



## **2015 Highlights of ACS Achievements**

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

The year 2015 was a year of transition for the American Chemical Society. A succession of the Executive Director & CEO occurred in February, for the first time in more than a decade. This was not the only change. CAS growth efforts continued to gain momentum with the launch of three new products. ACS Publications took important steps forward in the Open Access segment with the launch of its first open access journal, and the announcement of an open access global journal. Membership decreased slightly during the year. M&SA efforts to broaden our membership base globally, the expansion of international chapters, the launch of the Enterprise Model, and our updating of our value proposition for members in industry, are just a few of the thrusts used to reverse this decline. Education completed its first full year of the American Association of Chemistry Teachers (AACT), whose membership has grown to more than 3,000.

Our Development team exceeded its goals for overall fundraising and for the 20<sup>th</sup> Anniversary ACS Scholars Appeal. Unified Architecture (UA) has hit its milestones for 2015, and is on track to deliver all its objectives. UA has also changed and improved our approach and skills in IT project management.

ACS also looked harder at its internal operations and has found many opportunities to streamline and simplify our operations. Breaking down siloes between our units is allowing us to remove duplications and standardize back-office tasks. We have identified opportunities in Finance, HR and IT, and also in our operating units. Achieving efficiencies in our internal operations liberates resources to work on our ACS Goals.

This report highlights accomplishments from across ACS. It reflects the hard work of members, governance and staff throughout 2015. The breadth of our activities is great, and so the report is long, even though it is focused on the highlights.

One thing that did not change during 2015 was the commitment to maintaining the financial strength of the Society. For the twelfth consecutive year, ACS generated positive operating results. The Society ended 2015 with record revenue at \$511.7M, up +2.5%. The net contribution from operations was \$16.6M, which exceeded our annual plan by \$3.2M. Unrestricted assets rebounded from \$144.7M to \$163.3M, as a result of the strong operating results and a partial reversal of accounting charges recorded in prior years related to postretirement benefit plans. The favorable operating results and positive changes in the funded status of the postretirement benefit plans were partially offset by modest losses incurred in our investment portfolio.

As a final, personal note, I would like to express my thanks to the Board, governance, membership and staff for their support and assistance during my first year as Executive Director & CEO. Your warm welcome has made the past year highly enjoyable and productive for me.

**GOAL 1—*Provide Information – Be the most authoritative, comprehensive, and indispensable provider of chemistry-related information.***

## **CHEMICAL ABSTRACTS SERVICE (CAS)**

- **Revenue Growth.**

CAS 2015 revenues grew by 3.3%, nearly double the 2014 growth rate and the largest growth rate in the past 8 years (without the negative impact from year-over-year changes in foreign currency exchange rates).

- **New Product Initiatives.**

CAS made major advances in new product developments, launching three new product solutions, introducing one major new product (ready for release in 2016), and continuing to create a rich new product pipeline for CAS solutions. Launched new products include:

- NCI Global, a new internet accessed chemistry regulatory information solution, was launched in February 2015;
- The CHEMCATS Chemical Supplier Program was launched to worldwide chemical supplier vendors in June, and;
- PatentPak, released in June, is an advanced technology solution that provides users access to the original patent documents, family equivalents in more than twenty languages, and direct access to the hard-to-find chemistry that has been identified by CAS analysts. This same solution, available to STN customers in January 2016, was announced to the market in September.

All new products are successfully in the marketplace with growing sales and expanding marketing plans.

MethodsNow, available in 2016, was introduced to the market in August, with teaser promotions and sales demonstrations to targeted customers. This highly innovative benchtop product for chemists features the world's largest collection of templated protocols in analytical chemistry and reaction science. MethodsNow will be offered in a "stand-alone" version and within the SciFinder experience for selected capabilities.

- **SciFinder.**

Extensions to the CAS flagship product continue to improve the user experience.

- To help researchers quickly find what they need, CAS continued to add more content than any other scientific resource, and enhanced the most frequently sought after physical properties, additional experimental procedures, and increased visibility of chemical suppliers. Additionally, a new interactive viewer was integrated to provide PatentPak users direct access to hard-to-find and obscurely defined chemistry in patents. Additionally, we have made great progress on the development of a new SciFinder technology platform which will be unveiled in 2016.

- **Innovation.**

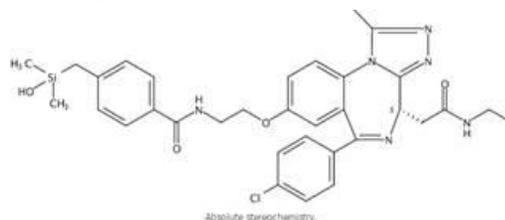
CAS has established a new Innovation team focused on delivering top-line growth in new customer segments and building a strong culture of internal innovation.

- Established an organizational model, processes, governance and leadership. Fulfilled key innovation roles by attracting new, external top-talent as well as leveraging uniquely skilled CAS colleagues.
- Deployed an Innovation Portal that promotes the submission, identification and evaluation of ideas and reinforces a community of CAS innovators.
- Established a strategic framework that aligns Innovation resources and efforts against the most promising customer segments and opportunities.

- **Content Growth.**

CAS achieved many content related milestones in 2015, including record levels as follows:

- A new record of more than 13.5 million new substances were added to the CAS REGISTRY<sup>SM</sup>, which now includes >105 million small molecules. This exceeds the prior record set in just 2014 when 13,142,121 new CAS Registry Numbers were assigned. As with prior recent years, growth in 2015 was driven by prophetic substances identified in patents, chemical supplier offerings for CHEMCATS<sup>®</sup> and organic growth for indexing of the literature.
- The 100 millionth CAS Registry Number was assigned June 29, 2015 (CAS RN 1786400-23-4). The substance (shown below) was reported in a World Intellectual Property Organization (WIPO) patent (WO 2015081280). The inventors (Coferon, Inc. in Stony Brook, NY) claim the molecule, available in both SciFinder<sup>®</sup> and STN<sup>®</sup>, is a novel therapeutic designed to treat acute myeloid leukemia.



- More than 1.36 million indexed records were added to the CA/CAPplus family of databases. Patents continue to grow as a percentage of the total indexed records, now attributing greater than one-third of all records indexed by CAS scientists in 2015.
- Nearly 1.7 million new single step reactions were added to the CAS reaction collection. This exceeds the number in 2014 of 1.5 million, with reactions arising from more than 100,000 journal and patent documents.

- **Global Expansion.**

Through ACS International, Ltd. (ACSI), in 2015 CAS continued to expand its global reach. Expansion efforts now total 30 new team members in 11 countries, bringing direct representation to nearly 20 countries. These new representatives have helped create a significant number of new customer agreements and played a large role in new product sales. In addition, a strategic framework was established to coordinate the global initiatives of the Divisions of ACS.

## ACS PUBLICATIONS DIVISION

- **ACS Publications achieved strong institutional revenue growth in 2015.**  
Aided by customer relationship management and global outreach, ACS Publications exceeded its revenue budget and achieved institutional revenue growth over 2014's record performance. Such strong institutional revenue performance allowed ACS Publications meet its divisional revenue target. Asia led the growth, bolstered by double digit growth in both China and India. Japan, our largest export market, grew as did both the Americas and EMEA regions. Much of the sales year also focused on securing 2016 renewals, especially important multiyear agreements with large consortia. ACS Publications also expanded its global customer reach in 2015, hiring Market Development managers located in Hong Kong and India.
- **ACS Journals Experienced Steady Growth in Author Submissions; Stable Published Article Output in 2015.**  
ACS Journals handled a record number of author submissions in 2015 and ACS Publications web platform usage continued to rise. At present, nearly 50 peer reviewed research journals, the ACS Legacy Archives (including 465,000 research articles published from 1879 – 1995) over fourteen hundred book titles, and 90 volumes (1923 – 2014) of *Chemical & Engineering News*, the official news magazine of the ACS, are delivered via the ACS Publications Web platform. The ACS platform delivers over 1,000,000 original research articles, book chapters and news stories, and registers over 300 million page views each year from a global community of scientists. For 2015, the ACS Publications Web platform is on track to register approximately 95M COUNTER-compliant article requests. ACSID registrants, who subscribe primarily to receive updated article e-alerts on journals of interest, now exceed 400,000 individuals – thanks in part to a new internally developed E-Alert registration widget that simplified the process. This audience collectively received over 50 million e-alerts with reading recommendations tailored to their preferences.
- **Introduction of ACS2Go Mobile Access.**  
*ACS2Go* is new mobile delivery capability that enables authorized users full text access to ACS Publications journals on smartphones and tablets (see <http://pubs.acs.org/page/acs2go>), even when not directly connected to their campus network. This release had immediate impact, significantly increasing the average number of monthly article downloads. To enhance the mobile user experience even further, ACS upgraded its proprietary ACS ActiveView document viewer to support HTML, offering device independent screen configuration, high resolution image handling and display and faster document load time.
- **Web Delivery Platform Upgrades.**  
The Digital Strategy group, in association with Washington IT and partners Atypon, had a year-long push to support the most significant user-facing upgrade of our journal and e-book journal delivery platform in several years. This software release was enabled by Atypon's PageBuilder, a new web template and content management application that will give ACS greater control and flexibility on features and design on the journal web site. Preparing for the launch, which occurred schedule in late December 2015, required significant inter team collaboration and preparation to support the migration, updating, review and testing of

existing web pages and their supporting templates.

- **Marketing Automation.**

In 2015, ACS Publications re-organized its various marketing teams, in part to put a clearer emphasis on the use of technology and data in driving results. The introduction of a new marketing automation tool led to the adoption of new marketing processes for brands, products, and services. Through training, organization, and strategic creation of copy and digital media, the marketing team was able to increase open and click-through-rates significantly. Major effort was devoted to cleaning database records, and to better segmenting and use of protocols for our marketing databases to enable better targeting of the campaigns we send each year. Significant improvement in email open rates was achieved over the course of the year using the new email management software. In total these efforts have increased the effectiveness of our email outreach vs. a prior vendor-managed solution.

- **Social Media Engagement.**

ACS Publications now uses Social Media to reach audiences beyond its typical marketing outreach campaigns. In 2015, total “followers” on Twitter and Facebook increased significantly. Our most ambitious effort is the new content marketing blog, ACS Axial. Patterned after the award winning “Marketing Elements” blog launched by C&EN last year, this program encourages engagement as users subscribe to receive additional information in their areas of interest. Axial launched in the fall of 2015.

- **The Academic Round Table.**

Marketing and Sales outreach was heavily focused on establishing and maintaining productive and mutually beneficial relationships with our librarian customers during 2015. One of the avenues for this program is the Academic Round Table (ART), a focus group that helps create a dialogue between ACS Publications and the academic librarian community. The members are thought-leading librarians from research-intensive, liberal arts, and four-year institutions. In 2015, we held two roundtable meetings, with a high level of engagement. Our primary goal for the year was to maintain this level of engagement, while also addressing issues and providing more resources to help ART members and other science librarians succeed in their roles as information specialists.

- **ACS Publications Branding Focus Groups.**

Marketing staff managed a series of focus groups during 2015, conducted with academic and corporate researchers in chemistry and related fields at various levels of experience. The goal was to identify preferences and opinions regarding journals, publishers, the publishing process, Open Access, ACS Membership, and ACS Publications. ACS staff executed and reported on focus groups held in Columbus featuring members of the CAS Future Leaders in Chemistry. All findings will be used to guide development of interactions with key groups in 2016.

- **The ACS Publications Exhibits & Events.**

Staff successfully managed exhibitions at more than 65 conferences held in six different regions of the world, while managing more than 30 special events including receptions, booth events, sales meetings and roundtables. The team also handled logistics event

planning for Editor and Editorial Advisory Board meetings, including the 2015 Conference of Editors, and the January 2016 Editors' Conference.

- **ACS Publications Now Partnering with Digital Science's Figshare to Promote Open Data Discovery and Use.**

The Publications Division implemented a strategic partnership with Figshare, an open repository that promotes broad discoverability of scientific research data. The ACS-Figshare partnership provides for improved archiving and access to open data sets and other supporting information that often accompanies articles published in ACS Journals. The new technology also enables interaction with the research material via a new visualization tool on journal websites. This new functionality has been extended for compatibility with crystallographic data and many other file formats, including video and other multimedia.

- **ACS Publications Advanced the Society's Mission through the Publication of New Peer-Reviewed Journals and Books.**

The Publications Division completed the successful first full calendar year of publication of *ACS Biomaterials Science & Engineering* and *ACS Infectious Diseases*, expanding into these key scientific fields. The Division also successfully launched the first completely open access journal, *ACS Central Science*, publishing first content in March 2015, discussed in the open access section of this report. In addition, ACS Publications embarked upon the early editorial and marketing introduction of a new journal, *ACS Sensors*. This title represents an expansion into potential new markets within sensor science. ACS Publications also published 30 peer-reviewed books, including the 11<sup>th</sup> edition of *Reagent Chemicals*.

- **ACS Publications Introduced ACS Central Science, the Society's First Fully Open Access Journal.**

As the capstone of the ACS Open Access programs, the Division successfully launched the ACS's first fully open access journal, *ACS Central Science*, providing a venue for the publication of exceptional multidisciplinary research. Marked by high editorial rigor, the journal debuted in March 2015 under the leadership of Editor-in-Chief Carolyn Bertozzi, Stanford University Professor and Howard Hughes Medical Institute investigator in chemical biology.

- The journal attracted a significant number of submissions in 2015 and published more than 50 high-quality research articles from across chemistry and the allied sciences, including two articles authored by Nobel Laureates. *ACS Central Science* collaborated with *C&EN* staff to publish more than 20 feature articles and interviews in the journal.
- Working with the ACS Office of Public Affairs, the journal introduced embargoed press releases to bolster media coverage; this resulted in significant global media coverage, with more than 250 news stories published across more than 150 different media outlets with a combined total circulation of >500 million people.
- The journal also upheld rapid time from submission to publication of just nine weeks, faster than all competitors, and engaged global readers with published articles. *ACS Central Science* is already laying claim to be a top-tier multidisciplinary journal that will rival the elite weekly science journals.

- Establishing awareness and understanding the market positioning of *ACS Central Science* was a top marketing priority for the year. The journal was heavily promoted at ACS National Meeting including large illuminated signage in front of the convention center and sustained space advertising and email campaigns.
  - *ACS Central Science* also provides the open access and e-commerce groundwork for the 2016 publication of *ACS Omega*, a multidisciplinary open access journal for the publication of technically sound research.
  
- **“ACS is Open” Initiative Successfully Expanded the Society’s Position as an Open Access Publisher.**

In close collaboration with IT, ACS Publications built on the successful launch of its Open Access platform in 2014 by growing the visibility and revenue associated with its various open access initiatives.

  - *ACS Editors’ Choice* continued making available one noteworthy article from the portfolio each day as open access, selected by the journals’ chief editors. *ACS Editors’ Choice* articles were featured during 2015 from every ACS journal, including 2016 newcomer *ACS Sensors*.
  - In January 2015, authors were able to start redeeming their *ACS Author Rewards* credits, which were provided to more than 40,000 corresponding authors in 2014. The *ACS ChemWorx* app enabled authors to easily track their available vouchers throughout the year.
  - 2015 also saw significant growth in the *ACS AuthorChoice* open access licenses. Revenues also grew driven by emerging funder mandates, a facile e-commerce system, and a convenient *ACS ChemWorx* app allowing authors to review available options. One of the expanded options, *ACS AuthorChoice +12*, provides a lower-cost option to release an article 12 months after publication. *ACS AuthorChoice+12* grew as a valuable option for authors. In order to further position ACS as an innovator and leader in Open Access publishing, the Division began a new promotional campaign that features our “multiple flavors” of open access options; the campaign rolled out in Q4 2015 and will continue through 2016.
  
- **ACS Publications Continued to Develop New Peer Reviewed Journals, including ACS Omega, A New Open Access Publication.**

In 2015 the Publications Division secured Governing Board approval for *ACS Omega*. *ACS Omega* represents a new approach from ACS Publications: a peer-reviewed open access venue for the publication of technically sound research. The journal provides the next step in ACS’s successful four-pillar open access initiatives, complementing *ACS Central Science*, *ACS AuthorChoice*, *ACS Editors’ Choice*, and *ACS Author Rewards*. *ACS Omega* will greatly benefit authors and the global scientific community by offering rapid publication times and increased visibility of published articles, while also expanding the global reach of the ACS Publications portfolio. The journal’s first published content will appear in early summer 2016.

- ACS Publications Strengthened Connections around the World through Key Strategic Outreach Initiatives.**

In 2015 ACS Publications delegation visited Hong Kong, Shanghai, and Beijing to build relationships with more than ten leading universities, institutes, and organizations. The team gained important feedback on perception of ACS Publications and ACS in general. Three ACS on Campus events convened in Hong Kong, Harbin and Changchun in conjunction with this delegation. ACS Publications also maintained strong ties with researchers in India and attended conferences or site visits in various universities and locations in China, France, Hong Kong, Korea, Switzerland, and the US. These outreach trips resulted in new editorial appointments and manuscript submissions from around the world.
- C&EN Has Innovated under A New Editor-in-Chief.**

The end of the year marked Dr. Bibiana Campos-Siejo's 1<sup>st</sup> anniversary at the helm of C&EN. During this period the magazine has not only evolved existing features (such as Global Top 50) but also experimented with new ways of storytelling, delivering excellent editorial packages such as Talented 12, Top Startups to Watch, etc. During 2015, C&EN streamlined and simplified many of its processes, including editorial and production workflows, while striving to ensure that content and all publishing formats (print, online, mobile) remain of the highest quality and fresh and attractive to ACS stakeholders.
- C&EN Won Folio's 2015 Eddie and Ozzie Awards.**

At a ceremony in NYC at the beginning of October, C&EN was the recipient of two highly visible Folio awards, in the following categories: Association / Non-Profit (B-to-B) – Single Article – six or more Issues: for *When Chemicals Became Weapons of War* by Sarah Everts and Association / Non-Profit (B-to-B) – Video category: for *Speaking of Chemistry*.
- C&EN Retained and Integrated A New Advertising Sales Team for North America – the James G. Elliott Company.**

In January 2015, with Governing Board of Publishing approval, C&EN retained James G. Elliott, Inc. to manage North American advertising sales. The Elliott Group provides a team of experienced sales professionals located in key cities throughout the United States. This experienced team recruited new clients and launched new digital and custom publishing vehicles in 2015.
- ACS Publications Continues to Improve Services to Authors and Find Efficiencies through Data-Driven Streamlining of Business Practices across All Operations.**

  - New and Improved Tools for ACS Authors.** The author submission interface in ACS Paragon Plus was redesigned to provide authors with an improved submission experience in a modern, rich interface. Streamlined layout and instructions provide authors with a more intuitive submission process.
  - Reviewer Locator Implemented to Better Serve ACS Editors.** The new reviewer locator tool broadens the search pool as ACS Editors' seek to identify potential reviewers for submitted journal content. Leveraging the reviewer locator technology for analysis and conceptual mapping, ACS Paragon Plus automatically presents editors with algorithmic suggestions from a larger, more global reviewer pool.

- **Developed an Automated Reference Validation Tool in Journal Production.** This new tool automatically validates journal references and inserts DOI's in a journal article. As a result, most journal references are automatically validated before technical editing begins. This enhancement provided a productivity increase in the average time to edit references, and concomitant cost reduction.
- **Accelerated Indexing Achieved in Collaboration with CAS.** A collaborative initiative between CAS and ACS Publications leveraging ACS Publications' automated production and composition processes has allowed CAS indexing to be available for publishable content much sooner than ever before.
- **Implemented Web-Based Peer Review for *Chemical Solutions*, the American Association of Chemistry Teachers (AACT) journal.** Global Editorial & Author Services team members partnered with the AACT which is dedicated to serving the 1+ million K – 12 chemistry and physical science teachers in North America, to launch and support web-based submission and review services for their flagship publication *Chemical Solutions*. AACT and its authors, editors, and reviewers now have the convenience, economy, and efficiency of a robust, state-of-the-art web-based peer review environment.

## MEMBERSHIP AND SCIENTIFIC ADVANCEMENT (M&SA) DIVISION

- **Multimedia Educational Webinars.**  
ACS Webinars produced 42 weekly webinars for members and prospective members in 2015. The live broadcasts drew more than 29,000 participant sites combined—with an estimated 10% of sites having multiple individual participants. 11 of the 42 webinars were delivered as part of a new drug discovery/delivery series, which attracted more than 6300 registrants in 2015. In addition to live views, ACS Webinars on-demand attracted more than 12,000 views—a benefit reserved for ACS members. Notably, nearly 50% of participants surveyed stated they are more likely to join or renew their ACS membership as a result of ACS Webinars.
- **National/Regional Meeting Content & Networking.**  
More than 30,000 people combined attended ACS national meetings in Boston and Denver in 2015. The budget target for these meetings was achieved—due partly to successful ACS expositions and booth sales. In all, more than 20,000 scientific papers were delivered. The Kavli lectures again met high standards for both content quality and participation, and the national meeting app was used by a majority of attendees. M&SA leveraged the app and social media channels to facilitate new national meeting networking events—using technology to help members connect with colleagues via a networking lounge and other locations. ACS also enabled the organization of six ACS regional meetings in 2015, which attracted 4300 participants combined—exceeding comparable 2014 attendance.
- **Empowering Local Sections and Younger Chemists.**  
M&SA continued to extend its multimedia broadcast program with three “Program in a Box” events in 2015, helping local sections and student chapters nationwide host hybrid onsite/online events featuring high-value broadcasted content online, two-way interaction with presenters, and a ready-to-use materials kit to engage members and facilitate their

learning and networking. Over 350 student chapters, local sections and ChemClubs participated in 2015—attracting more than 5000 participants for the live events. More than 1000 posts and pictures were shared on social media during the events.

- **ACS Green Chemistry & Engineering Conference.**

The 19<sup>th</sup> annual Green Chemistry and Engineering Conference was a notable success, attracting 461 participants. The conference featured 33 technical sessions, a business plan competition, a live webinar, an NSF-sponsored student workshop, and other events. Media coverage included articles in *Decoded Science*, *Science News Magazine*, *Biomass Magazine*, and *Lab Manager*. An extensive social media campaign reached over 96,000 accounts.

- **Collaborative Congress of Pacific Basin Societies.**

M&SA worked with peer societies on the Pacific basin to organize the seventh International Chemical Congress of Pacific Basin Societies (Pacifichem) in Honolulu in December. Held about every five years, this conference attracted more than 15,000 attendees and focused on the collaborative nature of chemistry as a multidisciplinary science.

**GOAL 2—Advance Members Careers – Empower an inclusive community of members with networks, opportunities, resources, and skills to thrive in the global economy.**

## MEMBERSHIP AND SCIENTIFIC ADVANCEMENT (M&SA) DIVISION

- **A Robust ACS Membership.**

M&SA achieved three of the four key membership performance indicators in 2015. The Society ended 2015 with 156,876 members, representing a small decline from 2014. On a positive note, the retention rate is a robust 84% and the number of members residing outside of the United States grew by nearly 4% to 26,022.

- **Helping Chemical Practitioners Thrive in the Workplace.**

The ACS Career Navigator achieved more than 8,600 substantial interactions with ACS members and potential members worldwide to meet their professional needs, exceeding its 8,000 goal. This included over 1400 learners in professional education and leadership development courses, 1,750 personalized career consulting sessions, 2,000 career workshop attendees, and 3400 job seekers at the career fairs. M&SA also increased professional education revenue for the first time since 2011, and organized the best-attended career fair (Boston) since 2010. Additionally, M&SA launched a new ACS Career Navigator certificate program in polymer chemistry.

- **Growth Via Enterprise Offerings**

M&SA worked with ACS Publications and CAS to advance an enterprise membership model to combine membership with relevant ACS services for new and existing institutional clients. The initial enterprise effort was focused on target ACS markets abroad: China, India and Brazil. More than 1,500 new members were secured as a result of efforts to reward highly engaged authors, convert ACS Author Rewards recipients to members, and offer suites of services to new and existing institutional customers/prospects.

- Boosting Industrial Member Value.**  
M&SA increased its resources and sharpened its focus on retaining and attracting industry members in 2015, including new content, events and outreach efforts to both industrial scientists and their employers. This included enhanced content and marketing through an improved website, *Industry Insights* newsletter, and *Industry Voices* blog; high-level corporate visits with large employers of ACS members; a special summit involving 17 chief technology officers, and work across ACS units to better understand and deliver relevant ACS products and services to priority industry segments. M&SA also launched new networking events for industry members at national meetings, which attracted more than 130 attendees at each meeting.
- International Center.**  
The ACS International Center attracted more than 30,000 visitors in 2015, expanding its role as the premiere online resource for chemistry-related scientists and engineers looking for opportunities to study abroad and engage in globally related internships and research openings. The site was greatly enhanced in 2015 to improve content, navigation and search.
- ACS on Campus.**  
M&SA led the organization of 18 ACS on Campus events in 2015, drawing more than 3,000 total attendees. ACS worked closely with ACS local sections and other stakeholders to coordinate these events, which introduced students and faculty to a range of ACS programs and services and professional resources. Of the 18 events, 9 were held in China, India and Brazil—leveraging Society-wide global engagement activities in targeted international countries.

## EDUCATION

- ChemIDP, A New Online Individual Development Plan Tool Designed Specifically for Graduate Students, Launched on September 30.**  
Four key parts make up the ChemIDP platform: self-assessment, skill strengthening, career exploration, and goal setting. Over 125 interviews with graduate students, postdoctoral scholars, faculty, university administrators, ACS staff, and career consultants informed the development of ChemIDP. ChemIDP is the result of a collaborative effort between IT and the Education Division.

## INFORMATION TECHNOLOGY

- AACT OMR and ChemMatters Digital – American Association of Chemistry Teachers Online Membership Renewals (AACT OMR).**  
AACT Renewal Process is the second phase of the AACT online membership. The membership acquisition project was completed in 2014. The AACT OMR provides functionality where an existing member of AACT can renew their membership. It also provides other features for members and administration: mass renewals, change of membership type, ChemMatter subscription changes from print to digital or both etc.

**GOAL 3—*Improve Education* – Foster the development of the most innovative, relevant, and effective chemistry education in the world.**

**EDUCATION DIVISION**

- **Membership in the American Association of Chemistry Teachers (AACT) Continues to Grow.**

AACT ended the year with more than 3,000 members, 88 percent of whom are K-12 teachers. In 2015, AACT received \$100,000 in grants from the Camille & Henry Dreyfus and Ford Foundations to support the development of online resources. The inaugural Dow AACT teacher summit was held in Michigan in July. Twenty-one teachers and six pre-service teachers attended.

- **The Office of Research Grants (ORG) Provides Significant Support to Research and Education in 2015.**

ORG had a successful year, with the Petroleum Research Fund (PRF) awarding 187 grants worth \$18.62 million. Teva Pharmaceuticals renewed its agreement with ACS, and the 2015 recipients of the *Teva Pharmaceuticals Marc A. Goshko Memorial Grants* were announced at the end of the Teva symposium at the National Meeting in Boston.

- **The ACS Scholars Program Turns 20.**

ACS Scholars celebrated its 20<sup>th</sup> anniversary in 2015 with symposia, promotional articles and activities, and a special fundraising campaign. The \$1.0 million goal of the anniversary appeal was exceeded thanks to the hard work of the Development Office.

- **The Committee on Professional Training (CPT) Releases New *Guidelines*.**

CPT released the new *ACS Guidelines and Evaluation Procedures for Bachelor's Degree Programs* in March. A major change to the *Guidelines* is the requirement for instruction on macromolecular, supramolecular, mesoscale, and nanoscale systems.

- ***ACS Guidelines for Chemistry in Two-Year College Programs Are Released.***

Updated guidelines for two-year college chemistry were released in November following approval by SOCED. Significant revisions include incorporating recommendations regarding chemistry-based technology programs and chemical safety, online courses, internships, transfer students, mentorship and advising, and partnerships.

- **ACS International Student Chapters Continue to Expand.**

The number of ACS International Student Chapters grew to 24 in 2015. Chapters have been established in Brazil, China (2), Colombia, Egypt, Georgia, Germany, Hungary, India (4), Italy, Jamaica, Malaysia, Mexico (2), Nigeria (3), Qatar, Saudi Arabia, Singapore, and the United Arab Emirates.

- **Record Number of ACS Science Coaches Partnerships Established in 2015.**  
The ACS Science Coaches program was reauthorized by the ACS Board of Directors in August. More than 250 coach-teacher partnerships are being supported during the 2015-2016 school year.
- **ACS ChemClubs Program Celebrates Its 10<sup>th</sup> Anniversary.**  
The ChemClubs program celebrated its 10<sup>th</sup> anniversary with a virtual party on November 16. Over 120 clubs registered for the party and received a box full of activities. Along with 40 in-house audience members, 163 computers were tuned in to the live broadcast. New branding and a periodic table contest were also launched in recognition of this program milestone.
- **Education Websites Experience Record Traffic.**  
The website [middleschoolchemistry.com](http://middleschoolchemistry.com) has received more than six million visits from 234 countries and territories since launching in 2010. The College to Career website has received more than one million page views since its launch in December 2013.

## INFORMATION TECHNOLOGY

- ***ChemMatters Digital.***  
ChemMatters Digital transforms *ChemMatters* magazine from a print only delivery to an online resource that will further penetrate the market and become a more valuable information resource for high school educators. Online *ChemMatters* delivery allows for international *ChemMatters* subscriptions which was previously unavailable.

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

## MEMBERSHIP AND SCIENTIFIC ADVANCEMENT (M&SA) DIVISION

- **Improving Public Awareness of Chemistry.**  
Out of the 185 ACS local sections, 169 (91%) participated in National Chemistry Week activities in 2015. More than 140,000 copies of *Celebrating Chemistry* were distributed, as well as 15,000 copies in Spanish. A total of 103 entries from 42 local sections were received for the NCW 2015 Illustrated Poem Contest. Winners were posted on [www.acs.org/ncw](http://www.acs.org/ncw). 23 local sections also submitted photos for *C&EN* related to their National Chemistry Week.
- **Expanding Social Media Presence.**  
The ACS social media presence experienced notable growth in 2015, enabled by continued improvement at streamlining the Society-wide social media voice and synchronization of efforts. New social management software was implemented for cross-divisional use to better coordinate accounts, analytics, and monitoring of mentions of ACS programs and services. The ACS Facebook page reached 50,000 followers. Social media activity at national meetings continues to grow, especially on Twitter. An ACS Facebook post sharing

a *C&EN* article on the Nobel Prize in Medicine/Physiology reached more than 300,000 people in 48 hours.

## **ALL STRATEGIC PLAN GOALS—Support for ACS Governance and Operations**

### **OFFICE OF THE SECRETARY AND GENERAL COUNSEL (OSGC) [(INCLUDES OFFICE OF PUBLIC AFFAIRS, LEGAL, INNOVATION AND COLLABORATION, PLANNING SUPPORT, AND SECRETARY SUPPORT FOR GOVERNANCE)]**

- **ACS Chief Technology Officer (CTO) Summit (with M&SA).**

Our Office of Public Affairs (OPA) staff played a key role in organizing a gathering of CTOs from 17 leading chemical companies in Washington, D.C. on September 23-24. OPA arranged for key external stakeholders from government, trade associations, and scientific and technical organizations to attend the opening reception and interact with the CTOs. OPA arranged for all programmatic aspects of the Summit, including:

  - presentations at the reception and the following day from senior federal officials from the U.S. Government Accountability Office, U.S. Department of Energy, White House Office of Science and Technology Policy, and the U.S. Environmental Protection Agency.
  - Two CTO panels -- one centered on “Is the U.S. the Most Inviting Place for Chemistry R&D,” and the second on “How to Effectively Engage Scientists in Policy-Making.”
- **Landmarks Program Celebrates Chemists and Chemistry, Reaches Thousands.**

The National Historic Chemical Landmark program designated four new Landmarks and established an additional site for the “Thomas Edison, Chemist” 2014 Landmark. Activities organized around dedications included six designation ceremonies, three symposia, and two public museum programs. Total attendance is estimated at 1,750, which represented local section, divisional and national ACS members; students and teachers; and members of the public. Six of the dedications included participation from local, state and/or federal officials. These results were generated from a budget allocated for only two designations in 2015. The program's website exceeded 550,000 visits and 400,000 unique visitors (a 40% increase over 2014 and the highest ever recorded), placing it among the top most visited ACS website sections. Staff also contributed to a National Park Service (NPS) initiative to expand the scientific focus of the NPS during its 150th anniversary in 2016.
- **Mobile Game App Created.**

With funds awarded from the ACS Insurance Trust, a prototype game was developed based on the Chemistry Ambassadors program, for the purpose of encouraging members to communicate chemistry with the public and share ACS resources in their community. The test phase focused on student members (more than 100 players), with prizes awarded for those with the most points. A larger rollout is planned for 2016. A premise of the game is that more involved members are likely to be more satisfied with their membership and thus more apt to remain as members.

- **ACS Advances Legislative Priorities on Capitol Hill.**

Despite continued political battles that often choked out meaningful dialogue on important legislation, ACS (governance, staff and members) managed to advance several ACS top priorities in legislation that was passed by Congress:

- The Every Student Succeeds Act - with science testing and strengthened Math & Science Partnership program
- The Frank Lautenberg Chemical Safety for the 21st Century Act – with sustainable chemistry provisions
- The Research and Development Tax credit - renewed and made permanent

In addition to the above, ACS was instrumental in securing three major modifications of S. 773, the Fair Access to Science and Technology Research (FASTR) Act - 12 month embargo; petition process to change the embargo period and flexibility for federal agencies in setting up public access repositories. In addition, OPA also helped create the Congressional Chemistry Caucus and secured a Senate resolution and a letter from President Obama honoring National Chemistry Week.

- **ACS Staff “Pitched” Chemistry Research/News Reached the Public in Record Numbers.**

For the first 10 months of 2015, data from BurrellesLuce indicates that OPA’s efforts to publicize ACS products (including journal articles, national meetings and videos) resulted in 41,247 articles in print and online news media outlets -- with a potential print audience of 201 million people and on websites with a total of 19.1 billion potential unique visits. OPA successfully publicized both ACS national meetings in 2015, with the effort for the 249th meeting in Denver reaching an estimated 3.5 billion people, and the effort for the 250th meeting in Boston reaching an estimated 3.9 billion people. OPA videos and podcasts received more than 13.3 million views during the first 10 months of 2015, a 90 percent increase from the comparable period in 2014.

- **Another Year of Innovation and Engagement for ACS Staff.**

The 2015 *Innovation Speaker Series* featured five highly-regarded presentations. More than 600 staff members attended/participated in each presentation and rated each one on average 4.1/5.0. The *Let’s Chat Series* highlighted four staff speakers and a “Town Hall” hosted by Brian Crawford. 146 *ACS STAR Awards* have been granted. Also, the Second Annual ACS Innovation Fair showcased 15 posters that included participants in the 2015 Innovation Challenge, nominees and winner of the 2015 Catalyst Award, and newly launched programs. More than 150 staff attended the event.

- **Balloting and Preferential Voting Procedures Approved by Council.**

The Committee on Nominations and Elections, supported by OSGC staff, developed a petition to greatly shorten the bylaws as to ACS elections by seeking to make the detailed procedural requirements a policy, rather than a bylaw. The petition to amend the bylaws was approved by Council (as were the procedures developed by staff) and confirmed by the Board of Directors. As a result, the Balloting and Preferential Voting Procedures for Elections of President-Elect, District Directors, and Directors-at-Large were approved by Council and will be implemented effective January 1, 2016.

- Presidential Succession and Board Chair.**  
 OSGC staff provided strong support to a very active Presidential Succession group in 2015. Specifically for the ACS President, we assisted with organizing eight symposia, one of which brought together top scientists in government, industry and academia under the White House's initiative to address a Grand Challenges in Nanotechnology. Staff supported the joint Presidential Task Force on Addressing Workforce Needs through Industry/Two-Year College Partnerships, the Regional Meeting Teacher Workshops and industry focus groups at various Regional Meetings. Working across multiple divisions, and supported several meetings with CEOs and CTO across the chemical enterprise. Overall, staff coordinated arrangements and travel logistics, and prepared presentations and/or remarks for the three individuals in the presidential succession and the board chair to represent ACS at the following: two national and six regional ACS meetings; participation and presentations at four local sections; eight international trips and visits to scientific societies, congresses, and meetings; and bestowed three National Historical Chemical Landmark designations. Staff also supported and organized their participation in dozens of meetings across the US with other chemical and scientific societies, university groups, government entities and other similar groups.
- The 3<sup>rd</sup> Annual ACS Entrepreneurial Summit** (with M&SA).  
 The Summit was hosted by ACS on September 17-18, 2015 in Washington, DC. This year, nearly 200 attendees consisting of entrepreneurs, investors, academics, regulators, industry representatives, and service providers met to hear from industry representatives about their innovation interests, as well as discuss the challenges, opportunities, and trends in commercializing chemistry-based technologies. The Summit had nearly a three-fold increase in attendees from last year's Summit; more than 10 industry speakers from world-renown commercial innovators presented; and earned a satisfaction rating of 90% or more from attendees responding to an evaluation survey.

**OFFICE OF THE TREASURER (INCLUDES FINANCE, TREASURY, DEVELOPMENT, ACS MEMBER INSURANCE, AND ADMINISTRATIVE AND CUSTOMER SERVICES)**

**Administrative & Customer Services**

- ACS Hach and Othmer Buildings Awarded LEED® Platinum Re-certification.**  
 The Othmer Building was originally certified in 2010 and Hach in 2012. The LEED rating system, developed by the U.S. Green Building Council (USGBC), is the foremost program for buildings, homes and communities that are designed, constructed, maintained and operated for improved environmental and human health performance. ACS achieved LEED certification for implementing practical and measurable strategies and solutions aimed at achieving high performance in sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED is the foremost program for the design, construction and operation of green buildings. By achieving this re-certification, ACS continues to demonstrate an unwavering commitment to sustainability.

- **LED Lights Installed in the ACS Hach Building.**  
As part of the ongoing commitment to energy efficiency and sustainability, Facilities began replacing outdated fluorescent bulbs and fixtures in the Hach Building with LED lamps. The benefits of LED lighting include improved efficiency, durability, and mercury-free construction. LED lighting will be installed in all offices, common areas and hallways. In addition, all offices will be equipped with occupancy sensors and dimming capability that will allow lighting to be adjusted, based on individual preference. Electricity savings is projected to be over \$25,000 annually.
- **Security Installed Lynx Emergency Duress System.**  
The ACS Security Office configured and tested the Lynx Emergency Duress System. The Lynx system includes the ability to provide discreet communication and information to all on-site staff in the event of an emergency such as an active shooter event or an unauthorized building infiltration. The Lynx system integrates seamlessly with the primary security software and disburses alerts in three formats: desktop pop-ups or desktop crawlers with audio, SMS text messaging (to ACS-owned mobile devices only), and by email. Washington IT, Genesis Security, and the Lynx software technicians worked closely with the ACS Security Manager in 2015 to successfully design and test the program. Full deployment is expected to be completed by mid-January 2016.

## Development

- **Development Exceeded 2015 Fundraising Goal.**  
As of December 22, new gifts and pledges totaled \$4.3 million, including the third pledge of \$900,000 from Teva Pharmaceuticals to support the Teva Scholars Program. The year-to-date total exceeds the ACS Board's 2015 fundraising goal of \$3.25 million.
- **ACS Scholars Program Surpassed the 20<sup>th</sup> Anniversary Appeal Goal.**  
New gifts and pledges of \$1.4 million surpassed the 20<sup>th</sup> Anniversary Appeal Goal of \$1.0 million. Notable contributions included \$357,000 from Procter & Gamble to bring the company's cumulative gifts to \$1.0 million, and new gifts of \$100,000 or more from Genentech, Gilead, Merck and Pfizer.
- **ACS Scholars Program Endowment Grew to \$2.4 Million.**  
The growth achieved in the ACS Scholars Program Endowment during 2015 includes \$1.1 million of deferred gifts. ACS Scholars met the Endowment Founders at an inaugural event in November to introduce major donors and their named scholarship recipients.

## Member Insurance Program

- **Member Insurance Program Introduced Chemical Educator's Liability Insurance Coverage.**  
In 2015, the ACS Member Insurance Program implemented a new plan, Chemical Educator's Liability Insurance, aimed at the needs of members employed in academia. The Plan is underwritten by ARK, a Lloyd's of London underwriter, and provides four categories

of coverage depending on the level of instruction and/or research activity and the extent of chemical exposure involved.

## **Treasury Operations**

- **Successfully Implemented Society Program Portfolio Management (SPPM).**

The Society Program Portfolio Management process is a joint initiative shared by ACS governance and staff. The purpose of SPPM is to ensure that programs launched in support of the Society's strategic goals are achieving desired outcomes and providing value to ACS members and the communities the Society serves. The design of SPPM provides a rigorous, transparent, and efficient way of strategically adding new programs, routinely reviewing and updating existing programs, comparing the relative value of programs, and ultimately, determining an optimal rebalancing of resources within the Society Program portfolio. The new process was fully implemented in 2015 and should ensure a more optimal allocation of ACS human and financial resources among programs that fulfill the ACS vision of *"Improving people's lives through the transforming power of chemistry"*.

## **INFORMATION TECHNOLOGY**

- **Data Center.**

Approximately eight years ago we began investing in our data centers with a new future in mind. This future included the use of multiple data centers, significant investments in virtualization technologies and sophisticated network switching capability. These incremental investments, completed in 2015, now allow ACS to run applications in multiple places at one time. This ensures that our most critical applications are resilient and remain in service for all but the most significant problems and changes.

- **Virtual Desk Infrastructure (VDI).**

This year we rolled our VDI solution out to the organization. This initiative has several benefits, but the one I want to highlight for you is the benefit it brings to our business continuity planning. VDI allows users to access a virtual desktop from any browser that is connected to the internet. For example if you lost access to your computer due to a disaster, if you are a VDI user all you need to do is to gain access to any modern computer that has access to the internet and one of the de-facto industry standard browsers and you will be back in operation.

This fall, when the Pope visited Washington on fairly short notice, many ACS staff chose to work from home instead of risk being caught in traffic due to crowds and street closures. During his brief visit, at one point, we had over 400 users working remotely. This was a good opportunity to test whether the VDI technology could be one of the important elements in our disaster recovery program. The results indicated that with just a few tweaks we can use this technology to support the entire organization should we ever lose access to our buildings in Washington DC.

- **Association Management System (netForum) Upgrade.**

The Association Management System at ACS is used to support a number of critical operational processes. It is our membership database and is responsible for sending and collecting membership dues, tracking officers, committees, local sections and technical divisions. Other applications, like our Awards system, Fellow's System and Yellow Book are all supported by this platform.

Every two or three years we have to perform a major upgrade to stay current on this software. Given all that it does for the Society, these upgrades are a big deal. They consume many resources and if not done properly can disrupt our normal operations. This summer we successfully completed the upgrade without major disruption.

## **OFFICE OF STRATEGY**

- **ACS Maintains a Robust and Evolving Strategic Plan.**

The *ACS Strategic Plan for 2016 and Beyond* was approved by the Board and will launch on the web (at <http://strategy.acs.org>) in January. It provides the basis for all of the Society's work in support of the Vision, Mission, and Core Values. The four Goals, unchanged from recent years, are each supported by a new set of objectives representing the most important priorities for the ACS to pursue. The strategic plan is the result of broad engagement with governance and staff members, consolidated by the Planning Committee, and approved by the Board of Directors.

- **Ongoing Environment Scan Informs ACS Strategy and Operations.**

In 2015, the depth and reach expanded in our ongoing environment scan of the strategic environment for chemists, chemistry, and the ACS. Key trends were prioritized by the Board Standing Committee on Planning, and the most significant uncertainties were explored and discussed by a wide range of ACS volunteers and staff. Engagement with ACS committees, members, and other stakeholders expanded, and focused presentations were discussed in numerous venues throughout the year. The environment scan not only drives the Challenges & Opportunities included in the ACS Strategic Plan, but has informed strategic and operational planning at all levels of the Society.