Monthly Meeting
January Meeting with H.N. Cheng, 2021 President of the ACS

A Tribute to Mike Filosa, Nucleus Editor
By Katherine Lee

African-American Women Chemists
A Book Review by Carol Mulrooney

Jennifer Maclachlan
An interview from ACS Industry Matters Newsletter
The book African American Women Chemists by Jeannette E. Brown is an extensive historical introduction to the presence of African American women in the field of chemistry. Many ACS members will recognize Dr. Brown and her works, but I would like to bring this book to the attention of those ACS members who haven’t yet read it.

I was inspired to purchase the book when it was recommended by participants in the June 2020 Open Dialogue on Diversity, Inclusion & Respect, sponsored by ACS PROF. I confess that up until now I haven’t learned much about the history behind the chemistry, never spending much time reading about the lives of those scientists who made the greatest discoveries. This book, however, completely changed my perspective. I was captivated by the accounts of the lives and experiences of these women who had struggled so hard for the ability to add to the scientific knowledge of the world.

The book is structured in chronological order, starting with early pioneers who became accomplished educators and researchers under very difficult circumstances. There is a chapter devoted to Marie Maynard Daly, the first African American woman chemist to receive a PhD in chemistry. Then the sections of the book are grouped by the chemists’ respective fields including academia, industry, engineering, and science policy. The last chapter features the author herself.

The stories begin with the scientists’ early life, accomplishments, and challenges faced in their education and careers. Most of the accounts include descriptions of mentors who sponsored and supported these chemists. Once established in their careers, these women often worked toward mentoring the next generation of student chemists and giving back to their communities in many different ways. The book concludes with resources, next steps, notes, and bibliography. The resources and bibliography are a particularly fitting way to conclude these histories, as anyone reading this book will be inspired to learn more!

From the very beginning, I was struck by the intense drama in these stories. Accounts of women going from extreme poverty to earning their doctorates were inspiring, but many of these women also faced terrible tragedies. It was hard to not get very angry at the infuriating episodes where chemists had credit for their work stolen or dealt with intense racism from other scientists.

Most of the chapters were ultimately uplifting though. I decided not to share more details of the women’s lives and accomplishments in this mini-review because I don’t want to give anything away to those who haven’t yet read the book.

(Here are some hints: I learned about the discovery of a treatment for leprosy, the invention of a spot test for the explosive TATB that is now used by the DHS, and that one of the chemists was married to a famous actor and singer!) Rather than just summarize the many fascinating stories in the book, I want to invite all of you to read these for yourselves and then join in a group discussion.

Please email carol.mulrooney@gmail.com if you are interested in joining us to discuss African American Women Chemists. We will announce a date for this first meeting of the book club in the coming months and are looking forward to hearing your ideas about additional books to feature in this series of conversations.

Craig Sergeant will become Editor of the Nucleus beginning with the January 2021 issue. Craig’s background includes chemistry, project management, marketing, and website management. Craig received a BS in Chemistry and a MS in Organic Chemistry from Oakland University in Rochester, Michigan, and an MBA from Salem State University. Currently, Craig is a Product Marketing Manager at JEOL USA, and has also held roles in Product Management at Alfa Aesar/Thermo Fisher Scientific, as well as Johnson Matthey. You may have met Craig at the January and February Monthly Meetings in 2020, or virtually at the October Board Meeting. Craig has been learning the ins and outs of the Editor of the Nucleus role from Mike, preparing to assume the mantle. Welcome to Craig. You may reach Craig at csergeant@jeol.com

Interested in placing an advertisement in the Nucleus? Ad rates are posted online: https://www.nesacs.org/bop.html

Please reach out to Craig Sergeant csergeant@jeol.com

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Cover: Mike Filosa and Kathy Lee at the 2019 Spring ACS Meeting in Orlando with the ACS Moles.

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Early in my tenure as *Nucleus* editor I asked at a Board of Publications (BOP) meeting how I would ever get out of the job now that I had it? Vince Gale, *Nucleus* Ad Manager, quipped, “you either become ill like Arno, or you take a job out of state like Mark Spitler.” The *Nucleus* job in those days adhered to a tight production schedule for 10 issues per year. The issue had to be ready for the printer two weeks before the month of issue for third class mail to deliver it in time. Timely arrival of the *Nucleus* was a big issue in those days when third class mail could, unpredictably, sit in the post office for a few weeks before it was delivered. Now we have internet delivery of a pdf so the delivery issues have gone away and the issue can be more of a just-in-time publication.

I blundered into the job as *Nucleus* Editor. I had been recruited to run for Counselor in 2001 and instead focused on work and creating a new printing technology which was the foundation for the formation of ZINK Imaging, which spun out of Polaroid in 2005. At the end of 2004 I was ready to reengage with NESACS so I attended the October Monthly Meeting where I sat with Vivian Walworth. Vivian was a very old friend of Arno Heyn going back to their days together at the University of Michigan. One of her favorite stories was how she introduced Arno to his future wife. Vivian had a long career at Polaroid in 3-D battlefield photography (Vectograph). Vivian was an editor par excellence for the *The Society of Imaging Science and Technology*, a chair of the IS&T, and wrote and edited

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January Monthly Meeting

The 1000th! Meeting of the Northeastern Section of the American Chemical Society

Sustainability and Green Chemistry
H. N. Cheng
2021 President, American Chemical Society
January 14, 2021

4:30 Annual meeting
5:00 January Board meeting
6:00 Break for dinner
6:30 Meet and greet with Dr H. N. Cheng
7:00 Monthly meeting with Dr. Cheng, ACS President

The Zoom registration link is:
https://american-chemical-society.zoom.com/meeting/register/tZ0ufuqvq-TovH9K4hY3s7bbCDrzZorqHpOVo

Abstract:

Sustainability and Green Chemistry

With increasing public awareness of climate change, environmental pollution, and earth’s declining resources, sustainability and green chemistry have become hot topics these days. In 2015, the United Nations adopted 17 sustainable development goals (SDGs) to be achieved in 2030. As polymers are being used all around us, they play a major role in the achievement of these goals. In this talk, the speaker will provide an overview of the sustainability initiatives at American Chemical Society (ACS) and his platform as ACS President in 2021. He will also cover selected polymer research and development (R&D) areas that are related to sustainability and green polymer chemistry. The following examples will be shown: 1) to use natural renewable raw materials (e.g., polysaccharides, proteins, and triglycerides) as source materials for new chemistry and products; 2) to exploit biocatalysts (e.g., enzymes and micro-organisms) for chemical and polymer conversions; 3) to apply green chemistry concepts to conversion and processing; and 4) to develop green methodologies to promote the development of green products. In view of the relevance of sustainability and green polymer chemistry to our society, we can expect to see continued R&D and commercial activities relating to this field in the future.

Biography:

H. N. Cheng is the ACS President in 2021. He has been active at ACS for many years and has served in many leadership roles at local, division, and national levels. He obtained his B.S. from UCLA and his Ph.D. from the University of Illinois at Urbana-Champaign. He currently works at USDA Southern Regional Research Center in New Orleans. Over the years, he has been involved with the use of agro-based materials, biocatalysis, green processing, and green methodology. He has also contributed to polymerization theory and polymer NMR. He has authored or co-authored 280 papers and 26 patent publications. He has organized 40 symposia at national meetings since 2000 and edited 21 books.

He was selected as a Fellow of the ACS (2009), a Fellow of the ACS Polymer Chemistry Division (2010), and a Fellow of the ACS Agricultural and Food Chemistry Division (2018), among other recognition and awards.

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Staff Investigator,
Process Chemist,
QA Manager,
Synthetic Chemist,
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A brief tribute to Mike Filosa, Editor of the Nucleus

By Katherine Lee, NESACS Board of Publications Chair and ACS District I Director

Mike Filosa has been the Editor of the Nucleus since January 2005, and some of us have been fortunate enough to have the opportunity to hear Mike’s story about how he assumed the mantle of this role from none other than Arno Heyn (NESACS Chair 1968, Henry Hill Award Winner 1986, Nucleus Editor 1989-2004).

As I have come to know Mike through the years, I have been impressed by his stewardship for the history of NESACS and his dedication to our Section and to the ACS as a whole. Perhaps you have attended a NESACS Board Meeting at which Mike gave an update on the latest issue of the Nucleus and passed around the proof so we could get a sneak peek of the contents. Perhaps you have been the recipient of a nudge from Mike, along the lines of, “It would be great if you could write up [name of event]” or “I need the announcement for the monthly meeting.”

As Ajay Purohit, the 2019 Chair of the NESACS Board of Publications (BOP) notes, “I think that what I remember most about Mike is his selfless devotion to NESACS and the work he did to continue Arno Heyn’s legacy in the Nucleus.”

A labor of love:

To put together up to 10 issues per year, amassing the content, and in many cases, writing articles in addition to editing submissions, is a demanding job; you may browse the issues edited by Mike here: https://www.nesacs.org/publications_nucleus.html

I would remind people that this is an unpaid position! Mindy Levine, 2018 NESACS Chair, offers these thoughts: “As a past-chair of NESACS and a former contributor to the Nucleus, I have been fortunate to work closely with Mike Filosa on a number of occasions. Mike’s encouragement to write articles for the Nucleus led me to write several first-person accounts of my early career trajectory as a female assistant professor and led me to explore a number of other topics of relevance to the NESACS community.

I have seen some of the hard work that Mike put in to this publication over the years, and can only imagine that what I have seen is a small fraction of the actual work that was required to keep this publication running as smoothly as it did for this extended period of time. Many thanks to Mike for his hard work, dedication, and service.”

Partnership and perfectionism:

Jim Piper, longtime NESACS Treasurer, offers his thoughts: “I have served on the NESACS Board for the entire span of Mike’s editorship. In addition to being the major means of communication with members, the Nucleus serves as the major source of historical content for the Section. The Editor bears a great deal of responsibility for seeing that the events are accurately and faithfully recorded, and Mike has fulfilled these responsibilities admirably.

However, my chief impetus for writing these comments comes from the long partnership my wife, Karen, had with Mike. It was a relationship of trust and mutual respect. Karen was business manager of the Nucleus for much of Mike’s term until she passed away in 2016. She was a perfectionist, and she appreciated Mike’s insistence on always producing a professional publication. For a quick view of the effort Mike put into this job, take a look at the 40-page 2010 and 2007 Summer issues. Mike’s contribution to the Section will remain embedded in the Section records and I count him among those who have most vigorously advanced its principals and goals.

Editor and change agent:

In 2015, when I was Chair-Elect of NESACS, I held a long-range planning meeting focused on coming to a recommendation on the future of the Nucleus. In partnership with Mike, we built a consensus to implement an opt-in policy for readers who wished to continue to receive a hard copy of the Nucleus. Mike’s buy-in was key to the Nucleus going green.

Colleague and friend:

Mukund Chorghade pipes up: Tinker! Tailor!! Soldier!!! Spy!!!! The moniker derived from Le Carre’s famous novel can be easily applied to Michael Filosa, a talented and outstanding scientist, loyal friend, sage advisor and the quintessential scholar and a gentleman. He tinkers with the chemistry in his company and contributes to the Chemical Enterprise. He tailors the product properties to exacting specifications. He solders at the frontlines of NESACS for the professional development of scientists in the Section. As a spy, he gleams intelligence from the “happenings” in NESACS science and deciphers the talents of his colleagues for extracting the best from them. He has been a revered colleague and a consummate professional par excellence.

I am personally a huge fan of Michael Filosa’s tenacity, drive, hard work and keen insights; these have been instrumental in propelling the Nucleus to new heights. I was, actually, the weak link and spacer in the transition of the Nucleus editorship from Arno Heyn to Michael. I shall always be proud and delighted to call him a friend. Uncommon modesty and humility are extremely

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Abstract:

Synaptic dysfunction is a pathological feature in many neurodegenerative disorders, including Alzheimer’s disease, and synaptic loss correlates closely with cognitive decline. Histone deacetylase enzymes (HDACs) are involved in chromatin remodeling and gene expression and have been shown to regulate synaptogenesis and synaptic plasticity, thus providing an attractive drug discovery target for promoting synaptic growth and function. HDAC1 and HDAC2 associate with multiple co-repressor complexes including CoREST, which regulates the expression of many neuronal genes. We have identified a series of novel HDAC inhibitor compounds that selectively inhibit the HDAC-CoREST complex, resulting in increases in dendritic spine density and synaptic proteins, and improved long term potentiation in a mouse model at doses which provide a substantial safety margin that would enable chronic treatment. This approach represents the potential for promising new therapeutic strategies in targeting synaptic pathology involved in multiple neurologic disorders.

Biography:

Nathan received his Ph.D. from the University of North Carolina at Chapel Hill under the guidance of James Morken working on reductive aldol chemistry and its application to total synthesis of natural products. He then went on to conduct post-doctoral research in the lab of Stephen F. Martin at the University of Texas at Austin on the synthesis of alkaloid natural products. He began his career as a medicinal chemist at Wyeth Research in Cambridge, MA working in the inflammation group, and then joined Satori Pharmaceuticals in Cambridge, MA where he worked on a program targeting gamma-secretase modulators for the treatment of Alzheimer’s disease. In 2013, Nathan began a role at AstraZeneca in Waltham, MA in the Chemistry Innovation Centre, working in the Fragment-Based Lead Generation group. In this role, he worked on a wide range of target classes and therapeutic areas across the AstraZeneca portfolio. In late 2015, Nathan joined the team at Rodin Therapeutics to lead their chemistry efforts to apply HDAC inhibitors to the treatment of synaptic pathology in neurologic disorders. In November of 2019, Rodin Therapeutics was acquired by Alkermes, and Nathan has joined the team at Alkermes to continue to advance the science around novel complex-selective HDAC inhibitors.
common virtues with him. Many scientists in the NESACS community have been beneficiaries of his grace, generosity, and wisdom.

Mike as a mentor:
Mike is a respected “tribal elder” who shares his wisdom with others. Anna Sromek, 2020 NESACS Chair, shares the following: “Mike is a genuinely good person. He is someone I look up to and I respect him a lot. One example I remember, when I first won an elected position and I was a bit nervous about it and I felt a bit vulnerable, Mike was the first person to come over to talk to me about it, and gave me confidence about my upcoming duties. It really meant a lot to me.”

Doris Lewis adds, "Among the critical functions of the Northeastern Section are the nomination process and the recognition of the extraordinary service that members have performed over the years. With his knowledge and appreciation of Section members and Section history Mike has so often made contributions to our nominations and awards that are not visible yet are so important. Fondly remembered is one dinner nomination meeting astutely convened by Ruth Tanner; we went into the meeting with a written list and left with a much better list thanks to Mike's contributions."

Beyond the Nucleus:
In addition, Mike has served as an Alternate Councilor for 6 years and as a Councilor for 12 years, as well as Director at Large and numerous NESACS committees. Mike has also served on a national ACS level for the Committee on Chemical Abstracts Service as well as the Local Section Activities Committee.

Passing the torch.
Morton Hoffman, Professor Emeritus of Chemistry, Boston University, shares a few words: “I would like to express my thanks and appreciation to Mike Filosa for his 15 years of service to the Northeastern Section as the Editor of the Nucleus. It has been a privilege and an honor to have my name appear with his on the masthead of the NESACS news magazine as an Associate Editor, Feature Editor, Photographer, and Proofreader, and with an occasional byline in the Table of Contents for the articles I contributed. Mike produced 9-10 issues each year during his time at the helm with great care, sensitivity, and professionalism in the tradition of the previous Editors of the Nucleus.”

“My first issue as Editor was that of March 2005 (Vol. LXXXIII, No. 7), which featured, sadly, reminiscences about the life of my B.U. colleague, Arno Heyn, who served as Nucleus Editor for 14 years and passed away in December 2004. It was a 24-page issue that contained, among other items, a list of the ACS Scholars who were undergraduates at universities within NESACS, a description of the Massachusetts Science Poetry Contest for K-8 students, a research report by a NESACS Summer Scholar, a book review, an article on improving air quality, and, sadly again, a number of obituary remembrances of deceased members. It was an issue that would have made Arno proud.”

Outside of Chemistry:
Michael Singer, NESACS Secretary writes the following: “My favorite Michael Filosa memory is outside of NESACS and Chemistry. I have been a Special Olympics Coach for my son’s teams for almost 20 years. Imagine my surprise when at one of the local state tournaments, I saw Mike Filosa cheering on one of the opposing squads. We talked after the game and I discovered that Mike has a son, Peter, who also participated in Special Olympics sports. As a Special Olympics coach, I have always enjoyed seeing the pride and joy in the parents of our athletes as their child participates and enjoys the thrill of competition. We were able to discuss Special Olympics and the importance of sports in the lives of our sons. Since that time, I have seen Mike and Peter at many competitions with Dad cheering on for his son. Well done Mike!”

Now, after almost 150 issues, it is continued on page 9
The Nucleus December 2020

many seminal works on instant photography. After the death of her husband and retirement from her duties at the IS&T she engaged with NESACS as one of the three members (since expanded to five) of the Board of Publications.

After Arno’s illness the Nucleus was in turmoil and Mukund Chorghade took on the editorship as a stop gap until Vivian found Mark Spitler to take the reins. Mark was also a former Polaroid colleague, but within six months of taking the editor’s job, he was hired to be a government scientist in Washington, D.C. and Vivian again had to find an editor. Fortuitously, I sat next to her at a very opportune time and within a few days, Myke Simon called me asking me to be editor of the Nucleus. I accepted and Myke took me to see Arno at his house in Newton. Arno was within two weeks of his death, but he was very pleased that I was taking on the job. Perhaps editing a newsletter was in my blood. My paternal grandfather edited and published an Italian-English newspaper, L’Informatore, in White River Junction, Vermont and my material grandfather edited the Swedish Art Magazine Paletten from 1951 until his death in 1966. Paletten is still published today in Goteborg, Sweden.

I quickly took the reins from Mark Spitler and helped complete the February 2005 issue, which was in progress, and the March 2005 issue was my first as Editor. Under Mark Spitler and the BOP it had been imagined that a sustainable model for producing the Nucleus would be a team model where the work was divided up between several people: content acquisition, copy editing, layout, final editing, proofreading, printing, and mailing. The issue would be produced on a tight production schedule with handoffs every few days. This may work when all the people are employed under one roof and it is their primary job, but it fell apart quickly when I became editor and the Nucleus became an effort where the editor acquired content and then worked closely with Harvey Steiner of ART Related Technology to put together the Nucleus into a publishable form. It would then be proofread and when corrections were completed sent to the printer for printing and mailing. We changed printers three times in 14 years before ceasing the printing of hard copy in May of 2019.

Harvey Steiner has been an invaluable help in producing the Nucleus. It helped greatly having a professional to work with, and Harvey had worked closely with previous editors, especially Arno, and had no problem bringing me up to speed and helping me put out a quality product on time. Harvey also worked closely with Vince Gale, Karen Piper and the printing companies. Whereas; Arno and his “posse” would descend on Harvey’s office in Harvard Square to produce the Nucleus, Harvey and I made great use of electronic communication and were able to work remotely. I would send formatted electronic files to Harvey with tentative page placements and Harvey would fit them into the historic Nucleus format using Quark Express. A final pdf was produced which was suitable for either printing or mailing.

Acquiring content and not missing any timebound announcements, has been the most challenging part of putting together each issue of the Nucleus. I have been blessed with some very conscientious and talented contributors. At the start I had Martin Freier writing articles. He was a retired technical writer who wanted to stay in the game interviewing people doing cutting edge chemistry and writing about those topics. His byline was omnipresent in 2005 on a number of interesting topics such

Mike Filosa Tribute

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time for Mike to pass the editorial torch. As the Nucleus, which he loved and nurtured, moves toward its centenary, I hope each new issue will continue to be the institutional memory of the Northeastern Section for years, decades, and, perhaps, centuries, to come, and will serve as the historical legacy of a great organization.

As pilots are wont to say to each other upon landing safely, I say to Mike, “It was great flying with you.” Mike has opted to complete his role as Editor of the Nucleus at the end of this year. As Mindy Levine notes, “He has left very big shoes to fill!” Mike will continue to serve on the Board of Publications. On behalf of the Board of Publications, I would like to thank Mike for his wonderful service and leadership.

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Jennifer Maclachlan—an Interview

Co-Owner, PID Analyzers, LLC
Reprinted from ACS Industry Matters Newsletter, October 15, 2020

As a co-owner of her family owned and operated analytical and environmental monitoring instrumentation manufacturing business, PID Analyzers, LLC, Jennifer Maclachlan is responsible for managing relationships with distributors and key clients, as well as the web-based marketing, social, and digital media initiatives, of which she was an early adopter.

In 2018, Maclachlan served as Chair of the ACS Multidisciplinary Program Planning Group (MPPG) and completed three years of service as Chair of the ACS National Committee on Public Relations and Communications (CPRC), and is currently serving as a second year Associate to the ACS Committee on Chemical Safety.

Since 2010, Maclachlan has been the Public Relations Chair for the ACS Division of Small Chemical Businesses (SCHB), where she currently runs a weekly SCHB Zoom Happy Hour meeting to discuss business that is important to small chemical business owners. She has done this for the past 28 weeks and counting.

She is a founder of the Cape Cod Science Café, which she started in 2011, with support from the Northeastern Section of the ACS (NESACS) and an International Year of Chemistry (IYC2011) mini-grant.

STEM Journey, of which she is a founding member and organizer, is an award-winning K–12 annual public outreach, day-long event with collaborative efforts from the ACS Local Section (NESACS), the Cape & Islands Boy Scouts, Sandwich STEM Academy, and PID Analyzers, LLC.

In 2020, Maclachlan became Chair of the American Industrial Hygiene Association’s (AIHA) Teen Workplace Health & Safety Committee after completing three years of service to AIHA as Chair of their Teen Workplace Health & Safety Task Force, which she founded with administrative support from AIHA.

In her local community on Cape Cod, Maclachlan completed service as Rear Commodore during the summer 2020 season at the lake yacht club, where she was in charge of implementing and enforcing COVID-19 protocols and running daily operations at the grill with a teenage workforce.

COVID-19 is not only killing people all over the globe, it is proving to be lethal to small businesses. In its August 1, 2020 issue, the Wall Street Journal reported that “…as many as 1.4 million small businesses closed their doors or temporarily suspended operations in the second quarter …

Q: What are your biggest concerns about the pandemic’s impact on your small business?

As the Managing Director of a small, family-owned manufacturing company, my two biggest concerns have been and continue to remain the same: 1) Protecting personnel by operating smartly and safely and 2) Effective management of our supply chain when the products we manufacture aren’t mass-produced.

After receiving notification of the local school closures on March 13, 2020, I instructed our employees to bring home whatever tools/supplies/widgets/products etc. after each shift, that they would need, in case we were to shut down the building, and shelter in place: that way they could keep working from home and we could continue to pay them.

When the Stay-At-Home order was issued for Massachusetts effective March 24, 2020, we were prepared and able to continue operations in our facility under the ‘Chemical’ provision as an Essential Business, however, in order to keep our workers safe and healthy, we determined that some workers could be entirely remote, and others would need to be hybrid, and we would therefore have to employ a staggered workforce.

This triggered a sophisticated cooperative and collaborative effort, beyond shared work-calendar scheduling, as it forced greater focus on certain projects, real prioritization, with increased productivity while simultaneously creating an interdependency of totally remote employees with those who were onsite essential employees.

For instance, certain personnel were now also responsible for additional tasks when scheduled for onsite work like ‘being a pair of hands’ for my father, who was designated to work from home, and was using a remote desktop to connect to his gas chromatograph onsite at our facility, while one of the onsite engineers was having to make the manual injections and other physical chromatographic condition adjustments, while my father watched the video of the work bench from the stationary camera feed and used a video conference platform to give directions.

This combination camera, remote desktop, video call setup is something that we have been using for the past couple years to support our international clients, so it was easy to apply this technology to our daily operations so we could continue business as usual throughout the early stages of the pandemic.

In late March I routed all shipments to my house for two reasons: 1) With a staggered workforce we would surely miss critical component shipments, which would immediately slow down production and 2) For building security: Now that the building was restricted to key employees working alone, we

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Jennifer Maclachlan
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couldn’t leave the front door unlocked without an attendant to receive packages and we also needed to prevent unauthorized entry into our facility.

By mid-April, we had installed a doorbell and video surveillance throughout the facility to monitor the building for security and safety, since solo-work was being performed. By mid-May, we began to re-integrate multiple workers into the facility, using a variety of protective controls including but not limited to temperature taking/reporting upon entry, bleach-soaked doormat at the entrance, mandatory facial barriers, cleaning protocols for high touch surfaces, hand-sanitizing, cleaning management of individual work spaces etc.

By mid-June, we had a safe return to work plan in place for my father, who was incredibly patient throughout this whole process, but quite frankly done with the work from home part. We were able to accomplish this by converting a conference room into a combination office/testing lab, which is physically isolated from the rest of the workers.

Supply chain is always a challenge as a small manufacturing company, particularly since we primarily use vendors like ourselves: small niche, bit providers. All of our analyzers, detectors, continuous multipoint monitors and portable/lab/process gas chromatographs are made to order. Reducing the number of unique parts by streamlining standardization across the product lines has been an ongoing development process for us, and having such a strong in-house software team has made the re-engineering exciting, not arduous.

For certain product lines, we can manufacture and deliver quickly, in 1-2 weeks. For the more typical delivery time, especially with a customized application, we are in the 4-6 or 8-10 week delivery period, often based on a long standard delivery time for specialty components. We experienced some unanticipated delays in materials due to the California wildfires in 2019, which caused an interruption in one of our manufacturing processes. As a result of that, we began holding onto more critical inventory so we can mitigate future similar supply chain issues.

As the number of daily positive COVID-19 cases in Massachusetts is steadily on the rise, we remain alert and adaptable, should we need to revert back to strictly staggered for the safety and wellbeing of our workforce.

Q: In an April 2013 issue of the Barnstable Patriot, in response to a question about how to encourage girls to become more interested in science, you replied, “Exposure.” Would you elaborate on that?

Sure! When I said exposure is the key to encouraging girls into science, I meant through local community Informal Science Education (ISE) programs designed for a K-12 audience, such as National Chemistry Week/Chemists Celebrate Earth Week events, science festivals, the Cape Cod Science Cafe, STEM Journey, Girl Scouts, and science clubs. Being exposed to numerous extracurricular STEM activities on a regular basis, as in a well-orchestrated public event, particularly those with hands-on activities, led by a variety of passionate activity presenters, and compelling speakers with exciting STEM jobs, can spark a continued interest in STEM topics outside what is being taught in the classroom.

Q: According to National Science Foundation data, the percentage of bachelor’s degrees awarded to women in the physical sciences increased from 19.2% in 1997 to 20.7% in 2006, but dropped to 19.3% in 2016. Those numbers have barely budged in over 20 years. What is your reaction to this state of equilibrium?

If we want to encourage more women into the physical sciences, we need to start earlier by working with middle school science and STEM teachers on a cool-factor marketing plan for how to really keep girls interested in STEM subjects. Evaluate the curriculum, make it relatable and elevate their enthusiasm. We need to make ourselves, as chemistry professionals, available to volunteer to guest lecture to their students and share why we love the chemistry/STEM profession and how we got to this career. We need to connect with our local high schools and volunteer to be their ACS Local Section liaison and help them start an ACS Chem Club. This WILL make a difference and is an opportunity to give back to your local community. Not sure how to get started? Contact me and I’ll help you navigate your way into the local school system and connect with your educators.

Q: How have your parents influenced your leadership style?

Having parents who placed a high value on education and were both able and willing to get into my classrooms and volunteer, who achieved their own goals by working hard and pushing past obstacles with determination and grace, served as role models for me and positively influenced both my strong leadership as well as my parenting style.

Q: Only five years after getting your undergraduate degree from Boston College, you became a co-owner of a small business (PID Analyzers, LLC). What motivated you to pursue that opportunity?

I was so entrenched in the sales, marketing, personnel and project management segments of the business that this was the obvious next step in my career advancement at the company.

Q: If you hadn’t made the decision to co-own a small business with your father in your late 20’s, what was Plan B? Were you seriously considering other career opportunities?

There really wasn’t ever a Plan B. I did back then, and still really do enjoy what I do. I recognized early in my career that it was unusual both to love your job as much as I did and to get along so well ‘working for’ and then ‘working with’ a parent in the family business. What makes it so enjoyable? Part of it is the pure pride of working in the family business, and the rest is the getting to wear many hats, learning all the jobs at the company, putting out the fires, the thrill of the kill with a big sale, and the overall management of the business entity.

Q: Best thing about working side-by-side with your father?

I get to see, interact and hang out with my dad every day. It’s no secret:
Jennifer Maclachlan
Continued from page 11

He’s my favorite human.

Q: On what business-related issue did you and your father most disagree? How did it get resolved?

We’ve had differences of opinion on personnel from time to time over the past 26 years. Those kinds of issues naturally resolve with the help of corrective action measures, etc. On the big stuff: Financial decisions, sales & marketing, manufacturing & product-ion, we’re always on the same page, even often times without discussing it first; we know where we each stand.

Q: You are the founding partner and event planner for the Cape Cod Science Café. What’s the mission of the café? And how, if at all, has that mission been compromised by the pandemic?

The mission of the Cape Cod Science Café is to connect scientists with the general public to discuss scientific topics of high interest in a relaxed atmosphere. We also do pop-up versions of the Cape Cod Science Café for K-12 students, sometimes on its own, as a Science Sunday Funday event such as the International Year of the Periodic Table lectures and hands-on event at the Sandwich Public Library in 2019, or the Science in Your Swimsuit events at the lake (2017-2019).

In August, I was able to hold a sold-out event under the Cape Cod Science Café banner at the yacht club, with proper social distancing and other COVID-19 protocols in place. This was a dinner cafe, with a rum tasting and three guest lecturers that covered these topics: Shipwrecks, Pirates and Rum Tasting.

I’m observing what other ACS groups and other STEM partners are doing for virtual events and am formulating a plan for virtual execution in 2021 of Cape Cod Science Cafe events as well as STEM Journey branding. Connect with me if you are interested in participating in this project, in any capacity.

Q: What personality trait has served you best in your professional life? What personality trait do you wish you had in greater supply?

Confidence. For sure, it’s confidence that has served me well as a manager, in customer support and service, and in sales and marketing. My internal confidence comes from an upbringing where my sister and I were told and encouraged by our parents to be anything we wanted, do anything we wanted.

My outward confidence comes from years of performing in recitals: dance and on the ice, on the stage singing in chorus and from performing in nearly 20 theatrical productions in high school. What both my dad and I could use in greater supply is more work/life balance. The burden to ‘always be on’ when you run your own business comes with the role of entrepreneur. That’s something we are both still learning to leverage.

Q: What is the one thing you wish you had learned earlier in your career?

From a networking perspective, I wish I had joined more groups, like local chapters of scientific societies, community-based groups, planning groups within the conference structures as an early career professional. I did eventually find my way to joining these groups like ACS, AIHA, my local Civic Association, the local Historical museum, PTA, High School Science Advisory Board and Science Club, but it would have been more advantageous professionally to have been engaged in these peripheral special interest pursuits in my twenties rather than in my mid-thirties.

Q: In ‘normal’ times, your job involves lots of travel, both domestically and internationally. What is your most memorable business trip?

It was in 1999, when I went to France to work with the Director of our French subsidiary and visit the hazardous waste site where our equipment was being used to monitor the contaminated soil before, during, and after the remediation process. There is something truly thrilling about getting to see our products at a client’s location.

There is a lot of respect associated with a visit from the manufacturer in the eyes of the client, so I was wholeheartedly welcomed onsite. While our systems are used for a myriad of applications, the hazardous waste market is near and dear to my father, as that was one of the first uses of our field portable equipment back in the 1970’s, at Love Canal. So, it was a big deal for me to be able to see and experience a hazardous waste application of our product in real life instead of in product literature.

This trip also scored me a weekend in Paris, where I got to see attractions I hadn’t on previous trips to France for tradeshows, like the infamous Père Lachaise Cemetery, where I had the opportunity on the tail end of this particular trip to visit the gravesite of legendary American rock star, Jim Morrison. That’s the neat thing about business travel, if you make the arrangements, time and effort, you get more out of the trip. Of course, that’s a good life lesson, as well.

This article has been edited for length and clarity. The opinions expressed in this article are the author’s own and do not necessarily reflect the view of their employer or the American Chemical Society. ♦

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as stem cells, genomics, obesity, homeland security, fuel cells, nanotechnology and alternative fuels. (Martin’s first article in the Nucleus appeared in Vol 83, Issue 3 and his final article appeared posthumously in Vol. 84, Issue 6). It was a great shock to me on January 7, 2006 when I received a call in San Francisco, while on the way to China for the first time, from his daughter, Pearl Freier. Pearl informed me that her father had been diagnosed with pancreatic cancer a few weeks before and had passed away very suddenly. Martin’s obituary is in Vol. 84, Issue 9.

In more recent years, Mindy Levine and Katie Rubino made many contributions. Mindy while a post-doc for Tim Swager at MIT did interviews of great interest of NESACS stalwarts such as Vivian Walworth and Arthur Obermayer as well as chemistry luminaries such as Jack Szostak and George Whitesides. She also wrote about girls and women in science including her experiences as a young assistant professor juggling her scientific career and her family. Katie recently joined the Board of Publications and has generously shared her legal writings on current issues involving patent law and chemistry.

While first serving as an alternate counselor in 1999 I was able to attend the Anaheim ACS Meeting as a substitute for John Neumeyer. I attended the Award Banquet and sat next to Mort Hoffman. Mort has been a great friend and supporter ever since. Mort has contributed innumerable articles and photographs to the Nucleus and I am forever indebted to him for his support and his contributions.

Various chairs and members of the YCC have contributed many articles over the years and announcements of events. The German Exchange has been a major impetus for featured articles and cover photographs in the Nucleus. YCC content has been a valued component of the Nucleus. I have long felt that the main mission of the Nucleus is to announce upcoming NESACS events such as those by the YCC and to report on them.

Scientific content such as the Esselein and Richard Award Addresses and the Summer Scholar Reports are an added bonus, which enriches the Nucleus. I miss the book reviews of Dennis Sardella of Boston College. They were a key part of the Nucleus when I was first editor and Dennis was the Book Review Editor. Others have submitted book reviews to the Nucleus and all are appreciated. Some of the most downloaded content from the NESACS website are book reviews written many years ago.

I also think it important to remember our stalwart members in the Nucleus when we lose them. Myke Simon as archivist was a key in writing and acquiring these “Historical Notes” over the years. With his retirement as archivist I took up this duty myself. They are all favorites, but I particularly was touched by the passing of Christine Jaworek-Lopez (Vol 95, Issue 2). Chris was a major contributor and user of the Nucleus with her flyers promoting National Chemistry Week and her reports of the NCW events. In recently looking at content on the NESACS website, I realized I had done many similar remembrances starting with the Arno Heyn memorial issue back in 2005. Remembering our NESACS losses has been a constant theme whether it be Arno Heyn, Vivian Walworth, James Phillips, Arthur Obermayer, Karen Piper, Chuck Kolb, or most recently, Al Viola (Vol 99, No. 1).

A number of years ago I expressed as a goal publishing volume 100 of the Nucleus. Times have changed and the Nucleus is evolving. This issue will be Vol. 99, No. 2. I fell a bit short of that 100-year goal although I feel the Section leadership would have supported me if I wanted to continue through Vol. 100 before giving up the editorship. I am appreciative of the BOP for all their support over the years starting with Vivian Walworth, Mary Mahaney, and James Phillips and extending into current times with Kathy Lee, Ajay Purohit, Ken Drew and Katie Rubino. I have a great appreciation of the contributions over the years of Myke Simon and Don Rickter. The NESACS calendar has always been a popular part of the Nucleus and I thank my calendar editors: Don Rickter, Sheila Rodman, Xavier Herault and Samurdi Wijesundera. The chairs I have worked with starting with Amy Tapper up to our current chair, Raj Rajur, have been nothing but supportive of my efforts. This also applies to the entire NESACS Board. The help and support over the years is all appreciated.

I wish the new editor, Craig Sergeant, great success as editor and will support him as best I can during the transition. May the Nucleus be here in another 100 years, but this year is a critical one. the Nucleus and its new editor need support. If the content is there, producing the Nucleus will be much easier whatever its final form may be.
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