

Annual Report Text submitted by Chair 2019, Lawrence Berliner

For 2019 COACS had a busy year and several meetings focused on the Periodic Table. The other goal was to present general topics that nonmembers, students and lay people could appreciate.

The Colorado Section Award night was on January 11, in celebration of Professor Mike Mosher, University of Northern Colorado(UNC). His lecture, "Synthesis of Heterocycles of Biological Significance," was an excursion through his scientific career emphasizing student involvement. It was educational, entertaining, and understandable to a general audience, fulfilling our goal for our meetings, drawing new members from the community. Of the 33 attendees were COACS members, family and friends, 10 undergraduate and 5 graduate students.

Professor Eric Scerri lectured at the University of Denver, January 16, as part of the Provost's author series on "A History of the Periodic table. COACS was a cosponsor. Over 100 members of the University community, mostly nonscientists, attended. A video link was made available to COACS members.

On Feb. 28, alternate councilor, Shubham Vyas, Colorado School of Mines (CSM), presented "Rational Design Approaches to Minimize the Chemist's Environmental Footprint: From Perfluorinated Contaminants to Heavy Elements " at Colorado State University(CSU). We also celebrated the ACS 2019 Outreach Award executive committee member, Connie Gabel. The audience was 32 total, 24 ACS members (mostly students).

On April 23 our most notable outreach event, celebrating the Colorado Outstanding High School Chemistry Students and Teacher of the Year, took place at Regis University - Denver. Chair Larry Berliner presented "Heroes and Heroines of Chemistry" with an emphasis on Mendeleev and the foundations of the Periodic Table. This event was streamed in real time and videographed across the state, funded in part from our IPG and Science Café grants for this purpose. The Colorado High School Chemistry Teachers Association (CCTA) provided a Periodic Table of cupcakes, each decorated with the requisite elemental physical constants. The attendance was 160, including 27 high school chemistry student awardees and their families, 11 COACS and 30 CCTA members and retirees.

COACS members interfaced with the American Association of Chemistry Teachers (AACT) and the CCTA, July 21-25, where several teachers and COACS presented at the 2019 ChemEd Conference at North Central College, Naperville, IL. This is the largest conference for high school educators teaching introductory chemistry in North America and an opportunity for COACS educators to learn, share and exchange their ideas. ChemEd adds an important interface between secondary and post-secondary goals for Colorado educators.

Another robust interaction on November 8 took place at the Denver Merchandise Mart. AACT/COACS member, Greta Glugoski-Sharp, did all the chemistry programming for this event of over 500 educators. This brings in future ACS members and contributions.

On May 9, Dr. Phyllis Bronson, President, Biochemical Consulting and The Biochemical Research Foundation, Aspen, presented "Interface of Hormone Biochemistry and Evolutionary Biology: Keeping Visible as We Age," at the Blue Spruce Brewing Company, that focused on her current molecular work articulating the thermodynamics and kinetics involved in hormone stability. Attendance was 15 ACS members and 10 retirees, students and nonmembers.

We sponsored two senior chemists luncheons to celebrate 50, 60, or 70 years members, June 13 (in Denver: 23 attendees) and August 1 (at CSU: 37 attendees including 21 ACS members, 16 non-members, 13 students). The luncheon was followed by a summer REU student poster session. This has been an ongoing event for many years.

On Saturday, September 8 in Denver, we co-hosted an ACS Career Fair with a team of speakers, facilitators and potential employers. Three COACS members spoke briefly as well. The attendance was about 45 attendees of which we recruited 15 new ACS members

September 18 we sponsored a meeting at Adams State University in Alamosa, Colorado where Chair Elect, Debbie Crans, presented the "Periodic Table of Medicines." Of 44 attendees, were 9 ACS members, one 50-year member and lots of undergraduate chemistry majors.

On October 28 we met at CSM with a dinner talk on "New Plutonium Science in the Context of the Rocky Flats Plant" by Mark Jensen, University Chair in Nuclear Science and Engineering, and Director of the Nuclear Science and Engineering Program at CSM. The 35 attendees included 6 COACS members and 29 students and retirees.

As an outreach effort to join with other local sections in the region, the Chair presented his talk "Heroes and Heroines of Chemistry" with an emphasis on Mendeleev and the Periodic Table on November 2 in Albuquerque at the New Mexico Academy of Science and ACS local section joint meeting. This state-wide meeting had an attendance of several hundred scientists.

November 7 was "Come and have cake and celebrate" for the 150th Birthday of the Periodic Table at CSU, a joint meeting with the Wyoming Section (WYACS) and CSU. Our speaker was Chair-Elect Debbie Crans, who presented her talk on "The Periodic Table of Medicines." about 50 people attended, mostly local Student Affiliate students, as well as a handful of ACS members.

Our last event of the year was at the Butterfly Pavilion, Denver, on December 2. The presentation, by Marjorie Nelson, U.S. Fish and Wildlife Service "Butterflies, other Critters: and our Region's Endangered Species" was well received. She is also the daughter of one of our retired COACS members. Before the talk, attendees could visit the displays as an after-hour-event at the museum. The attendance was 9 ACS members, 11 students and retirees and 7 nonmember guests.

Summary: challenges, problems, conclusions

Typically the attendance is about 30 people. Our local section is the entire state of Colorado, thus we have to have 'regional meetings' to involve the entire membership. From discussions with other local sections, attendance at our meetings is satisfactory.

A national problem is the recurring loss of members; Colorado is no exception with a 10% attrition over the past year or two. The real challenge is enlisting younger members, particularly students, graduate students and new people from industry. The ACS career fair helped significantly; we normally do a local fair every other year.

Another challenge relates to enlisting younger executive committee members. We have new younger leadership for 2021, but we need to consider two-year terms for chair elect to be more effective.

Conclusions: overall, we met our goals and had regular monthly meetings. Our annual high school awards night is a phenomenal outreach activity where we reach out to the AACT and CCTA, senior high school students, their families and COACS members.

2020 Chair's (Debbie C. Crans) goals for COACS:

- Provide programming for members with very different types of interest and location of member
- Continue work on the goals set in the 2017 strategic planning session
- Plan and conduct a successful 100-year anniversary Regional Meeting (RMRM2020) at Colorado State University

Below I will comment on the goals and the particular concerns and challenges.

Goal 1: To provide programming for members with very different types of interest and location of members. The Colorado Section covers a large geographical area with many members widespread and with diverse interests. Furthermore, we have several large subgroups and it is difficult to deliver high quality content to all the interests of our members. It is my goal to provide programming for all members at some time during the year and thus address all our members with very different types of interest ranging from senior to junior members and covering all differing educational levels and interests in chemistry as well as reach some of the communities in the more rural areas of Colorado.

Goal 2: To work with our executive committee to complete the goals put forward by our strategic planning group in 2017.

They were Goal A: Increase active participation from industry, government, young people and those from diverse geographic areas in 5 years.

Goal B: Develop an inclusive pipeline of candidates for leadership roles and elected section leadership positions
Goal C: Improve Communication with members using a range of platforms to inform about activities and encourage participation.

Goal D: Identify and develop strategies for delivering chemistry content to our local section membership and stakeholders.

Goal 3: To plan and conduct a successful 100-year anniversary Regional Meeting (RMRM2020) at Colorado State University. Together with Carlos Olivo I am co-chairing the RMRM-2020 and we are celebrating the 100-year anniversary of COACS as well as the 150 year Anniversary of Colorado State University at the mini-regional meeting on October 30, 2020. There will be a full program for the day, and the day prior we are planning to hold workshops for graduate students and High School Teachers on Safety. In addition we hope to hold a workshop for industry from the ACS leadership program - Fostering Innovations.

Considering that the last RMRM meeting in Colorado, RMRM17 held in Loveland was a wonderful experience for the attendees with several excellent programs we have big shoes to fill. However, since that program was serious in the red because of a problem with the hotel block we are working hard to avoid a similar financial deficit, and have planned a meeting at Colorado State University.

2020 Chair-Elect's (Michael Jacobs) goals for the Section

- prep for goals for the 2021 year, website updates, implementing a digital wallet for COACS events
- Getting guest presenters on general topics that cover the historical, physical and life sciences
- Outreach events connecting the community with chemistry

A challenge for 2020 will be preparing for goals and events for the 2021 year. The Colorado Local Section of the American Chemical Society (COACS) will strive towards updates to the COACS website and implementing a digital wallet such as Venmo at COACS events. These updates are important in connecting the COACS and inviting young scientists and chemists to the organization. In addition, the COACS plans to have guest presentations on general topics that cover the historical, physical and life sciences where members, nonmembers, students and lay people could enjoy the talks. In addition, the COACS plans to have outreach events connecting the community with chemistry. For example, having a booth/table called "ask a scientist" at a local farmer's market, Denver Zoo, Denver Aquarium, etc. Here the community could interact with chemists in the field for science discussion or answering science questions. Overall, these goals would help educate and invigorate the community and next generations about chemistry. The concerns and challenges for all these events are finding venues for hosting, participants, volunteers, and support in the 2021 year.