering Technology Operating Council (CTOC) member (2005–2010) and Chair (2009); and a Board of Directors member (2012–2015).

STATEMENT:

Reflecting on what we value in this period of uncertainty and upheaval created by the COVID-19 pandemic, I keep coming back to the health and well-being of our loved ones, circle of friends, the communities that give us support, and society at large. I see AIChE as an important community that provides support to its members through all it offers us across our entire career arcs. As we emerge from this pandemic, the new normal will look very different, and organizations will need to adapt and transform programs and the delivery of their programs to meet their missions. AIChE has a dedicated and effective staff, robust governance, and committed and enthusiastic member volunteers. Through my leadership roles within AIChE, I have a strong sense of its culture, and no president can expect to be effective in adapting and transforming programs without working within that culture. AIChE's path forward was defined with the bold vision embodied in Strategic Plan 2018 and Beyond, and it will serve as our guide as we work to transform and adapt to the new normal.

If elected, I will work with members, stakeholders and AIChE staff toward a strong, vibrant and sustainable organization that will meet our current and future needs.

For President Elect: Christine Grant

Christine Grant is a professor of Chemical and Biomolecular Engineering and Associate Dean of Faculty Advancement in the College of Engineering at North Carolina State University, where for more than 30 years she has led faculty development initiatives and conducted interfacial science research.



She has worked at both General Electric R&D Center and P&G as a GEM Fellow. A Life Member and Fellow of AIChE, and former Chair of the Minority Affairs Committee (MAC), she has served on AIChE's Board of Directors (2003–2006), Chemical Engineering Technology Operating Council (CTOC), Environmental Division, Awards and Nominating committees, and the Henry and Melinda Brown Endowment Committee. She currently has an NSF IPA program director appointment.

STATEMENT:

The role of chemical engineers in the global economy has changed significantly. AIChE is a community of leaders, learners, and legacy builders; the Institute has laid a strong foundation in educational offerings, with a programmatic emphasis on process safety, biological systems, energy and the environment. The community has responded, and AIChE has experienced an increase in conference attendance and a surge of technical content downloads. The COVID-19 pandemic's unprecedented impacts on the global supply chain and the lives of AIChE's worldwide membership also presents a widespread need for immediate manufacturing innovations and future pharmaceutical processing. Long-term pandemic impacts on global economies is a major unknown; we must harness what we have to meet the needs of the future.

As President, my top priorities will be:

- leveraging the RAPID Manufacturing initiative and CCPS, where possible, to transform our profession
- fostering adaptation to new systems of learning, linking industry and academics in collaborative online training and certification of the next generation of engineers using transformational technologies
- complementing university education and research, facilitating placement and recruitment of co-ops, interns, and permanent jobs in the global workforce to ensure that all constituents' needs are met with initiatives that increase AIChE's relevance.

Vote for me so that we can partner to meet our challenges and foster AIChE's prosperity.

Email: grant@ncsu.edu.

For Treasurer: Gregory Frank

Gregory Frank is Principal Engineer at Amgen, with leadership experience in biotherapeutic process development and technology innovation. He has received nine Amgen corporate awards. His 30 years of experience includes roles as Director of Engineering and Environment, Health, and Safety at Promega and process R&D and commercialization at Merck. Greg is a 35-year Member and Fellow of AIChE. His service includes: Board of Directors (2016–2018); Society for Biological Engineering board member (current); 2008 Spring Meeting Program Co-Chair; Strategic Planning Committee member; and board liaison to the Career and Education Operating Council (CEOC).



His 24 years of programming leadership encompasses the chairing of numerous sessions, topical, and stand-alone conferences. Greg co-founded AIChE's Pharmaceutical Discovery, Development, and Manufacturing (PD2M) Forum and is co-author of the new bioprocessing section in Perry's Handbook, 9th Edition. Amgen recognized his non-profit leadership with its Volunteer of the Year Award for developing STEM programs for at-risk youth. He earned his chemical engineering degrees at Stevens Institute of Technology (BE and PhD) and the University of Delaware (MChE). He received the Link Foundation Fellowship for innovative energy research.

Statement:

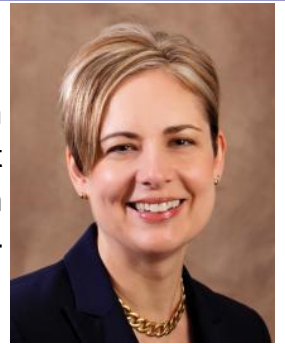
We've been affected by COVID-19 in ways unprecedented in our lifetimes, suffering devastating illness and financial impacts. AIChE members are essential in safeguarding the health and well-being of our communities. Many like me are saddened and outraged by George Floyd's senseless death. With commitment to diversity and equity, and acting in meaningful ways, real change is possible. AIChE's fundamentals are strong, founded on broadening member services and diversifying business portfolios. AIChE isn't immune to COVID-19's effects, but together we will emerge stronger through strategic actions and fiscal management.

I've founded three non-profits. When Romania's government collapsed, I co-founded a non-profit to provide medical supplies for orphans, aided by government and non-governmental agencies. In 2003, I co-founded Goals for Life. Partnering with students, professional sports teams, and businesses, orphanages in diverse North American communities received aid. During the Great Recession, I was Board Chair of American Tall Ship Institute — a non-profit dedicated to STEM educational and at-risk youth programs, serving thousands. My experience with non-profits, leading \$20MM projects, and on the AIChE Board gives me the foundation needed in a treasurer at a time when financial strategies are central to supporting AIChE's mission and membership.

I'm confident that AIChE will come through these challenging times with the commitment of you, our members. Please contact me with questions or comments at gfrank@amgen.com. I wish each of you good health.

For Treasurer: Wendy Young

Wendy Young is the Sales and Marketing Manager for Chemstations, which provides process simulation software solutions through the CHEMCAD product suite. Her experience includes working with technology developers and users in a broad range of industry areas, including chemical and pharmaceutical manufacturing, refining, and water treatment.



Wendy obtained her BS degree in chemical engineering from Texas A&M University (1997) and her MBA from Rice University (May 2020). She has demonstrated commitment to AIChE by supporting local sections (including founding the Young Professionals Group of the South Texas Section); growing membership as Chair of the Membership Committee; and donating to the AIChE Foundation (Silver Level). She has also been privileged to work with colleagues across industry, academia, and government through her past service as Chair of the Young Professionals Advisory Board (now Young Professionals Committee; YPC); on the Board of Directors (2007–2009); and as Chair of the Chemical Engineering Technology Operating Council (CTOC, 2017). Wendy advanced AIChE's leadership in addressing global challenges as a founding co-chair of AIChE's Water Initiative (now International Society for Water Solutions). She was the Meeting Program Co-Chair for the 2015 AIChE Spring Meeting and was elected to Fellow in 2016.

Statement:

The responsibilities of the Treasurer are to collaborate with AIChE's Executive Director and CFO to provide financial oversight and to monitor the financial health of the Institute. This includes oversight of the annual budget, tax filings, and financial reports. The overarching purpose of these responsibilities is to ensure a strong fiscal foundation that enables the strategic activities of the Institute.

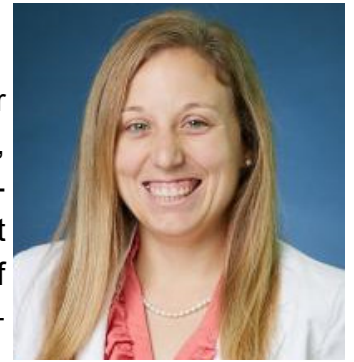
I served on the Board of Directors as we came out of extremely difficult financial times in 2007–2009. Through the Board's guidance and the careful and tireless efforts of the AIChE staff and volunteers, we are in a much better place today. That experience drove home the importance of sound and conservative policies to preserve the financial health of the Institute, now and into the future.

Maintaining a robust balance sheet and reserve funds not only facilitates execution of strategic objectives, but it also allows the Institute to be nimble when responding to crisis situations. For example, to support members during the COVID-19 situation, AIChE was able to offer complimentary access to live and on-demand AIChE Academy webinars. Financial adaptability and resilience will remain paramount as uncertain events arise.

I am confident that I have the skills to help guide the Institute's finances, and I am honored by the opportunity to receive your vote and support. Please contact me with your comments or questions at wendyag1996@gmail.com or at www.linkedin.com/in/wendycyoung.

For Director: Donna Bryant

Donna Bryant is a Senior Process Engineer with Johnson Matthey near Boston, MA, where she leads the Engineering Department. Previously, Donna worked for Syngenta as the Environmental Operations Unit Superintendent at the St. Gabriel, LA, facility. Within AIChE, Donna is the Past Chair of the Young Professionals Committee (YPC) and a former chair of the Baton Rouge Local Section. In 2017, Donna received AIChE's 35-Under-35 Award and in 2018 she was awarded the John C. Chen Endowment Scholarship for Young Professional Leadership. Donna is a licensed Professional Engineer and earned her bachelor's degree in chemical engineering from the University of Virginia.



Statement:

AIChE has been an integral part of my life since I first joined it as an undergraduate and became president of my student chapter. After graduation, I became involved in the Baton Rouge Local Section and on committees at the national level. Throughout my time in AIChE, I have gained valuable knowledge and formed close professional friendships with other members. While we work in a variety of industries, we share a common knowledge core that allows us to exchange ideas. These ideas aren't always technical, but underscore ways that we as chemical engineers can support society and each other — both technically and professionally — and make things happen.

One of the ideas that I helped make a reality was the AIChE Professional Photo Booth, inaugurated at the 2019 Annual Conference and Student Conference. This idea originated during a YPC brainstorming session to provide students and professionals with photographs for their LinkedIn profiles. After crafting the program and highlighting the benefits to AIChE leaders, I was able to facilitate making it a component of the conference. Based on its success, it is planned to return to this year's conference.

As a member of the Board of Directors, I would like to continue to move AIChE forward by:

- promoting programs and ideas that help make AIChE a more attractive organization to graduating students, thus increasing their participation
- ensuring that all members feel supported by AIChE throughout their career
- continuing to develop an atmosphere and platform that is adaptive to ever-changing technology and global issues, such as developing an increasingly virtual platform to support members during the COVID-19 pandemic.

I would be honored by your vote to become a member of the AIChE Board of Directors. If you have any comments, please don't hesitate to contact me by email at donna.bryant@matthey.com.

For Director: Eduardo Glandt

Eduardo Glandt is Professor Emeritus at the University of Pennsylvania (Penn), where he served on the faculty for 38 years, including 17 years as Dean of Engineering. As such, he led a major expansion of the school in faculty size, applications, enrollments, physical plant, fundraising and endowment. He established alumni networks and advisory boards around the globe. Glandt has served AIChE in various capacities, including as a Trustee of the AIChE Foundation, as Chair of the Foundation's Board, and as Chair of the Awards Committee.



He serves on the boards of the Science History Institute, the Hoover Medal, and the Holtec Corporation. He was elected to the National Academy of Engineering. He also belongs to the National Academy of Sciences of Argentina and is a Fellow of the American Academy for the Advancement of Science. Eduardo received the Warren and the Lindback Awards for Distinguished Teaching from Penn, the Victor K. LaMer Research Award from ACS, and the Van Antwerpen Award for Service to AIChE. He earned his undergraduate degree from the University of Buenos Aires and his PhD from Penn, both in chemical engineering.

Statement:

The AIChE has been my professional home for my entire working life, and I have always welcomed any opportunity to work for it. Serving as Director would be the most impactful form of contribution for any member.

Chemical engineering has remained as relevant as ever by reinventing itself as technology evolves. AIChE also had to reinvent itself over time, and it is now agile enough to anticipate rather than trail change — no small feat, given the size and complexity of its operations. These days, the rate of change is simply extraordinary, driven by accelerating developments in technology and by unexpected events such as the current pandemic.

The AIChE Board has numerous responsibilities, beginning with its legal and fiduciary roles. I am particularly interested in its charge as the body that carries out the strategic thinking for the institution. One of the Institute's most significant assets is its ability to be a powerful convener of constituencies. It serves as a networking system for industrial members, as a forum for interactions among the corporations that employ those members, as a forum for the exchange of knowledge for academic members and their students, and also as an opportunity where high school students — i.e., future engineers and thus future AIChE members — can explore their interests.

Traditionally, our meetings have been the main mechanism to connect these constituencies. As digital means of interaction become the new norm, will we be able to convene, satisfy the needs and provide value to those groups in the future? This is both our most important challenge and most interesting opportunity.

For Director: Joe Hannon

Joe Hannon is Chief Executive Officer of Scale-up Systems, developer of Dynochem — the world's leading process development and scale-up software for scientists and engineers working in the pharmaceutical industry. He has 33 years of experience in chemical engineering, including research on mixing and computational fluid dynamics, software development, teaching, business development, and general management. A Fellow of AIChE since 2015, he is a founding Director of the Pharmaceutical Development, Discovery, and Manufacturing (PD2M) Forum (Area 26), and he serves on its long term vision and mission team.



Statement:

I have been contributing to AIChE since 1990, first in the North American Mixing Forum (NAMF) and then as a leader in pharmaceuticals (Area 15b and PD2M) — chairing pharma programming at AIChE's 2010 Annual Meeting in Salt Lake City. With colleagues from Pfizer, Lilly, and Merck, I started the annual AIChE Quality by Design Awards. In 2012, I served on the PD2M Forum Formation Committee. AIChE and PD2M in particular have elevated the level of process science within the pharmaceutical industry and increased the impact of chemical engineering on the development and production of medicines, to the benefit of patients everywhere.

I worked on the organizing team to deliver the first Food and Drug Administration/AIChE joint workshop on Continuous Manufacturing (CM) in Maryland in February 2016, and co-chaired the follow-up CM2017 workshop in Ireland, co-sponsored by AIChE. In 2019, I helped organize the Future of Pharmaceutical Manufacturing workshop in Washington, DC. These workshops represent a valuable new type of programming for the pharmaceutical process community and an opportunity to accelerate innovation with practitioners from across the industry.

When traveling in the U.S., Europe, and Asia to train young engineers and scientists and meet their leaders, I raise awareness of AIChE and its outstanding technical programming and networking opportunities. These meetings help develop a global perspective on the state of the profession.

I believe that chemical engineering is an incredibly rewarding profession that can play a greater role in meeting the needs of society, and that active participation in AIChE helps deliver on that potential. I also recognize the value that programming knowledge can add; between 2012 and 2018, I spent most Saturday afternoons teaching programming skills to children age 7–17 in the CoderDojo movement.

I am honored to be nominated for AIChE's BOD, and look forward to helping deliver leadership and benefit to AIChE and its 60,000 members in 110 countries. I would be glad to hear from members anytime at joe.hannon@scale-up.com

For Director: Julianne Holloway

Julianne Holloway is an Assistant Professor of Chemical Engineering at Arizona State University (ASU). Prior to ASU, Julianne completed her postdoctoral training at the University of Pennsylvania, where she was awarded a postdoctoral fellowship by the National Institutes of Health. She has been actively involved with AIChE throughout her career, including her role as Chair of the “Celebrating Women in Chemical Engineering” symposium in honor of the Women in Chemical Engineering Committee’s (WIC) 20th Anniversary at the 2018 Annual Meeting.



She also served as a Materials Engineering and Sciences Division director (2017–2019) and is currently the Biomaterials Area Programming Chair. Her significant contributions to AIChE were recognized by the Herb Epstein Award for Technical Programming. Julianne’s research group focuses on the development of innovative biomaterials for tissue engineering applications. For her expertise in biomaterials, she was selected as an Associate Scientific Advisor for the journal *Science Translational Medicine* (2018–2019).

Statement:

My first involvement with AIChE was as an undergraduate, when I served as the Drexel University Student Chapter President. Since then, AIChE has played a critical role in my career at every level. As a Director, I would be honored to use my experience and dedication to chemical engineering to advance AIChE’s strategic plan. Here, I present my vision for promoting diversity, fostering connections, and transforming education and technology.

Promoting diversity: The chemical engineering profession is stronger when we are inclusive. The upcoming Annual Meeting theme, “The Increasing Diversity of Chemical Engineering,” demonstrates AIChE’s ongoing commitment to diversity and inclusion. Using my experience with WIC, I will advocate for AIChE to promote diversity and inclusion at all levels within the Institute, to actively engage with underrepresented communities, and to ensure diverse programming.

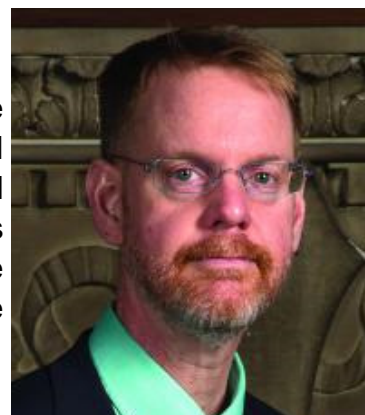
Fostering connections: To remain a leader in the increasingly connected world, we will need to foster connections within AIChE and beyond. I will work with AIChE to forge new connections, as well as strengthen existing relationships between academia, industry, and governmental agencies.

Transforming education and technology: To address future challenges, we will need to continually adapt to meet the needs of our members and the broader society. I will seek to strengthen AIChE’s role in developing new educational tools to ensure student success and to promote lifelong learning. I will also work to enhance AIChE’s role as a hub to share new scientific ideas and to catalyze the development of innovative technologies.

I welcome your ideas and feedback on how AIChE can further shape the future of chemical engineering at julianne.holloway@asu.edu.

For Director: Alon McCormick

Alon McCormick has taught at the University of Minnesota (UMN) since 1989. He has supervised more than 40 PhD students and postdocs, and he has published more than 200 papers addressing the mechanisms and kinetics of various chemical processes where nano- and micro-structures are central. He earned his BS at Tulane University and his PhD at the University of California, Berkeley, both in chemical engineering, and he performed postdoctoral work at Berkeley.



Within AIChE, Alon has served on two Operating Councils — Chemical Engineering Technology (CTOC) and Career and Education (CEOC); is Past Chair of CTOC; and has served on executive boards of the Program Committee and the Materials Engineering and Science Division. He currently serves on CEOC and is Secretary of the Education and Accreditation Committee. He is also a member of the LGBTQ+ & Allies Committee and was a task force member and liaison for the Societal Impact Operating Council (SIOC).

At Minnesota, Alon has served on and chaired university and college committees for education policy, graduate fellowships, research resources, advising, and diversity and inclusion. He is a program lead for an industry-university research partnership in nanostructural material processes, and he is PI of grants for new green ammonia processes. He has served as director of ChE undergraduate studies and as faculty advisor for the UMN chapters of the Tau Beta Pi Engineering Honor Society and Out in STEM (oSTEM). He is also active in the American Society for Engineering Education, the Accreditation Board for Engineering and Technology, and American Chemical Society.

Statement:

AIChE has been an integral part of my life since I first joined. I hope to bring to the Board's work the perspective I've gained through my past work in the Operating Councils with AIChE leaders. I want to ensure that:

- AIChE programming and services reflect the excellence, range, and dynamism of our profession. The mission of AIChE extends beyond the scope of any one organization or sector; yet we are the envy of other engineering disciplines for maintaining a cohesive, inclusive, and global chemical engineering professional identity and influence.
- AIChE offers value as the professional home for members of diverse specializations, job titles, educational backgrounds, and lengths of experience. We need to convene thought-leaders and societal leaders, and also to serve and engage members at all career stages — particularly in times of acute economic challenge and societal need.
- AIChE offers the inclusive climate deserved by students and young professionals. The entire profession benefits by broadening participation and attracting talent from all corners. We need to ensure that all members can thrive, with AIChE as their professional home.

Please feel free to contact me through AIChE Engage.

For Director: William Raiford

Bill Raiford is Senior Director of Technology, Titanium Technologies, at the Chemours Company, where he is accountable for the R&D, product development, and manufacturing technology for Chemours' global titanium dioxide pigment business. Bill has over 30 years of experience with DuPont and Chemours in technology and manufacturing management roles. He was a member of the Chemours team that executed the separation and formation of the company in 2015. He is a member of the AIChE Foundation Board of Trustees, the Corporate Council, and the North American Mixing Forum. Bill earned his BS from Columbia University and his MS and PhD from the Massachusetts Institute of Technology, all in chemical engineering.

**Statement:**

My professional interests as a chemical engineer align very well with specific focus areas of AIChE and its Doing a World of Good Campaign, including process safety, STEM education and careers, and inclusion and diversity. I have seen firsthand the value of these initiatives in not only ensuring a safe and productive chemical industry, but also offering exciting career development opportunities for engineers. At Chemours, I have championed this campaign by hosting a faculty workshop on process safety with the Center for Chemical Process Safety (CCPS) and co-hosting an Undergraduate Process Safety Learning Initiative (UPSLI) Student Boot Camp. As I and my peers work to renew technology and engineering teams in our companies, it is apparent that we must double our efforts in these focus areas, so that the next generation of chemical engineers can see real opportunities for successful careers.

As a Director, I would help the Institute deliver upon its mission as the premier chemical engineering organization. The recent COVID-19 crisis has driven our industries to adapt and find creative ways to maintain safe operations, ensure business continuity, and keep engaged with our employees and stakeholders. Academic institutions have been forced to reshape their business and funding models to continue research and teaching programs. AIChE has also met the challenge and has continued its operations to successfully address members' needs during the crisis. I would look for our organization to build upon this experience and offer innovative ways to hold technical conferences and workshops, deliver continuing education, and provide student outreach and career development — all while focusing on prudent financial management and fundraising activities.

I look forward to the great work ahead for the AIChE, and I would be honored to serve as a director and to represent all members and supporting organizations. I welcome your comments at william.p.raiford@chemours.com.

For Director: Elsa Reichmanis

Elsa Reichmanis is Professor and Pete Silas Chair in Chemical Engineering in the School of Chemical and Biomolecular Engineering at the Georgia Institute of Technology. Prior to joining Georgia Tech, she was Bell Labs Fellow and Director of the Materials Research Department at Bell Labs (Murray Hill, NJ). She has served the chemical engineering profession in roles that include membership on AIChE's Awards Committee, service as 2003 President of the American Chemical Society, and participation on many National Academies' boards and study committees.



She is also an executive editor for Chemistry of Materials. She is a member of the National Academy of Engineering and has received several awards for her work. She was most honored to receive AIChE's 2018 Margaret H. Rousseau Pioneer Award for Lifetime Achievement by a Woman Chemical Engineer. Her research, at the interface of chemical engineering, chemistry, and materials science spans from fundamental concepts to technology development and implementation.

Statement:

I am extremely honored and humbled to be nominated for the AIChE Board of Directors (BOD). While I have extensive volunteer experiences and learnings through many organizations, my heart is in AIChE. If elected, I will bring to the AIChE BOD all of my experiences and learnings, including those from my ACS presidency.

We live in a diverse society and face many challenges; AIChE members are vital in identifying sustainable solutions. AIChE's future vision relies on our future leaders, communication, and connections among the communities that develop technological solutions to challenging problems.

Membership — our backbone — is continually refreshed by students — our future leaders. I believe that we are responsible for providing them with the skills they need to advance their careers. Our efforts to increase diversity among our students and enhance the links between the industrial practice of chemical engineering and training opportunities should continue.

Chemical engineers are uniquely positioned to develop solutions to many of our global challenges. From experience, I know that AIChE can play a powerful role in shaping government investment in R&D, and in enabling connections among companies, academia, and government labs. As the 2020 pandemic demonstrates, the chemical engineering community will be confronted with enormous challenges — whether arising from disease, energy security, food and water, or cybersecurity, among many others. I will work to ensure that AIChE continues as a key resource to members as they anticipate and navigate complex issues.

I'd be honored to work with you, and I welcome your feedback. Email me at elsa.reichmanis@chbe.gatech.edu. I'd appreciate your vote for the AIChE BOD. Thank you.

For Director: Thomas J. Walsh

Tom Walsh is an independent consultant specializing in interim management services. Prior to this, he had a successful 38-year career with LyondellBasell and Honeywell Performance Materials and Technologies (PMT). Tom began his career with LyondellBasell's predecessor —ARCO Chemical Co. — as a process engineer, where he subsequently held leadership positions in production, project management, supply chain, and general management. Tom served as Vice President, Engineering, for LyondellBasell Industries' North America operations before joining Honeywell PMT as Global Vice President, Engineering, in 2011. He retired in 2017.



Tom has been an enthusiastic participant in numerous AIChE activities. He served as Interim CEO for AIChE's Rapid Advancement in Process Intensification Deployment (RAPID) Manufacturing Institute in 2018, and he still volunteers on RAPID's Education and Workforce Development Committee. Tom represented Honeywell on the Center for Chemical Process Safety's (CCPS) Advisory Board from 2014 to 2016. He was co-leader of AIChE Academy's Process Safety Curriculum Team and joined the Continuing Education Committee in 2016. Most recently, Tom facilitated AIChE's COVID-19 Crisis Management Task Force. He earned his bachelor's and master's degrees in chemical engineering from Rensselaer Polytechnic Institute, where he serves on the Chemical and Biological Engineering Industrial Advisory Council.

Statement:

In our rapidly changing world, AIChE plays an increasingly important role for our profession — fostering diverse technical communities, advancing life-long learning, supporting innovation, leading process safety, and more.

My skillset and experience are well suited to helping AIChE succeed in this environment. I have driven strategies and managed change in a broad range of real world environments for more than three decades. Moreover, I have the vision, energy, enthusiasm, and passion to make things happen as a director on AIChE's Board.

Of special interest to me are continuing education, process safety, and technical innovations such as process intensification. AIChE is a leader in these areas, each of which have the potential to transform industries and lives. I've found it highly rewarding to engage with AIChE to advance each of these important areas, and I hope to continue doing so in the years ahead.

I have no doubt that the pace of change will continue to accelerate. As an AIChE Board director, I would commit my experience, energy, and time to advance the Institute and its strategies.

It would be my honor to serve as a director on AIChE's Board. I would welcome your feedback on how I can help guide AIChE to better serve your professional needs at thosjwalsh@gmail.com.

Volunteers Needed for Chicago Local Section

How many opportunities can you find to learn project management, delegation and leadership skills for free? Volunteering with the Chicago Section of AIChE is such an opportunity. While you're learning new skills, your local network grows.

Volunteers are needed to help with:

- Programming – arrange speakers for monthly meetings, and arrange catering and venues
- Logistics – arrange catering and venues
- Newsletter Editor – prepare and publish ten monthly newsletters
- Newsletter Contributions – write meeting summaries, contribute photos, and more
- Engineering Outreach – coordinate three annual K-12 outreach events with high schools and colleges
- Professional Development and Sponsorship – arrange companies to sponsor pre-meeting talks to help fund student dinners
- Awards and Scholarship Committees – Review applications for local Section award and scholarships
- Midwest Regional Conference – many opportunities including programming, logistics, website, advertising, sponsorship, high school outreach, poster session and more!
- Young Professionals – plan socials and programming for young professionals (under 35)

If you are interested in any of these positions, please contact us aichechicago@gmail.com.

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- Access to the AIChE eLibrary—a wealth of information from Knovel Life Sciences and the McGraw-Hill AccessEngineering Library collections

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We welcome email submissions for our monthly newsletter. Commercial announcements are subject to the fee schedule below. News stories, editorials, technical or career related non-commercial contributions are always welcome with no charge. We consider job postings, announcements of for-fee training courses, expositions, conferences as commercial. Categorization of announcements is at the sole discretion of the Chicago AICHe Board of Directors. Chicago AICHe may publicize activities of interest to our members by cooperating professional societies and other non-profits without charge.

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