The VAS and the past attendees of last year's event were very excited at the opportunity for Virginia to host the 2020 Women Surveyors Summit in August.
Unfortunately, we made the difficult decision to cancel. With COVID-19 travel concerns and our attendees coming in from across the country, as well as hotel restrictions that could possibly still be in place, I believe we made the right decision.

We had briefly discussed an online virtual version, but felt the actual spirit of the event would be lost and we would not be able to showcase Virginia as planned. We are hoping that Virginia will still be the next state to host and that 2021 allows us to hold the summit. I should know more in the coming weeks as we continue to discuss our future.

The good news related to the summit is that financially we had no expenses other than our time, and the hotel is excited about the possibilities for 2021. I would like to thank everyone for the support and efforts made to date and ask you to hold on to your enthusiasm. I must believe that the additional time allows us to plan an even better event and be the best host we can be.

Also, for those interested, to alleviate any financial burden on the individual state associations, Anna Rios, the events founder, has formed a non-profit organization named “Future Surveyors Foundation”. The Future Surveyors Foundation will provide the accounting requirements for the events in the future and co-host with state surveying organizations that host the Women Surveyors Summit each year.

If you are interested in more information about the summit or possible sponsorship for the future events, please feel free to contact Anna Rios at the email below. Any donations should be made payable to Future Surveyors Foundation and mailed to:

Future Surveyors Foundation  
C/O Anna Rios  
1501 Brushy View Cove  
Austin, TX 78754  
annaintx@hotmail.com

Stay safe and I look forward to seeing everyone soon.

_______________________

Alison W. Hanson, LS, is First Vice President of VAS and Chairman of the Public Relations Committee

From the President by Kevin Wood

Building the next generation of land surveyors. Why is it important and who should be looking over it? We all have heard the talk and maybe “fear” of the survey profession aging itself out. I am not certain I believe our profession will wither away but I certainly see a need to make sure it gains some ground. The land surveyors that take over in the next ten years will face a different work environment. Clients will ask for more and expect the surveyor to provide data in different formats. Each surveyor will need to understand more technology to correctly review submittals and certify to accuracies. Technicians will take on larger and larger roles. We need to make sure that this level of our staff is competent even if they do not become licensed professionals. This will be
incumbent on each of us in our own office as we hand off the baton. What is required to make it happen? It will require one-on-one time and outside training. The technicians need to experience the same understanding as each of the surveyors, so they can make sure the data is properly checked, compiled, and referenced in future surveys.

How is the VAS working to make all of this happen? Several things are present. The VAS has a Young Surveyors Committee that will work with other young surveyors to guide the technicians. This group has connections across the country and internationally, so they are very well equipped to speak in a way that the technicians might listen to. The Workforce Development Committee is coordinating between the profession, high schools, higher education, and business to create an environment and plan that will allow new technicians to thrive. The Certified Survey Technicians Committee works with NSPS to provide basic certification and foundation in surveying. The VAS Education Committee is creating seminar and webinar opportunities for technicians to educate them on all facets of the profession. The VAS Education Trust is providing scholarship funds for technicians to study the art of the profession. This might happen at a university or in an apprenticeship program. Can I now support this from my own office or chapter? I think it is evident that just about anything can be done remotely. Join a committee, encourage a technician to attend a seminar, start a CST program in your office. All of these can be a start and the VAS provides support from the above-noted committees, as well as the VAS Board and staff.

What are the goals moving forward? A stronger young surveyors group, more technicians involved in VAS activity, and coordination of outlined plans for growth from the workforce development. The VAS is a vibrant and active society and that is because of each of its members. Our goal is to always make the future better and this is a game plan that is achievable. So, as always, the program is better if you participate.

Kevin B. Wood, LS, is 2020-2021 VAS President

Editor's Column
by Chris Jensen

The world we live in. The other day someone asked me if I could believe that 2020 is almost half over. My initial reaction was that I couldn’t believe we are only at the midpoint. I feel like this year has been going on forever with more changes and issues than we will see in 6 years, let alone 6 months.

I’m excited to present this month’s issue of ODS to you. We have a great article written and updated by Steve Douty that sadly to me rings just as true today as it did when he originally wrote it almost 5 years ago. I agree with Steve that we can, and should, all do better with diversity in surveying and in life.

Our Young Surveyors Committee Chairman Clifton Rodgers also submitted a great article regarding the recent Young Surveyors meeting at FIG. I think Clifton is a credit to our young surveyors, and I would ask everyone to especially pay attention to the end of his article regarding what the young surveyors of today are focusing on, and what’s important to them. We are never too old to listen and learn.

June is National Safety Month. I know safety is the top priority for all of us and please
Chris Jensen, LS, is VAS Second Vice President and Editor of ODS

Scholarships

Scholarships are still available to anyone who is in an education program in pursuit of a career in surveying. The deadline to submit your 2020 scholarship application has been extended to August 15. Click below for the application.

SURVEYNG SAVES TOWER CRANE SCHEDULE
by George Nyfeler, LS

At home one Saturday afternoon last month, I answered a cell phone call from a frantic owner of a crane installation company. He had about 30 people on a hospital site 80-miles from my office to install a 150-foot tall, 320-ton tower crane and somehow no one had a surveyor lined up to check it for the required specification for plumbness – which needed to be under 4-inches horizontally from bottom to top. I told him to give me a half hour to see what I could round up with my firm and call him back. Personal time is important to employees everywhere, and my firm is no exception. I offered triple pay, or triple comp-time (at the employee’s choice). If available, they may well have jumped at that offer, but were already committed to personal activities. I was not particularly busy that day, so I told the crane installer that I would be there myself ASAP. I decided to take our most junior field person for the experience: my son. This was something I could handle alone, so he would be able to observe and learn from an interesting project.

After loading up at the office and finishing the hour and 15-minute drive, we arrived on site at 5:00 pm – less than three hours from the first contact. The client was relieved, but anxious for me to get set up ‘now, now, right now’ and tell them how to adjust the first 30-foot vertical section before adding the next 4 sections. Like so many construction sites, this was a
congested area with equipment and fencing packed into a small area. Using reflectorless shots from a Nikon NPL 322+ set up against site obstructions to my back and both sides, and only about 40-ft north from the crane base, I had them adjust 2-inches west at the top (an angle-only adjustment from my setup) and told them that the north-south plumb was close, and averaged out from less than an inch too far on the left side to less than an inch too close on the right side. This compensating difference would reveal a growing challenge later in the survey. The adjustments were difficult to make due to the stack of large concrete stabilization weights resting on the base to which the 5-ft by 5-ft tower was attached and rose high on all four sides of this first tower section. Extreme-load jacks were used to unload some of the pressure on the oversized adjustment screws allowing a group of workers to insert lever arms and turn them up or down.

With the first section done, I repositioned our instrument to another location about 400-ft south of the crane to be ready for higher targets. This time we used a Trimble S5 robot. We would simply collect shots at center column low left and center column low right – and then stake out those points as we shot locations higher to ascertain the left-right and in-out errors. Several hours passed while we waited out an FAA lightning strike warning. At 8:00 pm the plug was pulled, and a request was made to meet again at 6:30 am Sunday.

As we had done the previous day, we set a prism target 100-ft or so from our instrument and out of the heavy construction traffic area as a point available for us to check our instrument after the wait times between shots which varied between 15-minutes and 75-minutes. We were happy to have done that, as shortly after taking our morning low column shots, a truck delivering the top sections of crane parked in a way as to obscure our view of those low column shots. If we were to be confident in our adjustment communications, we needed to be able to continually check our setup – and were now able to do that. We also had the Nikon NPL 322+ setup nearby and were calculating adjustments independently with it as a check to the S5 work. Additionally, we shot direct and indirect with both instruments, hunting for anything that might degrade vertical accuracy.

The second 30-ft tower section was installed, so we took our shots on the top of it. The top (now at 60-ft tall) was 2-inches too far to the west. The night before, I had them move the first section this amount in this direction! All I could think of was that somehow they had it right before we arrived and then we may have instructed them to move it out of plumb. To any surveyor reading this who has worked on heavy construction sites, this kind of revelation instantly brings a sick feeling in the pit of your stomach. The lead installer told me that only the comparison from the very top to the very bottom mattered, so I suggested that they keep installing sections before making any more adjustments.

The third section continued to err to the west even further, now already pushing the limits of the 4-inch tolerance. Strangely, I noticed while putting the instrument crosshairs on the center of the right column near the top of this third 5-ft by 5-ft tower section that the column 5-ft behind the one I was sighting was partially visible. This was
not the case at the bottom, and now as I moved the crosshairs up from the center of the bottom right column (and as I could see the uniform west leaning of that column) this ‘5-ft behind column’ was not following the column I was tracking in the amount of westward lean. Additionally, the in-out plumb error as we climbed higher continued to increase, with the left side getting further away from us, and the right side getting closer to us as we shot higher targets. Then it hit me: each 30-ft tower section had a consistent slight clockwise twist to the right (when seen from above) as observed at higher and higher elevations. Perhaps they had all been fabricated from the same jig with this slight twist built-in.

We now knew that our Saturday night work was accurate, and we regained the installers’ confidence in our ability. The next question was, “How to adjust for this twist” to report as closely as possible the center of the 5-ft by 5-ft section from bottom to top, as these center points were what was actually important, and not the outer corners of the one side we were shooting? I found the answer in recording the angle between the right edges of the two right-side columns (one 5-ft behind the other) that we could see, then taking the SIN of that angle multiplied by the average horizontal distance to our instrument. This simple solving of a right triangle calculation represented the difference between how far the front-right column leaned west, and how far the rear-right column fell behind it in that leaning. Dividing this small distance by two would give me the correction to be applied to the westerly leaning of both front columns if we wanted to track the center of the tower sections. Adding this calculation to identify center tower section plumb had a mitigating affect on the magnitude of our reported westerly error, but when we reached the 150-ft top, it was still out of spec by about 1.5-inches east-west, and in spec for north-south on average albeit still a slight in-tolerance lean to the north.

The installers made an adjustment, I reshot the tops, adjusted for twist and reported, continued with that adjustment, and this time used three times that magnitude. Reshooting and adjusting for a twist, we were well within the 4-inch spec in all directions, including the hypotenuse total error. SUCCESS!

I enjoyed the challenges of this project and am selfishly happy that my employees were not available to take the lead on it. This firsthand experience also reinforced an acknowledgment on my part that my senior employees make these kinds of successes happen on other challenging project sites with regularity.

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George Nyfeler, LS, is the president of Nyfeler Associates, LLC.
While surveyors are licensed by the Commonwealth to protect public health, safety, and welfare, in order to be in business private practice surveying firms must also turn a profit.

The financial success of a firm does not come easily or naturally. It takes planning and execution.

A successful surveying firm should have several plans. Such plans are essential to both a start-up, as well as an established enterprise. These include a business plan, a strategic plan, a marketing plan, and a succession/ownership transition plan. Regrettably, many surveyors with whom I discuss such plans concede they don’t have them.

In the coming months, I’ll discuss each plan in more detail.

To start, here are two of my favorite “planning” quotes:

“Plan for the future, because that is where you are going to spend the rest of your life.” - Mark Twain.

“Failing to plan is planning to fail.” – Benjamin Franklin

The aforementioned plans can be separate and individual or combined into one document. I recommend the former as each can be used for different purposes. For example, a business plan is useful as a stand-alone paper as it is often required by a bank when applying for a business loan. While business, strategic, and marketing plans should be collaborative efforts, a business owner may wish to keep a succession plan more confidential.

These plans are not etched in stone. They are guides, not hardened rules. They should be periodically reviewed and updated as necessary. They should provide guiding principles to help navigate a firm and prevent lurching from one idea du jour to another on an ad hoc basis.

Throughout my career, I’ve had the honor of serving as Executive Director of several surveying and engineering related associations. One of my first tasks upon becoming VAS Executive Director in 2017 was to convene the officers and past presidents in a strategic planning session that resulted in the first ever VAS strategic plan during the presidency of Dave Gardy. Today, I’m helping immediate past president and Long Range Planning Committee chairman Gary Faulhaber and the VAS officers with a review and update to that plan. Moreover, I’ve also had the privilege of serving as an outside consultant and facilitator to numerous firms. My knowledge of the profession, combined with my independence of any single firm, has permitted me to provide informed, yet objective, assistance to my clients with their planning efforts.

Some planning charettes involve all members of a firm or at least selected key staff. Rather than being expensive and time consuming, an outside facilitator can help a firm stay focused and complete the process efficiently.

Planning should come easily to surveyors. After all, a survey is a plan. The survey you provide is used by your client to plan future activities, be it design and construction, resources development, environmental protection, sale of real property, or many other applications and activities. The elements of business planning are as important to a surveying firm as a survey is to your clients.
Committee Corner - Young Surveyors Committee
by Clifton Rodgers

Below is a report on the Young Surveyors Meeting at the Fédération International des Géométries (FIG), the international federation of surveyors

**Synopsis:**

A couple of reoccurring themes in the young surveyors meeting is “Adapting to Change”, “modernize (antiquated systems that have been digitized)”, and “access to data services easily and accurately”. And some of the goals for the young surveyors network are “partnerships, communication, events, development, and outreach” which they went on to give a few examples of later on, but they kind of speak for themselves.

Of course, they covered Esri and surveyors effect on COVID-19 and disaster reconstruction and rebuilding through GIS. There was a lot of GIS development and different GIS functions in the modernizing processes. A big take away from these presentations was the digital enhancing features that are co-evolving with humanity and catching up/updating these systems from their original antiquated designs is critical. The best pieces of information were on land administration domain model (LADM) making “good, accurate data” and “managing good data for field mobility enhancement”. I can see this being very helpful through phone and tablet applications or even appearing in surveying equipment operating systems in the near future. This may tie GIS information to field surveying, making both equally accurate and creating a norm of replicability. Almost like a one stop shop County GIS layered with field surveying operating systems.

**My takeaway:**

My takeaway is the young surveyors network at FIG is focused on big important issues and trying to solve the world's surveying problems through digital means. They want to accomplish better tracking of economic systems, land development, and records and population density infrastructure (i.e. hospitals, water, sewage, etc.). It appears that the basic idea is designing a better digital system, which is something I hit on in my initial recommendations report to VAS not just to the caliber they are shooting for. I will say that the longer I am in the field of surveying I notice GIS and surveying merging together. I got the impression from FIG that this is exactly what they are trying to do.

Here is a link to the video for anyone who is interested: [Click Here]

Clifton Rodgers is Chairman of the VAS Young Surveyors Committee.

Interested in joining a committee? All Committees and Chairs to contact can be found on the VAS [website](#).
Upcoming Events

Fall Seminar and Board Meeting
September 18-19, 2020
Hilton Garden Inn
Roanoke, VA

72nd Annual Convention & General Membership Meeting
October 22 - 24, 2020
Wyndham Oceanfront Hotel
Virginia Beach, VA

New Utility Easement Law Takes Effect July 1

During the VAS Summer Seminar held on Friday, June 12, there was a discussion of legislation passed by the General Assembly and signed by the Governor establishing new procedures and requirements for utility easements, including the location of broadband and other communications infrastructure. Here a link to a summary and the text of HB 831, which becomes effective on July 1.

Virginia GIS Clearinghouse Has Made LiDAR More Accessible
by Doug Richmond

The Virginia GIS Clearinghouse has developed a Graphical User Interface or GUI to make the distribution of statewide LiDAR and elevation models more easily accessible. The VAS has been a strong proponent of this and the administration and staff at VGIN has done an outstanding job collecting and publishing the elevation products. The GUI has been active for a few months and it works very well. It’s very intuitive and easy to use.

From the opening page of the Virginia GIS Clearinghouse, simply select Virginia Base Map Data Downloads.
Statewide data is available for LiDAR, Road Centerlines, and Address Points. After choosing Virginia LiDAR the information screen is displayed explaining the types of products available. One can choose metadata, single point clouds which cover a tile, and multiple (bulk) point clouds that cover multiple tiles. Clicking on the icon at the top of the page launches the VGIN Web Mapping GUI. The coverage for the LiDAR is shown on a statewide map.

Panning and zooming to the desired area bring up the individual tiles which can be selected and downloaded.

Doug Richmond, LS, is VGIN Advisory Board Member

Stonewall's Kitchen

Originally Posted by VAS
Submitted by Steve Douty, LS
Originally Published November 24, 2015
Revised June 11, 2020

In 1947 I was born in Confederate General “Stonewall” Jackson’s kitchen; 21 years later I began my career in surveying. For the mathematically challenged, that means I have lived 73 years, surveyed for 52 years, 41 years of which I have been active at the state and national level of surveying. And in all those years, I have met only two licensed surveyors who were United States citizens and of African American descent.
To be accurate, I was born in what had once been a kitchen; by then the building had been remodeled for use as a hospital. Time has marched on, and now the building has been restored to its original condition of the Civil War era and has been designated as a National Historic Monument. That elevated status had nothing to do with my birth. However, it had everything to do with the great sense of history and “Southern Pride” that has pervaded Virginia, and parts further south, for more than a century. I was literally born into the heritage of Southern pride. This makes me keenly aware of the depth of passion surrounding those beliefs of the “Southern Heritage”, and equally sensitive to the recent media wildfire surrounding the cultural clash of “heritage versus hate”.

I mention this not to further the arguments that have been highlighted in the news and social media. Instead, I bring it up because I think our profession is in a very real way a microcosm of the core issues behind the recent fevered debate reignited over the display of the Confederate flag and other symbols of Southern Heritage.

In my heart, I am convinced we as a profession do not discriminate against any group. I have never encountered evidence that any individual, business, or professional society associated with the profession of surveying discriminates against anybody on any basis, whether it be race, sex, religion, or social status. However, the racial, ethnic, and gender mix of licensed surveyors remains largely monochromatic. Is this a function of some hidden bias within our profession, or even a reflection of longstanding traditions that inadvertently restricts entry into the field? Is there some other explanation? I don’t have any answers, but I am convinced we as a profession need to begin an open and thoughtful discussion of the situation.

The profession of surveying does not stand aloof from society and is equally not immune to the ills and troubles of that society. For example, in recent years surveyors nationwide have been wrestling with the changes brought on by technology and within the legal system. Likewise, but sadly all but ignored within our profession, the demographic and cultural upheaval going on in our society is also affecting the world of surveying. I believe that if we are to preserve the profession that we love and pass on its values and high standing to future generations, then we must honestly and fearlessly look at ourselves and decide how we must adapt to society, and how we want to look in the future.

There is an old truism that says, “When you’re green you grow; when you’re ripe you rot”. It’s time to get out of the kitchen and join the society we live in and work in!

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Steve Douty, LS, has been a member of the Virginia Association of Surveyors since 1979.

VAS Convention Moves to October 21-24, 2020
Due to the Coronavirus-related governmental orders limiting gatherings of people, the VAS Executive Board has moved the 72nd Annual VAS Convention and General Membership Meeting to October 21-24.

If possible, we will host the same program and schedule. We are working with all of our speakers/instructors on the rescheduling.

If you have already registered for the convention but now know that you cannot attend during the rescheduled dates of October 21-24, please contact the VAS office to arrange a refund. Otherwise, please be patient as we work through the logistics of rescheduling, confirming speakers and instructors, and making other administrative arrangements. VAS will be in contact with you shortly with more details on the program as well as any adjustments to your registration.

Please do not take any action regarding your convention registration, exhibit booth, sponsorship, or other convention plans until after additional details are announced. Your convention registration will automatically be transferred to the rescheduled convention dates unless you contact us to request the cancellation of your registration.

We understand that the rescheduled date may present an inconvenience for some. Our priority has always been your health and safety. The rapidly changing circumstances of the Coronavirus pandemic has made the difficult decision to postpone the conference beyond the control of VAS. We appreciate your patience as we work through this unprecedented event. We hope to make the process of moving the convention to the new dates as seamless as possible for everyone involved.

VAS staff will continue to keep you updated about the VAS Convention and all VAS events. Thank you for your patience as we all navigate the Coronavirus situation.

Again, we regret any inconvenience and appreciate your patience and understanding in these unusual circumstances, and hope to make this transition as smooth as possible.

If you have any questions, please call the VAS office at 844-414-1466.

**Plat Competition Deadline Extended - Submit by September 1**

Since the VAS Convention has moved to October, the plat competition has been extended to September 1. The new dates of the convention are October 21 - 24, 2020. The categories are the same as the 2018 NSPS Map Plat Design Competition: Subdivision Plats, Topographical Maps, ALTA/NSPS Survey Maps, Miscellaneous Maps, Boundary/Cadastral Maps.
New this year:

You will need to complete a form for each plat you are submitting, along with uploading the plat. Entries will only be accepted electronically in **PDF format**. The entry fee of $40 (for one to six plats) and completed entry form(s) are due no later than September 1, 2020. You may mail the entry fee to Virginia Association of Surveyors, 10340 Democracy Lane, Suite 300, Fairfax, VA 22030 or to pay by credit card by [click here](#). Please make checks payable to Virginia Association of Surveyors and note in the memo section it is for the Plat Contest.

If you have any questions please contact Khea Adams ([Khea@vasurveyors.org](mailto:Khea@vasurveyors.org)) or Chris Jensen ([Chris.Jensen@fairfaxcounty.gov](mailto:Chris.Jensen@fairfaxcounty.gov)).

**Hotel Information**

If you had made a hotel reservation at the Wyndham for the April Convention it has been **canceled**. The Wyndham has asked that you re-book your hotel room. To re-book your room or to make a reservation call 1-800-365-3032. Be sure to mention the group code "Virginia Association of Surveyors" to receive the special convention rate of $124 per night. The cut-off to make your hotel reservation is September 21, 2020 (thirty days prior to arrival) to obtain this rate. If you wish to extend your stay at the Wyndham, the VAS rate will be honored two days pre and post VAS convention dates, subject to availability. The hotel has a 72-hour cancellation policy.

Please call the VAS office at 844-414-1466 if you have any difficulty making a hotel reservation.

**Become a Convention Sponsor Today**

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**Why Should I Sponsor?** Being a sponsor at the VAS convention not only demonstrates support for your state professional society, but it raises your firm’s profile in the market, enhances your firm’s reputation in the community to strengthen recruitment of new employees, builds your status as a valued partner and team member among other firms for prime and subcontractor relationships, and positions your firm as a valued entity for future growth through mergers and acquisitions. [Click here](#) to become a sponsor today.

**Safety Corner**
Mark Your Calendar: VAS Fall Seminar, Friday, September 18

The VAS Fall Seminar will be on Friday, September 18. The topic will be "Changing to the 2022 Datum: Implementation In Our Daily Practice". Instructors will be Scott Lokken (Mid-Atlantic Regional Geodetic Advisor, NOAA/NOS/National Geodetic Survey (NGS)), Dave Doyle (Base 9 Geodetic Consulting Services), and Vickie McEntire Anglin (Fairfax County Surveyor, APELSCIDLA Board Member, and VAS NSRS 2022 Committee Chair).

If the Governor's guidelines on the Coronavirus permit, the seminar will be presented at Hilton Garden Inn-Roanoke (South Peak), 4500 South Peak Blvd., Roanoke, VA 24018. If the program cannot be presented as an in-person seminar, it will be conducted by webinar. VAS will inform all members when a final decision on format is made and registration opens.

DPOR/APELSCIDLA License Renewal Extension

VAS has worked with the Virginia Department of Professional and Occupational Regulation (DPOR) and the Board for Architects, Professional Engineers, Land Surveyors, Certified InteriorDesigners, and Landscape Architects (APELSCIDLA) to provide a grace period for any professional whose license expires during the emergency declared by Governor Northam due to the Coronavirus pandemic. This extension is due to many state government employees working from home and unable to remotely
complete some processes, as well as the difficulty some practitioners may experience completing required continuing education, including the postponement of the VAS Convention from April to October.

License expirations in March, April, May, and June are extended until 30 days after the State of Emergency is lifted providing time to complete continuing education for renewal. For further information, click here.

**NGS Webinar, SPC, is Thursday July 9**

TNGS has an upcoming webinar on July, 9 from 2:00 to 3:00 pm EDT. Below is information about the webinar:

**The NGS Coordinate and Transformation Tool (NCAT)**
Krishna Tadepalli, Dr. Dru Smith

The NGS Coordinate Conversion and Transformation Tool (NCAT) allows easy conversion between coordinate systems and/or transformation among different reference frames/datums, in a single step. This webinar gives an overview of NCAT capabilities, with high-level information on the transformations “under the hood.”

To register for this webinar click here.

**In Memoriam**
Published by Javad GNSS Inc.

It is with heavy hearts that we share the news of the passing of our founder Javad Ashjae, a GPS/GNSS pioneer and visionary, on the morning of May 30, 2020, due to COVID-19 in Moscow, Russia.

Over the course of 37 years, Javad made an incredible and far-reaching impact in the GNSS community. He pioneered the world's most advanced GNSS technology through a multinational effort that combined GPS and GLONASS and established more than a quarter century of a partnership between Silicon Valley and Moscow. He was always proud of this "success story of corporation". Javad was a true industry disrupter long before the term and concept become popular. His whole way of doing business was challenging and disrupting to the status quo.

His hundreds of GNSS inventions and tens of thousands of products are in continuous use all over the globe, including above it. Often, his revolutionary innovations were imitated by his competitors. As Oscar Wilde wrote, "Imitation is the sincerest form of flattery that mediocrity can pay to greatness."

At the height of the Great Recession in 2009, Javad bucked the offshore outsourcing trend and chose instead to invest in U.S. manufacturing. He declared "SILICON VALLEY IS BACK TO BUILD" and founded JAVAD EMS, which is today the home of JAVAD GNSS and its many products which are deployed from the bottom of the ocean, to the International Space Station and beyond.

While advancing his technology and business efforts, Javad never lost his roots as a professor. He always aimed to educate and elevate everyone around him, even if it was an entire industry. His most profound skill was not in his technology: it was his ability to
bring people together rather than to draw lines between them. At the end of life what matters is not what we bought but what we built, not what we got but what we shared, not our competency but our character, and not our success but our significance.

On the day of his passing, Javad’s technology played a role in the first successful crewed space vehicle launch from U.S. soil since the final Space Shuttle launch nine years ago. Javad did not wait for all of us, he launched himself to the 'heavens' in his own special Javad way.

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**The Old Dominion Surveyor**

*The Old Dominion Surveyor* is the official publication of the Virginia Association of Surveyors. It is published monthly and sent to members. All material must be submitted by the deadline noted for each issue.

**Editor**

Chris Jensen

**Committee**

Khea Adams - Virginia Association of Surveyors

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