

The Minority Affairs Committee Presents:
**THE FALL 2020
NEWSLETTER**

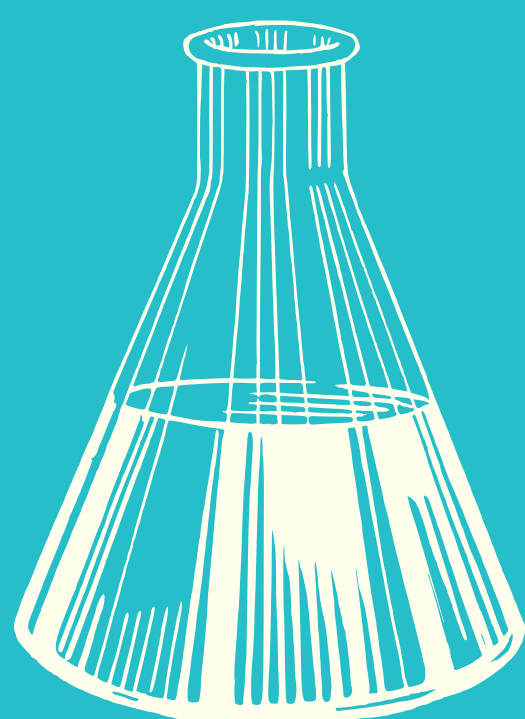
 **Minority Affairs Committee (MAC) of AIChE**

 **@AIChEMAC**

 **@MacAiche**

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Congratulations to our 2020 MAC Award Winners!



Distinguished Service Award

Sipho C. Ndlela

Alternative Energy for Afrika

William W. Grimes Award for Excellence

in Chemical Engineering

Irvin Osborne-Lee

Prairie View A&M University

Eminent Chemical Engineers Award

Bruce Chinn

Chevron Chemicals

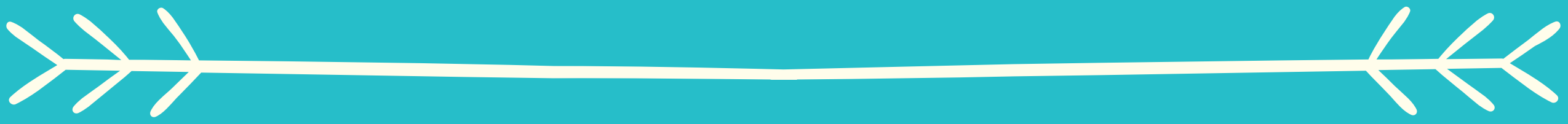
David Suleiman

University of Puerto Rico, Mayaguez

Isaac Gamwo

DOE, NETL





Distinguished Young Professional Award

Jude Phillip
The Johns Hopkins University

Manuela A.A. Ayee
Dordt University

Janice Lumpkin Travel Award

Elizabeth Osadare
Prairie View A&M University

Karen Romero
Editor, Scientific Journal, Virtual Pro

Azeem Farinmade
Tulane University



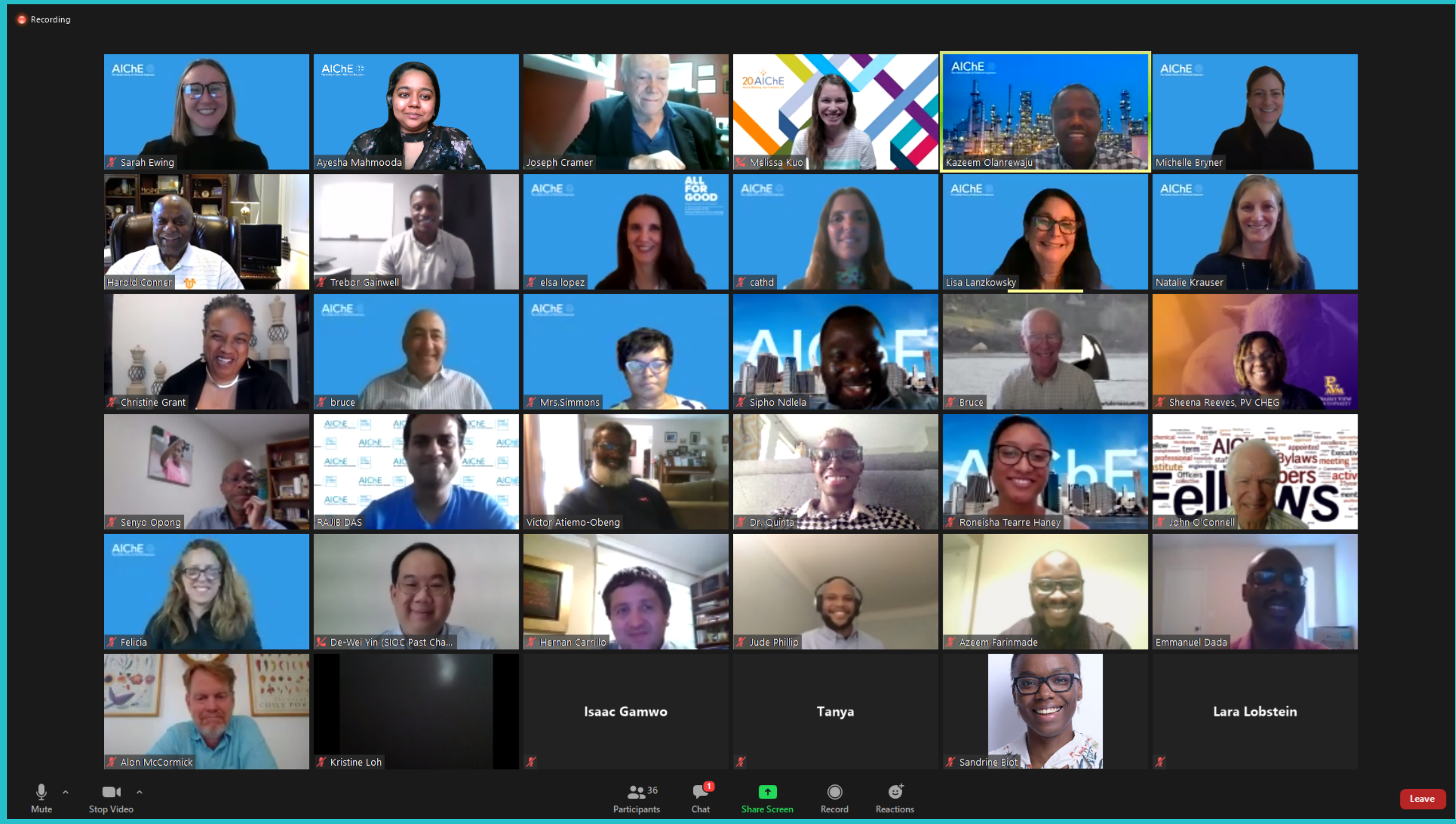
MAC Networking Session 2020

Highlights



"It is diversity that makes any system robust, and diversity that stabilizes culture against the eccentricity and arrogance that have so often called themselves reason and science."

-Marilynne Robinson



Thank you to everyone who attended our networking session on Monday, August 17!



Breakout Session 1: Engagement, Initiatives, and Volunteering

Engagement, Initiatives, and Volunteering

The American Institute of Chemical Engineers (AIChE) Minority Affairs Committee (MAC) presents:
CHEMICAL ENGINEERING FOR A CHANGING WORLD.

mac
AIChE Minority Affairs Committee

Minority Faculty Forum (MFF)
Plans going forward ...

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Founders

Gilda Barco

Interested in volunteering? Contact us at mac@aiche.org

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AIChE Minority Affairs Committee

Minority Faculty Forum (MFF)
Plans going forward ...

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Academic Path

- Academic leadership/Administration (Chairs, Deans, Provosts, Presidents)
- Post-tenure (Associate → Full Professors)
- Pre-tenure (Assistant Professors)
- Pre-faculty (Postdocs)

mac
AIChE Minority Affairs Committee

20AIChE Spring Meeting
16th GLOBAL CONGRESS OF PROCESS SAFETY
HOUSTON • 2020

In breakout session #1, MAC allowed participants to learn more about how to engage with our organization. During the Engagement, Initiatives, and Volunteering session, we discussed our webinars, social media platforms, newsletters, previous events hosted at the annual conference, and the Minority Faculty Forum (MFF) program. MAC is committed to encouraging the education and training of our members, and we hope to continue to engage our members and provide valuable information to promote professional and personal development.

Guest Contributor
Roneisha Haney.

Ph.D. Candidate in Chemical Engineering
at Florida A&M University




Breakout Session 2: Scholarships and MAC 30th Anniversary

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

30th Anniversary of MAC

We stand upon their shoulders.. and aspire to Dr. Wei's statement "That we will not need the minority affairs committee because everyone is treated equally."




Henry Brown
Melinda Brown
[Name obscured]
[Name obscured]
[Name obscured]

nes Wei

16th GLOBAL CONGRESS ON PROCESS SAFETY
AICHE Spring Meeting HOUSTON • 2020

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Women Leaders in MAC




Kathv Lee
Gilda Barbino
Audie Thompson
Chair-Elect

16th GLOBAL CONGRESS ON PROCESS SAFETY
AICHE Spring Meeting HOUSTON • 2020

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Scholarships

MAC Scholarship Demographics Gender & Ethnicity



Category	Male	Female
Gender	~50%	~50%

Ethnicity	African American	Hispanic	Other
Ethnicity	~60%	~35%	~5%

16th GLOBAL CONGRESS ON PROCESS SAFETY
20 AICHE Spring Meeting HOUSTON • 2020



Judith McAfee
Assistant Dean

16th GLOBAL CONGRESS ON PROCESS SAFETY
20 AICHE Spring Meeting HOUSTON • 2020

In this breakout session, we celebrated the 30th anniversary of MAC by recognizing the contributions of the Pioneers of Diversity, a few of our women leaders, and members of the Minority Faculty Forum (MFF). We also discussed scholarship opportunities sponsored by MAC. We are proud to announce almost 50% of our scholarship recipients are female. We acknowledged the generosity of Henry and Melinda Brown in their Endowment for the Education of Underrepresented Minority Chemical Engineers as well. Please check [our website](#) for more scholarship information for students!


Guest Contributor
Sipho Ndlela, Ph.D.
Director, Co-Founder of
Alternative Energy for Afrika (AEFA, Inc.)




Breakout Session 3: Awards and Recognition

Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Awards and Recognition



Abidemi Awojuyigbe
MAC Scholar
Prairie View A&M University



Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT

Awards and Recognition




EVENT: MAC EMINENT ENGINEERS AWARD CEREMONY & POSTER SESSION

Titles and abstract details from 13 Student Posters presented during the event are sent in a separate file. The poster session was interactive allowing students to share their work with attendees. Top 3 poster winners are as follows: Jude Phillip, 1st Place; Adeyinka Lesi, 2nd Place; César Moreno 3rd Place






Date: Tuesday, August 18th
Time: 4:00- 5:00 PM CT


Awards and Recognition




MAC Eminent Engineers


 <p>Ms. Ana Davis Head/ Health, Safety and Environment Syngenta</p>	 <p>Dr. Zenaida Otero Gephardt Associate Professor Rowan University</p>	 <p>Dr. Emmanuel Dada Assistant Professor Prairie View A&M University</p>
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MAC William W. Grimes Award for Excellence in Chemical Engineering


Dr. Christine Grant
Professor & Associate Dean
North Carolina State University

MAC Distinguished Service Award


Dr. Belinda Akpa
Assistant Professor
North Carolina State University



In this breakout session, we discussed awards presented by AIChE MAC annually to deserving individuals such as the William H. Grime Award for Excellence in Chemical Engineering, Distinguished Service Award, and Award for Outstanding Scholastic Achievement. Some of the individuals who win these prestigious awards go on to become active members of MAC and continue to contribute towards achieving the goals of MAC. Also, since the AIChE annual meeting will be virtual this year, the Janice Lumpkin travel award will be channeled towards the conference registration fees for the recipients of the award. Some suggestions were made regarding the awards process, such as reaching out to folks in industry to raise funds to continue to support these awards and grants.

Guest Contributor
Azeem Farinmade
PhD Candidate in Chemical and Biomolecular
Engineering at Tulane University



MAC Events at the 2020 AIChE Annual Meeting

All times are Pacific Standard Time

Saturday, November 14:

Student Conference Networking: REAL Talk

Time: 3:00 pm – 4:30 pm

Where: <https://aiche.zoom.us/j/96640668683?pwd=Z3o3bWRjSlNpNHYreEVpTFZEWUhRdz09>

Monday, November 16

MAC Poster Session

Time: 8:00 am – 9:00 am

Where: iPosters

MAC Business Meeting

Time: 11:30 am – 12:30 pm

Where: <https://zoom.us/j/99863037567>

Meeting ID: 998 6303 7567

MAC Eminent Engineers Ceremony

Time: 3:00 pm – 5:00 pm

Where: vFairs, Live & Pre-Recorded – Committee Meetings & Events

Wednesday, November 18

Societal Impact Operating Council (SIOC) Networking Session – Get to Know Our Communities

Time: 3:00 pm – 4:00 pm

Where: <https://aiche.zoom.us/j/99673258331?pwd=MW1UNW9BOGxmQUI4cENQYXFVbHFHZz09>

Meeting ID: 996 7325 8331

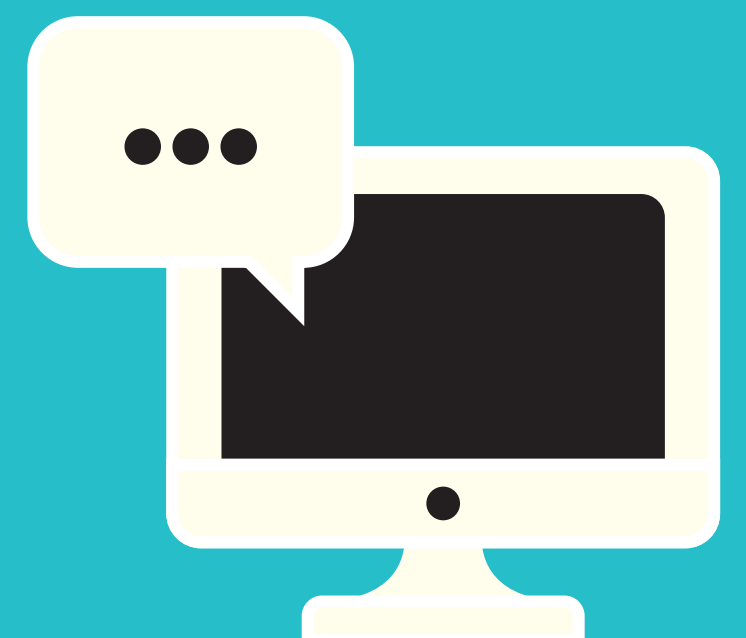
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Thursday, November 19

MAC Networking Session: 30th Anniversary Celebration

Time: 3:00 pm – 4:00 pm

Where: Join Zoom Meeting – info to come



Rising Star Workshop Reflection

Rising Star, A Leadership Workshop for Women Engineers, is part of the AIChE® All for Good program to advance women in engineering. The program for early to mid-career women utilizes best practices and leading research on gender to advance professional goals. On October 7, 2020, Susan Dunlap from Susan Dunlap Associates presented effective communication styles and best practices for women to counteract perceptions and mitigate stereotypes, while an Empowering Women in Engineering Panel shared perspectives on how women can find their voice, navigate the workplace and communicate for success.



Lydia Rodrigues

Ph.D. Candidate in Chemical Engineering at New Jersey Institute of Technology

“As a PhD student on the verge of entering the workforce, I feel like I learned the secret behind being a successful young woman in engineering. The transition between student to professional is already difficult, but adding the additional factors of being a woman in a mostly male dominated field and at a high level of education makes it even more complicated. The Rising Star Workshop instilled in me a confidence to own and stand up for who I am. Susan did a fantastic job in explaining the connection between the body, emotion and language and how we can improve our presence with simple, practical skills, such as a good posture and choice of words. I definitely feel more prepared to step out onto the playing field and build my career as a successful leader.”

**RISING
STAR**
An AIChE Program

Interview with Distinguished Young Professional Award Recipient: Professor Manuela A.A. Ayee

Dr. Ayee has experience in both academia and industry. Her research interests include combining computational and experimental techniques to reveal the role of small molecules in pathogenesis. These techniques aid in elucidating the molecular mechanisms underlying the effects of small molecules on membrane biomechanics and their subsequent modulation of cell biophysical properties. As an NIH Postdoctoral Fellow, Dr. Ayee used both computational and experimental methods (e.g. atomic force microscopy - AFM) to investigate the modulation of cellular and tissue biomechanics by oxidized lipids and sterols under hypercholesterolemic conditions. Prior to that, Dr. Ayee earned her Ph.D. in Chemical Engineering with a specialization in computational biomolecular modeling and interfacial phenomena, with applications involving the roles played by toxins in modulating the properties of lipid layers.



“

One of the most satisfying parts of my job is having the opportunity to mentor and engage with students. This is a part of the job that is not often listed in a job description, but is an important aspect for the education and growth of students. As a female engineer, who is also a member of a traditionally underrepresented racial group in engineering, I offer a unique perspective to my students and hope to inspire some of them as they strive to achieve their full potential in their chosen fields. I currently have the opportunity to expand this mentorship by serving as the Faculty Sponsor for the Women in Science and Engineering club on my campus. In this role, I am able to offer guidance to female students across the STEM disciplines as they organize events that build community and provide unique educational experiences.

”

Can you tell us about yourself?

I am Dr. Manuela A.A. Ayee, and I am a professor of Chemical Engineering at Dordt University in Northwest Iowa. Dordt is a private, primarily undergraduate institution. Here, I engage in both teaching, undergraduate research, and grant writing on a regular basis.

Why did you decide to pursue a career in academia and how did you get started?

I have been interested in academia from a young age. Both of my parents are professors of Communication, so I had excellent role models. While an undergraduate student, I realized that Chemical Engineering was the field I wanted to pursue. Unfortunately, my undergraduate institution (Dordt) had only Mechanical and Electrical Engineering available at the time, but I knew I would be heading to graduate school afterwards, so I completed my Bachelors degree at Dordt, a Masters in Chemical Engineering at Iowa State University, and a Ph.D. in Chemical Engineering at the University of Illinois at Chicago (UIC). Following that, I had an NIH-funded postdoctoral fellowship in the Department of Medicine at UIC, where I was able to apply my Chemical Engineering background to biomedical problems. I began my faculty position at Dordt immediately following the postdoc.

Congratulations on the recent \$250,000 grant you received from the National Science Foundation (NSF). Can you tell us more about the award?

Thank you! My first two years in academia have been a whirlwind of teaching, research, grant writing, and mentoring. In that time, I have received two NSF awards, a Burroughs Wellcome Fund award, and a Fellowship from the University of Iowa. My most recent NSF award is a Major Research Instrumentation grant to acquire a new High Performance Computing (HPC) cluster. One major part of my research involves the use of computational models to study a variety of biophysical systems, so the enhanced computational capacity that the new GPU-accelerated HPC cluster affords will be very beneficial. The cluster also provides excellent training opportunities for students as they become familiar with the power and possibilities of high performance computing.

What will you say prepared you for success as a professor in academia?

I would say there are numerous things that have worked together to prepare me for an academic career. First, the excellent example of my parents, which taught me, among other things, that people working in academia can be both effective and kind. In addition, all the teachers, professors, and mentors along my academic path who taught me well, gave sound advice, and consistently pushed me to achieve my full potential. And finally my natural curiosity and desire to learn, ask questions, and seek solutions to problems that have not yet been solved.

Any advice for college students interested in pursuing a career in academia as a professor?

I would say that if academia is your dream, don't give up, even when things seem tough. Keep pushing on, working hard and keeping your eye on the goal. I would encourage students to explore the vast array of academic positions available, keeping in mind that there is a spectrum of institutions to consider, ranging from research intensive to teaching focused schools. I would suggest that students not limit themselves to one type of institution, but to explore many possibilities. Their skills may be useful in a scenario they never considered. Finally, I encourage students to talk with as many people as possible, working in the area they are interested in to get first-hand knowledge on what is involved and how to prepare

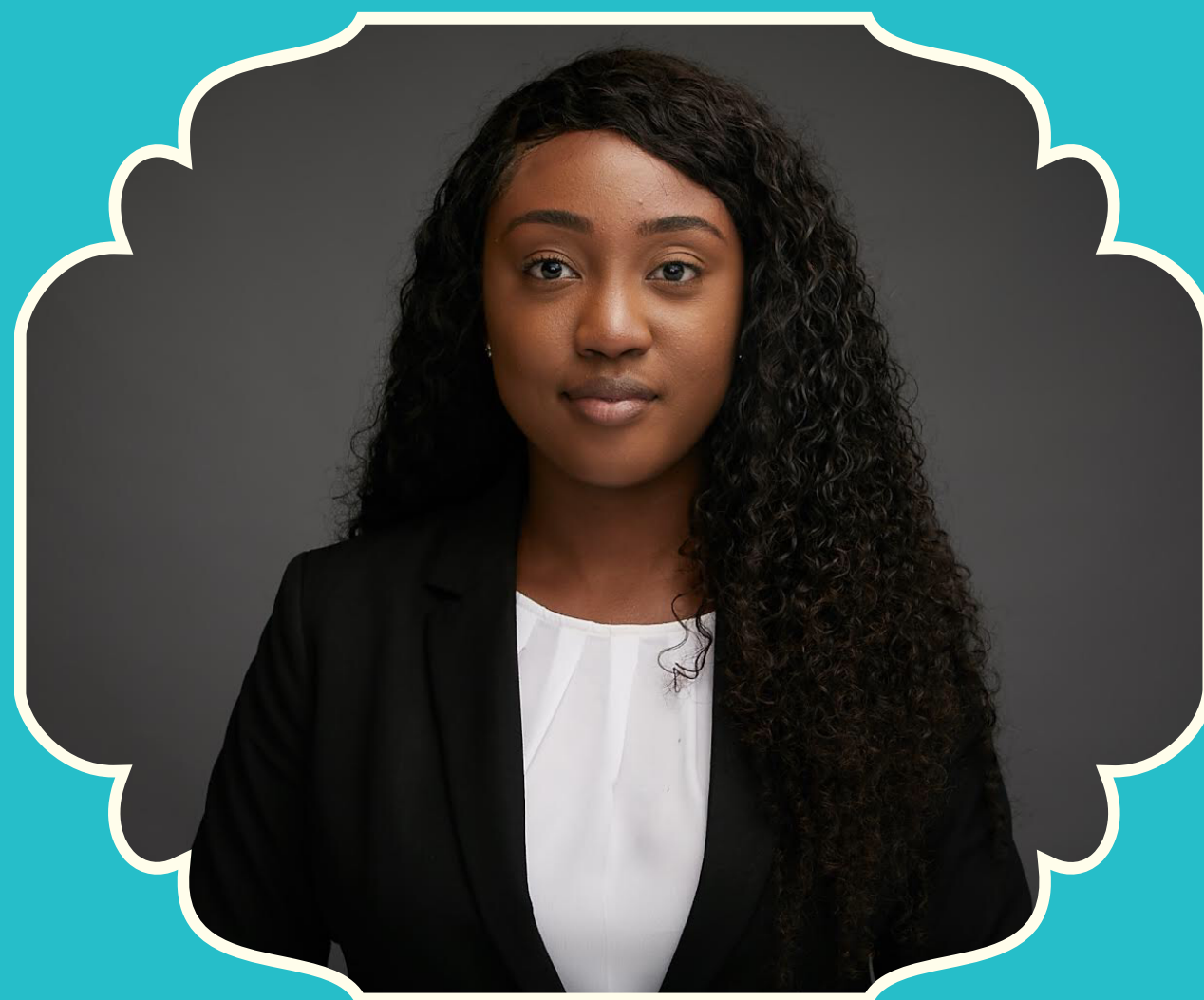
Can you talk about your involvements with AIChE specifically the Minority Affairs Committee (MAC)?

I have been attending AIChE and MAC for the past 11 years. I have frequently given presentations and posters at the annual meeting and make an effort to attend MAC programming. As a student and post doc, MAC served as an excellent opportunity for networking and learning about the contributions and accomplishments of minorities in Chemical Engineering. It was often inspiring to interact with the variety of attendees and learn about the work they did.

Interestingly, it was at a MAC awards ceremony in 2009 that I met the person that would later become my Ph.D. advisor! And at MAC, I have connected with so many other influential people along my journey. I would say, in a huge conference setting like AIChE, I am grateful for the connection point that MAC provides, which helped me get further plugged-in to the life of the society.

Interview with MAC Scholarship Award 2019 Recipient: Abidemi Awojuyigbe

Abidemi Awojuyigbe is a Chemical Engineering student at Prairie View A&M University. She is currently a Forbes under 30 Scholar and currently works as a research associate on nanoparticles in Cancer Chemotherapy. Her overall research focuses on the impact of nanoparticles in delivery of cancer drugs. Abidemi has previously interned with Praxair in process safety where she gained valuable plant experience in process and environmental safety procedures. She also interned in a project engineer role at Air Liquide as part of a collaborative team working on multi-million dollar projects. Abidemi is committed to the advancement of women in engineering she currently sits as the Community Relations Chair for the Society of Women Engineers where she helps mentor incoming freshman engineering students and hopes to continue her efforts in the advancement of women.



“Being a MAC scholar has been nothing short of amazing. I was able to attend the AIChE conference for the first time ever and I gained a lot of professional exposure from attending the conference. I networked with lots of outstanding people and gain professional development in a real-world work environment. I learned what my future would look like in a professional setting and got the opportunity to showcase myself and my brand. As a result, I gained confidence in myself to accomplish my goals.

I was also able to establish lifelong connections after the conference with individuals who have helped, supported, and pushed me to realize that the sky is not a limit but a stepping stone into space where I can be all that I can be. I recommend all students to take full advantage of this scholarship, in addition to all programs AIChE has to offer.

”

Can you tell us about yourself?

My name is Abidemi Awojuyigbe, I was born and raised in Nigeria, and I currently live in Houston, Texas. I am very passionate about the advancement of women in Engineering. I currently sit as the Community Relations Chair for the Society of Women Engineers. In this role I help mentor incoming freshman engineering students and I hope to continue my efforts in the advancement of women. This position has been monumental for me because, as history has shown, women in STEM have faced an uphill battle. It's gratifying knowing that I'm a part of an organization that is dedicated towards the betterment of thousands of women in engineering nationwide. I have gained several industry experiences during my time as an undergrad. I previously interned as a Process safety intern at Praxair, in this role I gained valuable plant experience in process and environmental safety procedures. I then went on to intern as a Project Engineer at Air Liquide, collaborating on various multi-million dollar projects. Lastly, I interned as a Presales Systems Engineering Intern at Dell, where I was able to shift from the norm and immerse myself in the technology industry. I am currently working on a startup I am passionate about called "Scholist". Scholist is a scholarship website/app where college students can get scholarships in order to help crush their student debt. I created this website/application because I noticed that a significant rate of black/minorities find it difficult paying for college. I truly believe that this app would help reduce a significant amount of student debt in the Black community.

How did you decide Chemical Engineering was the right major and career for you?

As a young girl, I read about female engineers and their contributions in various industries. This was the driving force behind my choice in pursuing a bachelor's degree in chemical engineering. With most companies looking out to improve the quality of their manufacturing processes, engineers are rapidly becoming part of the team that drives the success of many organizations and I wanted to become a contributor to these advancements. I hope to one day be an innovative leader in the field of Engineering, and to one day inspire others. I have chosen to dedicate my career as a life-long engineer and an advocate for improving health and safety standards at the workplace. As a result, I decided to join professional engineering organizations such as the Bureau of Safety and Environmental Enforcement (BSEE). I truly believe that as one improves him or herself, he or she should improve others as well. Knowing that I have my own unique contribution motivates and empowers me professionally and personally.

What challenges have you faced in your journey towards becoming a chemical engineer and how did you overcome these?

Growing up, I truly believed that I was destined to continue the vicious cycle of poverty within my family. I believed this because of my family's scarce resources and limited education. Throughout my life, I have faced significant financial hardships and educational obstacles as well as low self-esteem, but was able to rise above them by working towards self-improvement that led to my triumph as a student, and growth as a leader. I have been the type of person that steps up when things get tough, someone who charges at problems head on. I am a strong, smart and compassionate person determined to shape a better future for myself, my family and those around me. I have always felt strongly about giving back to those in need and investing my time into activities that serve a purpose greater than myself. My life experiences and involvement with civic groups and community service have helped define me as an individual.

My biggest challenge throughout my academic career fortunately hasn't been grades, or motivation, or loss of focus. A challenge I have continuously faced is financing my education. Coming from a third world country and poverty capital of the world, it has been extremely difficult paying for my school fees during the course of my education. Although my parents have worked really hard over the years to help pay my exorbitant fees, their hard work is often belittled due to the Naira to dollar exchange rate.

I made a promise to myself that I will no longer be a victim of circumstance because I have decided to strive for success. I have the academic knowledge and determination to achieve my goals, but more importantly, the desire to impact the lives of others.

Any advice for students, most especially women, who are interested in pursuing a degree and career in chemical engineering?

One advice I would give to women thinking about pursuing a degree in Chemical Engineering is never give up! It might seem difficult, but it is rewarding at the end. I would also stress the importance of having a mentor. I always had a mentor at different points in my life, someone I could talk to for career and personal advice. Lastly in the course of your studies never forget your "WHY". Understanding your why is going to keep you focused throughout the course of your studies.

You are a recipient of numerous awards and scholarships including the AIChE MAC scholarship. In 2019, you were listed as a Forbes under 30 scholar and also a BP scholar. Can you tell us more about these prestigious accomplishments and how it has impacted you?

Receiving the BP scholarship as well as the Forbes Under 30 Scholarship has positively impacted my life in so many ways. These scholarships have greatly benefited me in numerous ways and have aided me in my journey to becoming a future trailblazer in the space of Chemical Engineering. These prestigious scholarships as well as others have considerably helped myself and my parents pay my college tuition and have afforded me the opportunity to network with industry professionals. I have grown tremendously as a person and my knowledge on the energy industry has been broadened as a result of the professional programs offered by my scholarship donors. These scholarships have greatly helped me develop my self esteem, my ability to network professionally with others and increased my drive for success.

Can you talk about your involvements with AIChE specifically the Minority Affairs Committee (MAC) and how you have benefited from being a member?

Being selected as a MAC Scholar has been nothing short of amazing, I have been exposed to corporate executives, professional mentorship, networking events, as well as financial assistance. I joined AIChE in my junior year, and so far it has made such a huge impact on my professional and personal life. As a MAC scholar, I was able to attend the AIChE conference for the first time. After the conference, I was able to establish lifelong connections with individuals who have helped support me

throughout the course of my education. I recommend all students to take full advantage of this scholarship, in addition to all programs AIChE has to offer. Lastly, being a MAC Scholar, and future global leader, I also have a responsibility to pave the way for others and and pay it forward. It is an honor to be associated with a program so mutually mission-aligned with my professional values. I'm glad to be a part of something that is bigger than me, something global, representing the change we all want to see in the world.

Interviews conducted by
Azeem Farinmade



Congratulations to Dr. Chris Cornelius and Dr. Jude Phillip!

The American Institute of Chemical Engineers (AIChE) Minority Affairs Committee (MAC) would like to announce the recent appointments of two of our members: Dr. Chris Cornelius and Dr. Jude Phillip at Iowa State University and The Johns Hopkins University, respectively. Read more about their work in the next pages!



Dr. Chris Cornelius

Wilkinson Chair of the Department of Materials Science and Engineering at
Iowa State University



Dr. Jude Phillip

Assistant Professor of Biomedical Engineering at
The Johns Hopkins University

Congratulations to Dr. Chris Cornelius!

Chris Cornelius has been named chair of the Department of Materials Science and Engineering at Iowa State University. He will hold the Wilkinson Chair in the department. His appointment officially begins Jan. 1, 2021 and he will be the first Native American to hold a Senior leadership position at Iowa State University.

Cornelius is currently a chemical engineering professor at the University of Nebraska-Lincoln (UNL) and diversity coordinator for the Mid-American Transportation Center at UNL. He also served as associate dean for research in the UNL College of Engineering. In addition to higher education, Cornelius also has years of industry and professional experience, including engineering and technical positions at the Sandia National Laboratories, 3M and Dow Chemical.

“Chris is an accomplished scholar and administrator who brings a great breadth of experience to this position,” said W. Samuel Easterling, dean of the Iowa State College of Engineering. “His broad-based work in both higher education and industry are key attributes that will support the department and the college moving forward.”

“Chris is passionate about providing students the highest quality education, and we look forward to his contributions in this leadership position,” Easterling said. “Along with faculty and staff in the department, Chris will play a vital role in developing our future engineering leaders who will make an impact in this world.”

In addition to teaching, Cornelius has many research areas and interests, including fundamental material interrelationships; transport of molecule, ion and electrons in complex structures and interfaces; electrospinning organic and inorganic materials; and material surface design. He plans to continue his research at Iowa State.

Cornelius says he is excited about this new opportunity. "I am very fortunate to join an exceptional department with great people that will surround me, and I am equally excited about building a collaborative vision with them and contributing to the excellent reputation of the college," Cornelius said. "I am extremely excited to become a Cyclone – and yes, this is still possible coming from Nebraska as a Husker."

Cornelius received his master's and doctorate degrees in chemical engineering from Virginia Tech, and his bachelor's degree from Montana State University. The American Institute of Chemical Engineers (AIChE) Minority Affairs Committee (MAC) would like to extend our warmest congratulations to Dr. Cornelius on this momentous achievement.



Congratulations to Dr. Jude Phillip!

The American Institute of Chemical Engineers (AIChE) Minority Affairs Committee (MAC) would like to extend our warmest congratulations to Dr. Jude Phillip on his recent appointment as an Assistant Professor of Biomedical Engineering, with a secondary appointment in Chemical and Biomolecular Engineering at Johns Hopkins University. Prior to this, Jude completed his Bachelors in Engineering in Chemical Engineering at the City College of New York, his doctorate in Chemical and Biomolecular Engineering at Johns Hopkins University and his postdoctoral training at Weill Cornell Medicine.

Jude is a member of MAC's communication team and is currently involved with the Minority Faculty Forum (MFF). He often references his early exposure to MAC through experiences as an undergraduate student participating in STEM outreach efforts, typically taking place during AIChE's annual meetings (2007-2010). Although at that point in his academic career, he was limited in his knowledge of what MAC stood for, its greater mission and focus and the MAC community itself, he credits this early exposure as a critical step in his academic pursuits. Since becoming an active member of the communication team he continues to contribute to many of its efforts, including webinars, newsletters and MAC's social media presence. In his new role as an Assistant Professor, Jude is determined to impact people, not only through his research and teaching, but also through mentorship, advocacy and outreach.

As a researcher, his lab focuses on using engineering approaches and first principles to impact the way we think and develop strategies to combat disease, primarily in the areas of ageing and cancer. Taking a systems approach, he is interested in understanding the complex relationships between ageing and the manifestation of diseases, with a special interest in how factors such as underlying molecular states, environmental determinants and disparities contribute to the high variability observed among ageing individuals. A central hypothesis of his work stems from the notion that cells, as integrators of molecular signals, propagate the dysfunctions that eventually manifest as disease. Therefore, by developing technologies and strategies to identify and profile dysfunctional cells, we could take advantage of the 'lead time', providing an ability to predict an individual's biological age and map ageing trajectories, predict age-associated disease states, identify therapeutic vulnerabilities, and develop strategies for clinical interventions to delay and dampen adverse age effects.

He is excited for this new chapter of science and believes that a background in engineering could lead to novel discoveries and technologies as he and his team "re-thinks a true biological tiME-scale". We are excited for him, and we wish him all the best!



Combined Degree Programs: Are They Worth It?

For the traditional engineering student, obtaining a bachelor's degree in engineering involves four years of tough courses, hard work, and dedication. For those interested in extending their studies, some institutions, such as Drexel University, Georgia Tech, and Northwestern University, offer combined degree programs, where students can receive their bachelor's and their master's degrees within five years. These programs seek top students with high GPAs and, depending on the program, high GRE scores. One of the main advantages of these programs is saving both time and money; most combined degree programs grant participants to shave off a year of education, and thus a year's educational expenses. However, are these savings worth the heavier courseload and reduction in free time?

Advantages of Combined Degree Programs

In addition to the time and financial savings, students with combined BS/MS degrees can enter the workforce with additional technical skills as compared to those only with bachelor's degrees. Furthermore, some BS/MS programs allow students to complete a thesis, giving them the opportunity to complete a research project of a higher caliber compared to other undergraduate student projects. Lastly, enrollment as a master's student grants access to more interesting elective courses with heightened focus on specific research areas within the department.

Disadvantages of Combined Degree Programs

Most engineering master's degrees require around 45 credits of coursework, or 15 additional classes. Taking these advanced classes alongside the already rigorous bachelor's-level classes is quite an undertaking. Some might say the time commitment and the lower GPA that comes with harder classes are not worth the mere \$10,000 increase in salary for your first position in industry, considering the expected growth of an engineer's salary over ten years. Furthermore, those interested in pursuing doctorate degrees might reconsider pursuing a master's degree in that same field, as the classes for both degrees are the same. Some might see the BS/MS degree as a waste of time and money, while others might see this opportunity as preparation for their doctorate training.

Final Thoughts

Although the combined degree program can give some students a headstart on their careers, it can hinder the academic success of others. Personally, choosing to pursue a master's degree in a different field gave me the time management and academic skills needed for my doctorate degree, while teaching me concepts that can supplement my background in chemical engineering. Regardless, deciding on a combined degree program requires careful thought, planning, and explicit intention.

Guest Contributor

Kristine Loh

PhD Student in Chemical Engineering at
the University of Minnesota - Twin Cities



Investing in the Next Generation of ChemE's

The Minority Affairs Committee (MAC) of AIChE is committed to supporting the next generation of chemical engineers through several scholarships and travel grants. In this issue, we would like to highlight two outstanding stellar undergraduate students and past grant beneficiaries. Read more about their experiences in the following pages and on the [AIChE Foundation website](#).

The AIChE Foundation is grateful to its community of 6,000+ dedicated supporters for igniting young minds, providing scholarships to underrepresented students and solving society's most pressing challenges. Together, we are advancing, evolving and transforming the profession to do more good.

Join us in continuing our investment in the next generation of underrepresented chemical engineers with a generous gift to MAC using the Give Now button below.

[Give Now](#)

AIChE 
The Global Home of Chemical Engineers

**DOING
A WORLD
OF GOOD**

Meet AIChE International Student Chapter Leadership Travel Grant Recipient: Leonardo Santos Barbosa

"I have always been passionate about Diversity and Inclusion. Working with people from different backgrounds, realities, ethnicities, sexual orientations and genres is an incredible experience that few people have in their careers and I am grateful to have had this experience as Student President of an AIChE Student Chapter. Participating in the Annual Student Conference could not be different, we were immersed in a universe of complete connection with students from all over the world."



I could easily cite countless experiences I had in my days in Pittsburgh (Annual Student Conference 2018) but I will list 3 moments and experiences that even today I remember with great affection:

1. AIChE support for the LGBTQIA+ & Allies Community.

From totems with information aimed at the LGBTQIA+ & Allies community and rainbow colored labels for badges. I still have the photos of these informational posters to this day and I believe that the event is a very welcoming place for the LGBTQIA+ & Allies community and it was amazing to see AIChE's support for the community.

2. Connection with students from other parts of the world.

You can have coffee with a Colombian friend, participate in an event promoted by a Brazilian Chapter with the participation of students from Europe. You can connect with all four corners of the world.

3. Events and Activities.

The Annual Student Conference is, after all, a time for you to learn! The activities and fairs are incredible, all well thought out to develop technical and personal skills. Here is my tip for participating in the AIChE LGBTQIA+ & Allies Ice Cream Social, an event promoted by the AIChE Foundation in which you can meet members of the LGBTQIA+ & Allies community and are sure to feel proud. I still remember the feeling of hearing Eric Reiner's speech at this event and it really transformed my life!

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Get Involved



Join our new Slack Workspace

Slack is an informal community for members to chat, learn about new opportunities, and make new connections. Join [here](#).



Help Us Celebrate our 30th Anniversary

The MAC Communications Team is working on putting content together for the committee's 30th anniversary tribute. If you would like to contribute to this celebration, please send:

- Your name and photograph
- Positions you've held in MAC
- Your current employer and position
- A short quote stating your feelings about MAC and how it has impacted you

to our MAC Communications Office, Trebor Gainwell at minorityaffairsaiche@gmail.com