

# SAS SPECTRUM eNEWS

## SAS President's Remarks

It is hard to imagine that I have been a member of the Society for Applied Spectroscopy since 1986 and now, in 2017, have the honor of serving as President of the Society. Through the years, I have enjoyed many of the benefits of being a member including the Journal, member events, and the camaraderie of many other SAS members, many who have become good friends. I look forward to giving back to the society and would like to THANK all of the previous presidents; journal editors, Mike Blades and Peter Griffiths; Bruce Chase for serving as treasurer and Diane Parry for taking over; all of the volunteers; and Bonnie and Stephanie at the main office.

We have a few exciting recent developments moving forward that will continue and some other new ones in the works. The journal, *Applied Spectroscopy*, will be in its second year with SAGE as the publisher. SAGE has been an excellent partner, has expanded our exposure, and is a very forward-thinking company. The certification program launched at SciX 2016 was well received and a number of members have already submitted their applications. As we look to the future, Diane Parry has outlined a 2020 Vision (on the website at [http://www.s-a-s.org/userfiles/uploads/SAS\\_2020\\_Vision\\_Sept\\_2016.pdf](http://www.s-a-s.org/userfiles/uploads/SAS_2020_Vision_Sept_2016.pdf)), which provides some direction to achieve our goals. We will also be implementing programs to recognize our volunteers for their contributions and encourage others to become active in SAS.

As a Society, we are always looking to grow our member base and provide valuable benefits. Since we are a volunteer organization, we look to our members to get involved and provide feedback as to how we can improve. You can help in many ways. Promote the society and encourage your colleagues to join; become active on committees or contact the office to volunteer; provide feedback and let us know what you would like to see.

I look forward to 2017 as being a productive and exciting year for SAS.

Greg Klunder, SAS President  
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## Interview with Dr. Regan Silvestri

*The Cleveland Section of the Society for Applied Spectroscopy has a very active outreach program. The SAS Newsletter asked Dr. Regan Silvestri, the Cleveland Section member who coordinates the outreach program, to share some of his experiences with us.*

**SAS: Please give us a quick introduction of yourself.**

**Silvestri:** My name is Regan Silvestri. I am a professor of chemistry at Lorain County Community College, just outside of Cleveland, Ohio. I became infected with the spirit of volunteerism when I was a Peace Corps volunteer in the Republic of Kazakhstan, where I lived and worked for four years.

**SAS: Can you tell us a bit about the history of Spectroscopy for Kids?**

**Silvestri:** Cleveland section member Ken Street, a spectroscopist at the NASA Glenn Research Center, began offering the Spectroscopy for Kids outreach program in 2001 on behalf of the Cleveland Section of the SAS. I began offering *Magical Science!*, a science magic show, on behalf of the Cleveland Section in 2009. To date, we have presented 212 outreach programs at 120 locations, contacting a combined total audience of 16,000+ students.





**SAS: How do you strike a balance between appealing to the eyes and the mind?**

**Silvestri:** We currently have three set programs that we offer, allowing us to return to sites in subsequent years. Each of these programs can be modified for presentation at an appropriate level depending on the age of the student participants. Very young pre-school groups can participate in the program "just for fun", whereas older students are encouraged to self-discover the science of how the demonstrations and science magic tricks work. The three programs that we offer, *Spectroscopy for Kids*, *Magical Science!*, and *Plastic Elastic Polymers* may be centered around different themes, but they actually share a great deal of scientific content and can therefore share a lot of equipment. For example, *Spectroscopy for Kids* uses spectrum tubes so that students can observe the line spectra of different gases, and *Magical Science!* uses the same spectrum tubes but lights them while the students are holding them by using a Tesla coil (which always gets a big scream.)



*Magical Science: Genie in a bottle*

**SAS: At what age do kids start to appreciate the hidden science behind the visual effects?**

**Silvestri:** All ages. Even your grandmother! Everyone in the audience is left screaming. A well performed science magic trick is guaranteed to get an older student to smile; the smile says, "yes I am thoroughly enjoying this, but I've already started to figure out how that worked." I personally enjoy performing for younger audiences. A science magic show in front of 350 three-year olds in a preschool gym and every kid in the room is convinced that it really is real magic.

**SAS: How expensive are the demos? What funding sources have you used?**

**Silvestri:** We started offering the outreach program with some equipment we scavenged from the garbage and a few hundred dollars of support from the local Cleveland SAS Section. That was enough to do it. As we grew and expanded the program, we were fortunate enough to secure funding from multiple sources including: PerkinElmer Analytical Instruments Group, the American Chemical Society Innovative Projects Grant program, the Lorain County Community College Foundation, the Lorain County Community College Center for Teaching Excellence, the Cleveland Section of the Society for Applied Spectroscopy, the Akron Section of the American Chemical Society, and the Ohio Association of Two Year Colleges Teaching Award program. Tying together multiple sources of funding has been key to our ongoing success.

**SAS: What are the five most "wow-inducing" demos? Which are your personal favorites?**

**Silvestri:** "Elephant Toothpaste" is always the big crowd pleaser. This demo is tried and tested, and considered the standard by everyone who does this sort of thing. My personal favorite is "The Rainbow Connection", the performance of which takes quite a bit of practice to master.

**SAS: Do you have any resources or advice for people who want to start similar endeavors?**

**Silvestri:** My employer has been 100+% supportive of the amount of time which I spend conducting community outreach programs. As a professor at a "community" college, it seems natural that I should be out in the community. This support from my employer has made it possible for me to spend such a large amount of time conducting outreach programs. I'm confident that your employer would support such endeavors, realizing the public relations that it brings.

**SAS: Do you have any closing remarks?**

**Silvestri:** I'll skip the numerous stories of how volunteering has benefitted my professional career. Suffice for me to resort to a cliché and repeat here the longstanding adage: "Volunteering, you get more than you give." My motivation to spend so much time volunteering comes from the students. I'll share one personal story of a second grade girl at a summer camp who said to me: "My sister told me that science is boring, but she's wrong. When I grow up I'm gonna be a doctor of science too!"



*Magical Science: Making a rainbow*



Contributed by Xiaoyun Chen ([xchen4@dow.com](mailto:xchen4@dow.com))

For any members who are interested in learning more about Regan's outreach experience, or advice on how to start something similar in their own communities, you can contact Regan at [rsilvestri@lorainccc.edu](mailto:rsilvestri@lorainccc.edu).

*This article continues the series of highlighting SAS regional and technical sections. The Coblentz Society is the longest-standing technical section of SAS, and has in many ways contributed to the education and dissemination of applied spectroscopy.*

## The Coblentz Society

The Coblentz Society was founded in 1954, spawning from a committee that met at the long-standing Ohio State Symposium. William Weber Coblentz was chosen as the namesake due to his significant contributions to infrared spectroscopy in the early 1900s, work that went beyond looking at the infrared signatures of pure compounds. The objective of the Society at that time was, "[t]o foster the understanding and application of infrared spectroscopy." The Society was founded, and still does operate, solely on volunteer effort. The Coblentz Society has a long-standing history of contributing and sponsoring technical sessions at both larger (e.g., Pittcon) and smaller (e.g., ICORS/ICAVS) scientific conferences.

Due to the need for good reference data significant program of collecting, compiling and selling spectra began in 1956, with Clara Craver directing a significant portion of this endeavor. By 1960, over 2,000 infrared spectra had been collected, leading to the publication of the first volume of 1,000 spectra being published in hardcopy. In 1982, the total number of spectra exceeded over 10,000, with selected compound infrared spectra being available in five bound volumes. The totality of the spectra was available in 32 loose-leaf volumes. As technology progressed, the Coblentz Society along with the National Institute of Standards and Technology (NIST) collaborated in the early 1990s to digitize the Coblentz Spectral Library, which was subsequently available to purchase on CD. The youngest generation of spectroscopists today can see and use the fruits of these significant efforts in the NIST Webbook (<http://webbook.nist.gov/chemistry/>) or through purchasing a library volume through ACD/Labs.

Over many decades of the Society's operation, the organization evolved to cover more than infrared spectroscopy, which is reflected in the current objective: "To foster the understanding and application of vibrational spectroscopy." With reference data being easy to access in advent of computer technology, one of the major functions of the Coblentz Society today is to honor scientists who have provided significant contribution to the field of vibrational spectroscopy. These awards each have their own nuances, with some honoring younger scientists, and others geared towards those who are nearing the end of their careers, but in all cases, the awardees have, in some fashion, captured the pioneering spirit of W.W. Coblentz. These awards include:

1. Coblentz Award
2. Williams-Wright Award
3. The ABB Sponsored Bomem-Michelson Award
4. Ellis R. Lippincott Award (a co-sponsored award with OSA)
5. Clara Craver Award

These awards are presented at three different meetings during the course of a calendar year, including the International Symposium on Molecular Spectroscopy, Pittcon, and SciX (formerly, FACSS). In addition to these awards, the Coblentz Society student awards and William G. Fateley award are presented on an annual basis to graduate students pursuing their education in vibrational spectroscopy that demonstrate both competency and drive in pushing the state of the art forward.

In recognition that the "art" of interpreting optical spectral data is rapidly vanishing, one effort of the Coblentz Society in the last three years is offering "The Coblentz Challenge" each year to young professionals at SciX. The challenge, developed by the Education Committee, not only rewards young professionals for their proficiencies in interpretation of spectral data, but also serves as a means of recognizing the next generation of vibrational spectroscopy experts who will keep the torch going for the next generation of scientists, in a similar flavor of that of the up and coming SAS Certification program.

Traditionally, the Coblenz Society Members meeting has been held at Pittcon each year, however, starting in 2017, it will be held at SciX, given the majority of Society members attend SciX with greater frequency than Pittcon.

For those looking for a society home that complements their interest in vibrational spectroscopy, choosing membership with the Coblenz Society as their SAS technical section is a choice that allows for many new working relationships to be made. More information about our past and current activities, and information on our awards can be found on our website: <http://www.coblenz.org>.

*Contributed by Luisa T.M. Profeta,  
Coblenz Society Secretary*

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