



## Peer Recognition: 2021 SBE National Award Winners Announced

The annual SBE National Awards program recognizes those who have contributed to the SBE, the industry or their chapters in a number of categories. Some SBE members go above and beyond the call of duty to their job, the SBE and the broadcast industry. There are local chapters that do an excellent job of serving their members. Often these efforts go unrecognized.

Awards nominations were accepted through June 15. The nominations were evaluated by the SBE Awards Committee, who made the final selections. The winners will be recognized and presented awards at the SBE Membership Meeting and Awards Presentation during the SBE National Meeting in Las Vegas.

For 30 years, the SBE Awards program has awarded the Robert W. Flanders SBE Engineer of the Year award. This year, Chris Tobin was given that honor, posthumously.

Tobin was an SBE member for more than 25 years. During that time, he took on many roles with the local New York City Chapter 15. Tobin was an invaluable person and SBE member, which is recog-

nized by this nomination that was supported by so many at Chapter 15.

Tobin's fascination with radio began at an early age. "As a small tot, I enjoyed the magic of the box on the kitchen table in my house," he recalled in a YouTube interview with the GFQ Network. He got involved in broadcasting at a young age through a school radio station. He was a self-taught engineer but also spent time behind the microphone.

Tobin's career included work at ABC Radio Network, CBS Radio and Westwood One. In 2015 he became chief engineer at WBGO. Among a variety of other things, he helped to develop the station's video capacities, streamlined their operations and handled the logistical curveball that was the 2020 pandemic lockdown.



Tobin

see [AWARDS](#), p. 9

## SBE Plans National Meeting for 2021 NAB Show

The Society of Broadcast Engineers 57<sup>th</sup> SBE National Meeting will be held during the 2021 NAB Show in Las Vegas, Oct. 9 to 13. The SBE National Meeting includes the SBE Membership Meeting and Awards Program (MMAP) where the incoming board and officers will be sworn in, the SBE's newest Fellow will be recognized, and

the outstanding achievements of SBE members and chapters will be recognized. (See the award winners article in this issue of *The Signal*.)

Other events that are part of the SBE National Meeting are the Member Reception, which will be held immediately after the Membership Meeting and Awards Program,

the fall meeting of the SBE Board of Directors (open to any member), and meetings for the Certification, Education and Frequency Coordination Committees.

During the award presentation portion of the MMAP, the society's major award recipients will be recognized, including the Robert W. Flanders SBE Engineer of the Year, and the SBE Technology Award. The SBE will

see [NATIONAL MEETING](#), p. 14



The newly elected SBE officers and board members will be sworn in at the 2021 SBE National Meeting

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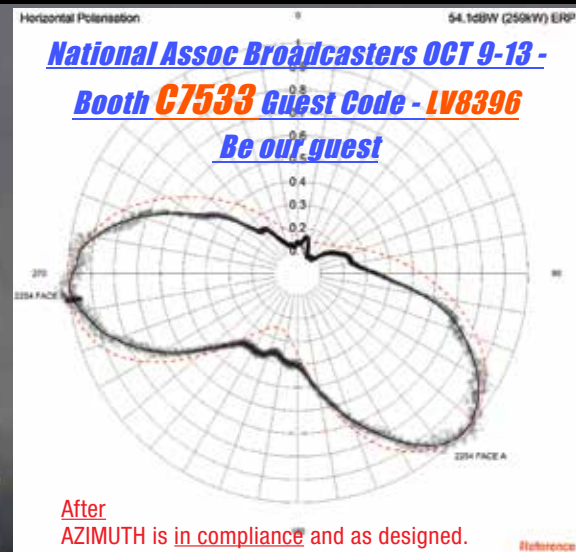
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wpecena@sbe.org

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WLVT-TV | Bethlehem, PA  
acummis@sbe.org

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WGPU Public Media | Estero, FL  
ktrueblood@sbe.org

**TREASURER**

**Ted Hand, CPBE, 8-VSB, AMD, ATSC3, DRB**  
Cox Media Group | Charlotte, NC  
thand@sbe.org

**DIRECTORS**

**Steve Brown, CPBE, CBNT**  
Woodward Radio Group | Appleton, WI  
sbrown@sbe.org

**Roswell Clark, CPBE, CBNT**  
Cox Media Group | Clearwater, FL  
rclark@sbe.org

**Mark Fehlig, PE, CPBE, 8-VSB, ATSC3**  
Consulting Engineer | Walnut Creek, CA  
mfehlig@sbe.org

**Kirk Harnack, CBRE, CBNE**  
Telos Alliance | Nashville, TN  
kharnack@sbe.org

**Charles "Ched" Keiler, CPBE, 8-VSB, CBNE**  
HC2 Broadcasting/E Three Services | Ft. Lauderdale, FL  
ckeiler@sbe.org

**Thomas McGinley, CPBE, AMD, CBNT**  
McGinley Enterprises | Missoula, MT  
tmcginley@sbe.org

**Geary Morrill, CPBE, AMD, CBNE**  
Alpha Media | Saginaw, MI  
gmorrill@sbe.org

**Jason Ornellas, CBRE, CRO**  
Bonneville International | Sacramento, CA  
jornellas@sbe.org

**Chris Tarr, CPBE, AMD, DRB, CBNE**  
Magnum Media | Mukwonago, WI  
ctarr@sbe.org

**Shane Toven, CPBE, DRB, CBNE**  
Educational Media Foundation | Antelope, CA  
stoven@sbe.org

**Dan Whealy, CBTE**  
Quincy Media | Waterloo, IA  
dwhealy@sbe.org

**Fred Williard, CPBE, 8-VSB, CBNT**  
Univision | Washington, DC  
fwilliard@sbe.org

**IMMEDIATE PAST PRESIDENT**

**James E. Leifer, CPBE**  
American Tower | Boston, MA  
jleifer@sbe.org

**SBE NATIONAL STAFF**

**James Ragsdale | Executive Director**  
jragsdale@sbe.org

**Megan E. Clappe | Certification Director**  
mclappe@sbe.org

**Cathy Orosz | Education Director**  
corosz@sbe.org

**Chriss Scherer, CPBE, CBNT**  
Member Communications Director  
cscherer@sbe.org

**Debbie Hennessey**  
Sustaining Membership Manager  
dhennessey@sbe.org

**Scott Jones | Database Manager**  
kjones@sbe.org

**RJ Russell, CPBE, ATSC3**  
Frequency Coordination Manager  
rjrussell@sbe.org

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317-846-9000 www.sbe.org

# SBE Election: Vote by August 25

The annual election of SBE officers and directors is currently underway. Up for election are all four officers for one-year terms and half the 12 directors for two-year terms.

All ballots are due by 4:30 p.m. EDT on Aug. 25. Voting is via an online ballot, except for those members who have opted out of electronic voting this year or who have not provided the SBE national office with an email address. They will receive their ballots through the mail. An email test message was sent on July 7, and the ballot link was sent to valid email addresses on July 23. Reminder emails were also sent if an online vote was not yet cast. If you did not receive your email ballot, check your spam folder first, then contact Chriss Scherer (cscherer@sbe.org) at the SBE National Office.

For members who received a paper ballot in the mail, your ballot must be received in the SBE National Office by mail, express delivery or in person (no facsimiles) by 4:30 p.m. ET on Aug. 25.

If you have not yet cast your vote, be sure to do so today.



Cummis

## Nominations Committee Candidate Slate

*\* indicates incumbent*

### Officers

**President:** Andrea Cummis, CBT, CTO  
Chapter 15 New York; Bethlehem, PA  
**Vice President:** Ted Hand, CPBE, 8-VSB, AMD, ATSC3, DRB  
Chapter 45 Charlotte; Charlotte, NC  
**Secretary:** Kevin Trueblood, CPBE, CBNT \*  
Chapter 90 Southwest Florida; Estero, FL  
**Treasurer:** Jason Ornellas, CBRE, CRO  
Chapter 43 Sacramento; Sacramento, CA

### Directors

*(top six vote getters will be elected)*  
Brad Humphries, CBT  
Chapter 45 Charlotte; York, SC  
Zhulieta Ibisheva, CBTE, CBT  
Chapter 50 Hawaii; Honolulu, HI  
Jeff Juniet, CBTE  
Chapter 42 Central Florida; Casselberry, FL  
Ched Keiler, CPBE, 8-VSB, CBNE \*  
Chapter 53 South Florida; Ft. Lauderdale, FL  
Geary S. Morrill, CPBE, AMD, CBNE \*  
Chapter 91 Central Michigan; Saginaw, MI  
David Ratener, CPBE, CBNT  
Chapter 16 Seattle; Seattle, WA  
Dan Whealy, CBTE \*  
Chapter 96 Rockford; Sumner, IA

The primary purpose of the EAS is to:

- A. run unscheduled tests.
- B. run scheduled tests.
- C. alert viewers and listeners in the event of a national emergency.
- D. activate emergency scanners.



Certification Question

Answer on page 6

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## LETTER FROM THE PRESIDENT

By Wayne Pecena, CPBE, 8-VSB, AMD, ATSC3, DRB, CBNE  
SBE President  
wpecena@sbe.org

# My Head Has Been in the Clouds

I've often been accused of having my "head in the clouds." My first reaction is this can't be as I am not one to lose track of my surroundings, nor to be caught in a state of daydreaming. I want to think I am more level-headed and down to earth, but I must admit it is therapeutic to escape stresses that everyday life brings, now and then.

I will be honest, I have been thinking a lot about clouds. Maybe even too much thought at times. My thoughts that keep my head in the clouds are focused on cloud computing technology and what this exploding area of information technology means to the broadcast engineer. The migration of our broadcast technical infrastructure to that of an IT system environment has been with us for some time. Traditional dedicated broadcast function hardware has been replaced with common off-the-shelf (COTS) IT hardware executing specialized software to provide the needed facility functionality. The cloud has become the next step in the evolution of IT influence in the broadcast facility. Cloud computing has enabled several service models to be available to the user that essentially allow a service to be purchased rather than an investment made in hardware.

Advantages of cloud services include rapid provisioning of needed resources and metered services where you pay for resources actually utilized. Cloud service offerings such as Software as a Service (SaaS), Platform as a Service (PaaS), or Infrastructure as a Service (IaaS) provide different resource allocations, provisioning and access to applications. Implementing cloud services can also take several approaches that include the private cloud, the public cloud or the community of hybrid approaches, whether on-premises or at a remote location, such as a datacenter. Whether you are building your own private cloud or subscribing to a public cloud as a service, virtual server technology is utilized to provide a virtual machine (VM) to the users and/or to the applications. Server virtualization is traditionally accomplished through software that modifies a common operating system such as Windows or Linux, to function in the virtual environment. VMware, Hypervisor or Virtual-Box are common choices.

Containerization is the most recent approach to virtualization that creates logical packaging of applications that can be deployed in a consistent manner regardless of the platform. Google has brought the concept of open-source containerized software to the industry and implemented it within its own service offerings, such as Gmail and YouTube. As with any new technology, there is new terminology. In the case of containerization, three new terms keep my head in the clouds.

The "container" is the packaging where an application (and any

supporting dependent software) reside. This container approach allows the software developer to focus on the application and others to focus on deployment in different environments. The "docker" is considered a container platform that runs atop the desired operating system providing an isolated virtual environment, and the Kubernetes application provides orchestration or automated management of your container applications offering rollout (or rollback), scaling of services and overall health monitoring.

I expect my head will be in the clouds for some time. There is plenty to learn, plenty of new concepts to explore and plenty of opportunities for the continued broadcast facility migration to an IT environment.

You might ask, what does this have to do with broadcast engineering? A recent This Week in Radio Technology (TWIRT) podcast hosted by SBE board member Kirk Harnack and his guest Cam Eicher provides an excellent primer

into containerized software and offered a practical look at use in the broadcast facility. Look for TWIRT #547 at [thisweekinradiotech.com](http://thisweekinradiotech.com).



### The Next Leaders

The SBE elections are currently underway to choose the next slate of officers and board members to lead the society. The election includes all four officers for one-year terms and six of the 12 directors for two-year terms. Please cast your vote by electronic ballot by the deadline of Aug. 25, 2021. If you have not provided the SBE national office with an email, you should receive a mail-in ballot. If voting by mail, please ensure your ballot is received by the national office in Indianapolis by Aug. 25. Either way, be sure to vote!

Plans continue for the SBE to return to a somewhat normal schedule at the 2021 NAB Show in October. On Saturday, Oct. 9,

2021, a morning SBE Ennes Workshop will be held at the LVCC. On Monday evening, Oct. 11, 2021, the SBE Membership Meeting and Awards Program will be held with a reception to immediately follow. Further

details will be available as we get closer to October. I hope you will be able to attend and look for the SBE in our booth, possibly in the LVCC North Hall concourse.

I personally want to know your suggestions, comments and concerns. Your feedback is essential to our collaborative effort to insure the SBE meets our members' career needs. Please reach out to me at [wpecena@sbe.org](mailto:wpecena@sbe.org) or by phone at 979-845-5662 for a more personal exchange. Always, a sincere thank you to those I have heard from. In the meantime, stay safe, stay healthy and keep learning!

**"Having your head in the clouds, even for just a few minutes each day, is good for your mind, good for your body, and good for your soul."**

*~ Gavin Pretor-Pinney*



## EDUCATION UPDATE

By Amanda Hopp, CBRE  
Chief Engineer, Crawford Broadcasting, Denver  
ahopp@sbe.org

# Education is Ongoing

For many people, education ends when they graduate. They've achieved a goal and have the jobs they want (hopefully). For some industries, like TV and radio, education is never-ending. Every year brings something new to learn. Because of that, the SBE has worked hard to create educational opportunities with monthly webinars and on-demand SBE University courses. The SBE also has a monthly livestream (the SBE WEBxtra) on YouTube. This is only scratching the surface of what is offered.

If you haven't looked lately (or at all) I suggest you investigate all the educational opportunities the SBE offers. Find them on the SBE website at [sbe.org/education](http://sbe.org/education). Just so you know, most are not free. But, with the SBE MemberPlus membership option, the Webinars by SBE are free.

To be an SBE member, you need to be actively involved in broadcast engineering, have an academic degree in electrical engineering or its equivalent, or have scientific or professional experience in the communications field, including the design or marketing of broadcast-related products; have at least four years of active participation in broadcast engineering or its allied fields and have demonstrated acceptable technical proficiency. So, someone off the street with no real ties to this world would not be able to join. You just need to meet one of those criteria. There are some exceptions listed on the SBE membership page.

There are two options for SBE membership: Traditional and MemberPlus. I highly recommend SBE MemberPlus for educa-

tional purposes. As noted previously, with a MemberPlus membership you will gain free access to all the Webinars by SBE. The cost of this membership is \$175, which may seem costly to some, but when you factor in that webinars are \$62 for members (\$92 for non-members), the membership option pays for itself once you register for three webinars. And with more than 90 webinars available, and more being added each month, the math is simple. I wouldn't binge all the webinars at once. I've held SBE MemberPlus the last three years, and I try to view one or two webinars a month. I typically watch a new webinar (typically two are produced per month) and also an archived webinar on demand.

It is so important for any engineer to keep up with technology, and to continually learn. The more you know, the more valuable you become to an employer. I am reminded of when I went through the broadcast engineering course from Cleveland Institute of Electronics many years ago. It was the same course my Dad had gone through in the 1970s. I would go over the material with him, getting advice and knowledge from someone who has been there and done that. What we quickly realized was that the course hadn't been updated since he took it decades before. Some of the material was timeless, some current and good, something I could use for the time being, but other stuff I just had to learn by doing because the material was outdated and didn't help me much, at least at Crawford where we try not to keep transmitters that are more than a few years old.

Some employers don't even know about the Society of Broadcast Engineers. That means it is up to us to seek continuing education ourselves. I have no doubt that if

brought to an employer, many would reimburse the cost of SBE membership if they can see how it will help the company.

We must push ourselves to be active and to find the webinars we need and to go through any SBE University courses that will help us in our careers. We need to make ourselves irreplaceable. I know this may not always work, but it will also make you more appealing to a potential employer. I know at Crawford, to join our engineering department, SBE certification of CBRE is a preferred minimum. But the more you have, the more you know. The fact you show active participation within the SBE, the more appealing you are.

If you aren't already, let me encourage you to become active in your local chapter. The SBE website can provide you the chapter contact details. You can search by state. With many chapters holding meetings online, even if there isn't one convenient to you, there really isn't an excuse not to attend. I promise, you won't regret joining. One thing I have learned over the years is that engineers are a brotherhood of sorts. We help each other out when we are able. Join us and you will have a second family.

*This article originally appeared on the SBE Chapter 48 Denver website in May 2021.*

## Education Almanac

### Webinars by SBE

Aug. 19: 2021 IP Networking, Part 8

Aug. 24: Virtualized Environment

Sept. 23: SMPTE - ST2110 Webinar

[sbe.org/webinars](http://sbe.org/webinars)



### Ennes Workshops

Aug. 27: Harrisburg, PA

Oct. 9: 2021 NAB Show

[sbe.org/ennes\\_workshop](http://sbe.org/ennes_workshop)

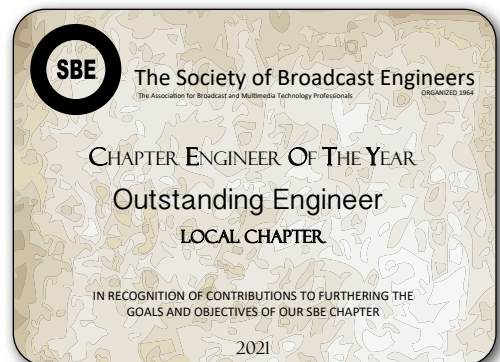


For more information on any SBE education program click the Education tab at [sbe.org](http://sbe.org), or contact Education Director Cathy Orosz at the SBE National Office at 317-846-9000 or [corosz@sbe.org](mailto:corosz@sbe.org).

# Chapter Engineers of the Year of 2021

In conjunction with the SBE National Awards program, SBE members who are honored by chapters as a chapter engineer of the year are automatically entered into consideration for the Robert W. Flanders SBE Engineer of the Year award. These 11 SBE members were selected by their chapters for the local honor this year.

- Chapter 15 Chris Tobin (posthumous)
- Chapter 16 Terry Spring, CBT
- Chapter 17 Jon Blomstrand
- Chapter 38 Eli Mendoza
- Chapter 43 Dave Sauer (posthumous)
- Chapter 59 Mike Rogers
- Chapter 70 Jim Baird
- Chapter 80 John Pfankuch
- Chapter 91 Gary Blievernicht
- Chapter 106 Tom Johnson
- Chapter 109 Keaton Scovel, CBRE







## CERTIFICATION UPDATE

By Jim Hermanson, CPBE, CBNT  
Certification Chair, SBE Chapter 24 Madison, WI  
jhermanson@sbe.org

# Insight Into the ATSC3 Specialist Certification

The SBE introduced the ATSC3 Specialist Certification at the end of 2020, and the first exams were offered in February. Since its introduction, 13 people have added the ATSC3 designation to their list of SBE certifications.

Two of the more recent additions to this group of people are Vicki W. Kipp, CSTE, ATSC3, CBNT, and Dennis Baldrige, CPBE, 8-VSB, ATSC3, CBNT, both with Chapter 24 Madison, WI. I spoke to both of them about their experience in preparing for and taking the SBE certification exam and being granted the new designation.

Dennis, who has been involved with the SBE educational efforts to present several Webinars by SBE courses, was part of the group the SBE National Certification Committee asked to participate in the ATSC3 beta testing program. "Not only did I have to take the test and answer the questions, but also provide input to any confusing questions, errors or omissions."

The work to create the Specialist Certification level began in 2018. The SBE Certification Committee worked closely with key members from the Advanced Television Systems Committee (ATSC) for their input on suitable information to include in the exam. The Certification Committee also worked with several SBE members with direct experience installing ATSC 3.0 systems. From this, a set of questions was created, beta tests were conducted, the questions were reviewed and adjusted, and additional beta testing was held.

Dennis adds, "I must say it was the most difficult test I had ever taken from the SBE, and I found it very challenging. Or maybe I'm just getting old. I half expected to fail but did however pass."

Vicki shared a similar sentiment. "For me, this exam was more challenging than other SBE exams. It was difficult."

### Exam Preparation

Vicki also offered some insight into her preparation for the exam. She notes, "It turns out that Dennis and I used some of the same approaches to studying." She outlined the overall exam process. "When you take the exam, there are 50 open-book multiple-choice questions. During the open-book portion of the exam, you can use books, written materials and a computer to look things up online. After completing the multiple-choice portion, there is a closed-book essay question. The ATSC3 Specialist exam has one essay question."

The SBE Certified Senior Radio Engineer and Certified Senior Television Engineer exams also include an essay question. For the Senior exams, applicants are provided with three essay questions, and they choose one to complete. The three questions are selected by the Certification Committee for each applicant based on the applicant's experience. The Specialist Certification exams differ in that only one essay question is offered to the applicant.

For her previous certification exam preparation, Vicki used the SBE CertPreview sample test software. With the ATSC3 exam being so new, that was not an option. "This is the first time I've taken an [SBE] exam without studying SBE CertPreview first. CertPreview for ATSC3 is still being developed. I made some flashcards on Quizlet.com, but it was no substitute for SBE CertPreview."

Vicki used other materials in her preparation. "I decided to study everything that SBE Certification Director Megan Clappe listed on the SBE's list of ATSC3 suggested materials, and then some. This approach worked for me, but it might be overkill for some people."

Vicki also used several SBE online resources. "The SBE's six ATSC 3.0 Modules and the three ATSC 3.0 Networking Modules [all are Webinars by SBE] are highly relevant. Expert presenters include Madeleine

Noland, Luke Fay, Merrill Weiss, Dr. Youngkwon Lim, Dr. Kyungmo Park, and Charles Lo teach ATSC 3.0 modules 1-6. SBE President Wayne Pecena teaches the ATSC 3.0 Networking Modules 1-3."

Vicki notes that most of the SBE ATSC 3.0 webinars have PowerPoints available for download. She printed those PowerPoints and took notes on them while watching the webinars.

"The SBE lists the Pearl NextGenTV *Host Station Manual* as a resource. I got a lot of use out of this manual. It's worth noting that Dave Folsom at Pearl releases updated versions of this book from time to time. I also watched Pearl's eight ATSC 3.0 webinars. The webinars progress in a different order than the manual, so I took standalone notes."

Vicki also viewed the seven SBE@PBS TechCon 2019 webinars, which include real-life ATSC 3.0 applications from the 2018 Winter Olympics in Pyeongchang, South Korea. They are available on-demand through Webinars by SBE.

But Vicki didn't stop there. "I skimmed through the ATSC 3.0 standards mentioned in the SBE's suggested resources list. To hear ATSC 3.0 described from additional perspectives, I read the *ATSC 3.0 Transition and Implementation Guide*. It can be downloaded from the Meintel, Sgrignoli, and Wallace website. This guide has many expert contributors."

Don't put off SBE certification any longer. Whether you are ready to obtain the ATSC3 Specialist or any other level of SBE certification, get all the information and applications at [sbe.org](http://sbe.org).

Congratulations, Vicki and Dennis, on your certification achievement.

### LINKS

SBE Certification  
[sbe.org/certification](http://sbe.org/certification)

SBE Specialist Certification  
[sbe.org/specialist](http://sbe.org/specialist)

SBE ATSC3 Suggested References  
[sbe.org/specialist-reference](http://sbe.org/specialist-reference)

Webinars by SBE  
[sbe.org/webinars](http://sbe.org/webinars)

ATSC 3.0 Resources  
[atsc.org/atsc-documents/type/3-0-standards](http://atsc.org/atsc-documents/type/3-0-standards)

Pearl Station Resources  
[pearlvtv.com/station-resources](http://pearlvtv.com/station-resources)

*ATSC 3.0 Transition and Implementation Guide* from MS&W  
[mswdtv.com/atsc-3-0](http://mswdtv.com/atsc-3-0)



### Answer from page 3

The answer is C

The Emergency Alert System (EAS) is used by alerting authorities to send warnings via broadcast, cable, satellite and wire-line communications pathways. The EAS is also used when all other means of alerting the public are unavailable, providing an added layer of resiliency to the suite of available emergency communication tools.

# SBE Certification Achievements

## CONGRATULATIONS



<b>LIFE CERTIFICATION</b>	Certified Professional Broadcast Engineer (CPBE) Robert Hinkle, Louisville, KY - Chapter 35 Certified Professional Broadcast Engineer (CPBE) 8-VSB Specialist (8-VSB) Charles Mikowski, Grand Rapids, MI - Chapter 108	Certified Broadcast Networking Technologist (CBNT) Charles Mikowski, Grand Rapids, MI - Chapter 108 Certified Broadcast Technologist (CBT) Glen Johnsen, Kingman, AZ - Chapter 131	Certified Professional Broadcast Engineers and certified senior broadcast engineers who have maintained SBE certification continuously for 20 years, are at least 59½ years old and are current members of the SBE may be granted Life Certification if so requested. All certified who have retired from regular full-time employment and are at least 59½ years old may be granted Life Certification if they so request. If the request is approved, the person will continue in his/her current level of certification for life.
<b>CERTIFIED PROFESSIONAL BROADCAST ENGINEER</b>	Applicants must have 20 years of professional broadcast engineering or related technologies experience in radio and/or television. The candidate must be currently certified on the Certified Senior Broadcast Engineer level.		
<b>JUNE EXAMS</b>	Certified Senior Radio Engineer (CSRE) Robert Gholston, Lafayette, LA - Chapter 72 Kevin Robbins, Tupelo, MS - Chapter 68 Certified Broadcast Radio Engineer (CBRE) Gregory Crouch, Elkridge, MD - Chapter 37	AM Directional Specialist (AMD) Geary Morrill, Saginaw, MI - Chapter 91 Certified Broadcast Networking Technologist (CBNT) Dan Petrolito, Hartford, CT - Chapter 14	Certified Broadcast Technologist (CBT) Patrick Harris, II, Olney, MD - Chapter 37 Certified Television Operator (CTO) Scott Coffey, Mesa, AZ - Chapter 9
<b>SBE CERTIFIED SCHOOL COURSE COMPLETION</b>	Certified Broadcast Technologist (CBT) <i>Southern Alberta Institute of Technology</i> Dakota Dann, Calgary, Alberta Spencer Dykstra, Calgary, Alberta Andy Ho, Calgary, Alberta Anthony Miles, Calgary, Alberta	Southern Alberta Institute of Technology (cont.) Amrita Rai, Calgary, Alberta Karandeep Singh, Calgary, Alberta Andrej Szabo, Calgary, Alberta Matthew Taylor, Calgary, Alberta Liam Weppeler, Calgary, Alberta	DINFOS Jaami Clark, APO, AE Mychal Dye, FPO, AE Robert Waller, Red Springs, NC
<b>CERTIFIED BY LICENSE</b>	Certified Broadcast Technologist (CBT) Cary Gaffney, Easley, SC - Chapter 86	Dewayne Irvin, Corvallis, OR - Chapter 76	Greg Rogers, Las Vegas, NV - Chapter 128
<b>CERTIFIED RADIO OPERATOR (CRO)</b>	Stephanie Carlson, Twin Falls, ID Marley Horner, Haines, AK Bryan Lovett, Sitka, AK Deiby Padilla, Mesquite, TX Richard Reyes, Boulder, CO Derek Rufo, San Clemente, CA Shondra Tharp, Caddo Mills, TX	Cave City High School Justin Wilson Jagger Woods Killeen Independent School District Zacori Eichelberger-Latelers Tristan Hayes Tatiana Hernandez Gonzalez Leandria Kennedy	Killeen Independent School District (cont.) Johana Ramierez Axel Rios Faitafa Sailiata Wyatt Price Smith Jazlyn Spears Hayleigh Tolliver Jude Wood
<b>CERTIFIED TELEVISION OPERATOR (CTO)</b>	John Moeller, Davenport, IA Bates Technical College Ryan Cox, Boney Lake, WA Caige Poonkasem, Tacoma, WA		
<b>RECERTIFICATION</b> Applicants completed the recertification process either by re-examination, point verification through the local chapters and national Certification Committee approval and/or met the service requirement.	Certified Professional Broadcast Engineer (CPBE) Thomas Weber, Greenwood, IN - Chapter 25 Certified Professional Broadcast Engineer (CPBE) 8-VSB Specialist (8-VSB) AM Directional Specialist (AMD) John Collinson, New Port Richey, FL - Chapter 39 Certified Professional Broadcast Engineer (CPBE) 8-VSB Specialist (8-VSB) AM Directional Specialist (AMD) Digital Radio Broadcast Specialist (DRB) Mark Simpson, Marana, AZ - Chapter 9 Certified Senior Television Engineer (CSTE) Steven Barousse, Louisville, KY - Chapter 35 Certified Broadcast Television Engineer (CBTE) John Arthur, Brandon, MS - Chapter 125 James Cox, Charlestown, IN - Chapter 35 John Kazibut, Chicago, IL - Chapter 26 Horace Murray, Glen Burnie, MD - Chapter 37 Omar Pineda, El Paso, TX - Chapter 38	Certified Broadcast Networking Engineer (CBNE) Steven Barousse, Louisville, KY - Chapter 35 John Collinson, New Port Richey, FL - Chapter 39 Mark Simpson, Marana, AZ - Chapter 9 Certified Broadcast Technologist (CBT) Jan Bathurst, Quentin, PA - Chapter 22 Sheryl Bowin, Galion, OH - Chapter 52 Jerry Erwin, Maineville, OH - Chapter 33 Wayne Hart, Silver Spring, MD - Chapter 37 Alexander Loewen, Altona, MB, Canada Vimar Miranda, Houston, TX - Chapter 105 Corey-Allen Oleksow, Calgary, AB Canada Thomas Pearson, Cottage Grove, OR - Chapter 76 Duane Sedge, Arlington, TX - Chapter 67 Marshall Thompson, Huntington Beach, CA - Chapter 36	Certified Audio Engineer (CEA) Vincent Paladino, Ramsey, NJ - Chapter 15 Certified Video Engineer (CEV) Seth Morth, Lebanon, PA - Chapter 41 Certified Broadcast Networking Technologist (CBNT) John Arthur, Brandon, MS - Chapter 125 Nick Rebesehl, Westbrook, ME - Chapter 110 Thomas Weber, Greenwood, IN - Chapter 25 Certified Television Operator (CTO) Juan Chavez, Van Nuys, CA Walter Lopez, Davenport, FL Miguel Gonzalez, Long Beach, CA Michael Mascorro, San Antonio, TX Michael Portz, Blue Springs, MO Roland Robinson, Tacoma, WA Certified Radio Operator (CRO) Caleb Conyers, Newark, AR Jamie Garrett, Killeen, TX

## Be a Part of the Growth: Become an SBE Mentor

Do you have a specific expertise you would like to share and have a desire to help others grow and excel in their careers? You should consider becoming involved in the SBE Mentor program.

"The SBE Mentor Program is proud of its growth this year. With the initiation of the Technical Professional Training program (TPT), the Mentor Program has a greater need for qualified Mentors," said SBE Mentor Committee Chair Chris Tarr, CPBE, AMD, DRB, CBNE.

### SBE Mentor Qualifications

To become an SBE mentor, applicants must be current SBE members who value the organization, its mission and its work; currently in the profession of broadcast engineering; have a minimum of five years working in the profession; have the ability to commit to calls

every other week with a mentee for one year; have a desire to help others grow and excel in their careers; and possess a positive attitude toward the profession and learning.

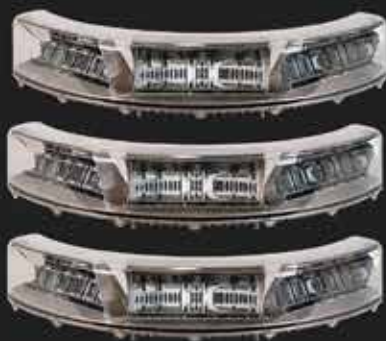
Start today by submitting a mentor application at [sbe.org/mentor](http://sbe.org/mentor). You can find more information at that link as well. You can also contact SBE Education Director Cathy Orosz ([corosz@sbe.org](mailto:corosz@sbe.org)) for more information.





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## Membership Drive Brings 49 New Members

The 2021 SBE Membership Drive, themed “Add Power to Your Profession,” brought in 49 new members. Of those, 47 were individual members, and two were sustaining members. The Drive ran from March 1 through May 31. Each member who recruit-

ed a new member was entered into a drawing to win prizes donated by several SBE Sustaining Members and the SBE. These new members were recruited by 40 existing members, who represented 30 SBE chapters.

The Grand Prize winner, who receives an expense-paid trip to the SBE National Meeting in Las Vegas during the 2021 NAB Show, is Cris Alexander of Aurora, CO. All the prize winners are listed below. Thanks to the SBE Sustaining Members who donated prizes for the Membership Drive.

Recruiters also earned \$5 off their 2022 dues renewal for each new member recruited. Watch for details on the 2022 Membership Drive next spring.



**Alexander**



Prize Donor	Prize	Winner	Location	Chapter
SBE	trip to the 2021 SBE National Meeting	Cris Alexander	Aurora, CO	Chapter 48
Comark	12oz drinking tumbler	Jim Oster	Chandler, AZ	Chapter 37
Comark	12oz drinking tumbler	Johnny Stigler	Euleess, TX	Chapter 67
Comark	zippered portfolio with techtrap elastic organizer	Anthony Dimsdale	Greenville, SC	Chapter 86
Davicom/Comlab	Digital Temperature Probe Interface (DTPI) with two temperature sensors	John Garmendi	Old Bridge, NJ	Chapter 15
Dielectric	Dielectric-logoed polo shirt	Scott Mason	Albany, NY	Chapter 58
Dielectric	Dielectric-logoed polo shirt	Howard Fine	Sherman Oaks, CA	Chapter 47
Heartland Video Systems	\$100 Amazon Gift card	Joshua Baker	Boulder, CO	Chapter 48
Heartland Video Systems	notebook and mousepad	Jeffrey Juniet	Casselberry, FL	Chapter 42
Heartland Video Systems	Rocketbook Matrix smart notebook	Dustin Pamplona	Twin Falls, ID	Chapter 145
Heartland Video Systems	travel pack	Landis Schrock	Roanoke, VA	Chapter 78
Heartland Video Systems	wireless charger and mini notebook	Walter Strogoff	Callahan, FL	Chapter 74
Heartland Video Systems	zippered throw and tote bag	Thomas McNicholl	Whitesboro, NY	Chapter 22
LBA	\$250 in LBA online safety courses	Cris Alexander	Aurora, CO	Chapter 48
Orban	1101e card and breakout cable	Christopher Tarr	Mukwonago, WI	Chapter 28
Shively Labs	\$200 Amazon gift card	Jeffrey Dinsmore	Indianapolis, IN	Chapter 25
Telos Alliance	Omnia Volt	Scott Mason	Albany, NY	Chapter 58
Telos Alliance	Telos swag pack	JT Tucker	Charleston, SC	Chapter 107
Tieline	\$25 Amazon gift card	Martin Stabbert	Reno, NV	Chapter 139
Tieline	\$25 Dunkin gift card	Matthew Dombard	Huntingdon Valley, PA	Chapter 18
Tieline	\$25 Dunkin gift card	Daniel Ullmer	Salem, VA	Chapter 78
Tieline	\$25 Starbucks gift card	Barry Fisher	Emmaus, PA	Chapter 18
SBE	\$25 gift certificate to the SBE Store/SBE Bookstore	Barry Fisher	Emmaus, PA	Chapter 18
SBE	copy of CertPreview	Chris Swisher	Columbia, MO	Chapter 143
SBE	SBE coffee mug and magnet	Ken Holden	Clovis, CA	Chapter 66
SBE	SBE coffee mug and magnet	Martin Stabbert	Reno, NV	Chapter 139
SBE	SBE-logoed hat	Brian Oliger	Haymarket, VA	Chapter 37
SBE	Webinars by SBE registration	Conrad Trautmann	Trumbull, CT	Chapter 15





### AWARDS, continued from p. 1

Unfortunately, Tobin died in December 2020 from a heart attack while working on the installation of a new HVAC system at the station in Newark, NJ.

#### Technology Award

Telos Alliance has won the Technology Award for the Axia iQs AES67 Mixing Console Software.

Axia turned its existing iQx console into a software version that does not require a physical surface. iQs is the first soft console controlled by full HTML-5 interface, allowing it to not only control a mix from anywhere, but on any device: Mac, Windows, tablet, laptop and phone.



Axia iQs AES67 Mixing Console Software

The Wisconsin SBE chapters and the Wisconsin Broadcasters Association have won the Best Educational Event for the Wisconsin Broadcasters Clinic held in October 2020. One nominator noted, "They have consistently put on a highly attended event that has a strong mix of classic material, cutting-edge tech, and hands on presentations. They really try to make sure the wide



scope of what is part of an engineering gig these days gets covered. Every year they seem to innovate even more with the presentation too. Starting in 2019 the whole event is now closed-captioned. How cool is that?! It's just the best event of the year in the area hands down. It was a shame to miss the hallway chats and lunch breaks with colleagues, but the information was just as good as any year, and it worked!"

Chapter 17, Minneapolis, MN, has won Best Chapter Communication for its website, sbe17.org.



SBE Chapter 17 website

#### Statistical Awards

The following awards are determined with statistical information based on Dec. 31, 2020, figures on file at the SBE National Office. Chapters with 26 members (the chapter median) or fewer are Class A. Chapters with 27 member or more are Class B.

*Percentage Growth of New Members:*  
Class A: 106 (Florida Panhandle)  
Class B: 17 (Minneapolis)

*Highest Percentage of Certified Members:*  
Class A: 7 (Jacksonville)  
Class B: 24 (Madison)

*Highest Percentage of Member Attendance at Meetings:*  
Class A: 85 (Central Western OK)  
Class B: 56 (Tulsa)

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## LEGAL PERSPECTIVE

By Chris Imlay, CBT  
SBE General Counsel  
cimlay@sbe.org

# Here Come the Space Cowboys

We have talked about the difficulties the SBE has encountered while working with our friends at the Department of Defense and the NAB in accommodating displaced federal government communications systems in the 2 GHz BAS band. That is a huge job. The SBE, led by Frequency Coordination Manager RJ Russell, is trying its best to make sure that various DoD systems, terrestrial and airborne, that were ousted from the 1.7-1.8 GHz band by the AWS-3 auction, can be reaccommodated in the 2025-2110 MHz range without restricting or interfering with broadcast ENG operations and the vast number of mobile broadcast auxiliary applications in 2 GHz. That process involves careful, market-by-market coordination work, planning, establishment of specific coordination policies and protocols, and cooperation by broadcast engineers and DoD spectrum managers. The process will continue through at least 2025.

We have also talked about the SBE's concerns with Earth Exploration Satellite Service (EESS) facilities in the 2 GHz band and elsewhere. EESS applications are being filed at a great rate and are routinely granted by the FCC International Bureau, without reference to the interference potential to co-channel RPU or TV STLs, ICRs, TV Translator Relay or TV Pickups, and without reference to terrain shielding, duty cycle of the uplink or the expected total number of EESS low-Earth-orbit satellites in the constellation. This is despite the footnotes in the Table of Allocations, which prohibit EESS facilities from limiting BAS use at, among other bands, 2 GHz. In November 2020 the SBE contacted the FCC International Bureau, expressing serious concern about the process for EESS satellite uplink application processing in the 2 GHz band. In March of this year, we had a conference call with the Bureau and explained our concerns. We followed up with a letter to the IB in mid-March, which made a series of arguments in favor of requiring prior SBE coordination before EESS licensing, and periodically again during the EESS license term, so that we can keep track of what facilities are where; which might impact BAS, CARS and LTTS operation; and which might interfere with our DoD coordination work. No resolution so far on revised licensing protocols. Our efforts continue.

Given this background, and noting the difficult work left to do, to maximize spectrum efficiency among dissimilar radio services in the most crowded, and most important BAS band there is, it was disheartening to see the FCC's report and order and further notice of proposed rulemaking released April 22, 2021. In Docket 13-115, the FCC proposes to make non-federal allocations for space launch vehicles. One of the proposals in that further NPRM is to permit, without any restriction on siting, fixed-satellite launch communications for commercial, non-government entities in the 2 GHz BAS band. Some experts that we have consulted suggest that with certain restrictions, space launch vehicles can be subject to coordinated access to the band. So far, the SBE is not comfortable with the assumptions underlying that conclusion.

## Schedule an Ennes Workshop

It is not too soon to consider scheduling an SBE Ennes Workshop in 2022. Programs are typically one day in length and feature multiple topics and speakers with the latest information in broadcast and media technology.

Contact Cathy Orosz at 317-846-9000 or corosz@sbe.org.

[sbe.org/ennes\\_workshop](http://sbe.org/ennes_workshop)

**ENNES  
WORKSHOP**

## Justifying the Final Frontier

As justification, the FCC has noted that commercial space launch entities are proliferating and offer space activities such as transportation of cargo and people into space, orbital launches to place satellites and other payloads into space, and suborbital launches. To support these commercial space ventures, entities such as the New Mexico Spaceport Authority, the Virginia Commercial Space Flight Authority and the Houston Airport System have established non-federal spaceports. The FCC says that of the many bands that support these commercial space activities, five frequency bands are commonly used for communications with and tracking of space launch vehicles: 420-430 MHz, 2025-2110 MHz, 2200-2290 MHz, 2360-2395 MHz, and 5650-5925 MHz. The 2025-2110 MHz band has been used during some space launches to send control signals to guide the launch vehicle boosters to a controlled landing so they may be reused. This has been done by STA to date. The FCC wants to provide a reliable framework for regular, licensed operation for commercial space operations.

The FCC accurately, at paragraphs 43, 44 and 45 of the FNPRM, describes BAS and CARS and LTTS uses in the 2 GHz band and notes the ongoing work with DoD that started in 2014 to move federal operations into the band. The FCC also describes EESS operations and notes correctly that neither EESS nor DoD operations can constrain the broadcast auxiliary services in the band. They note the SBE's coordination initiative. However, notwithstanding all of the 2 GHz sharing now going on, the FCC's proposal at paragraphs 47 and 48 is to add to the Table of Allocations a co-primary non-Federal Space Operation (Earth-to-space and space-to-space) allocation in the 2025-2110 MHz band. Given the extremely heavy use of this band by BAS, CARS, and LTTS licensees for ENG and program production on unpredictable paths, and the increasing federal use of the band, including for federal space systems including NASA, the FCC says that the service rules will need to provide for coordination with incumbent operations. That is the good news. As the FCC expects the number of launches to continue to increase in the future, it says that this is better (for commercial space launch companies) than is the current STA process. It asks for comment on this allocation proposal.

The troubling part of this is that the FCC proposes to allow these private space launch entities to use the *entire* 2025-2110 MHz band *without any restriction on where licensed launches may occur*. However, it seeks comment on whether limiting launches to certain frequencies or locations is needed to facilitate coordination between non-federal and federal users. It asks whether use of this band for space launches should be limited to only portions of the band or geographic limits on launch locations. It asks whether other restrictions are also required to protect the incumbent and incoming federal uses of the band. The SBE Board of Directors has ordered the preparation of extensive comments addressing these questions and noting the difficulty of coordination of DoD operations, BAS operations, EESS and NASA communications in the 2 GHz band while having to address compatibility issues from new applications at the same time.

This FNPRM was published in the Federal Register on June 10, 2021. Comments were due July 12, 2021 and reply comments are due by Aug. 9, 2021. Let us hear your thoughts.





## FOCUS ON THE SBE

By James Ragsdale  
SBE Executive Director  
jagsdale@sbe.org

# Called to Lead Within the SBE

In the short time that I have been a part of the Society of Broadcast Engineers, I've been very impressed by the number of dedicated members. There is a high level of commitment among broadcast engineers. I have encountered members that seem to have been bitten by the bug to become a broadcast engineer early in life and through hard work, curiosity, and continuous learning, became highly skilled at their vocation. These members developed a commitment to help each other when faced with challenges. There seems to be an unspoken pledge to help another broadcast engineer, even if you are very busy yourself.

That strong commitment has been demonstrated at many levels. One way is through participating in local chapter activities. The monthly meetings, annual picnics, road trips, and educational presentations show the desire to strengthen their peers. But making chapter activities happen requires leadership. Being active in the chapter organization is a great way to practice leadership. Each chapter needs officers and programs. Think about your local chapter members and identify who could grow from this opportunity to lead. Nominate those members and encourage them to stand for election.

Of course, you can attend your chapter activities without being a member. Becoming a member in the SBE is another way to exercise leadership. Beginning and renewing your membership is important. Your membership enables the SBE to speak collectively in the broadcasting industry, giving it a voice that is credible and influential. The knowledge and experience of the SBE members causes others in the broadcasting industry to pay attention. Also, the financial strength of the SBE enables it to provide certification, education, recognition, and publishing for the growth and development of its members.

Another way to lead is by attending the major meetings that happen in the spring and fall. This year, of course, we only have the combined event at the NAB Show in October. Although this year is the exception, in 2022 we will have the spring Membership Meeting at the NAB Show and the fall National Meeting in Syracuse. Being present at the spring and fall meetings may often be impossible, but

look for the opportunity to be present when you can. There is much that you can learn from your peers and much that they can learn from you. And the SBE national officers, directors and national staff need to hear from you about what is happening in your organizations, states, and regions.

### Leadership Through:

- Assisting your peers with challenging assignments
- Local chapter participation
- Local chapter officer candidacy and educational program development
- Membership activity in the SBE
- Attendance at national meetings
- Voting for national board members and officers
- Nominating effective leaders for national board and national officer positions

An important step in leadership for members in the SBE is voting for national officers. The SBE has the opportunity to influence the broadcasting industry with its technical expertise and analysis. Through its national officers and working with its strategic partners in the broadcasting industry, it can advocate for sensible and efficient use of the spectrum. Its committees develop programs and

services that benefit members, such as new certifications, educational webinars, mentor relationships, the SBE website, frequency coordination services, social networking, and Ennes workshops.

If you see someone in your local chapter who demonstrates good leadership in these ways, perhaps you would consider nominating him or her for the national board of directors. We need to hear from our members in new ways and if you see someone exercising these other forms of leadership effectively, then there is a good possibility that they would be able to provide good leadership within the board of directors. We need a constant flow of new leadership in order to grow as a professional organization and serve our members more effectively.

Leaders who are committed to serving their peers, active in their local chapters, active in national membership, vote for national officers, and nominate gifted members for the board are essential. Not everyone is going to be able to participate in this way, but all will benefit from the presence of these kinds of leaders. Be watching for them!

## Search for New SBE Communications Counsel

After the announcement by President Wayne Pecena in June of the impending retirement of SBE General Counsel Chris Imlay at the end of the year, Executive Director Jim Ragsdale has begun the search for his replacement. The search for a new counsel for the SBE and Ennes Foundation Trust began with the posting of the position on the Federal Communications Bar Association job bank at fcba.org.

As was communicated in the press release about Imlay's retirement, an Indianapolis attorney has been secured for general association business matters. The communications counsel position that is posted will be focused on providing federal telecommunications law advice, counsel and advocacy for the SBE and the interests of SBE's membership before the Federal Communications Commission.

Jim Ragsdale has been working with the SBE Executive Committee and Imlay to develop a focused job description and timeline for the search process. The timeline objective is to select a final candidate and submit a recommendation to the board for consideration at the October board meeting. If approved, the candidate would begin on Dec. 1, 2021.

### ENNES

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The trust offers scholarship and educational programming and grants that benefit broadcast engineering and the broadcast engineer. Submit tax-deductible donations, payable to the Ennes Educational Foundation Trust, to the Society of Broadcast Engineers; 9102 N. Meridian St., Suite 150; Indianapolis, IN 46260.

#### THANKS TO THE FOLLOWING SUPPORTERS FOR THEIR CONTRIBUTIONS

**Harold E. Ennes Scholarship**  
Robert Bertrand, Derwood, MD  
Maria Laing, Agoura Hills, CA  
SBE Chapter 24 Madison  
SBE Chapter 46 Baltimore

**Youth Scholarship**  
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Mark Phillips, Beacon, NY  
Michael Skehan, Washington, DC  
Nick Straka, Hackettstown, NJ

**John H. Battison Founder's  
Scholarship**  
Maria Laing, Agoura Hills, CA

**Robert D. Greenberg Memorial  
Scholarship**  
Maria Laing, Agoura Hills, CA

**In Memory of William Kozel II**  
Laura Kozel, North Olmsted, OH

[sbe.org/ennes](http://sbe.org/ennes)



# ENGINEERING PERSPECTIVE

By Paul Shulins, CBRE  
President & CTO, Shulins' Solutions  
paul@shulinsolutions.com

## Drones: Innovating Tower Inspections

Rapid growth in communication technologies has reduced the size of our world, and at the same time dramatically increased the number of telecommunication towers worldwide to more than 4 million. In the United States, a major mobile carrier alone is installing, repairing, or inspecting any of its 65,000 towers daily, placing a strain on the availability of tower crews, especially when you need to deploy those certified to work on tall broadcast structures.

When a broadcast engineer thinks of a tower inspection, the process usually involves scheduling a tower climber; something that can cost several thousand dollars depending on the size of the tower structure. As the day approaches, the engineer hopes for good weather and plans to broadcast from an alternate site, or to reduce power for the safety of the climbers. Then if all goes well, any issues are pinpointed, and in many cases a return trip is needed to remediate the problem.

Since drones or small unmanned aircraft systems (SUAS) have taken to the skies, broadcast engineers now can approach tower maintenance from a dramatically new perspective. Tower climbing is a small, highly qualified niche of roughly 10,000 workers and is considered one of the most dangerous jobs in the United States. Telecommunications towers are in constant need of attention, putting climbers at risk time and time again. Utilizing drones to accomplish the initial tower inspection minimizes climber risk of injury. Drones can fly on short notice, and in variable weather conditions, taking several passes at critical areas on towers, while pilots and climbers remain safely on the ground. While tower climbers will continue to remain an integral part of tower maintenance, today with SUAS technology, climbers

can be aware in advance of the area in question prior to leaving the ground, making climbs less frequent and offering the ability to complete work efficiently, while at the same time reducing risk and cost.

SUAS drone tower inspections are now routine and streamlined processes requiring minimal personnel hours, employing experienced pilots using cutting edge equipment that can perform timely required inspections at virtually any location. Broadcast operators gain detailed tower data

in a cost-effective manner to keep towers functioning without breaking the budget. Flights are performed in a small area surrounding the tower, and as such, pilots have no need to fly drones beyond the visual line of sight or into restricted airspace. Utilizing SUAS drones for tower inspections provides a simple, affordable solution with prompt results.

However, not all drones are created equal. The market is full of many hobby drones that include cameras that can provide some cool images and fun videos, however legitimate SUAS inspections go beyond the toys. High resolution, 4K drone video

footage gives a clear view of the status of telecommunication towers. Zoomed-in images allow close inspection while pilots stay safely grounded. Specialized drones equipped with RF shielding and thermal cameras can provide a sixth sense in the form of imagery that is often used to identify potential performance issues in areas where unexpected electromagnetic radiation in the infrared band is detected. Using specialized software, drone footage creates a digital model of each telecommunication tower. Inspection reports are generated from digital models and can be utilized to monitor the status of each tower. Digital models are an excellent method of monitoring tower corrosion.

Thermo-Diagnostics pinpoints potential issues with RF systems and prevents costly failures. Thermal imaging cameras can detect abnormal temperatures in electric utilities and RF systems and will pinpoint the location of concern. This gives the tower crew precise locations to target. Another advantage is that professional thermal imaging can safely detect temperature shifts without shutting down systems. Reaching inaccessible areas with ease and getting aerial inspection footage with a thermal camera is an effective way to quickly assess the health of your system without reducing power, or exposing workers to climbing or RFR exposure risks.

Of course, a licensed pilot with broadcast technology experience is just as important as having the right equipment. The skills and credentials required include FAA licensing (part 107 commercial drone operations), proper insurance, proper airspace clearances, and certifications in thermal imaging to interpret the data properly. Finally, the operator must understand broadcasting, tower safety, and RF systems. The guy who does the cool flyover videos for realtors just will not cut it in this highly specialized field.

### SUAS Advantages

- Inspections can be scheduled and performed in a wide variety of meteorological conditions. Don't be held hostage by the weather
- Schedule work on your timetable. SUAS inspections are much easier to schedule than a tower crew.
- Reduced downtime. Broadcast stations need to be shut off before an inspection by a tower climber can be performed. Every second of downtime means a loss of revenue. Using a drone allow for inspections while stations operate a full power which is more efficient can mean big savings for companies.
- Gain many different perspectives. The SUAS can capture the tower, antenna, and transmission line details from any angle, including above the tower.
- Infrared images can be obtained that will allow the owner/operator to see areas of heating that are inefficient and could be the early warning sign of potential failures down the road.
- SUAS inspections are always less expensive than hiring a tower crew.

**SUAS drones increase flexibility, simplify tower and RF system troubleshooting, and reduce costs.**

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<b>AC Video Solutions • 2014</b> Andrea Cummis 201-303-1303 Consulting, Systems Design/Integration	<b>Digital Alert Systems, LLC • 2005</b> Bill Robertson 585-765-1155 Emergency Alert Systems	<b>Linkup Communications Corporation • 2017</b> Mark Johnson 703-217-8290 Satellite Technology Solutions	<b>Ross Video Ltd. • 2000</b> Jared Schatz 613-228-0688 Manufacturer, Television Broadcast Equipment
<b>American Tower Corporation • 2000</b> Tiffany Yu 603-930-9091 Development/Construction/Management	<b>DoubleRadius, Inc. • 2012</b> Jeffrey Holdenrid 704-927-6085 IP Microwave STL	<b>LYNX Technik • 2007</b> Steve Russell 661-251-8600 Broadcast Terminal Equipment Manufacturer	<b>Sage Alerting Systems Inc. • 2010</b> Harold Price 914-872-4069 x113 Emergency Alert Systems Products
<b>Audemat-Worldcast Systems Inc. • 2000</b> Christophe Poulain 305-249-3110 Control Manufacturer	<b>Drake Lighting • 2015</b> Dave Sheppard 270-804-7383 FAA Obstruction Lighting - Medium and High Intensity	<b>Markertek • 2002</b> Adam June 845-246-2357 Specialized Broadcast & Pro-Audio Supplier	<b>SCMS Inc. • 2000</b> Bob Cauthen 800-438-6040 Audio and RF Broadcast Equipment Supplier
<b>Belden Electronic Division • 1991</b> Rose Lockwood 203-500-4743 Fiber and Copper Cabling Infrastructure	<b>DTS Inc./HD Radio Technology • 2014</b> George Cernat 443-539-4334 HD Radio Technology	<b>Micronet Communications Inc. • 2005</b> Jeremy Vize 972-422-7200 Coordination Services/Frequency Planning	<b>SEG • 2014</b> Chris Childs 913-324-6004 Supply Chain Products and Services
<b>Blackmagic Design • 2012</b> Terry Frechette 408-954-0500 Production Switchers, Digital Cameras, Routers, Video Editing and Monitoring, Color Correction, Video Converters	<b>du Treil, Lundin &amp; Rackley, Inc. • 1985</b> Jeff Reynolds 941-329-6000 Consulting Engineers	<b>Microwave Video Systems • 2011</b> Warren J. Parece 781-665-6600 Microwave Equipment Rental, Sales & Service	<b>Shively Labs • 1996</b> Dale Ladner 888-SHIVELY FM Antennas & Combiners
<b>Bracke Manufacturing LLC • 2012</b> Patra Largent 949-756-1600 RF & Microwave Components	<b>The Durst Org. - 4 Times Square • 2004</b> 212-997-5508 TV/FM/Microwave Tower Site	<b>Moseley Associates Inc. • 1977</b> Bill Gould 805-968-9621 x785 Digital STLs for Radio and Television	<b>Shure Incorporated • 2012</b> Bill Ostry 847-600-6282 Microphones, Wireless Systems, Headsets
<b>Broadcast Depot • 2018</b> Tim Jobe 305-281-7540 TV, Satellite, Radio, IP	<b>DVEO - Division of Computer Modules Inc. • 2011</b> Laszlo Zoltan 858-613-1818 Everything About Transport Streams	<b>MulticAM Systems • 2020</b> Mary Ann Seidler 207-776-5338 Fully automated live video production	<b>Sierra Automated Systems and Eng. Inc. • 2011</b> Al Salci 818-840-6749 Routers, Mixers, Consoles, Intercoms
<b>Broadcast Devices, Inc. • 2015</b> Robert Tarsio 914-737-5032 Audio/RF Support Products	<b>Econco • 1980</b> Debbie Storz 800-532-6626, 530-662-7553 New & Rebuilt Transmitting Tubes	<b>MusicMaster • 2014</b> Jerry Butler 352-231-8922 Advanced Music Scheduling Solutions	<b>Solid State Logic • 2014</b> Steve Zaretsky 212-315-1111 Digital Audio Mixing Consoles, Networked Audio Routing, Embedded Audio Solutions
<b>Broadcast Electronics Inc. • 1978</b> Perry Priestley 217-224-9600 Radio Equipment Manufacturer	<b>ENCO Systems Inc. • 2003</b> Samantha Bortz 248-827-4440 Playout and Automation Solutions	<b>Nascar Productions • 2014</b> Abbey Kielcheski 704-348-7131 Live/Post Production Services	<b>Staco Energy Products Co. • 2010</b> Paul Heiligenberg 937-253-1191 x128 Manufacturer of Voltage Regulators, UPS
<b>Broadcast Software International • 2016</b> Marie Summers 888-274-8721 Radio Automation, Audio Logging	<b>ERI - Electronics Research • 1990</b> Zachary Bailey 812-925-6000 Broadcast Antennas, Transmission Line, Filters/Combiners, Towers and Services	<b>National Association of Broadcasters • 1981</b> Industry Trade Association 202-429-5340	<b>SuitLife Systems • 2019</b> Nigel Brownnett 310-405-0839 Manage. Monitor. Control
<b>Broadcast Supply Worldwide • 1986</b> Shannon Nichols 800-426-8434 Audio Broadcast Equipment Supplier	<b>Floral Systems • 2008</b> Shawn Maynard 877-774-1058 Television Broadcast Automation	<b>National Football League • 1999</b> Michael Katzenoff 212-450-2368 Game Day Coordination Operations	<b>Sutro Tower Inc. • 1989</b> Raul Velez 415-681-8850 Broadcast Tower Leasing
<b>Broadcasters General Store • 2004</b> Buck Waters 352-622-7700 Broadcast Audio Video Distributor	<b>Fujifilm/Fujinon • 1986</b> Gordon Tubbs 973-686-2769 Broadcast & Cine Lens Products	<b>Nautel Inc. • 2002</b> Jeff Welton 877-662-8835 Radio Broadcast Transmitter Manufacturer	<b>Synthax Inc. • 2020</b> Jason Finder 954-296-3936 Audio Codecs and Converter Solutions
<b>Burk Technology • 2019</b> Jim Alinwick 978-486-0086 x7404 Transmitter Facility Control Systems	<b>Heartland Video Systems, Inc. • 2011</b> Dennis Klas 920-893-4204 Systems Integrator	<b>Nemal Electronics Int'l Inc. • 2011</b> Benjamin L. Nemser 305-899-0900 Cables, Connectors, Assemblies and Fiber Optic	<b>Technical Broadcast Solutions, Inc. • 2018</b> Robert Russell 302-414-0055 Engineering and Consulting Services
<b>Calrec Audio • 2016</b> Helen Carr 703-307-1654 Audio Mixing Equipment	<b>Hilights, Inc. • 2016</b> Timothy Nash 352-564-8830 Obstruction Lighting Maintenance	<b>Neutrik USA, Inc. • 2012</b> Kathy Hall 704-972-3050 Ruggedized Optical Fiber Systems	<b>Telos Systems/Omnia/Axia • 2003</b> John Bisset 216-241-7225 Telos Systems Talk-Show Systems
<b>Canon USA Inc. • 1985</b> Larry Thorpe 201-807-3300, 800-321-4388 Broadcast Lenses & Transmission Equipment	<b>Hitachi Kokusai Electric Comark • 2013</b> Jack McAnulty 413-998-1523 Manufacturer Broadcasting Transmission Equipment	<b>NPR Distribution Services • 2019</b> Dan Riley 202-513-2624 Your Content Delivery Partners	<b>Teradek • 2011</b> Jon Landman 949-743-5783 Camera-top ENG Solutions
<b>Cavell, Mertz &amp; Associates Inc. • 2011</b> Gary Cavell 703-392-9090 Consulting Services	<b>iHeartMedia, Inc. • 2019</b> Troy Langham 918-664-4581 Radio Group Owner	<b>Orban Labs, Inc. • 2011</b> Mike Pappas 480-403-8300 Audio Processing AMFMTV	<b>Tieline The Codec Company • 2003</b> Dawn Shewmaker or Jacob Daniluck 317-845-8000 Audio Codec Manufacturer
<b>Comrex Corporation • 1997</b> Chris Crump 978-784-1776 Audio & Video Codecs & Telephone Interfaces	<b>Indiana Broadcasters Association • 2019</b> Dave Ariand 317-701-0084 Indiana Association for Radio & TV Broadcasters	<b>Pasternack Enterprises • 2001</b> Christine Hammond 949-261-1920 Coax & Fiber Products	<b>Unimar Inc. • 2001</b> Thad Fink 315-699-4400, 813-943-4322 Tower Obstruction Lighting Designer, Manufacturer, Distributor
<b>Continental Electronics • 1976</b> Dale Dalesio 412-979-3253 TV and Radio Transmitters	<b>Inovonics Inc. • 2012</b> Gary Luhrman 831-458-0552 Radio Broadcast Equipment	<b>Potomac Instruments • 1978</b> Zachary Babendreier 301-696-5550 RF Measurement Equipment Manufacturer	<b>Wheatstone • 2010</b> Jay Tyler 252-638-7000 IP Consoles, Routers & Processors
<b>Crawford Broadcasting Company • 2021</b> Cris Alexander 303-481-1800 Media Company	<b>JAMPRO Antennas Inc. • 2011</b> Alex Perchevitch 916-383-1177 DTV, FM-HD Radio, DVB-T/T2, ISDB-T, DAB	<b>ProAudio.com- A Crouse-Kimzey Co. • 2008</b> Mark Bradford 800-433-2105 x560 Proaudio Broadcast Equipment Distributor	<b>WideOrbit • 2012</b> Jim Hammond or Brad Young 415-675-6700 Radio Automation and Playout
<b>CueScript • 2014</b> Michael Accardi 203-763-4030 Teleprompting Software & Hardware	<b>JVC Professional Video • 2014</b> Edgar Shane 973-317-5000 Professional Video Products, Camcorders, Display Monitors, Recording Decks	<b>Propagation Systems Inc. - PSI • 2010</b> Doug Ross 814-472-5540 Quality Broadcast Antenna Systems	<b>Wireless Infrastructure Services • 2006</b> Travis Donahue 951-371-4900 Repacking Services - West Coast Turnkey Services
<b>Cumulus Media, Inc. • 2021</b> Conrad Traumann 212-419-2940 Audio Media Company	<b>Kathrein USA Inc. • 1985</b> Les Kutasi 541-879-2312 Antennas for Broadcasting & Communications	<b>QCommunications • 2019</b> Tony zumMallen 816-729-1177 Services Behind the Scenes	
<b>Davicom, Division of Comlab, Inc. • 2014</b> Louis-Charles Cuierrier 418-682-3380 x512 Remote Site Monitoring and Control Systems	<b>Kintronc Labs, Inc. • 2015</b> Brad Holly 423-878-3141 Radio Broadcast Antenna Systems - ISO9001 Registered Company	<b>Quintech Electronics and Communications Inc. • 2002</b> James Herbstritt 724-349-1412 State-of-the-art RF Hardware Solutions	
<b>Dialight Corporation • 2006</b> David Jennings 732-919-3119 FAA Certified Obstruction Lights	<b>LBA Technology Inc. • 2002</b> Juan Macias 252-757-0279 AM/MW Antenna Equipment & Systems	<b>QVC • 2011</b> Kevin Wainwright 484-701-3431 Multimedia Retailer	
<b>Dielectric • 1995</b> Cory Edwards 207-655-8131 Radio & TV Antenna Systems and Monitoring		<b>Rohde &amp; Schwarz • 2003</b> Walt Gumbert 724-693-8171 Transmitters, Test & Measurement, Video	

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# Member Spotlight: David T. Antoine

## Member Stats

**SBE Member Since:** 1993

**Chapter:** 15 New York City

**Employer:** WBGO Jazz88/Newark Public Radio

**Position:** Chief Technology Officer

**Location:** Newark, NJ

**I'm Best Known For:** Being even tempered.

**Q.** *What do you enjoy or value most about your SBE involvement?*

**A.** The SBE offers certifications that are a validation of my skills as a broadcast engineer. I also enjoy the interaction with other engineers who have made broadcasting their life's vocation and passion.

**Q.** *What got you started in broadcast engineering?*

**A.** After starting out as a mobile DJ, transitioning to a front-of-house touring audio engineer and sitting around waiting for another group to get a hit record to get back out on tour, I decided that I needed to pay rent regularly. I always had a passing interest in broadcast engineering, so I mixed audio in a club at night and went to school in the day to study for my FCC license. I eventually passed the First-Class FCC exam. My entry level job was at a classical station in New York, WNCN-FM.



**Q.** *Who was your mentor or who in the industry do you admire?*

**A.** John Lyons, R.I.P., was a mentor, a good friend and colleague. When I started in broadcasting, he was one of the first engineers I befriended. I have missed him and his wit and good sound advice.

**Q.** *What do you like most about your job?*

**A.** I love broadcast technology and could not see myself doing any other kind of work. Being in broadcast keeps me around music and musicians; Jazz musicians in particular. It's not a job it's a hobby that I get paid to do.

**Q.** *When I'm not working I...*

**A.** ...am out fishing, either surf casting or on a boat. I also love to go scuba diving. I hope to get back to it when travel opens up.

**David spending some time casting on the beach.**

## NATIONAL MEETING, continued from p. 1

also present awards to chapters and individual members during the dinner program. Chapter awards include: Best Chapter or Regional Educational Event, Best Chapter Communications, Most Certified Chapter, Highest Member Attendance and Greatest Growth in New Members. Winners of local Chapter Engineer of the Year awards will also be recognized. SBE Certification Director Megan Clappe will be recognized on her elevation to SBE Fellow.

All the SBE National Meeting events will be held at the Las Vegas Convention Center or Westgate Hotel. Plans are underway to stream the MMAP live for those who cannot attend in person. Details on that will be provided closer to the event.

## Convention Exhibits, Too

The SBE will exhibit at the NAB Show this fall. The exact booth location has yet to be determined, so check SBE and NAB information and add the SBE to your exhibit floor rounds. The SBE booth is also an ideal meeting point to coordinate with other people attending. While you're there, pick up some SBE-logoed items, browse the SBE Bookstore, and get more information about everything the SBE has to offer.

The SBE thanks the various sponsors who support at the NAB Show. They are listed below.



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# WELCOME TO THE SBE

## NEW MEMBERS

Evan Adkins - Ashland, KY  
 Jordan Bitz - Twin Falls, ID  
 Chris Blann - Columbia, SC  
 Nicolas Blomstrand - Centuria, WI  
 Michael D. Chandler - Clovis, NM  
 Jay Chipak - Chester, MD  
 Jaami C. Clark, Sr. - APO, AE  
 David Coffey - Chillicothe, OH  
 Mitchell Conley - Bloomington, IN  
 Mychal J. Dye - FPO, AE  
 Mitch Finley - Seattle, WA  
 John Fortune - Terebonne, OR  
 Robert Gelber - Trinity, NC  
 Allen Glasgow - Midlothian, TX  
 Charles A. Gloria - Corpus Christi, TX  
 Emmanuel G. Grant - Brooklyn, NY  
 Avery S. Hackmann - Austin, TX

Jassen Hahn - Ovilla, TX  
 Rebecca A. Hamilton - Eugene, OR  
 Greer Harris - Bossier City, LA  
 Roniecia L. Harris - North Highlands, CA  
 Gershon Haston - Beaumont, TX  
 Clinton J. Hermann - Las Vegas, NV  
 Domingo E. Hernandez - Brentwood, NY  
 Jerry L. Higgins - Wernersville, PA  
 Krystal N. Holland - Hempstead, NY  
 Timothy J. Hopkins - Coatesville, PA  
 Thomas M. Hurley - Pittsburgh, PA  
 Raynell Jacobs - Gonzales, LA  
 Norman L. Kroh - Los Angeles, CA  
 Maria E. Marmora - East Brunswick, NJ  
 Wael R. Marzouka - Spartanburg, SC  
 John R. Mason - Plymouth, WI  
 Skylar Miles - Alameda, CA

Nathan T. Miller - Nashville, IN  
 Kip D. Morris - Bend, OR  
 Kevin Muenchow - College Station, TX  
 Zachary A. Neace - Windermere, FL  
 Robert L. Nino - Gilbert, AZ  
 Tom C. Nolan - Akron, OH  
 Mario Perez - San Antonio, TX  
 Wynter Pero - Germantown, MD  
 Timothy M. Pilcher - Columbia, MO  
 William L. Porter - Carlock, IL  
 Liam R. Power - Portland, ME  
 Karim Springer - Rahway, NJ  
 Samuel Stamey - Landrum, SC  
 Rachel F. Stapholz - Simi Valley, CA  
 Bryan Switzer - Rochester, NY  
 Richard M. Wheeler - Ramsey, IL  
 O. Jay Wood - Middletown, MD

## RETURNING MEMBERS

Kent Beichley Hayward, CA  
 Victoria Brace - Clearwater, FL  
 Jarvis M. Brummitt - Fort Belvoir, VA  
 Max C. Culbertson - Bend, OR  
 Tom P. Dailey - Denver, CO  
 Felipe Gonzalez - Greenville, SC  
 Jason J. Houts - Los Angeles, CA  
 Dean A. Imhof - Santee, CA  
 Jeremy R. Landers - Surprise, AZ  
 Daniel L. Mammone - Youngstown, OH  
 Steven M. Pacheco - Addison, IL  
 Allen P. Palmer - Raleigh, NC  
 Jorge R. Perez - North Richland Hills, TX  
 Greg Rogers - Las Vegas, NV  
 Marisabel Santana Mercado - Laurel, MD  
 William R. Schey - Tavares, FL

## NEW STUDENT MEMBERS

Dakota A. Dann - Calgary, AB  
 Spencer T. Dykstra - Calgary, AB  
 Andy Ho - Calgary, AB

Anthony Miles - Calgary, AB  
 Jweetu Pangani - South Bend, IN  
 Amrita K. Rai - Calgary, AB  
 Karandeep Singh - Calgary, AB

Matthew Taylor - Calgary, AB  
 Robert T. Waller - Red Springs, NC  
 Liam M. Weppler - Calgary, AB

## RETURNING STUDENT MEMBERS

Vimar S. Miranda - Houston, TX



## SBE Compensation Survey: Certification Pays

The SBE conducted its sixth compensation survey in April through June. The survey goal is to provide practical information to SBE members about individual compensation (salary and benefits) based on the type of broadcast or multimedia involvement, market size, and job title category. 319 respondents answered the survey questions about salary and benefits.

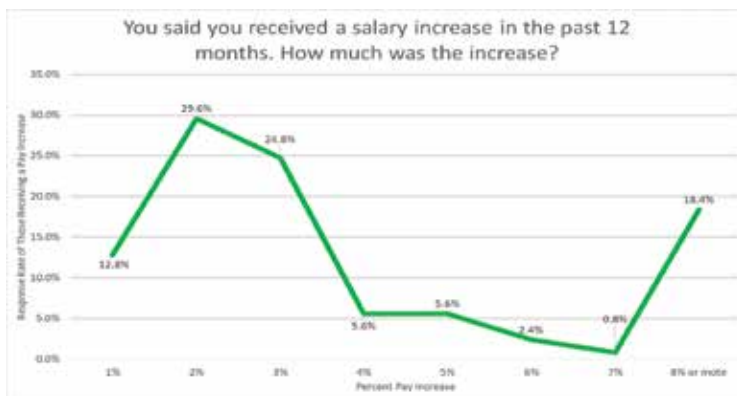
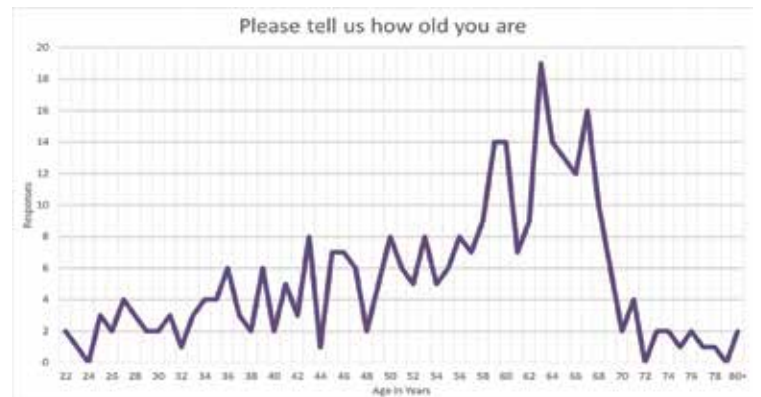
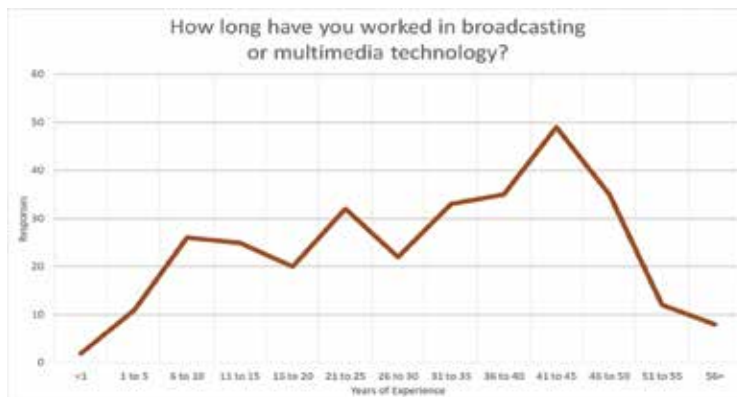
We asked if respondents received a raise in the last year, and if so, how much, and to report benefits received. We also asked about contract engineering rates and practices.

Respondents were asked if they held any broadcast- or media-relevant professional certifications. We compared salaries of respon-

dents with and without SBE Certification and reported the trend compared to past salaries. Typically, those who hold SBE certification earn a higher wage than those who do not.

The survey report is available via the SBE Bookstore and is free to SBE members as a member benefit. You will need your SBE website login to access it. Also, the PDF report is password protected. The password is noted on the download page. Non-members can purchase the survey via the SBE Bookstore. Some survey highlights are shown here.

If you participated in the survey this year, thank you. We encourage your participation next year so we can provide the most useful results.



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## MEMBERS ON THE MOVE



▶ **Dave Mann** is director of broadcast technology with WKAR - Public Media at the College of Communications Arts & Sciences, Michigan State University in Lansing.

▶ **Sam Reiman** is a systems engineer for Inrush Broadcast Services, Chicago.



**Keith Smeal** is chief engineer of WSLU North Country Public Radio, St. Lawrence University, Canton, NY.

▶ **Isaiah Chavez**, CBT, has been promoted to broadcast IT engineer at the Home Shopping Network, St. Petersburg, FL.



## MARK YOUR CALENDAR

S	M	T	W	T	F	S
TAB Convention & Trade Show		Austin, TX				
Aug. 3-4, 2021		tab.org				
SBE Certification Exams		Local Chapters				
Aug. 6-16, 2021		sbe.org/certification				
Application deadline closed						
SBE WEBxtra		online				
Aug. 16, 2021		sbe.org/webxtra				
Broadcasters Clinic		Madison, WI				
Sept. 8-10, 2021		wi-broadcasters.org				
SBE WEBxtra		online				
Sept. 20, 2021		sbe.org/webxtra				
NAB Show		Las Vegas				
Oct. 9-13, 2021		nabshow.com				
SBE National Meeting		Las Vegas				
Oct. 11, 2021						
SBE WEBxtra		online				
Oct. 18, 2021		sbe.org/webxtra				

Have a new job? Received a promotion? Send your news to Chriss Scherer at [cscherer@sbe.org](mailto:cscherer@sbe.org).

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