



2021 Highlights of ACS Achievements

An annual report from Thomas Connelly
Chief Executive Officer
American Chemical Society

We began 2021 with optimism that we would see the end of COVID-19. Buoyed by the rollout of the vaccines, it seemed a reasonable expectation. The vaccines did bring a reduction in fatalities, and a midyear drop in the number of cases. However, by summer's end, the cases began to increase, and the emergence of the 'omicron' variant in December confirmed that the pandemic would extend into 2022.

The learnings from 2020 did greatly contribute to organizational agility, and to our ability to pivot as the pandemic waxed and waned. Our skills acquired in 2020, for example, allowed us to plan a successful 2021 spring virtual national meeting, in lieu of San Antonio. And when the COVID cases climbed again during July/August, we were able to adjust our plans for Atlanta. That meeting had already been planned as our first-ever hybrid national meeting.

Despite COVID challenges, 2021 proved to be a second year of advancement for ACS on many fronts.

The ACS Office of Diversity, Equity, Inclusion, and Respect (DEIR) was initiated in March 2021, under the leadership of Rajendrani Mukhopadhyay. Her expanding team has brought strong leadership to our DEIR activities among ACS staff, volunteers, members, and in the broader chemistry enterprise beyond. DEIR training is a good example of this, as courses were provided for the ACS Board, the ACS executive leadership team, and active volunteers. Several hundred volunteers, and 97% of ACS staff have attended at least one course. Later in the year, the *ACS Inclusivity Style Guide* was made available across ACS, including to our grassroots units. The Guide was jointly developed by the Office of DEIR and our new Communications Division.

In order to streamline our communications activities, a single Communications Division was created. This change, also effected in March 2021, brought together C&EN (including cen.org), the ACS Communications office, the acs.org website, and our webinars and video production functions under the leadership of Sue Morrissey. The team has made impressive progress within its first nine months. We are seeing far better alignment of messaging among the units within Communications, but also with ACS Publications and with CAS.

The year 2021 was also a year of change and progress for ACS governance processes supported by the Office of the Secretary and General Counsel. The Committee on Committees (ConC) offered major amendments to ACS Standing Rules in the form of the Petition to Harmonize Committee Structures, Processes, and Terms. These amendments were approved by the Council and the Board and standardized and simplified our committee structure and operations.

2021 was a critical year for our new membership model. Thanks to the support of our Board of Directors, and the action taken by Council in the spring, we were able to move forward with the 'Membership Transformation'. For the first time in the history of ACS, we can now offer multiple member benefit packages at differing price points. Our market research had indicated that this change was sought by members and potential members. It is also important to our growth internationally. A significant IT investment is underway to support this transformation providing the latest e-commerce capabilities.

ACS Membership for year-end 2021 exceeded 151,000 members. One encouraging trend was the increase in members selecting the premium and standard benefits packages available with the new membership model, introduced during the 4th quarter renewal cycle.

August 2021 saw our first-ever hybrid national meeting, as the continuing pandemic dictated that we try this new format for our Atlanta meeting. While the summer surge of COVID caused a shift of the majority of our attendance to virtual, the in-person meeting was successful, and much appreciated by the members who attended. We garnered numerous learnings that will be quite helpful, recognizing the expectations that most of our future meetings will have at least some hybrid events. In December, the first-ever virtual Pacificchem Conference was held. Despite the disappointment of terminating the in-person meeting in Hawaii, the meeting, produced by ACS for our partner Pacific rim societies, was enthusiastically attended.

ACS efforts on green and sustainable chemistry continued to grow in scope and importance. The ACS Green Chemistry Institute held its 25th Annual Green Chemistry & Engineering (GC&E) Conference as an all-virtual meeting due to the COVID-19 pandemic. The GC&E Conference consisted of 39 scientific sessions, five poster sessions and five plenary lectures. A total of 1,324 scientists from 55 countries participated.

ACS collaborated with the U.S. Food and Drug Administration for a joint colloquium on micro and nano plastics in food. We worked once again with the U.S. Environmental Protection Agency to sponsor the 2021 Green Chemistry Challenge Awards.

Our green chemistry educational activities included a virtual Summer School on Green Chemistry and Sustainable Energy, the green chemistry student travel awards, an expansion of our ACS Green Chemistry Student Chapters, and continued progress in our three-year project to develop green and sustainable chemistry resources for undergraduate curricula. Again in 2021, Project SEED (Summer Experiences for the Economically Disadvantaged) students participated in a four-week virtual summer camp. This year, 345 students studied under the direction of 82 'cabin leaders' and 19 mentors. Students learned about careers in

chemistry, lab basics, and college preparation via webinars, independent assignments, and small group discussions. New this year was the virtual research pilot that was conducted for 28 students at 11 sites.

The U.S. National Chemistry Olympiad and the International Chemistry Olympiad were both held virtually, for the second year, owing to the pandemic. The study camp for our 20 U.S. finalists was held virtually, but the selected team travelled to Washington, where the international exams were proctored by ACS volunteers. After the exam, the team relaxed during a two-day visit of capital sites. The U.S. team performed very well in the international exam, garnering two gold and two silver medals.

With teachers continuing to cope with virtual and hybrid teaching, the pedagogic and classroom resources of the American Association of Chemistry Teachers (AACT) proved invaluable. The AACT experienced another year of strong growth adding 8.5% new members to a year-end total of 8,725. AACT member satisfaction increased in all measured categories contributing to the sustained growth that we realized.

Our Education team also collaborated with ACS Publications for the launch of the ACS Institute. Following the recommendations of an ACS Board task force in 2019/2020, ACS announced and launched the ACS Institute during 2021. To date, staff have implemented seven education centers, each with its own on-demand and in-person content.

ACS Publications delivered a strong performance in 2021 despite the global challenges caused by the COVID-19 pandemic. The Division continued to make all COVID-19 relevant content free-to-access, supporting the fight against the virus, and increasing public awareness through relevant journal articles. Although the difficult environment reduced the output of research labs worldwide, ACS journals continued to grow in submissions, usage, and citations.

In 2021, the ACS Publications Division completed its bold initiative to support Open Access (OA) publishing with the introduction of nine 'ACS Au' pure OA journals to accompany *JACS Au*. These journals expand the Division's ability to meet the needs of authors who are facing OA publication mandates from their funders and institutions. ChemRxiv, the Division's preprint collaboration with the Chinese Chemical Society, the Chemical Society of Japan, the German Chemical Society, and the Royal Society of Chemistry, passed 10,000 posted preprints and 28 million views/downloads.

The Division's new Digital Transformation group began work to accelerate digital initiatives and increase the diversification of ACS Publications offerings. For 2021, this included the introduction of the ACS Institute, an online learning platform offering developed in collaboration with the Education Division, delivering a collection of learning and training resources. A comprehensive strategic product roadmap covering future new product innovations was also defined.

Contributing to the success of CAS in 2021 (and beyond!) is its launch of the new ‘enterprise solutions’ go-to-market platforms. Multiple offerings were incorporated into both the CAS SciFinder Discovery Platform™ and the STN IP Protection Suite™.

CAS also contributed to the fight against COVID by its own contributions to scientific understanding of the SARS CoV-2 and the pandemic, and also through its work supporting public health efforts in its Columbus, OH location.

After the 2020 pilot, Human Resources extended our new performance management system, PM2020, across the entire organization in 2021. Our staff have responded positively to the quarterly performance check-ins, and they welcome the peer input to the process. HR was also deeply involved in responses to the pandemic. Our multiphase plan for return to the offices required logistical modifications and IT systems requirements created under HR guidance. Decisions on matters such as vaccination requirements, mask wearing, and other public health measures were made that are fundamental to our staged return to our offices.

Finally, 2021 marked another year of strong financial performance and resulted in a record net surplus from operations. This marks the 18th consecutive year that the Society has generated an operating surplus. The outstanding operating results were achieved due to the tireless efforts of ACS staff and stakeholders who remained steadfast in pursuit of the Society’s mission, while effectively managing the ongoing impacts of the pandemic. All five of our Financial Guidelines were met for the fourth consecutive year.

GOAL 1—Provide Information Solutions – Deliver indispensable chemistry-related information solutions to address global challenges and other issues facing the world’s scientific community.

- **CAS Enterprise Solutions**

CAS transformed from offering a product-based approach to providing a full suite of enterprise solutions that deliver additional value to customers through robust capabilities aligned to their workflows and scientific information needs.

- **CAS SciFinder Discovery Platform™** enables customers to get discoveries to market faster by efficiently providing researchers with the information they need. Enhancements improved prediction accuracy and creativity, introduced a new Formulation Designer, the first formulation prediction capability on the market, and Compare Formulations, a smart and efficient comparison tool that improves efficiency for formulations scientists.
- **STN IP Protection Suite™** ensures that intellectual property (IP) is protected and helps customers identify opportunities to extend into new markets. The solution is comprised of STNext®, CAS Scientific Patent Explorer™, CAS Search GuardSM, and FIZ Patmon. Key new capabilities in 2021 include foundational system performance improvements, enriching Biosequences offerings, as well as extended reporting and predictive capabilities.
- **CAS Custom ServicesSM** delivers customized data, analytics and insights to maximize the value of information assets and fuel digitalization success. Innovators

can partner directly with expert scientists at CAS to design custom solutions leveraging our content, technology, and expertise in new ways to drive innovation and solve unique R&D and business challenges.

- **CAS Common Chemistry™**

A significantly expanded version of CAS Common Chemistry was launched in March, with information on over 500,000 substances available from CAS REGISTRY and integration of a new API capability. Aligned with the ACS Open Science initiative, CAS Common Chemistry broadens access for everyone who seeks reliable scientific information on routinely encountered chemicals.

- **CAS Content Collection™ Enhancements**

As the volume of scientific information increases exponentially, CAS is continuously evolving its content to meet the needs of innovators worldwide. Enhancements included a properties expansion initiative to capture 18 new property types, improving processes to speed analysis time that puts content in the hands of customers faster, expanding coverage areas across disciplines, e.g., the addition of 1.5M new substances spectra, and expanding the comprehensiveness of patent data.

- **Chemical Safety Library (CSL)**

CAS partnered with Pistoia Alliance to launch the Chemical Safety Library in November. CSL is a resource aimed to mitigate the serious risks researchers working with potentially hazardous chemicals face due to unanticipated chemical reaction outcomes by enabling scientists to access and share hazardous reaction information drawn from real-life laboratory experiences.

ACS Publications

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- ACS Journals Continue Global Leadership and Influence**

The portfolio of ACS peer reviewed journals continued to represent the most trusted, most cited, most read scientific publications in their respective fields. During 2021, key editorial and quality metrics continued to show strong performance, with:

 - 62K articles published.
 - Over 220 million full text article downloads.
 - Nearly 4.2 million total citations reported, an increase of 15% from previous year.
 - 58% of journals achieving their highest ever Impact Factor.
 - Newly introduced titles included in key databases such as the Web of Science™, the Emerging Sources Citation Index, and the Directory of Open Access Journals.
- ACS Journals Expand Global Presence**

Reflecting the global nature of 21st century science, ACS journals increased their engagement with the global community of researchers through the identification and appointment of research-active scientists to key editorial posts. In 2021, more than half of all new editorial appointments were from outside North America. The Division paralleled this global engagement with the appointment of ACS-International staff in Asia, Europe and Latin America leading to a direct increase in strategic activities across these territories.
- ACS Journals Enable Open Access/Open Science**

ACS Publications continued its leading activities and engagement to enable Open Access/Open Science:

 - A suite of full (gold) open access journals was introduced including *JACS Au* and nine *ACS Au* titles to cover the broad diversity of chemistry research. These ten new titles helped cement ACS Publications as a leader in open access and collectively published over 500 articles in their first year while maintaining high standards of quality.
 - Including *ACS Omega* and *ACS Central Science*, the Division's portfolio of fully open access journals published 4,000 articles in 2021, and across the entire portfolio, approximately 19% of total content was published open access.
 - The Division continues to support a wide variety of access models to best meet the needs of authors, institutions, and funders transitioning to full open access. Transformative 'Read + Publish' agreements now cover almost 400 institutions in 25 countries.
 - A new publication process was introduced to simplify the way authors can make their article open access, utilizing institutional or funder credits.
 - [ChemRxiv](#), the Division's preprint collaboration with the Chinese Chemical Society, the Chemical Society of Japan, the German Chemical Society, and the Royal Society of Chemistry, migrated to the Cambridge Open Engage platform. The new platform provides an improved, streamlined experience for authors and readers. In 2021, ChemRxiv passed 10,000 posted preprints and 28 million views/downloads.
- ACS Journals Introduce New Data Policies and Guidelines**

ACS Publications took key steps to ensure results reported in ACS journals are verifiable, reproducible, and easily accessible to researchers through the following initiatives:

- The [ACS Research Data Policy](#) providing best practice recommendations for data citation, data availability statements, and the use of appropriate data repositories.
 - An evolving set of [Data Guidelines](#) by sub-field and data-type providing authors with specific instructions on how to make data available and comply with discipline-specific standards.
 - Joining the [Research Data Alliance](#) and endorsing the [Joint Declaration of the Data Citation Principles](#).
- **ACS Journals Increase Market Outreach and Community Development**
Despite the ongoing pandemic, ACS Publications continued to use creative efforts to dramatically expand online and virtual interactions with researchers worldwide:
 - *JACS in Conversation* video promotions generated 10.4 million impressions, over 28,000 engagements, and 15,000 video views.
 - *ACS Axial* page views grew to total more than 1.2 million, a 16% year-over-year increase.
 - A series of *Innovation Summits* were held in collaboration with top Chinese institutions, reaching 25,000 online attendees.
 - 83 webinars were conducted, with a 177% increase in attendees.
 - Twitter followers grew by over 25% and experienced a 260% increase in engagement.
 - ACS e-alerts grew to over 1 million subscribers.
- **Digital Transformation Accelerated Portfolio Diversification**
The newly formed Digital Transformation group accelerated various digital initiatives within the Publications Division to increase the diversification of its offerings:
 - The [ACS Institute](#), an online learning platform developed in collaboration with the Education Division was launched. The Institute is organized into seven centers offering a collection of learning and training resources.
 - Over 5,000 posters were uploaded to [SciMeetings](#) and attracted over 210,000 event page views.
 - Over 140 institutions adopted [ACS in Focus](#) books.
 - A comprehensive strategic product roadmap was developed that covers all proposed new product innovations and included an ambitious plan for the Division to deliver a series of data products.
 - The Digital Transformation Office (DTO) was formed to conduct external customer discovery and align innovation initiatives with financial goals.
- **National, Expo, Regional & Specialty Meetings (Also Supports Goals 2, 3, 4, & 5)**
ACS meetings were again impacted in 2021 by the pandemic. The ACS Spring 2021 meeting was held virtually with more than 12,500 registrants, and just over 7,700 submitted abstracts. The meeting continued to expand its reach globally and attracted international participants from 73 countries. The spring meeting was a society-wide collaboration with more than 7,000 staff hours allocated to technical session producer roles, which supported 923 sessions, with 883 active zoom rooms over a 10-day period. The ACS Fall 2021 meeting was a first-ever hybrid meeting event for ACS. The event took place both in-person in Atlanta and virtually with more than 1,100 technical

sessions. Over 300 sessions were live streamed from Atlanta, with an additional 800+ sessions offered 100% virtually. The meeting attracted more than 8,200 registrants, 23% hybrid and 77% virtual attendees, from 71 countries, with just over 6,100 abstracts submitted. Both the ACS Spring and Fall 2021 meetings offered successful and robust sponsorship packages.

The Department of Meetings & Exposition Services (DMES) staff supported the virtual Green Chemistry & Engineering Conference. The meeting attracted more than 1,300 registrants. The team also supported a virtual Pacificchem 2021, presented in Hawaii-Aleutian time zone, which was postponed from 2020 due to the pandemic. The meeting attracted over 8,600 registrants from 71 countries. There were over 10,000 presentations (oral and poster) delivered in more than 350 sessions over a 5-day period.

The team also supported seven regional meetings during the year, virtually, hybrid, and in-person. Combined, these meetings attracted more than 5,100 registrants.

As safety is a core value for ACS, DMES created health and safety guidelines that were utilized by all hybrid and in-person meetings and events that took place successfully in 2021.

- **ACS Petroleum Research Fund (PRF)**
PRF awarded 169 grants for fundamental research in chemistry, engineering, and geology out of 646 proposals reviewed in 2021, providing a total of \$17.018 million in research funding.
- **25th Annual Green Chemistry & Engineering (GC&E) Conference**
The Annual GC&E Conference, once again offered virtually due to the COVID-19 pandemic, was held June 14-18, 2021. Using a combination of live and pre-recorded content, ACS Green Chemistry Institute (GCI) hosted 39 technical sessions, five poster sessions, and five keynote lectures. A total of 1,324 individuals from 55 countries registered for the conference.
- **ACS-Food and Drug Administration (FDA) Colloquium**
The ACS and FDA organized their third joint colloquium, held virtually, on October 5, 2021. The colloquium focused on “Micro- and Nano-Plastics in Food: The What, Where, and Why” and featured speakers from the University of Exeter, the U.S. Environmental Protection Agency, and the German Federal Institute for Risk Assessment.
- **ACS Guidelines for Safe Handling of Nanomaterials in the Laboratory**
Revised guidance for [working safely with nanomaterials in laboratories](#) was created through a collaboration between the Committee on Chemical Safety and the National Nanotechnology Initiative.

- **New Chemical Safety Videos on the YouTube ACS Chemical Safety Channel**

The [ACS Chemical Safety Channel](#) has reached almost 140,000 views since it was created in 2019. Two new videos, *Quality Data for Safer Experiments* and the *Lab Worker's Guide to Better Ventilation*, have been added in 2021 to this channel.

- **ACS Green Chemistry Institute Industrial Roundtables**

Pharmaceutical Roundtable

Roundtable membership continues to increase, currently with 40 members, including associate and affiliate members. The Roundtable expanded its portfolio of tools, adding a new acid/base tool and new reagent guides. Nineteen reagent guides are now available to the public. A total of \$300,000 in grants funding was awarded in 2021.

Oilfield Chemistry Roundtable

Eight companies are actively engaged with the Roundtable, including new members Shell, BRENNTAG and NexTier. The Roundtable awarded its first grant this year to support the identification of potential friction reducers and very high friction reducer alternatives that are biobased and renewable to replace polyacrylamide.

- **Enabling Technologies**

To support the new membership model, modern technologies were introduced. These technologies include:

- A micro services architecture that allows us to integrate applications more quickly, secure our applications more consistently, and build technology that can more easily be reused.
- Expanding our membership data store to include more data elements, better quality controls, more consistent reporting, and broader use of visualizations. All these things allow ACS to maintain a better understanding of its membership and their evolving needs and have more supporting information for decision support.
- A new e-commerce platform, Magento, is nearing the end of development. This new platform will enable ACS to offer multiple packages of benefits to the same membership. This allows similar types of members to select different benefit mixes at different price points. This platform also enables more member self-service when upgrading or changing their membership or benefits received from ACS.

The varied needs of the programs and services delivered by ACS makes it essential that we have flexible systems that can adapt to changing organizational requirements. The addition of the micro services architecture and the e-commerce platform are cornerstones for ACS to have a flexible technology foundation upon which to build its programs and services.

- **Cyber Security**

The organization responds to the changing Cyber Security landscape every year with new investments in security. We have had success converting unauthorized users into paying customers. The organization has continuous improvement efforts in this area.

- **High-Quality, Award-Winning Chemistry Journalism**

C&EN Media Group continued to provide coverage of the COVID pandemic and other key issues and to generate advertiser and reader revenue. Highlights include:

- Developed, in collaboration with the ACS Bridge Project, e-newsletter courses entitled “How to Land Your First Job: An Email Guide” and “Selling your Science: The Art of Science Communication” aimed at providing professional development advice and helping students navigate the challenges of graduate school. The courses were underwritten by the Genentech Foundation.
- Received the 2021 Folio: Eddie and Ozzie Award for Overall Editorial Excellence in the association/nonprofit category.
- Published the Trailblazers special issue on Black excellence in chemistry, including a #BlackinChem campaign by C&EN BrandLab.
- Named the Talented 12 class of 2021 and held a two-day, virtual symposium with over 1,300 registrations; sponsored by Thermo Fisher Scientific.
- In collaboration with its cosponsors, expanded the Women in Chemistry awards with launch of Latin American awards.
- Converted a total of 641 new ACS members through various C&EN activities
- Published 77 whitepapers, quizzes and eBooks
- Produced 97 C&EN Webinars

GOAL 2—Empower Members and Member Communities – Provide access to opportunities, resources, skills training, and networks to empower our global members and diverse member communities to thrive.

- **Transformation of ACS Membership**

In March 2021, ACS Council overwhelmingly voted to approve the proposed transformation to the ACS membership model and provide all members and potential members with a better experience, better value, and better choice. Supported by extensive market research, the changes established a new base dues price of \$160—the first dues decrease in recent history—and for the first time ever created three membership benefits package options of Premium, Standard, and Basic from which individuals could choose. To enable this transformation, the underlying systems that support membership were rejuvenated to provide current members the new choices and prices as they came up for renewal starting in November 2021, and potential members as they join in the new year.

Awareness of the membership transformation was built through a communications campaign designed to educate as well as to build trust and awareness about the transformation. Consistent messaging about the transformation was delivered through ACS channels – acs.org, C&EN, email, newsletters, town halls, social media, and in-person during ACS Fall 2021 – to increase the opportunity to reach and inform current and potential members.

- **Successful Community Associate Launch**

With the support of governance and strong data from the 2020 pilot, the Community Associate program, which is a key component of the membership transformation, was

made permanent in 2021 and continued its strong growth during the year. Community Associates receive access to the Basic Package.

- **Office of Awards & Member Recognition**

Efforts to recognize the important contributions of the chemistry community and our members continued during the year:

- Honored 2021 National Award recipients during the first hybrid ceremony, with 85 in-person participants and 72 remote.
- Officially inducted 2020 and 2021 Fellows classes during the first hybrid ceremony, with 85 in-person participants and 106 remote.
- Celebrated the 2021 ChemLuminary Awards as a virtual event, with 178 participants.

- **COVID Response**

To help combat the COVID-19 pandemic and to ensure appropriate support of ACS members in their professional and personal lives, ACS provided continued or expanded access to the following highlighted resources:

- **COVID-19 Dues Waiver:** Members impacted by the pandemic in the broadest sense (employment changes, family care responsibilities, health challenges) were offered a dues waiver for a year of continued ACS membership while renewing.
- **COVID-19 Resources:** In collaboration with units across the Society, a [comprehensive collection](#) of ACS resources was maintained to help combat the COVID-19 pandemic.
- **Virtual 1:1 Career Consultations:** 190 Virtual 1:1 Career Consultations were delivered during the year. In response to increased website traffic, resulting from the transition to virtual delivery, the Career Consultant website was revamped in 2021. In addition to the site being more aesthetically pleasing, it also makes it far easier for members to identify and connect with the Career Consultant that is best for them (and vice versa). In December, a pilot “Retirement Consulting” with Bill Carroll was introduced.
- **Virtual Office Hours:** A standing time each week which allows members to speak with Career Consultants, and network with fellow members. This program had 617 attendees from January – September 2021.
- **Themed Virtual Office Hours:** A pivot from Virtual Office Hours to monthly themed events occurred midway through the year (with some overlap). These 90-minute events were well attended, with 1,919 registrants and 684 attendees (July-December). During a year with limited ability to assist members in-person, these virtual programs enabled nearly 1,500 personalized career advice interactions.

- **National Meeting Programming**

Divisional Activities Committee hosted regular meetings for program chairs throughout the year in order to provide them with a venue to collaborate on programming and discuss programming needs with ACS staff and the Committee on Meetings and Expositions. These forums provided critical information and feedback for planning the virtual Spring ACS national meeting and the hybrid Fall ACS national meeting.

- **Jonathan L. Sessler Fellowship for Emerging Leaders in Bioinorganic and Medicinal Inorganic Chemistry**

The Scientific Advancement Division administered the second Jonathan L. Sessler Fellowship for Emerging Leaders in Bioinorganic and Medicinal Inorganic Chemistry competition. The Division of Inorganic Chemistry constituted a review panel to select the recipient, Dan Suess of the Massachusetts Institute of Technology.

- **Global Engagement**

The Office of the Secretary and General Counsel (OSGC) leads the Global Coordinating Group, an ACS cross-divisional team tasked with improving coordination on international projects.

There were many partnership engagements in 2021 through the Global Outreach office. Renewed Chemistry Enterprise Partnerships (CEPs) include the Federation of Latin American Societies of Chemistry (FLAQ) and the Brazilian Chemical Society (SBQ). Discussions around additional CEP renewals continued with the Chinese Chemical Society, the French Chemical Society (SCF), the Mexican Chemical Society (SQM) and the Canadian Society for Chemistry (CSC). To compliment these agreements, coordinated activities and events took place with multiple partners, including:

- Organization for the Prohibition of Chemical Weapons (OPCW): co-presented in ACS webinar "Science and a Diplomatic Tool." Event had 444 registrants, 216 attendees, and 76 recordings views in first 24 hours. Also included speakers from National Academies of Science, Engineering & Medicine (NAS) and the Malta Conferences Foundation.

- **Advancing the ACS Policy and Legislative Agenda**

ACS endorsed and worked closely with stakeholders to advance our legislative agenda as defined in our ACS public policy statements:

- U.S. Competitiveness Packages Advance in Congress
ACS worked with Congressional partners throughout the year to ensure the chemistry enterprise was prioritized in several legislative packages. The U.S. Senate and House of Representatives have advanced legislation aimed at increasing investments in research and development across federal agencies, including several ACS-championed programs focused on equity and inclusion in STEM ecosystems. S. 1260, the United States Innovation and Competition Act (USICA) of 2021, led by Majority Leader Chuck Schumer (D-NY) and Senator Todd Young (R-IN) passed (68-32) on June 8, 2021, while the House passed both H.R. 2225 the National Science Foundation (NSF) for the Future Act, and H.R. 3593, the DOE Office of Science for the Future Act passed with large bipartisan support on June 28, 2021. As Congress works to reconcile the bills for final passage, the Society will continue to advocate for inclusion of key legislation priorities and against those that have negative impacts on the enterprise.
- ACS Champions Five Bipartisan STEM Bills that passed the House of Representatives:
 - *H.R. 210, Rural STEM Education Research Act*: Requests federal agencies like NSF, NIST, and OSTP fund research that identifies barriers, innovative

approaches, and means of deploying affordable and reliable broadband to rural and underserved communities that would enable STEM learning.

- *H.R. 144, Supporting Early Career Researchers Act*: Creates a new postdoctoral fellowship program at the NSF designed to help support early-career researchers whose employment opportunities have been impacted by the COVID-19 pandemic.
 - *H.R. 204, The STEM Opportunities Act*: Provides guidance, data collection, and grants for groups that have been historically underrepresented in STEM education at institutions of higher education and at federal science agencies.
 - *H.R. 2027, MSI STEM Achievement Act*: Aims to improve and increase STEM education at minority-serving institutions (MSI) of higher education. It would include requiring the NSF to award grants for building the capacity of such IHEs to increase the number and success of their students in the STEM workforce.
 - *H.R. 2695, Combating Sexual Harassment in Science Act*: Aims to address sexual harassment and gender harassment in the STEM fields by supporting research regarding harassment and efforts to prevent and respond to such harassment.
 - ACS leveraged its role in the Chemistry Caucus to bring scientific expertise together with Members of Congress and their staff to highlight opportunities to better utilize science in policymaking. Three high profile events rounded out the work of the caucus in 2021 including discussions with a Nobel Laureate, Miss America and the head of the Chemical Safety and Hazard Board. ACS leadership of these three events help to deepen the society's relationship with the Congressional co-chairs and continue to serve as a recourse to policy makers.
 - ACS-Agency Collaborations Raise ACS Visibility and Strengthen ACS Programs. To identify potential partnerships and areas for ACS-agency collaborations, government affairs staff arranged multiple meetings between ACS staff and agency personnel. In 2021, these included:
 - ACS Industry Members Programs and Education division staff met with staff from the National Nanotechnology Coordinating Office (NNCO). The discussion explored shared goals of supporting entrepreneurs in the nanoscience field and engaging students. As a result, the ACS Education division magazine *InChemistry* carried multiple articles featuring NNCO content and promoting National Nano Day to ACS student chapters.
 - NSF staff managing the Centers for Chemical Innovation (CCI) Program met with ACS staff to share the work being done in the program, and to identify shared stakeholders and opportunities to advertise successful chemistry research. ACS participants represented Government Affairs, ACS Publications, ACS Industry Members Programs, Scientific Advancement, and Education teams. The discussion focused on integrating sustainability in the CCI programs, increasing industry engagement, possible journal collaborations and editorials, and diversity in the Centers.
- **Supported Member Transformation**

The Communications Division provided a range of support to the Membership Transformation project in areas including communications (internal and external) and

webpage design and development. In addition, C&EN revamped its metered paywall and products to support the effort.

- **Developed National Chemistry Week Trivia Game**
ACS Webinars conceived, developed, and produced “ChemClash: Rival Reactions,” to help ACS groups celebrate National Chemistry Week. This new, live, interactive quiz show brought together teams comprised of students and early career chemists to compete for prizes and bragging rights. The event received a 98% satisfaction rating and yielded many leads for Membership campaigns.
- **James Flack Norris Award in Physical Organic Chemistry**
In 2021, the ACS Northeastern Section decided to endow the James Flack Norris Award in Physical Organic Chemistry within the ACS National Awards Program. Established in 1963 by the ACS Northeastern Section, the award has been sponsored by the Northeastern Section on an annual basis since its inception. In endowing the award, the ACS Northeastern Section has ensured that the award will continue in perpetuity, creating a truly lasting legacy in honor of James Flack Norris. James Flack Norris (1871-1940) was an ACS President (1925-1926) and professor of organic chemistry at MIT and at Simmons College.
- **Nina McClelland Memorial Award**
The Nina McClelland Award has been established to support the participation of postdoctoral scholars in the Green Chemistry Institute’s annual Green Chemistry & Engineering Conference, thanks to a bequest from the estate of Nina McClelland. The award will provide travel support in the amount of \$2,000 to two postdoctoral scholars from anywhere in the world. McClelland, who passed away in 2020, was a former chair of the ACS Board of Directors and a long-time advocate for environmental standards and green chemistry. She was instrumental in bringing the Green Chemistry Institute to the ACS.

GOAL 3— *Support Excellence in Education – Foster the development of innovative, relevant, and effective chemistry and chemistry-related education.*

Education

ACS continued to adapt programs to support excellence in education and professional development, leveraging digital delivery, and making them more effective and inclusive. Lifelong learning was advanced by the launch of the [ACS Institute](#), a new online portal of learning and training resources, and the [Careers & the Chemical Sciences](#) website. Student communities expanded to include additional [Graduate Student Organizations](#) (GSOs) and [International Student Chapters](#). In response to needs identified during the 2020 Department Chairs meetings, ACS developed a [mini-grant program](#) that is supporting the facilitation of short courses, as well as a template and modules, to help general and organic chemistry students returning from remote instruction develop hands-on laboratory skills. This, the development of [Diversity, Equity, Inclusion, and Respect \(DEIR\) Guidelines for Bachelor’s Degree Programs in Chemistry](#), [DEIR grants for student communities](#), and other activities to

build chemistry education capacity also advanced progress on ACS Goal 5 to embrace and advance inclusion in chemistry.

- **Increasing Effectiveness and Reach of Career and Professional Development Activities**

Lifelong learning was advanced by integrating and improving access to ACS resources:

- Launching the [ACS Institute](#), an online learning portal offering a robust collection of learning and training resources developed and reviewed by leaders and experts across the chemistry community, organized by competencies and seven ACS Centers.
- Offering the 2021 ACS Leadership Institute in a virtual and extended format, starting in January, with track refreshers in March and June and additional courses in May and July.
- Adding the [Careers & the Chemical Sciences](#) website to the career resources collection.
- Offering [ACS Career Pathways](#) workshops at regional meetings and at ACS Fall 2021.
- Continuing to offer an expanded series of [New Faculty Workshops](#) virtually, a [Virtual Academic Leadership Training Workshop](#) with the Cottrell Scholars Collaborative, the [Postdoc to Faculty Workshop](#) virtually, and [ACS Virtual Classrooms](#) to support career exploration and development.

- **Fostering Continued Engagement with ACS at Key Education/Career Transitions**

In 2021, ACS advanced lifelong learning in holistic ways that incorporate academic, scientific, career development and mentorship, while exploring various approaches for engaging students, educators, and mentors.

- The [US National Chemistry Olympiad](#) program enhanced the experience of high school students participating, providing pins and certificates and hosting a virtual social for nearly 1,000 national exam nominees, as well as a virtual study camp, alumni social, and research talks. It also celebrated another successful Team USA that earned two gold and two silver medals at the 53rd International Chemistry Olympiad.
- The [ACS Project SEED](#) program held a second virtual summer camp, involving over 345 high school students, cabin leaders, and mentors, as well as piloting virtual research projects with students at 11 sites.
- Student programming at ACS Spring and Fall 2021 meetings piloted virtual platforms for the undergraduate research poster session, the ACS Student Chapter awards ceremony and social, the graduate school fair, and the graduate student and postdoc reception.
- The [ACS Journal Club](#) continued, offering events with editors of ACS journals and a framework for events hosted by student communities.
- A special promotion for new members increased the total number of ACS International Student Chapters, and the number of ACS [Graduate Student Organizations](#), which were supported by a [summit](#) held July 14 in conjunction with ACS on Campus.
- A mentoring workshop for graduate students and postdocs was piloted. Plans were developed for offering it in 2022.

- The [Get the Facts Out](#) (GFO) campaign more than doubled the number of chemistry champions, due to outreach to college and university departments, and participated in hosting the first annual GFO mini-conference.
- Alumni of the ACS-Hach Second Career and Post-Baccalaureate Scholarship programs participated in a mentoring program, providing support during the first three years of classroom teaching. Early career teachers and their mentors met for a virtual retreat in Spring 2021. ACS-Hach Mentors participated in newly developed mentor training during 2021.

Get the
Facts Out



- **Fostering Effective Use of Evidence-based Practices**

A variety of approaches were used to build chemistry education capacity:

- [Guidelines for Advancing Diversity, Equity, Inclusion, and Respect](#) in programs offering Bachelor's degrees in chemistry were developed.
- The virtual meetings for Department Chairs, started in 2020, continued in 2021 with four events focused on 1) the pandemic effects on department budgets, 2) academic integrity, 3) being a new department chair, and 4) using DEIR and universal design to reimagine general chemistry, each attended by 100-150 department chairs.
- In response to needs identified during the 2020 Department Chairs meetings, ACS developed a [mini-grant program](#) that is supporting the facilitation of 44 short courses, as well as a template and modules, to help general and organic chemistry students returning from remote instruction develop hands-on laboratory skills.
- Goals and tactics that serve and reflect the needs of diverse audiences have been developed for [ChemMatters](#), [Chemistry Solutions](#), [inChemistry](#), and the Student Experiences Office. As an example, *ChemMatters* magazine is providing students with the opportunity to see individuals of diverse backgrounds represented in the sciences, fostering a sense of belonging in the scientific community for all, and empowering students to see themselves in the sciences. A Diversity and Inclusion Initiatives Award was among the three awards *ChemMatters* magazine received from the Association Media & Publishing Network.

- **Enabling Use of Information, Guidance, and Learning Resources by a Broader Range of Education Communities**

Chemistry education capacity was also built by:

- Initiating the ACS program for [Recognition of Global Programs in the Chemical Sciences](#).
- Expanding the grant opportunities for ACS student communities to include [community engagement](#) and [diversity, equity, inclusion, and respect](#).
- Extending the reach of the [ACS Bridge Project](#), leveraging corporate support, as well as the [Inclusive Graduate Education Network](#), to include chemical sciences departments in the U.S., ACS Bridge Fellows, and a collection of professional development activities.

- **Increasing Visibility and Relevancy of K–12 Offerings**

ACS continued to build K–12 chemistry education capacity with a focus on:

- Increasing membership in [AACT](#) by expanding and updating its online resource library.
 - Increasing engagement with [AACT](#) by initiating partnerships for the 2021-2022 academic year through the Science Coaches program, piloting a two-phase application timeline, and by hosting webinars, including a virtual summer symposium.
 - Broadening the diversity of high school students participating in the [US National Chemistry Olympiad](#) (USNCO) program, offering webinars, coaching sessions, and recruitment grants.
 - Providing updated fifth grade [Inquiry in Action](#) lessons and [Middle School Chemistry](#) lessons that support remote teaching and learning.
 - Offering subscribers free digital access to the high school magazine [ChemMatters](#). A full digital archive of the magazine, searchable by article, dating back to its inaugural issue in February 1983 was made available for the first time as an AACT member benefit.
- **Foundations of Chemical Safety and Risk Management**
This online course includes 16 units and the final course assessment. The course introduces tools of a strong safety culture; principles of risk management to laboratory operations; methods to minimize hazards and risks in the laboratory; and processes needed to plan for emergencies. This course is available through the ACS Institute at <https://institute.acs.org/courses/foundations-chemical-safety.html>
 - **Green Chemistry Student Awards**
ACS GCI recognized students and postdoctoral scholars for excellence in their green chemistry research and studies:
 - The **2022 Kenneth Hancock Memorial Award**.
 - The **2022 Joseph Breen Memorial Fellowship**.
 - The **2021-2022 Ciba Travel Awards in Green Chemistry**.
 - **ACS Green Chemistry Student Chapters**
ACS GCI recognized the green chemistry accomplishments of 27 ACS Student Chapters in 2021, including six international chapters.
 - **Summer School on Green Chemistry and Sustainable Energy**
After having been postponed in 2020, the ACS Summer School on Green Chemistry and Sustainable Energy was held virtually July 12-16, 2021. Students from North and South America were selected to participate. There were several new presenters and the general level of student enthusiasm and engagement remained quite high. The 2022 Summer School is scheduled to return to the Colorado School of Mines July 15-22, 2022.
 - **Green & Sustainable Chemistry Education Module Development Project**
The three-year project to develop green and sustainable chemistry education resources for undergraduate students studying general and organic chemistry is moving forward, with five modules successfully passing the rubric. Thirty-seven educators, six assessment

consultants, and one subject matter expert are working on the modules. Completed modules will be freely available on ACS's Moodle platform or acs.org.

- **Support for the Launch of ACS Institute**

Web Strategy and Operations (WSO) provided critical support for the launch of the ACS Institute through project management, application development, design, testing, and analytics. WSO built the front-facing web portal, which provides a single access point to learnings offered by ACS. And the WSO team designed and built the customer experience, course inventory, descriptions, and filtering in the Adobe Experience Manager content management system.

GOAL 4—*Communicate Chemistry's Value – Communicate – to the public and to policymakers – the vital role of chemical professionals and chemistry in addressing the world's challenges.*

- **Supporting Public Awareness Campaigns**

- [Chemists Celebrate Earth Week](#) was celebrated virtually April 18-24, 2021, with the theme “Reducing Our Footprint with Chemistry.”
- [National Chemistry Week](#) 2021 was celebrated October 17-23, 2021, with the theme “Fast or Slow... Chemistry Makes It Go!”
- [inChemistry](#) magazine partnered with the National Nanotechnology Coordinating Office, creating and featuring content celebrating National Nanotechnology Day on October 9, 2021.

- **Updating Outreach Training and Resources**

- Learning and engagement strategies from the [ChemAttitudes](#) framework have been incorporated into a new approach for the [Outreach Training Program](#).
- To encourage safety, the [RAMP](#) (Recognize hazards, Assess risk, Minimize risk, and Prepare for emergencies) framework has been incorporated into outreach materials for release in early 2022.



- **Continuing Support for Chemistry Festivals**

- The schedule for 2021 [Chemistry Festivals](#) included a mix of recently funded and postponed events, being held in-person and virtually. Two rounds of grants were awarded in 2021.

- **2021 Green Chemistry Challenge Awards**

ACS GCI partnered with the U.S. EPA on the 2021 Green Chemistry Challenge Awards program, with the winners recognized during the virtual 25th Annual Green Chemistry & Engineering Conference. The 2021 winners are:

- Academic Award – Professor Srikanth Pilla, Clemson University: Nonisocyanate Polyurethane (NIPU) Foam
- Small Business Award – XploSafe LLC: PhosRox, A Novel Sorbent
- Greener Synthetic Pathways – Merck & Co., Inc.: Gefapixant Citrate

- Greener Reaction Conditions – Bristol Myers Squibb Company: Five Sustainable Reagents
- Designing Greener Chemicals – Colonial Chemical: Suga[®]Boost Surface Cleaner
- **Promote Chemistry and Its Practitioners to Media and the Public**
For 2021, the Communications Division provided chemical information and news about ACS to the media, ACS members and directly to the public.
 - Completed a pilot effort to translate six National Historic Chemical Landmarks webpages into Spanish, resulting in record traffic to the site. Additional translations into other languages are planned for 2022 and beyond.
 - Produced and distributed weekly ACS PressPacs, embargoed press releases, and other releases highlighting more than 200 ACS journal articles, news stories and Society news items.
 - Published 26 episodes of Reactions, 16 other science-based videos, 23 podcast episodes of Orbitals and Solutions, and 89 ACS Webinars.
- **Communicating the 2021 Nobel Prize in Chemistry**
As part of the annual ACS efforts related to the Nobel Prize in Chemistry, a press release highlighting a comment from ACS President H. N. Cheng was issued and media interviews arranged; C&EN explained the work via social, breaking news, and a podcast; and efforts were coordinated with CAS to make subject matter experts available to the media. Hundreds of news stories mentioning ACS resulted.
- **Development and Execution of the ACS/Industry Communications Project**
The Communications Division led a project to promote the value of chemistry to the next generation of scientists. The project involved ACS production of 10 videos, 12 podcasts and six infographics, as well as hosted four ACS Webinars and wrote several vignettes. All content is available at the [Catalyzing Change website](#) on acs.org. The content will be promoted throughout 2022.

GOAL 5—Embrace and Advance Inclusion in Chemistry – Promote diversity, equity, inclusion, and respect; identify and dismantle barriers to success; and create a welcoming and supportive environment so that all ACS members, employees, and volunteers can thrive.

- **Establishment of the Office of Diversity, Equity, Inclusion, and Respect**
In March 2021, the Office of Diversity, Equity, Inclusion, and Respect (DEIR) was established. The Office reports to the CEO and is the central operational hub with resources, guidance and expertise to help ACS work toward Strategic Goal 5.
- **DEIR Advisory Board-Sponsored Workshop Series**
The series brought some consensus and alignment on what Strategic Goal 5 means to ACS. Four characteristic statements were established to describe a future state of the ACS:
 1. An environment where all have a sense of belonging across every level of the Society.

2. Leaders at all levels are prepared, ready, and accountable for displaying DEIR.
 3. Rewards and recognitions are reflective of inclusivity and the involvement of new members.
 4. Communication is transparent, accessible, and consistent to promote awareness of resources, policies, and opportunities throughout the Society.
- **Updated ACS Statement on DEIR**

The DEIR Advisory Board and Office of DEIR collaborated to revise the previously named ACS Diversity Statement. The revisions were intended to remove stale text and links, ensure consistency with the new Strategic Goal 5, and to be more proactive in language. The [updated statement](#) was approved by the Board of Directors in August and disseminated widely in the fall.
 - **Diversity Leaders Summit**

On April 27, 2021, the Office of DEIR hosted the first summit of industry diversity leaders in the chemistry enterprise. We virtually welcomed diversity leaders from industry-leading companies. The participants talked about what they were doing at their own companies, exchanged ideas on how to foster and retain talent, and discussed ways to partner with the ACS. We are looking to continue engaging with these diversity leaders and others to keep pushing for more DEIR in the chemistry enterprise.
 - **Open Board Meeting**

On August 24, 2021, the Office of DEIR moderated a discussion on bringing down barriers for ACS members at the Open Board meeting at the ACS Fall 2021 meeting in Atlanta. The panelists were from the Georgia Local Section. The conversation centered around what were some observed barriers to inclusivity that occurred repeatedly at ACS and what were positive ways to bring down those barriers.
 - **DEIR Courses**

ACS offered trainings to ACS governance and volunteer leaders. *Leading Inclusively: Beyond Lip Service* served as a foundation to create shared understandings of DEIR at ACS. Pilot offerings of a course called *Transforming Microaggressions into Micro-Inclusions* and a volunteer developed *The Science of Managing Diverse and Inclusive Teams* will help the Office of DEIR create a DEIR curriculum most applicable to the needs of ACS volunteers and leaders.
 - **DEIR Diversity Webinars**

The Office of DEIR, in collaboration with the DEIR Advisory Board, sponsored four diversity webinars for governance. These included “*Service Dogs in the Chemistry Lab*” and “*Not everything meets the eye: Invisible Disabilities and special abilities*”.
 - **National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE)**

ACS participated in the 2021 NOBCCChE Virtual Conference and increased its sponsored support of the conference. ACS provided programming at the pre-conference “ACS Day” and the virtual ACS Booth which featured the ACS Bridge Program, ACS Scholars

Program, ACS on Campus, Career Navigator and Career Consulting. Four students (two undergraduates and two graduates) were awarded the ACS Student Exchange Award. ACS sponsored the Senior Division of the NOBCChE National Science Bowl; ACS staff volunteered as judges and moderators.

- **American Indian Science and Engineering Society (AISES)**

The Office of DEIR met with the AISES leadership shortly after the establishment of the Office. An AISES member presented at our Allyship event, sharing her story of being an Ally to the Native community and LGBTQ+ community. AISES presented at the Office of DEIR's Let's Learn event for Native American Heritage Month. ACS participated in the 2021 AISES conference.

- **Society for the Advancement of Chicanos/Hispanic and Native Americans in Science (SACNAS)**

The Society for the Advancement of Chicanos/Hispanic and Native Americans in Science executive director met with the ACS CEO and members from the Office of the Secretary and General Counsel, and the Development Office. An ACS Board of Directors Representative met with SACNAS leadership to talk about an ACS-SACNAS Task Force. ACS increased its participation in the 2021 SACNAS National Conference, including a well-attended ACS on Campus Programming on "*Promoting and Advocating for Your Career*".

- **ACS Inclusivity Style Guide**

The web-based [ACS Inclusivity Style Guide](#), developed in collaboration between the Office of DEIR and the Communications Division, is designed to help staff and members use language and images that respect diversity in all its forms and avoid excluding others because of personal characteristics such as race, gender identity, age, and disability. The guide became available at the end of 2021 and efforts will be undertaken in 2022 to help staff, governance, and members become accustomed to using the resource. Using this Guide will help us live our core value of DEIR and meet our DEIR strategic goal.

- **ACS Journals Advance Publishing Integrity and DEIR Initiatives**

The Publications Division established a Publishing Integrity Office to encompass the areas of publication ethics, data availability and reproducibility, and diversity, equity, inclusion, and respect (DEIR) in publishing. The Division continued to advance the commitments made in 2020 to [Confront Racism in Chemistry Journals](#) and accelerate change within the scholarly communications industry:

- Survey responses were collected from contributors reporting on their demographic data. This information, conclusions, and future directions are provided in the [Diversity Data Report 2021](#).
- A [dedicated DEIR page](#) was launched in the ACS Publishing Center to bring visibility to ACS Publications' DEIR commitments and initiatives while highlighting news and events.

- An inaugural [Ombudsperson](#) was appointed to serve as a liaison between Editors and the community.
 - In partnership with the Education Division and Office of DEIR, more than 60% of Editors participated in foundational training to establish a shared understanding of DEIR principles.
 - ACS Publications became a Gold Partner of the Coalition for Diversity and Inclusion in Scholarly Communications ([C4DISC](#)), joining with other major publishing organizations to support diversity, equity, inclusion, and respect within the industry. The Division has also adopted C4DISC's [Joint Statement of Principles](#).
- **ACS Vendor Diversity**
A vendor diversity process was implemented in 2021 to help ensure that ACS develops relationships with external service providers that share the Society's commitment to DEIR. Reporting capabilities have been established to monitor the ACS vendor community and their internal DEIR program and methods, along with gathering data on firms' leadership/ownership diversity. Such review has been conducted on close to 100 individual relationships. Additionally, standard language to be used in Requests for Proposal and in agreements has been established that will communicate the ACS core value of DEIR and expectations on those providing service as well.

ALL STRATEGIC PLAN GOALS—Support for ACS Governance and Operations

- **ACS Strategic Plan**
The [ACS Strategic Plan](#) was approved by the ACS Board of Directors at their December 2021 meeting and will launch on the web in January 2022. It provides the basis for all the Society's work in support of the Vision, Mission, and Core Values. The strategic plan is the result of broad engagement with governance and staff members, consolidated by the Strategic Planning Committee, and approved by the Board of Directors.
- **ACS Change Drivers are Updated and Refreshed**
The Strategic Planning Committee visited twenty (20) National Committees during the ACS Fall 2021 Meeting to promote and discuss the ACS Change Drivers. The Strategic Planning Committee and Council Policy Committee co-sponsored a Virtual Strategy Café during the ACS Fall 2021 Meeting that focused on the ACS Change Drivers and how ACS members and units can use the information in their planning efforts.
- **Governance Support**
In 2021, ACS Governance was able to fully meet and fulfill their duties, while meeting in virtual environments. The Board of Directors, Society Committees, and Council all met virtually throughout the year, and in a few circumstances met in hybrid fashion. In all meetings, governance volunteers were able to proceed through their respective agendas, all the while voting, speaking, and listening to the proceedings. Rehearsals and advance preparation allowed volunteers and staff to practice and troubleshoot issues prior to virtual meetings. OSGC also staffed the ACS election and committee appointment processes, the Board orientation and new committee chair training activities, and

supported the three members of the Presidential Succession in all their initiatives and activities.

- **Simplifying and Standardizing the ACS Committee System**

Staff supported the Committee on Committees (ConC) as they offered major amendments to ACS Standing Rules in the form of the Petition to Harmonize Committee Structures, Processes, and Terms. These amendments were approved by Council and the Board and standardized and simplified our committee structure and operations.

- **Contracting Enhancements Saved Over \$1.5 Million During 2021**

Efforts were launched to help ACS business units to develop vendor sourcing strategies, select best value vendors, and monitor on-going vendor performance. New tools and templates have been developed (master agreements, statements of work, RFP's/RFI's, and contract amendments). By working closely with colleagues across the Society, the Contracting Office was able to help achieve over \$1.5 million in savings due to effective negotiations and development of advantageous terms.

- **Investment Process Continues to Excel**

The consolidation of investment portfolios into a single account was fully achieved in 2021, providing greater control and efficiency. The initial construction of a private equity component of the investment portfolio was completed, helping to ensure outstanding returns in the future. Through prudent management and this evolving asset allocation strategy, the ACS General Fund has grown by more than 100 percent in five years, providing additional support for important mission-based programs.

- **Streamlined and Simplified Financial Reporting**

Several dozen internal cost transfers and financial allocations, that detracted from the quality of financial information and required significant effort to complete, were identified and planned for elimination in 2022. Monthly financial reporting templates were updated to facilitate these changes as the basis for the preparation of the 2022 approved operating budget. These changes will reduce many hours of effort on these discontinued processes and further streamline our month-end financial closing procedures.

- **Portfolio Evaluation and Optimization (PEVOP) Process Rolled Out to Budget & Finance Committee**

In 2021, a new process was implemented that enables the Society's Budget and Finance Committee to meet its responsibility for evaluating resource allocations to Society programs in a more strategic and streamlined manner. The new process will save hundreds of hours of effort on the part of Society Programs staff through elimination of voluminous reports and other background material, while providing more strategic interactions between this important governance Committee and Society Programs leadership.