Education Division Report
February–June 2015

Recruitment and retention of ACS student members and chapters

As of June, there were 19,801 undergraduate student members, compared to 19,616 a year earlier. There are currently 1,103 chartered student chapters.

College to Career website

In June, the *College to Career* website (www.acs.org/collegetocareer) received 75,568 page views from 32,764 unique viewers. The number of page views is up 48% compared to June 2014 and the number of unique visitors is up 124% compared to a year ago. Since the site became available, there have been 937,175 page views from more than 271,473 unique visitors.

Collaborative Opportunities Grants available

The ACS Undergraduate Programs Office (UPO) is piloting a new grant program. Collaborative Opportunities Grants are designed to support small activities between two-year colleges and four-year institutions, industry, government, ACS Local Sections, K–12 institutions, and/or community or workforce development organizations. These can form the basis for lasting, mutually beneficial partnerships. Applications will be accepted through July 15 for activities to be completed by August 2016. More information is available at www.acs.org/2YColleges.

ACS Guidelines for Chemistry in Two-Year College Programs revisions completed

The Society Committee on Education (SOCED) task force on the revision of the 2009 *ACS Guidelines for Chemistry in Two-Year College Programs* completed its major revisions. Significant proposed revisions include incorporation of recommendations regarding chemistry-based technology programs and chemical safety throughout the guidelines, recommendations regarding online courses and internships, and expanded recommendations regarding transfer students, mentorship and advising, and partnerships.

2015 assessment review cycle launched with 30 two-year colleges participating

This year, 31 faculty members from 30 institutions signed up to complete the *ACS Assessment Tool for Chemistry in Two-Year College Programs* over the course of the summer. The assessment tool review cycle launched on June 10 with an orientation webinar for participants. The completed assessments will be submitted in the fall for peer review and feedback on strengths, areas for growth, and recommended resources.

ACS Summer School on Green Chemistry and Sustainable Energy

The annual Summer School was held at the Colorado School of Mines in Golden, Colorado on June 17–24 and hosted 60 graduate students and postdoctoral scholars from the United States, Canada, and Latin America. Participants engaged in lectures on a variety of topics, including hydraulic fracturing, greener fossil fuels, and green chemistry in the pharmaceutical sector; presented research posters; and conducted a modified Life Cycle Assessment on alternate synthetic pathways. The Summer School was financially supported by an ACS Petroleum Research Fund Scientific Education (Type SE) grant.

International Student Chapters chartered
There are currently 15 chapters from 13 countries: Germany, Singapore, Italy, Malaysia, Egypt, India, Nigeria, Hungary, Jamaica, Saudi Arabia, UAE, Colombia, and México. 13 chapters have representatives attending the national meeting in Boston.

***inChemistry* provides information to help students take the next step after graduation**
The April/May issue of *inChemistry* magazine was mailed to 165 undergraduate ACS student members, 3,622 two- and four-year college department chairs, 1,081 faculty advisors, and 306 Minority Science Improvement Program grant recipients. Emails were sent to 20,901 students notifying them that the electronic versions of the issue were available. This email had a 33.89% open rate. The features focused on the value of informational interviewing, tweaking your scientific skills by enrolling in community college courses, and debunking common myths about careers in chemistry.

ACS Graduate & Postdoctoral Chemist
The *ACS Graduate & Postdoctoral Chemist* focused on the 249th ACS National Meeting**.** A special issue of the *Chemist* highlighted events at the meeting in Denver geared towards graduate students and postdocs. These included workshops, forums and networking events. This issue was disseminated to over 3,000 graduate students and postdocs registered for the meeting.

ACS Graduate & Postdoctoral Scholars Reception fosters connections to ACS
An estimated 550 graduate students and postdocs attended the ACS Graduate & Postdoctoral Scholars Reception at the 249th ACS National Meeting. They networked with ACS technical division and Younger Chemists Committee (YCC) representatives, members of the ACS Graduate Education Advisory Board (GEAB), and ACS staff. YCC and ACS technical divisions cosponsored and coordinated the event in collaboration with and support from Membership and Scientific Advancement.

May PRF Advisory Board recommends 108 proposals for grants
The PRF Advisory Board met May 14–15 at the Portland Marriott Downtown Waterfront Hotel in Portland, Oregon. The meeting took place to evaluate and recommend proposals for funding. Out of 488 proposals, 108 were recommended for support, with a combined total funding of $10,760,000. These recommendations were approved by the ACS Board of Directors' Standing Committee on Grants and Awards at its June meeting.

The breakdown of recommendations by grant type is as follows:

- 43 New Directions grants ($4.73 million)
- 40 Doctoral New Investigator grants ($4.40 million)
- 17 Undergraduate Research grants ($1.19 million)
- 8 Undergraduate New Investigator grants ($440,000)

Undergraduate Programs in Denver
There were 2,767 undergraduate students at the meeting in Denver, of which 2,615 were ACS members. The Undergraduate Programs Office provided two and a half days of programming for undergraduate students. Award-winning ACS Student Chapters were recognized with 47 chapters receiving Outstanding, 101 receiving Commendable, 152 receiving Honorable Mention,

and 97 receiving Green Chemistry awards. Other highlights included the Eminent Scientist lecture from Henry Kohlbrand of Dow Chemical Company and the "Undergraduate Speed Networking with Chemistry Professionals" event which was cosponsored by ACS Corporation Associates and the Senior Chemists Committee.

$2YC_3$ conferences
"Teaching with technology... What works and what doesn't: A *Resources for Excellence* workshop" attracted 17 registrants at the 210th Two-Year College Chemistry Consortium Conference, May 22. The workshop brought two-year college chemistry faculty together to discuss the most effective uses of technology in the classroom.

Preparing for Life After Graduate School (PfLAGS) Workshops
PfLAGS workshops were held in the chemistry departments of Auburn University on April 9–11, Wayne State University on May 7–9, South Dakota EPSCoR on May 27–29, Purdue University on June 8–10, and the University of South Carolina on June 15–17. A total of 230 students attended the workshops.

Chemistry in Context
In May, the author team for the 9th edition of *Chemistry in Context* met in Dubuque, IA at McGraw-Hill headquarters to learn their Habitat system. This system will streamline the authoring process for the text and allow the authors to design and create the textbook experience for the e-environment. The team also discussed digital enhancements and the timeline for publication of the 9th edition. Chapters 4, 5, and 6 for the 9th edition of the text were submitted to McGraw-Hill.

A workshop focused on the 8th edition of *Chemistry in Context* was held at Loyola University in Chicago, Illinois on June 1–2. Sixteen instructors participated in the workshop. Participants explored activities within the text, online activities, and performed lab experiments.

ACS Scholars
There are 194 Scholars in the program as potentially renewable students. As of June 30, 68% of the Scholars in the program have been matched with mentors. Eighty-four ACS Scholars graduated this year. The Mean/Median GPA's among this year's graduates is 3.56/3.48. All 84 participated in undergraduate research/internships, 41 plan to attend graduate school, 72 had a mentor, and 90% rated the mentor-protégé relationship as good/very good.

As part of this year's ACS Scholars Program 20th Anniversary activities, *C&EN* has published six of a series of twelve ACS Scholars' profiles. These profiles have been featured in the last issue of each month. The program also confirmed that there are 221 PhDs among the Scholars graduates.

U.S. National Chemistry Olympiad (USNCO)
The USNCO Study Camp was held June 2–17 at the U.S. Air Force Academy in Colorado Springs, Colorado. The members of the Alpha Theta Team were selected. They will represent the United States at the 47th International Chemistry Olympiad in Baku, Azerbaijan on July 20–29. The team members are:

Soorajnath Boominathan (Oklahoma School of Science and Mathematics in Oklahoma City, Oklahoma), Oklahoma Local Section
Bryce Cai (Barrington High School in Barrington, Illinois), Chicago Local Section
Janice Ong (Thomas Jefferson High School for Science and Technology in Alexandria, Virginia), Chemical Society of Washington
David Wang (Monta Vista High School in Cupertino, California), Santa Clara Valley Local Section

Two alternates were also named:

1st alternate: **Rueih-Sheng Fu** (Arcadia High School in Arcadia, California), Southern California Local Section
2nd alternate: **Richard Wang** (North Hollywood High School in North Hollywood, California), Southern California Local Section

The USNCO program received textbook and e-book donations to support student training at the study camp from Pearson Education, John Wiley & Sons, Inc., Cengage Learning, and University Science Books. Additional donations, including chemicals and laboratory supplies, were received from Advanced Chemistry Development, Carolina Biological Supply, Fisher Science Education, Flinn Scientific, Sigma Aldrich Chemical Company, and Texas Instruments.

Project SEED
As of June 30, 370 students are participating in this year's Summer I and Summer II programs, representing 84 programs at more than 115 institutions. The total stipend amount disbursed is $498,522.

The Project SEED Scholarship Committee selected 28 candidates and five alternates from a group of 38 applicants for the Project SEED College Scholarships, which are awarded to former SEED students entering college for the freshman year (2015–2016).

American Association of Chemistry Teachers (AACT)
AACT membership includes over 2,300 charter members (through June 30). Of this number, 87% are K–12 teachers of chemistry. The online renewal system was launched on May 12 for current AACT members.

AACT webinars presented during the months of April–June included: NGSS in the Chemistry Classroom, Preparing for the AP Chemistry Exam, the Connected Chemistry Classroom in Action, and Using Odyssey in the Chemistry Classroom.

AACT was presented the Gold Circle Award for Branding Campaign from the American Society of Association Executives in May. Creation of the AACT brand was a collaborative effort between the Office of Research & Brand Strategy in MS&A, the Education Division, and Everidge Designs.

The Camille & Henry Dreyfus Foundation awarded $50,000 to AACT for the creation of specialized multimedia for teachers of chemistry. These online resources will focus on atomic

and molecular structure and will help students make connections between the macroscopic, particulate, and symbolic conceptual levels of chemistry.

The Ford Motor Company approved a $50,000 grant for AACT in June. The grant will be used to create a *Chemistry of Cars* content module, containing lesson plans and multimedia created by K–12 teachers of chemistry and incorporated into the AACT resource library.

The inaugural Governing Board of AACT has been formed and met in July. Members are:

President: Barbara Sitzman
President-Elect: Scott Hawkins
Special Consultant: Sally Mitchell
Committee Representative: Regis Goode
High School Ambassador: Adrian Dingle
Middle School Ambassador: Sarah Paquette
Elementary School Ambassador: Rebecca Field
SOCED representative: Diane Krone
DivCHED representative: Roxie Allen

ACS Science Coaches
An article on the ACS Science Coaches program appeared in the June 15 issue of *C&EN*. Current coach-teacher partnerships were highlighted with a call for the community to participate in the 2015–2016 program. The application period for the 2015–2016 ACS Science Coaches program is open. ACS Science Coach Patricia Takahara was featured as one of Harris' Heroes on ABC 7 News in DC. The story aired in May.

STEMosphere at George Washington University
The ACS Education Division participated in STEMosphere, a free one-day event hosted by The George Washington University in April, where students, parents, educators, and lifelong learners of all ages enjoyed a public exhibition of fun, interactive, STEM-inspired activities. Hundreds of visitors to the ACS Education Division exhibit experienced "Adventures in Chemistry", a set of hands-on investigations.

ACS-Hach Programs
The ACS-Hach Advisory Board met and selected 19 recipients for the 2015–2016 ACS-Hach Teacher Career Scholarships and 90 recipients for the 2015–2016 ACS-Hach High School Chemistry Classroom Grants.

Middleschoolchemistry.com
Since launching, the site has received over 5.2 million visits from 230 countries and territories. The book has been downloaded 31,801 times.

Professional development pertaining to middleschoolchemistry.com was held in May and June at Central Michigan University's College of Education and Human Services and Wilson High School (for DC Public Schools), respectively.

ACS K–12 Professional Development Opportunities
Staff attended the NSTA National Conference in Chicago in March. The ACS Education booth, which featured K–12 educational products, received a significant number of visitors. A number of professional development opportunities were offered to meeting attendees by staff in collaboration with ACS contractors and volunteers. These included:

- Developing lesson plans using reading materials aligned with the Next Generation Science Standards (NGSS) and the Common Core State Standards (Patrice Pages)
- An overview of ACS high school chemistry teaching resources (Karen Kaleuati)
- Modeling in the high school chemistry classroom (Michael Mury)
- Implementation of NGSS in the high school chemistry classroom (Michael Mury)
- Presentation relating to middle school chemistry at the National Middle Level Science Teachers Association's *Meet Me in the Middle Day* at NSTA (James Kessler)

High School Chemistry Clubs
There were 562 ChemClubs for the 2014–2015 school year. In June, 200 clubs renewed their membership in the ChemClubs program for the 2015–2016 school year. Twenty new clubs were added. The ChemClub website at www.acs.org/chemclub was updated with the May "Activity of the Month" on "Chemistry Careers".

AACT, the National Historical Chemical Landmarks, and the ChemClub program launched a social media campaign using #MyChemSafetyTip to learn what teachers constantly remind their students about in the lab. The tips will be narrowed down and the top tip will be made into a poster with DayGlo® to be distributed in October.

The new ChemClub logo has been approved as part of the 10th anniversary for the 2015–2016 school year. The new logo will be officially revealed on September 1.

***ChemMatters* Magazine**
The *ChemMatters* Policy Board met in May at ACS headquarters. The Policy Board discussed ways to improve the content of the magazine, an update to the magazine's mission statement, and evaluation of the publication and/or its ancillaries. The board members also expressed their strong enthusiasm for the ongoing project, *The Best of ChemMatters: Connecting Science and Literacy*.

Chemistry in the Community
Staff and teacher leader Cece Schwennsen wrote an article for the May issue of AACT *Chemistry Solutions* that was a continuation of the March 3rd webinar focusing on the Next Generation Science Standards (NGSS) in the chemistry classroom. Examples from the *Chemistry in the Community* textbook were used to show teachers how to determine how current curricular materials can be used to address NGSS. The article provides answers to the many questions that were posed during the webinar and is meant as a resource for teachers as they incorporate NGSS into their instruction.