CAPPA
APPA Central Region
Since 1953

CAPPA Newsletter

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From the President

Markus Hogue
Senior GIS Analyst
Location Information Services
The University of Texas at Austin

> *"No person, department, or university is in this alone. We are higher education and should work together as a team."*
>
> *~Markus Hogue~*

Dear CAPPA Members and Business Partners,

This year is continuing to provide opportunities to improve and adapt to situations. CAPPA is currently planning our in-person conference October 10th – 12th in Tulsa, Oklahoma. This year's theme is "*Shared Resilience – Connect. Inspire. Unite*" in honor of the post-normal year of 2020-2021. In addition to the conference programming, CAPPA will be offering Academy on Campus and Supervisor's Toolkit, both in person and discounted for CAPPA membership. We will be monitoring CDC guidelines and local/state rules for any restrictions for the conference, and provide updates as we approach the conference date.

APPA COMMUNITY

https://www.appa.org/community-engagement/

CAPPA, this last quarter, provided two Supervisor Toolkits at no cost for the region and will use the remaining funds to offer the Supervisor's Toolkit as the annual conference at a discount. Training and collaborating with other universities during these times is vital to success. Why reinvent the wheel when we can learn from our peers? CAPPA/APPA provide different venues for these contacts to be created and I ask that when you attend a meeting, find a peer and share business cards. No person, department, or university is in this alone. We are higher education and should work together as a team. CAPPA/APPA has a listserv to ask questions, APPA has an app with forums where you can ask questions. Utilizes these when you come across a roadblock.

CAPPA has finished up a new feature which will be highlighted at the conference. Using Tableau software, this new CAPPA Business Partner Dataset website allows membership to easily search for CAPPA business partners by location in the U.S. and by type of work. Links will allow CAPPA members to see white papers and training videos provided by our business partners. CAPPA is a success due to its membership and business partners working together to move forward with operations and planning.

The CAPPA Board of Directors looks forward to seeing everyone at the 2021 CAPPA Annual Conference October 10-12 in Tulsa, OK. If you have any questions or concerns, please send me an email – markus.hogue@austin.utexas.edu

Markus Hogue
CAPPA President 2020-2021

REGISTER NOW! Visit the 2021 CAPPA Annual Conference website:

- **Discounts available until Friday, September 17**
- **Review list of educational sessions**

Countdown to Conference

It has been nearly two long years since CAPPA members had the opportunity to get together to share ideas, learn from Business Partners and each other, and be encouraged in all that we do in facilities management and higher education.

This year's **CAPPA Annual Conference** promises to be a real "shot in the arm" (pun intended) for those of us who have weathered the challenges of COVID-19 on our campuses. We need this time together to grow and be refreshed, especially as many of our challenges continue.

If you have not attended **Supervisor's Toolkit**, spaces are still available but going quickly. Don't miss this opportunity to enhance your skills as a current or future supervisor. Supervisor's Toolkit provides both personal and professional growth in its three days of training. This year's toolkit is being offered to CAPPA members who **register by Friday, September 17**, at the **reduced price** of $100, and for non-members at $425.

Also offered at this year's conference is **Academy on Campus, Level 1** at the **reduced price** of $495 for CAPPA members and price of $995 for non-members.

***TIP:** Become a CAPPA member and save money on continuing education!*

Discounts good through FRIDAY, SEPT. 17!!!

REGISTER NOW

For the complete agenda for **Sunday, October 10 through Tuesday, October 12**, visit the CAPPA Annual Conference website. You don't want to miss it!

And, just in case you are wondering about health and safety protocols, below is a letter from CAPPA President Markus Hogue:

*The **2021 CAPPA Conference will be a face-to-face experience**. The health and wellbeing of our conference attendees has always been a priority for CAPPA, now more than ever. **We recommend that all attendees, members, exhibitors, and guests adhere to CDC guidelines.** We urge everyone to take personal responsibility, as only through a collective, cooperative effort can we help protect our community. We continue to work closely with the Renaissance Hotel management to ensure that thorough health and safety protocols are observed throughout the event.*

*As protocols continue to evolve, **further guidance will be given in the "Know Before You Go…" email sent the week prior to the conference** and will include the Renaissance Hotel, City of Tulsa and Oklahoma State guidelines that we will be required to follow during our stay.*

SAVE THE DATE!

October 10-12, 2021

2021 CAPPA ANNUAL CONFERENCE
OCTOBER 10-12, 2021

SHARED RESILIENCE
CONECT. INSPIRE. UNITE.
ANNUAL CONFERENCE & EXHIBITIONS
Renaissance Tulsa Hotel & Convention Center
Tulsa, Oklahoma

YOU HAVE QUESTIONS, WE HAVE ANSWERS

Markus Hogue, 512.475.7750
markus.hogue@austin.utexas.edu

Angie Mitchell, 573.651.2657
amitchell@semo.edu

2021 CAPPA Conference
Shared Resilience
connect. inspire. unite.

Facilities Management uses campus as a hands-on lab for students—and wins honors for it

Students in Leslie Stockel's class assess the OSU Facilities Maintenance furniture shop to identify fire, safety and environmental risks.

From landscaping to behind-the-scenes tours of new facilities, programs open students' eyes

Oklahoma State University has long been lauded for the beauty and quality of its campus grounds and buildings. These days, Facilities Management has added another dimension to its care and upkeep of campus — an educational one. Facilities Management is offering the campus as a cost-effective learning lab, turning the buildings, infrastructure and grounds into hands-on classrooms.

That commitment helped the department bring home the 2020 Effective and Innovative Practices Award from the APPA (formerly the Association of Physical Plant Administrators) last fall for supporting student education.

"We help students succeed by providing practical applications that add to the standard classroom lecture to enrich the learning process," said Ron Tarbutton, chief facilities officer for OSU. "When we are helping students and professors, we are adding enrichment to their course study that's tangible. You can touch it and feel it, and then you can better relate to it."

The new OSU Central Plant opened in 2018, complete with a 60-person classroom in the basement. Just inside the main doors on the first floor, the observation room with its floor-to-ceiling windows lets guests watch the industrial chillers and boilers in operation.

"So often students only see lines and numbers on paper," said Craig Spencer, director of energy services and assistant chief facilities officer. "Tours of the central plant give them the opportunity to see in real life what their books and professors teach them in the classroom. As much as the tours give students a tangible example of coursework, they do the same for the employees, giving them a greater connection to the university and a reminder of its daily mission." *(continued on page 4)*

A partnership with the Ferguson College of Agriculture has led to incorporating student landscape design elements into university building projects. Another example: Students in architecture get behind-the-scenes tours of chillers, generators and air-handling units.

"Tours of the central plant give them the opportunity to see in real life what their books and professors teach them in the classroom."

- Craig Spencer, director of energy services and assistant chief facilities officer

Zone manager Steve Ledbetter appreciates the opportunity to speak to students and share his experiences.

"It was rewarding and made me feel valuable as a facility staff member, knowing students would want to see and know more about how HVAC units work, what equipment is needed for operations and how the design choices they could make in the future would affect the people who do the maintenance and upkeep on the building," he said.

The concept is mutually beneficial. The School of Mechanical and Aerospace Engineering has partnered with Facilities Management for aerial inspections of the Lake Carl Blackwell dam, thermal imaging of buildings to detect areas of heat loss and aerial nighttime lighting surveys. Fire Protection and Safety Engineering Technology developed a semester-long project with students serving as loss prevention consultants.

Steve Ledbetter, left, gives a behind-the-scenes tour of a mechanical room in Human Sciences, Facilities Management Zone 2.

Leslie Stockel, a clinical assistant professor in the fire protection and safety program, works with Facilities Management and OSU's Department of Environmental Health and Safety, bringing her classes to areas of basic industrial infrastructure like steam generators and building ventilation systems as well as to specialty areas such as the grain elevator and furniture repair shop. The collaboration gives students a real-world application of theories they learn in class, like the hierarchy of hazard controls.

"There are many ways to control that risk. The whole risk management process is about identifying a hazard, evaluating that hazard and then engineering protective and workable solutions to mitigate the risk," she said. "A fire protection and safety professional has to be able to develop a solution that will protect the people and the property, but not break the bank." *(continued on page 5)*

Larry Secrest, Facilities Management safety coordinator, said the fresh sets of eyes looking at the work spaces has been invaluable.

"If you see something every day, there comes a point when it no longer registers," he said. "The students assess the environment for fire, chemical and safety issues. Besides identifying the risks, they put together a risk reduction plan and help us identify what correcting the issue will cost, and they provide alternative solutions."

Seth Durham, a biosystems engineering undergraduate, said working with Facilities Management "has been nothing short of a blessing."

"I have been able to develop and practice both my technical and communication skills in a diverse number of environments," he said. "Working alongside professional engineers as well as surveyors, project managers and maintenance workers has been an essential supplement to my education. I have no doubt that my experience with Facilities Management has made me a better student and prepared me for a career in practical engineering."

Tarbutton said the possibilities are endless.*

"There is no limit to the partnership opportunities between FM and academics," Tarbutton said. "The entire campus, facilities and grounds can be a cost effective learning lab. Our core mission is educating students. This lets us directly be a part of that mission."

Reprinted from STATE magazine of OSU. Photos by Gary Lawson and Phil Shockley. Story by Shannon Rigsby. Originally a journalist, Rigsby has served as the Public Information Officer (PIO) for Oklahoma State University for two years. shannon.rigsby@okstate.edu

***Don't miss the opportunity to hear OSU's Chief Facilities Officer Ron Tarbutton present more on this topic Monday, October 11 from 8:30 am—9:25 am, at the 2021 CAPPA Annual Conference in Tulsa, OK. Be sure to register for the session titled "Culture of Collaboration for Students Success."**

Facility management: a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, places, process and technology.

In simple terms...

Owning and managing high end assets

FROM THE EDITOR:

Thank you to those who submitted articles, photographs and information to be included in the CAPPA Newsletter!

Please write and submit articles for the CAPPA Newsletter at any time for consideration. Preferred articles will be BETWEEN 500 words (ex: 1/2 page w/graphic or photo) and 1,000 words (ex: full page with small graphic or photo). Please include names and descriptions with photos. Graphics and charts are always welcome to help tell your story.

If available, please provide a link to full articles. Email articles and photos to Newsletter Editor: jenny.cundiff@okstate.edu

APPA 365

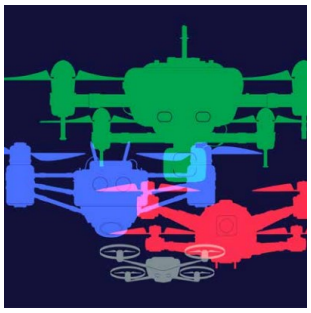
Have you heard about the new app available for iPhone and Android?

This **ad-free app** allows **quick access** to the information on **APPA's website** that APPA/CAPPA members visit most often.

A **new feature** of the app is **APPAexch**, which offers a searchable compendium of **peer-to-peer sharing of expertise** in a discussion list format.

APPA365 is available for download through the **Apple app store** and the **Google Play store**.

The Buzz About Drones



Universities across the APPA regions have started to implement unmanned aerial vehicles (UAVs), also known as drones, to inspect facilities infrastructure. No more than five years ago, universities were paying for helicopters to capture images of their campus. Today, some universities have their own fleet of drones to oversee their facilities. The cost of equipment has dramatically lowered due to an influx of commercial drone manufacturers, which allows them to be considered for purchase.

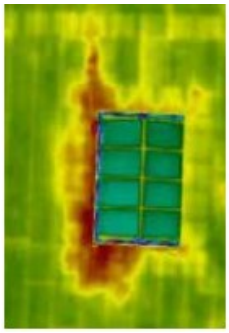
Along with the cost reduction, the Federal Aviation Administration (FAA) has provided clear guidance for flight operations and has put in place license requirements and rules of operation. This opens the door for inspections by air, without the need of a helicopter.

IN-HOUSE VS. OUTSOURCING

When considering the use of drones at your institution, the first question to ask is whether the university purchases the drones and completes the flights, or if it is better to outsource these activities. Purchasing equipment and obtaining the certifications require an initial investment. This cost is determined on the goals for the drone program. The price of a drone is between $1,500 and $40,000, but the payload (camera) can range from $1,200 to $250,000, with Lidar (light detection and ranging) cameras being the most expensive option and thermal cameras ranging between $5,000 and $18,000. Specialty cameras (natural gas detection, normalized difference vegetation index [NDVI]) have a wide range in price. In addition to drone/camera cost, the insurance, software, and drone pilot add to the overall expense. Outsourcing cost is based on hourly rate or the overall project. The hourly rates can range from $175 to $500 per hour depending on mission and type of drone/camera being used on the project. Lidar costs are usually calculated by project and not hourly rates, due to the price of equipment.

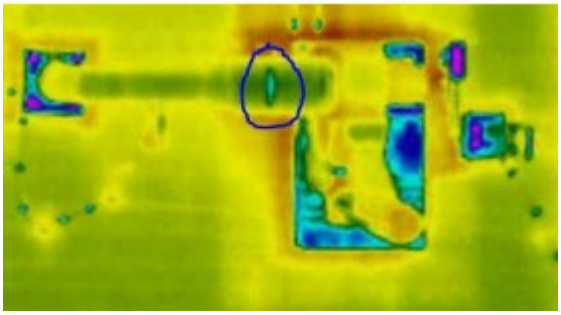
One consideration is to partner with academic groups that are utilizing drones; this allows them to collect facilities data for the classroom as well as provide the university with useful and needed data. This collaboration could be a win-win for both groups.

PRODUCTIVE AND BENEFICIAL USE OF DRONES ON CAMPUS



Case 1: Thermal Roof Inspection Drones allow for quick identification of anomalies on a roof, especially the water intrusion of a roof membrane. Wet subsurface material will retain heat after the sun has set, enabling a thermal camera to detect potential areas for further inspection. Image capture during the night is needed for accurate analysis. Night flights do require anti-collision lights, which can be seen for up to 3 miles, and new FAA regulations provide increased flexibility to conduct certain small drone operations without obtaining a waiver.

Case 2: Inspection of Equipment Areas of equipment that are hard to access due to location are now easily accessible with a drone. These issues could go unnoticed for years but are quickly detected with a drone. Finding areas where a university is losing cold/hot air is vital for energy savings and sustainability. Consider the amount of energy loss from leaking window seals, which could be identified and fixed due to drone images.



Case 3: Inspection of Tree Canopy on Campus Drones allows you to locate tree damage from storms and animals at a safe height, access the overall health of trees on campus, and provide images of the tree canopy to use for future building expansion, which could impact the trees around the project. *(continued on page 7)*

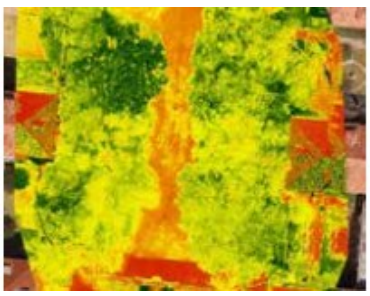


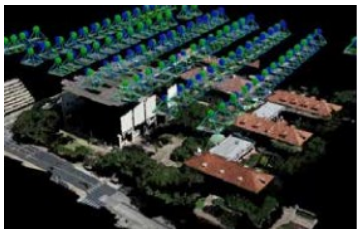
Figure 1: RISKS POSED BY USE OF DRONES ON CAMPUS

Problem	Risk	Solution
Birds	Attacking or colliding with the drone	Locate any bird-of-prey nest on campus and monitor the area for activity.
People walking under the drone	Drone falling from the air	Use staff to clear the area before and during flights.
Operation by dormitories	Claims of invasion of privacy	Announce planned flights to the students in the dormitories before the mission or wait until the off-season to operate around them.
RTH (return to home) set to low	Collision with tall buildings, wires, antennas	Ensure the RTH feature is set high enough to go over any obstacle in the flight path, or do not fly past any tall structure from liftoff location.
Multiple drones in the same area	Drones colliding in the air	Communicate and coordinate with all other known entities operating drones on campus.
Equipment failure	Drone falling from the air	Operate a new drone for a minimum of 10 hours and use all batteries before flights on campus.
Public perception	Invasion of privacy	Communicate through social media on flights and partner with academia. Consider adding a colored strobe to denote drone as a university drone (example: orange for The University of Texas at Austin)

Adding in NDVI allows for more detailed analysis of trees and plants on campus, which means being able to see issues before they become visible to the human eye.

Case 4: Project Updates

Drones enable photographing project construction from different viewpoints around the site, as well as the ability to create a 360-degree image above a site for quick reference during project meetings, and a point cloud of the site to use in construction documentation.



Case 5: Confined Space Inspection

Using drones, areas that require specific safety equipment for employee access can be inspected without needing to put anyone in an unsafe environment. Water storage tanks, manholes, large-size pipes, power plants, etc., are all potential areas where this type of drone can be used.

RISKS POSED BY USE OF DRONES ON CAMPUS

Understanding the potential risks is vital before deciding to use drones on campus. A drone falling out of the air and injuring a student, faculty member, or individual on campus is not acceptable. Proper planning and training will lower the chances of this happening, but nothing is guaranteed. (*See Figure 1.*)

FAA REGULATIONS

The FAA has recently updated the regulations on drones (*https://www.faa.gov/uas/commercial_operators/*) and still mandates that a drone pilot is required to have their 107 certificate from the FAA (unless the drone is used for research (*https://www.faa.gov/uas/educational_users/*). New rules allow for flights over people, operation at night without needing a waiver (unless in specific airspaces), and flights from a moving vehicle. There are several online classes that will prepare employees for the 107 test, which is simple if you have any knowledge of flying. Failure to comply with FAA regulations can result in fines; for example, operation without a license is $10,000 per occurrence. In addition to FAA regulations, universities have created drone policies that could impact your ability to operate. A sample drone policy can be found at *https://policies.utexas.edu/policies/ unmanned-aerial-vehicles*.

The FAA updates policies to match the operations of drones in the United States. It is recommended that universities continuously check for new policies.

CONCLUSION

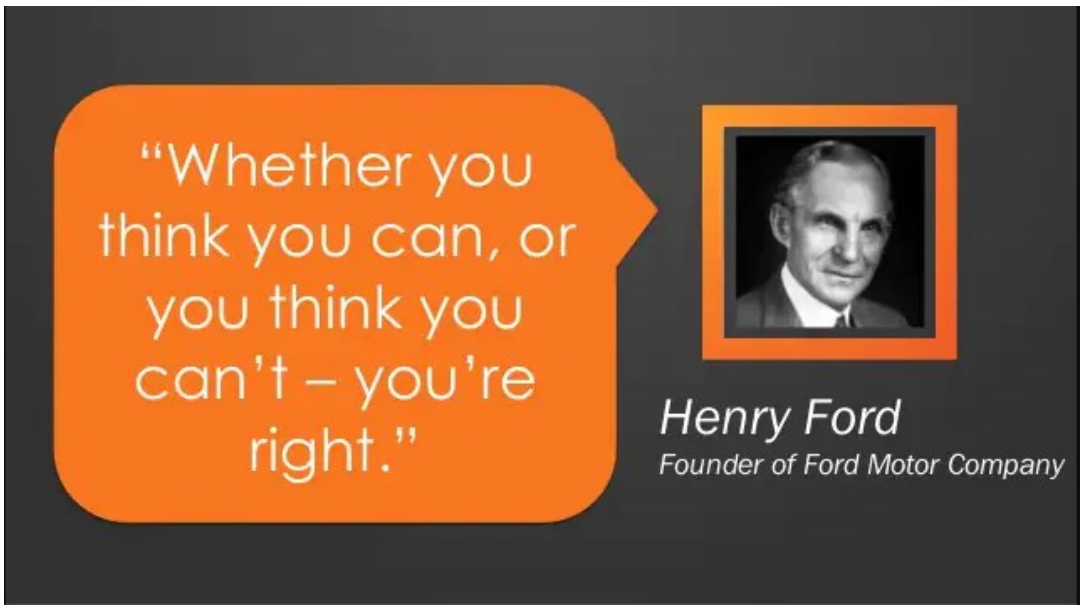
Drones are a new tool that can be utilized for process improvements on campus. As with any new tool, training and practice is vital. Discussions will be needed with different groups on campus before deciding on a direction, especially with the risk management department. Aspects to keep in mind are air space over the university, funding, weather, and whether it would be a lower cost to outsource. The process can be daunting, but there are groups that can assist you, along with guidance from the FAA. APPA is about collaboration, so if your university decides to go in this direction, feel free to reach out to me and others that have gone through the process.

Reprinted with permission from APPA's July/August 2021 Facilities Manager *magazine. Markus Hogue is senior GIS analyst at The University of Texas at Austin and current CAPPA President. markus.hogue@austin.utexas.edu*

COVID-19 Resources & Guidelines

Don't miss APPA's COVID-19 Resources and Guidelines, which include:

- Registration for future **APPA Town Hall Meetings** and **earn CEUs/certificates** for attendance
- APPA Town Hall Archives (**GREAT INFO!**)
- COVID-19 General Information
- Campus Emerging Practices (**CHECK THIS OUT!**)
- Federal/State/Regulatory Guide
- Business Partner Resources
- And MORE!!!



We look forward to seeing you at the 2021 CAPPA Annual Conference!