Newsletter for Senior Chemists

March 2018

A Special Welcome from the SCC Chair

Thomas Beattie gained his PhD in Physical Organic Chemistry at The University of Wisconsin. His career has been mainly spent working in early stage drug discovery, and he currently consults in the biopharmacy area. He has served on the Senior Chemists Committee (SCC) for several years, and is now the SCC chair. His work on the SCC has included planning the very successful series of Senior Chemists Breakfasts held at National Meetings, and finding speakers for that event. He lives in San Diego and is a member of the San Diego Local Section.

Welcome again to the latest edition of the Senior Chemists Committee (SCC) newsletter, this the first of 2018 and of our newly increased frequency (now three annually, up from two). We share here, as always, a wide variety of articles hoping that some, probably not all, will pique each reader's interest. We welcome comments and suggestions, sent to seniorchemists@acs.org, and welcome your inquiry if you are stimulated to be a contributor. Today, I am using my column space to share with you some recent SCC developments.

WE ARE EXTENDING THE ACS MEMBERSHIP SERVICE AWARD CERTIFICATES AGAIN

The SCC initiative to add 70-year service certificates last year to the packages of 50- and 60-year service certificates mailed out annually to local sections generated some very positive comments from recipients and local section officers. Thus, we will continue to honor 70-year members annually.

This year, and this year alone, SCC and the ACS Membership Department will play catch-up by honoring 287 senior members who have achieved 72, 73, 74… years of ACS membership and service (this year's 71's were honored last year).

We encourage local sections to consider the possibility that special arrangements may be necessary to bestow these certificates, but we

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believe the value and good will created offsets any necessary extra effort.

Please let us know afterwards of your experiences with the award luncheons, dinners, or however you choose to bestow these certificates, and we will share these in an upcoming SCC newsletter.

DISCONTINUANCE OF SPEED NETWORKING WITH UNDERGRADUATES AT ACS NATIONAL MEETINGS

On December 6, 2017, we received notice that the ACS Society Committee on Education (SOCED) Undergraduate Programs Advisory Board chose to discontinue this event. After participating at 10 consecutive events during the last five years, SCC was surprised and disappointed, as we had provided hundreds of students with incredible insights and the skill of networking, both of which students could not have acquired in the chemistry classroom alone.

Inasmuch as no replacement program was announced, SCC will be stepping up its interactions with students at both ACS regional and national meetings. Although the announcement came too late to properly plan for the New Orleans meeting, we are working on replacement projects for both 2018 regionals and the fall national meeting in Boston.

ELI PEARCE ENDOWMENT FUND FULLY FUNDED

The drive to create an endowment fund for a student scholarship was completed successfully at the end of 2017. Our thanks go out to the 43 individual contributors. A special acknowledgment is extended to the New York Section, Eli's home section, which conducted a matching gift campaign among its members.

SCC BREAKFAST AT NEW ORLEANS ACS NATIONAL MEETING

We are pleased to have Dr. Calvin Mackie, a former professor of mechanical engineering at Tulane University, and now an award-winning mentor, inventor, author, internationally renowned speaker and entrepreneur, as our featured speaker. In 2013, he created STEM NOLA, a non-profit organization founded to expose, inspire and engage communities, including 13,000 underserved K-12 New Orleans students in hands-on STEM projects.

Tickets may still be available as you receive this issue for the Tuesday, March 20, 7:30 am breakfast in the Jefferson Room in the Hilton New Orleans Riverside Hotel.

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SENIOR CHEMISTS BOOTH AT THE ACS EXPO IN NEW ORLEANS

Visit Booth #1041 in the Expo Hall for information on how to "Get Involved" in your Local Section, the 2018 Mini-Grant Program, the *Newsletter for Senior Chemists*, Regional Meeting Activities for Senior Chemists, and the Senior Chemists Group on the ACS Network.

The following three articles are a part of our on-going series about the many and varied activities of (mostly, but not all) retired senior chemists. We are always glad to hear from other seniors about some of the activities they do. Please send your article, or a suggestion for an article, to the Senior Chemists Committee INBOX ✉ at seniorchemists@ACS.org. (Editor)

A Retired Chemist's Musical Activities *by Ron Archer, PhD*

Ronald D. Archer did his undergraduate education in Physical Science and Mathematics Education and his MS in Chemistry Education, both at Illinois State University. After two years in the Army, he attended the University of Illinois for his PhD in Chemistry. Most of his academic career was spent as a Professor of Inorganic Chemistry at University of Massachusetts in Amherst. Since retirement, he has engaged in many activities and has written the following article about some of them. He recently completed 36 years as a Councilor of the Connecticut Valley Section.

Four years after I retired as a chemistry professor, I decided to pick up my old Selmer clarinet and play in the Alumni Marching Band for the Illinois State University homecoming parade for 2003, the 50th anniversary of my BS Degree there. Several months later when I was being inducted into the Rotary Club of Amherst, my mentor noted my participation at said parade. Another member, A. P. Stevens, came up to me a few minutes later and said, "Ron, we need clarinet players in the Senior Concert Band of Western Massachusetts." I had never heard of this band, which was started in Holyoke and practiced in the War Memorial Building in Holyoke. A.P. organized a carpool that took participants from Amherst to the Monday afternoon practices. We had very few performances that year, one at the Holyoke State Veterans Home and one at a Catholic Elementary School that didn't have a music program due to budget problems.

So, one day I commented to the clarinet player sitting next to me that I didn't mind practicing every Monday but it would be nice to be playing more gigs. He replied "You should join the Melha Shriners Military Band." We play in parades most weekends from St. Patrick's Day (2 in Worcester and Holyoke) to Veteran's Day in November. We practice on Tuesday evenings at the Shriner Center in Springfield." I drove to a practice session and learned the following week would be the Shriners Circus weekend that would mean a parade on Thursday and five concerts for the band: two on Friday, two Saturday, and one Sunday. Since it is a Shriner band, we wear a Fez and special band uniforms. The band owns a trailer, so aging members don't have to walk in the parades. We do have to compete with clowns and bagpipe units for attention at parades. I'm very active in the band and am currently both the secretary and treasurer.

I'm also the vocal soloist for "May the Good Lord Bless and Keep You" for the annual Melha Shriner Memorial Service for widows and families of deceased Shriners. The band plays several numbers during that service.

The band is not attracting enough new players to replace those who move away or die. The main problems are cold weather in March and November, aging members, and poor recruitment. Meanwhile, the Senior Concert Band has matured into a vibrant unit with about 40 amateur and professional retired musicians. We have played concerts at the Boston State House, several community senior centers, Holyoke, and other Farmers Markets, etc.

I've also been active in the Immanuel Lutheran Church choir for more than 50 years. That was the only musical activity I did while being a chemistry professor.

During January, I play taps on my clarinet on the beach in Boca Grande. I originally did it as a joke after the conch player they had moved away, but they liked it so much that I've done it every year when I'm down there. This year, I fractured my hip a few days before I was to go so my daughter played a recording of it to them instead!

Prior to fracturing my hip, for more than four years I've been an almost full-time caregiver for my significant other, Margery Roy. I'm also involved with other volunteer activities.

MYSTERY WRITER CONVENTIONS: A place to meet your favorite mystery and crime authors and get free books! *by Anna M. Wilson*

Anna M. Wilson lives in Lafayette, IN, and is retired from the Biochemistry Department at Purdue University where she was the Teaching Laboratory Coordinator for 36 years. She has been an ACS member for 43 years and is a member and past treasurer of the ACS Division of Chemical Education. In her retirement, she enjoys reading books on all topics to learn new things, traveling, and creating photo and video projects for family and friends.

Authors panel at the 2017 Bouchercon

Sara Paretsky, Michael Connelly, Faye Kellerman, Lee Childs, Kathy Reichs, Dana Andrews and Charlaine Harris are some of my favorite mystery book authors. For the last ten years, I have attended one or two mystery writers' conferences each year – Bouchercon and Left Coast Crimes. There are others but these are the two I follow. I call myself a "Groupie" since I go to see, hear, and mingle with the authors.

Bouchercon is the World Mystery Convention and is an annual event for readers, authors, and all crime fiction lovers and was named after Anthony Boucher, a distinguished mystery fiction critic, editor, and author. This conference takes place in the fall at various sites around the United States and Canada. Left Coast Crime is an annual conference that takes place in the spring and is held in places in western parts of the United States and Canada. Both conferences are organized by mystery fan volunteers for other mystery fans.

The general plan for the meetings is for fans to be able to mingle with authors, get books signed by authors, and attend panels where the authors, with a moderator to ask questions, discuss how they find ideas, manage their characters, etc. Many authors are former policemen, attorneys, crime scene analysts, forensic scientists, and pathologists who often discuss the difference between living the crime scene and writing about it. Receptions, breakfasts with new authors, a hospitality room, and evening events are all a chance to talk to the authors whose books you like and to meet new authors who are promoting their first book. Who knows, they may end up being a new favorite.

Each conference has a Guest of Honor, a Fan Guest of Honor, and sometimes a Ghost of Honor who are interviewed at individual times. The conference is a very packed four-day event. At least six panels at a time are competing for your attendance. To choose is difficult. After each, panel authors are available to sign their books for you and even let you take a selfie. The bookseller room has thousands of books to buy if you don't bring your own.

The registration fee for the conference includes receptions, the banquet, the hospitality room, and best of all, A BAG OF FREE BOOKS!! You can add to this pile of free books by attending some of the receptions where publishers give out more free books and by keeping an eye on the book swap tables. After the last meeting, I brought home 25 books in my suitcase.

Information sites for the conferences: www.bouchercon2018.com and www.leftcoastcrime.org

The Activities of a Retired Chemist in Hungary *by Janos Fischer*

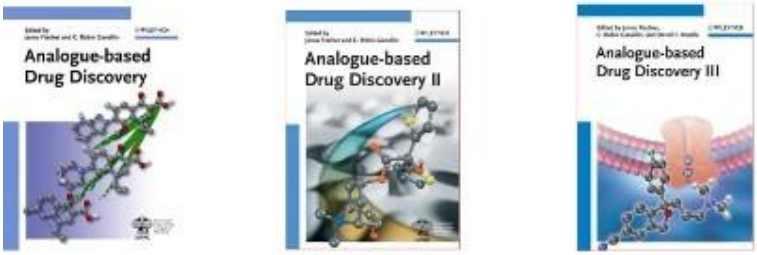
Janos Fischer is a Senior Research Scientist at Richter Plc., Budapest, Hungary. He received his MSc and PhD degrees in organic chemistry from the Eotvos University of Budapest under Professor A. Kucsman. He has worked at Richter Plc. from 1981 to 2006,where he participated in the research and development of leading cardiovascular drugs in Hungary. His main interest is analogue based drug discovery. He is the author of some 100 patents and scientific publications. Since 2014 he has served as Chair of the Subcommittee on Drug Discovery and Development of International Union of Pure and Applied Chemistry (IUPAC). He received an honorary professorship in 2008 at the Technical University of Budapest. All images were provided by Janos Fischer.

Throughout my career, I participated in process development research of several well-known blockbuster drugs and became interested in their discovery. I found books and articles on how these drugs were discovered to be appealing, informative and enjoyable with two of my favorite works being the book by Walter Sneader under the title" Drug Prototypes and Their Exploitation" (1995, John Wiley & Sons) describing older drug discoveries and a more recent work by Jie Jack Li (2014, Oxford University Press) covering the discovery of several newer blockbuster drugs.

I was fortunate to receive a membership in IUPAC in 1998. The organization is made up of numerous excellent medicinal chemists and inventors who have played key roles in the discovery of many important drugs. Several of these outstanding scientists also participated in the drug discovery and development subcommittee which I also joined.

Inspired by Robin Ganellin, I proposed a book series project to IUPAC on ''Analogue-based Drug Discovery" with myself as editor. Three volumes have been published by Wiley-VCH to date, in 2006, 2010, and 2013. In these books, we focused on drug optimization covering well studied classes of drugs. I also studied the case of of standalone drugs (i.e., drugs which have not yet a successful analogue).

2006 2010 2013



The books were written with the intention of being useful references for teaching medicinal chemistry in universities and were well received. I have personally used these volumes in my lectures on drugs applied in cardiology at the Technical University in Budapest (BME). My interest in drug research includes standalone drugs as lead compounds.

After completing the book series, Analogue-based Drug Discovery, I embarked upon a new book series with a broader scope involving all novel successful drug discoveries which resulted in approved drugs. The goal of this new book series was to provide experts in drug research and development, both in academia and industry, with case histories decribed by their key inventors or by recognized experts that could serve as teaching examples.

The resulting book series "Successful Drug Discovery" includes both small-molecule drugs and biologics. Within the three already published volumes, readers can find about 50 case history studies, several drug class overviews, and chapters on numerous general aspects of the drug discovery research. With the help of co-editors, Wayne E. Childers (Temple University, Philadelphia) and Christian Klein (Roche, Schwitzerland),

we are working on the fourth volume which we plan to publish in 2019 as IUPAC celebrates its 100th Anniversary in Paris.

Besides my editorial work described above, I have the honor to chair the Selection Committee of the prestigious IUPAC-Richter Prize (ACS MEDI).

Since my retirement from Richterin in 2006, I continue to enjoy my professional activities as my role as editor and chair of the IUPAC-Richter Prize Selection Committee. I also mentor students from the Budapest Technical University (BME) in their Master's Thesis work.

Gedeon Richter Plc graciously supports my acitivites with an office and other facilities which are necessary for this work.

I have a wonderful family. My wife, Klara, is an interior designer who also continues her activity as a journalist. It is a great pleasure to travel together with her to my professional conferences. Our daughter, Sara, is an economist, and her husband is a pediatrician. I hope that one of our grandchildren will choose a natural science profession.

The next article is another in our series of the history of science and of well known chemists.

Fire Retardance Chemistry for Polymeric Materials Part 2 of 2

Lawrence Ingram, Ret, MS Chemistry, University of Pittsburgh, June, 2017

Fire in public places and homes is a serious killer. The article in the *May, 2017 Newsletter for Senior Chemists* discussed halogen flame retardant additives (FRA) and how they work in polymeric materials. Polymers present in buildings are found in flooring, curtains, coverings, toys, furniture, wiring, electronics, latex paint, and windows for example. Additionally, there are wood, paper, clothes (may be polymeric), and solvents likely to be present.

This second article will discuss how **non-halogen (NH)** flame retardant additives are used alone or in conjunction with halogen flame retardants to reduce smoke, shut down the fire, and prevent it from spreading. The NH FRA became more important due to the EU implementation of RoHS (Restrictions of Hazardous Substances) officially starting in 2006. This restricts use of halogen FR that are corrosive as well as toxic.

Grenfell Building Fire June 14, 2017

The type of cladding on the outside of Grenfell Tower, installed in 2015 during a refurbishment, had a polyethylene - or plastic - core, instead of a more fireproof alternative with a mineral core

As previously indicated, the heat released, oxygen present, and fuel load form the fire triangle's three legs. Lowering one or more of these will control or extinguish the fire. Typical fire temperatures are 500ºC or higher. When a fire reaches 900ºC (1652ºF) many FRA will not be effective. Controlling the smoke generated and toxicity helps firefighters and people who are in the fire. Since NH FRA can work alone, or with other additives in a synergistic fashion, and since they can disrupt more than one parts of the fire triangle, these will be discussed singly, then as typical combinations.

One of the highest volume FRA is aluminum trihydrate (ATH). It is non-flammable. Release of the hydrated water cools the vapors, reduces smoke obscuration, and the water vapor can block oxygen from supporting combustion. The water releases at about 220-240ºC. The ATH is typically used at 30% or higher. The reaction is --- 2 $Al(OH)_3$ -> Al_2O_3 + 3 H_2O. The ATH water content is 34.6 wt%. A user must be careful to process the polymer with ATH at a low enough temperature to avoid loss of the hydrated water, or the polymer will have porosity, and less water content than expected. The ATH is low in cost, but typically a 2-3 micron particle size is preferred to minimize loss of desired properties. Good dispersion is also critical for the maximum benefit.

In the same family of FRA is magnesium dehydrate (MDH). This is also non-flammable, providing many of the benefits of ATH. The water releases at about 330-350ºC, and the MDH is typically used at 30% or higher. The best FR and retention of properties is achieved with 2-3 micron size particles. The reaction is --- $Mg(OH)_2$ -> MgO + H_2O. The MDH water content is 30.9 wt%. This is higher cost than ATH, but it is more stable during processing, due to the higher water loss temperature.

Calcium carbonate $CaCO_3$ is similar to the first two. It releases CO_2 around 825ºC and leaves an oxide char per the following --- $CaCO_3$ -> CaO + CO_2. The typical usage level is 10-20 wt%. The CO2 content is 44 wt%. When it is used in PVC, it can form $CaCl_2$ (reducing corrosive acid gas) as well as water --- $CaO + 2HCl \rightarrow CaCl_2 + H_2O$. Again, a 2-3 micron particle size well dispersed, works best. The CO_2 is non-combustible gas, so it displaces oxygen, but it's toxic to humans. It works with other FRA as well.

Zinc hydroxystannate is also used - $ZnSn(OH)_6$. This is used in lower melting point polymers, since the water of hydration is released about 180ºC, and the water content is 18.9 wt%. Typical usage is 10-20%. The reaction is --- $ZnSn(OH)_6$ -> $ZnSnO_3$ + 3H_2O. This can further react, when used with halogen FR, to ZnX_2 and SnX_4 (X = Cl or Br) plus more water. The disadvantage is lower water content and higher cost. This is a good char former and reduces the smoke emitted from a fire. This is a non-combustible FRA, which reduces fuel content.

Two zinc borate materials --- $2ZnO{\cdot}3B_2O_3{\cdot}3H_2O$ and $4ZnO{\cdot}6B_2O_3{\cdot}7H_2O$ are also in the char forming class. These have water content of 12.7 wt% and 14.5 wt% respectively. The water is released between 290-415ºC. The boron trioxide and zinc oxide are solid residues. Typical usage is 10-20%. When this is used synergistically with silica, the polymer heat produces a porous borosilicate glass char which insulates the polymer from the heat and blocks oxygen as well. This stops further destruction of the underlying polymer matrix.

Combinations of montmorillonite clay or kaolin clay with ATH, MDH, ZnSnOH, add to the porous char that insulates the polymer from the heat, reduces smoke emission, replaces fuel with non-combustible material, and reduces the oxygen interaction with the polymer. This can be used typically at about 10 wt% with reduced levels of the other additives.

Silica, TiO_2, and montmorillonite clay nanoparticles can be used with the zinc FRA, the zinc borate materials, ATH or MDH to maintain final material properties at lower loadings of total FRA.

Ammonium polyphosphate is also used as a FRA. It can be used with red phosphorous, the zinc borates, or the ZnSnOH to develop a porous char at or higher than 270ºC. The release of NH_3 blocks oxygen from the polymer. The combustion of NH_3 in air is very difficult in the absence of a catalyst (such as platinum gauze) because the ignition temperature is so high. The ammonium polyphosphate may also be combined with clay.

Also used between 2-5 wt% is $MoCl_2$ which is a smoke suppressant when combined with some of the FRA above. This would be used especially with the FRA that do not typically have smoke suppression properties, such as halogen FRA. This is expensive, so it is used in a limited way. The most effective choice is a 2-3 micron particle.

In closing there are some interesting chemistry considerations to think about. First, you may have noted that many of the FRA are either (Lewis) acids or bases. The formulator must take this into account when adding FRA to polymers that are unstable in acidic or basic conditions. It is also generally counterproductive to put acid and base FRA types together, since this mitigates the FR and can degrade the desired polymer properties. One has to remember that stoichiometry and thermodynamics *ALWAYS* apply even though the FRA are in a polymer and not considered to be in a solution. Even though the char is black, FRA chemistry, when used in polymers isn't a black art. Lastly, it is interesting to note that in these two articles, there are a minimum of twenty-one (21) elements of the periodic table that can be part of a polymer's FRA system. Chemistry is hard at work making life safer when you need it!

THE NOBEL PASSOVER PARTY

by Al Denio

Al Denio earned BS and MS degrees in Textile Chemistry at what is now UMass-Lowell. Then came MS and PhD degrees at the University of New Hampshire in Physical Chemistry. His industrial experience was at Dow Chemical in Midland, MI and at DuPont in Wilmington. He joined the faculty at the University of Wisconsin - Eau Claire in 1964 and retired in 1996. He returned to Delaware for milder weather in 1998 and remains active in the Delaware Section. He has written several articles for this Newsletter. The following article discusses an interesting and fun local section activity.

For many years, I read about the Nobel Prize winners in *The New York Times* and *Chemical and Engineering News*. The prizes are announced during the first week of October. I never got my hopes up as an industrial chemist or as a faculty member at an undergraduate university.

I never even knew one of the winners until we moved to Delaware in 1998 in search of a milder climate. Then in 2010, Richard F. Heck at the University of Delaware (UD) shared the Chemistry Nobel with Eiichi Negishi at Purdue University and Akiro Suzuki at Hokkaido University.

My first encounter with Professor Heck came during a Visiting Professorship in the Department of Chemistry and Biochemistry at the University of Delaware in 1978-79. He seemed like a quiet fellow who raised orchids as a hobby. Professor Heck retired in 1989 and later moved to Florida.

In 2005, the Delaware Section of ACS presented Professor Heck with the Wallace H. Carothers Award. At the dinner meeting, I was asked to introduce Professor Heck. I quickly went to his table, introduced myself, and asked him for a quick update. He said to be sure to point out that before joining UD in 1971, he was a research chemist at the Hercules Corporation in Wilmington for 14 years before being fired. He was told his research was of no interest! Luckily the UD Faculty hired him so his research could continue.

In recent years, I began to refer to October as "Passover Month" when we all were passed over for the Nobel. Then last year, I felt that the Chemistry Nobel announcement should be celebrated – it was a great excuse for a party!

The target date was Wednesday, October 4. I reserved a banquet room at a nice restaurant near the Newark campus. Dinner was scheduled from 5:30 to 7pm. The "party" would run from 7 to 9pm. I signed up five UD faculty members to discuss the importance of the prize topic and who the winner (or winners) were.

Stoddart Savauge Feringa

Champagne from the Land of Lavoisier would be sold by the glass. I rounded up three door prizes suitable for chemists. Then I found out that one of our new ACS Fellows would be attending on his birthday – Adjunct Professor Mike Stemniski. A large cake was purchased and I split the cost with Norm Henry, a member of the Senior Chemists Committee.

On the morning of October 4, I soon learned the names of the two winners and the nature of the award. It seemed that we needed two presenters, a physical chemist for the experimental work and a biochemist for the importance to that field. Professor Cecil Dybowski discussed the experimental problems and solutions used. Professor Brian Bahnson discussed the importance of structure determination of large biochemical molecules. Their presentations were very helpful.

The top door prize was an ACS Periodic Table Throw, the new version with all 118 elements in place. This was donated by Professor John Burmeister and won by Rita M. Vasta.

The Nobel Passover Party was a great success and we are now planning the 2018 version. About 30 attended, a mix of industrial and academic chemists. The good news was that we had support from the University of Delaware, the Delaware Section, and Skipjack Dining. They were happy for the business and did not charge for the banquet room. The only cost was for the cake, which was enjoyed by all!

Images provided by Al Denio - (1) Rita Vasta won an ACS Periodic Table throw; (2) Mike Stemniski, an ACS Fellow passed over on his birthday; (3) Saint Mike's cake

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SENIOR CHEMISTS HONORED BY SAN GORGONIO SECTION

by Ernie Simpson, SGS ACS Councilor

The San Gorgonio Section received funds from the **Senior Chemists Committee 2017 Mini-Grant Program** towards expenses for the section's Luncheon Meeting on Saturday, October 21, 2017 (11a.m.-2p.m.) recognizing our 50-, 55-, 60-, 65-, 70-, and 75-year ACS members and our College and University Chemistry Clubs.

Besides the traditional recognition of exactly 50-, 60-, and 70-year ACS members in our medium size section, we decided to recognize those members who were within two years of being 55-, 65-, and 75 year members. Our premise was that to wait 10 years between 50- and 60-years was not practical given the ages of our members. In our meeting announcement we listed a total of 45 members. The meeting notice was seen not only by our 750 plus members, but also by the much larger Southern California ACS Section in our joint publication (SCALACS).

We had 12 honorees who attended and got their certificates and the appropriate Chemical Element Pin (Sn, Cs, Nd, Tb, Yb, and Re). We had five other honorees who were not able to attend, but who had sent their "ACS Story" which we will put on our web-site in the near future.

We had approximately 50 people about evenly split between senior and experienced chemists and undergraduate students from four Colleges and Universities in our Section. In previous years we have had a speed networking/ mentoring activity toward the end of the meeting (similar to what SCC does at national meetings) and that has always been very well-received by the students but usually they wanted more time. This year we did assigned seating with about four students and four experienced/senior chemists per table so that while wonderful Italian food (salad, chicken parmigiana, spaghetti, pizzas, garlic bread, tiramisu, spumoni, etc.) was being served family style along with beverages of choice, there was some extensive networking/mentoring going on for about an hour. Then the 12 honorees spoke and were recognized and the four Chemistry clubs gave an overview of their activities. After that there was more networking/ mentoring as students rotated to other tables.

The Program Chair, Dr. Ernie Simpson, had started in August contacting potential honorees by email, snail mail, and telephone. It was disheartening to find that one or more pieces of contact information from the ACS-provided list was wrong, missing, or not up to date. However, two widows of honorees (one 55- and one 65-year member) who had passed away in the last 12-18 months were very grateful that their husbands were being recognized. One even flew down from northern California.

The total Section expenses for the event came to approx. $1,500. Thus, the San Gorgonio Section is very grateful for the mini- grant from the Senior Chemists Committee.

This Newsletter welcomes reports on Senior Chemists groups that are being formed or are active in local sections. The following is a report about the activities of a Senior Chemists group formed in 2017. Please send us news about your section's Senior Chemists group (Editor)

2017 Carolina-Piedmont Senior Chemists Grant Annual Report

by Matthew Chan - Matthew Chan lives in Charlotte, NC. and is retired from BASF Corporation after 40 years of service. He was one of the founders of the new Senior Chemists group of the Carolina Piedmont section. He has been an ACS member for 37 years.

An organizing meeting of the Senior Chemists Group of the Carolina-Piedmont Section (C-P SCG) was held in February 2017 in Charlotte, NC. Section members present were David Brown, Matthew Chan, and John Willis. At the conclusion of the meeting, we agreed that there was sufficient interest to form the group as an alternative venue for senior chemists to get together, in additional to the monthly Section meetings. A total of four meetings were held in 2017 with an average of four to six members present at each meeting. In April, I was contacted by Warren Ford, a member of ACS Senior Chemists Committee, about possible activities at the regional meeting which the C-P Section was hosting in Charlotte in November 2017. With the cooperation of the Charles H. Stone Award Committee, the C-P SCG co-hosted a luncheon at the ACS Southeast Regional Meeting (SERMACS) 2017. This is the highlight event of the SCG activities of the year. Our next meeting is scheduled for January 2018.

Road Scholar Intergenerational Programs

by Adriane G Ludwick

Adriane Ludwick is a member of SCC. She did her undergraduate work at Douglass College (Rutgers University) and her PhD at the University of Illinois/Champaign-Urbana in organic chemistry. Most of her career was spent teaching at Tuskegee University. She is now "semi-retired"; aside from her work as an Adjunct Professor in the College of Engineering at Tuskegee, her retirement activities include gardening and traveling. She is a member of the Auburn local section.

In the past two summers, I have had the pleasure of journeying with my grandchildren on week-long adventures called Intergenerational trips and sponsored by Road Scholar. My grandson Martin, 13 years old at the time, and I traveled to South Dakota to explore Mount Rushmore, the Badlands, the Crazy Horse Memorial, mammoth excavations, etc. That same summer, my 11 year old granddaughter Molly and I explored Denali National Park in Alaska. This past summer, the youngest, Parker, nine, and I explored New York City. While the three trips were unique, the quality of each experience was equally outstanding.

For the summer of 2018, Road Scholar is planning 158 Intergenerational adventures (https://www.roadscholar.org/travel-resources/grandparent-grandchild-travel/), within the United States, as well as international. The level of activity is indicated so that there will be no surprises when the grandparent and grandchild arrive. There are specific grandchild age ranges for each trip (15 to 17 years; 10 to 12 years; 5 to 8 years; etc.). I plan to take a Road Scholar trip this summer with Martin, now 15, to Costa Rica. Hopefully, I will have enough energy to take trips with Molly and Parker next year!

The hallmark of the three trips I have taken has been a combination of excellent staffing and tight organization of all activities. The staff for my trips were part of an organization affiliated with Road Scholar. For example, the Alaskan trip was coordinated by the Denali Education Center. Lodging was in a series of cabins along a glacier river; the buildings for meals and activities were within walking distance. The site was just outside the Denali National Park, where most of the activities occurred. The activities were preceded by background discussions. The numerous multi-mile hikes were led by naturalists who were able to provide an amazing amount of information about what we observed. The South Dakota and New York City adventures were coordinated also by external organizations affiliated with Road Scholar and having an intimate knowledge of the area.

Road Scholar was previously called Elder Hostel, with the renaming occurring in 2010. Elder Hostel was formed in 1975. The Intergenerational programs began in 1985 (https://www.roadscholar.org/about/our-story/; https://www.roadscholar.org/about/our-story/Timeline/); more than 100,000 grandparents and grandchildren have been hosted by the program since then (https://www.roadscholar.org/travel-resources/grandparent-grandchild-travel/).

The Road Scholar Intergenerational program is an excellent way to strengthen the connection with your grandchildren. You will live together and explore together for at least a week. The comradery among many of the grandchildren and grandparents that develops is a nice fringe benefit. The memories made are priceless!

ACS 2017 REGIONAL MEETINGS HOST SENIOR CHEMISTS EVENTS

The Senior Chemists Committee is encouraging regions to hold Senior Chemists' events at regional meetings. Four reports on events at regional meetings in the fourth quarter of 2017are presented below.

The South East Regional Meeting (SERMACS) 2017

by Matthew Chan

SERMACS was held in Charlotte, NC, November 7-11, 2017. The newly formed Senior Chemists Group and the Charles H. Stone Award Committee of the Carolina-Piedmont Section hosted a luncheon on Thursday, November 10 to honor the Section's five 50 year members and three 60 year members. Certificates were presented by the ACS District II Director, Dr. Christina Bodurow. The 2016 Charles H. Stone Award, (recognizing the achievements of the most outstanding younger chemist from the South Eastern US), was presented to Dr. Hans-Conrad zur Loye of University of South Carolina by the ACS District II Director. Following the luncheon, a keynote speech was given by the Stone Award recipient. The luncheon was attended by 28 people. Among those in attendance were ACS Past President Donna Nelson, Chair of the Board of Directors Pat Confalone, Board members Ingrid Montes and Barbara Sawrey, and District II Director, Christina Bodurow.

The Midwest and Rocky Mountain Regional Meetings 2017

by Gerry Meyer, Member SCC

At the Midwest Regional Meeting a breakfast was scheduled, but there was a mix-up in the time. It was originally at 8 a.m., but during the meeting it was noted that 8 a.m. conflicted with the Regional Board meeting. So the breakfast was moved to 7 a.m.; however, there wasn't enough notice given at the meeting and only five people (including me) showed up. This was unfortunate as a full breakfast was served. More than 20 people were expected and the District Director, John Adams, was scheduled to speak. We ate and talked. The time confusion caused the problem.

At the Rocky Mountain Regional Meeting there was an afternoon gathering with fruit, cookies, and coffee. There were seventeen people who gathered and reminisced for about an hour and a half. Four Directors and the current President-Elect were also present. Bonnie Carpentier, the incoming President-Elect, also attended. This was a successful Senior Chemists event.

The ACS Central Regional Meeting (CERM) - June 8-9, 2017 Detroit (Dearborn) MI
by Roger Parker, Associate Member SCC

On Thursday evening of the meeting, the Awards Dinner was held. This included the Detroit Section awards. Eleven 50-year members, seven 60-year members, and one 70-year ACS member from the Detroit Section were recognized.

On Friday, the Central Region ACS Board Meeting was held with 24 in attendance. A presentation was made to encourage the future general chairs to include senior chemist programs in their meetings. These are: 2018 49th CERM -Toledo, OH, 2019 50th CERM - Midland, MI, and 2020 51st CERM Columbus, OH.

SENIOR CHEMISTS COMMITTEE 2018 MINI-GRANT PROGRAM FOR LOCAL SECTIONS

The ACS Senior Chemists Committee (SCC) will be offering a limited number of grants to local sections that wish to sponsor an event or activity that will increase the engagement of senior members and encourage innovative activities that will benefit the local community, schools, or legislative government.

A limited number of grants (up to $500) are available to local sections that wish to host an event/activity that meets the above criteria.

Local sections must submit a **grant application** by Friday, July 6, 2018. Grant funds are limited and will be awarded on a first-come, first-served basis.

A **summary report** must be submitted within 30 days of the conclusion of the event/activity.

Join the Conversation
The Senior Chemists Group on the ACS Network!

We are pleased to invite you to become a member of the Senior Chemists Group on the ACS Network!

Come on and JOIN THE CONVERSATION on the Senior Chemists Group on the ACS Network at **https://communities.acs.org/groups/senior-chemists**. Once you become a member, you can set it to email you automatic alerts of new postings by following the group.

If you have any questions or need assistance, please send an email to the seniorchemists@acs.org.

EDITOR'S NOTE by Lynn Hartshorn

We hope you enjoyed reading this Newsletter, and we encourage you to submit an article. Perhaps you have an interesting hobby or activity, or some volunteer work that you could write about, or would

like to recommend a place you have travelled to or a museum you have visited. Maybe you would like to write something about the history of chemistry ,or a famous scientist, or an interesting meeting that your section organized? Or something interesting in the chemistry of everyday life? We welcome articles on these and many other topics. Please submit them as a DocX, with a maximum of 500 words (we accept shorter articles also). Submit them to seniorchemist@acs.org The deadline is May 30 for the summer issue. Images or photos are welcome too!

ACS SENIOR CHEMISTS COMMITTEE

VISION: Improving lives using the knowledge and experience of senior chemists

MISSION: Address and support the needs and ambitions of senior chemists and utilize their experience and knowledge