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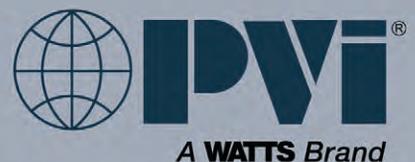
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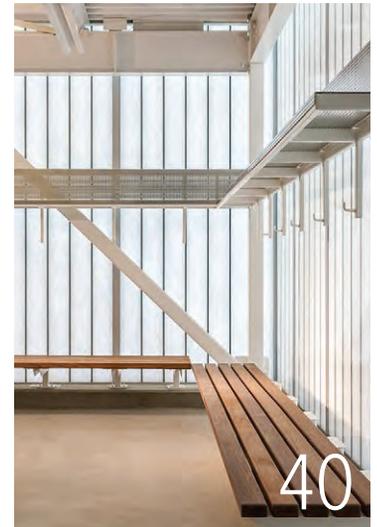
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Flexible Faculty Development at Furman University

Benjamin Haywood, Associate Director of Furman University's Faculty Development Center, demonstrates the key role that personnel in these campus centers can play. His values of mentorship, flexibility, and collaboration inform all of his work. As the pandemic eases, Haywood supports Furman's faculty as they emerge to an "innovative fusion place" which blends the best of both worlds—the "very in person, very high touch" aspects typical of small, private, liberal arts colleges, merged with brand new modes, methods, and orientations of teaching.



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Happy Thanksgiving!

During this time, many of us look back, reflect, and take time to appreciate the blessings that we have received. Many of us will be with family—ones we were given and ones we have chosen. I have been blessed on both ends of that spectrum, and I hope that you all have been as well.

This is also the time of year when many of you are looking at making plans for the coming year for your campuses: renovations, additions, and updates. All of this planning focuses on making your campuses more inviting and functional, while meeting the needs of your students, faculty, and staff. We look forward to sharing with you examples of how other campuses have addressed these challenges, giving you ideas to implement on your campuses.

As you look toward semester break and your future plans, we look forward to helping you as a resource of ideas and products for your campuses. We cover case studies and practical applications to give you an insider view on how other campuses handle projects to answer the needs of their campuses. As we have done during the last decade, we look forward to featuring your projects and the beautiful results that you accomplish every year.

Your campuses are constantly evolving, and you always continue to improve the form and function of your facilities. It is amazing to see the improvements you make on apparent perfection. We look forward to hearing from you about these projects and helping you share your accomplishments and inspiration.

As we all sit around our tables this Thanksgiving, we can focus on the love we have in our lives and take time to be grateful for the blessings we have received this past year. I for one will be very blessed to have my family and loved ones around me; that is the biggest gift of all.

Thank you again for your time and looking forward to talking with you next month—

Ed Bauer

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Work Intelligently



Flexible Faculty Development at Furman University

by Cynthia Mwenja, PhD

Benjamin Haywood, Associate Director of Furman University's Faculty Development Center, demonstrates the key role that personnel in these campus centers can play. His values of mentorship, flexibility, and collaboration inform all of his work. As the pandemic eases, Haywood supports Furman's faculty as they emerge to an "innovative fusion place" which blends the best of both worlds—the "very in person, very high touch" aspects typical of small, private, liberal arts colleges, merged with brand new modes, methods, and orientations of teaching.

Faculty Development Center

In the Faculty Development Center (FDC), Haywood says, in addition to career and professional development, they focus primarily on cultivating evidence-based pedagogy—how students learn best—"pushing the edge of new ways of thinking about teaching." While many faculty members would rather forget the pandemic years, Haywood points out that "it wasn't all bad"; he notes that we learned many new student-centered teaching strategies during the pandemic that we can continue to implement, and he continues to promote that "flexibility, that openness to change."

One example of a pandemic innovation to enhance course design is the creation of "learning by design" videos that the FDC and partners have created. These brief videos are constructed to convey the same types of information that might have previously been presented in a workshop setting, but in a condensed format so that faculty members can view them whenever and wherever they like. Even now that pandemic restrictions have eased, Furman still has just as many faculty members watching these videos as those coming to in-person workshops.

Another pandemic innovation that will stick around is the transformation of the annual faculty learning exchange—a celebration of teaching and learning practices. During the pandemic, participating faculty members developed posters or videos to present their research or teaching practice and the FDC staff turned their work into a virtual escape room with a *Back to the Future* theme. Haywood reports that, even though the exchange is now back in person, the escape room has remained "evergreen." For example, they shared the link with new faculty members during orientation this year so that they could get to know their peers' work.

First-Year Faculty

Judith Williams, Assistant Professor in Furman's Department of Anthropology, says that, under Haywood's auspices, the FDC offers an intense and supportive program for first-year faculty called First Year at Furman (FY@F). Williams, now entering her second year, appreciates that the yearlong program offered a range of helpful information for new faculty members. Participants were offered

teaching tips, including how to be more effective teachers who are more inclusive of students, regardless of race, ability, or socio-economic status. They also learned how to make their courses more accessible, how to manage their time, and even how to say "no" when needed.

In addition to the "informative, helpful, and inclusive" information that new faculty members received in the program, they were also able to connect with faculty members across campus. Because of these connections, Williams says, she and a handful of other faculty members had the opportunity to talk about ideas for campus-wide programs. The group wanted to have an event focusing on the Holocaust that would interest students. As they talked, the group hit on the idea of bringing Black, Jewish rapper Nissim Black to both stimulate a dialogue and showcase diversity.

Selena Dickey, Assistant Professor of Communication Studies at Furman, agrees that the FY@F program is a "helpful way for the cohort to learn the ropes and create social bonds." She says that their regular lunch gatherings were simultaneously "casual,



informative, and social.” Mac Gilliland, Assistant Professor of Chemistry at Furman, adds that the array of guest speakers covered a range of topics, including faculty health insurance, tenure and promotion guidelines, student evaluations, and grant applications.

Williams is glad to have picked up some ideas from Haywood during the FY@F program that she continues to use in her classes. One of these ideas is that “draft thinking is ok”—people don’t have to have fully-formed ideas before they start thinking their way through them. Another idea she got from Haywood is that “It’s ok to pass”—if you’re called on, you are not obligated to speak. Lastly, Williams says, she learned from Haywood to “trust that everyone’s intent is good” even if the impact of their words or behavior needs to be addressed.

Mentoring

Haywood says that he has gone through a life-coach certification process that he hopes will be valuable in his advising role. Through this experience, he has clarified for himself the differences between consultation and coaching. In consultation, such as has been traditionally done with FDCs, the focus is on content, providing resources to the person seeking guidance. By contrast, the coaching model is more focused on the process, and it assumes that the person seeking guidance has answers. Through these realizations, Haywood has become interested in using a coaching approach to FDC consultations. Instead of seeing colleagues coming for answers, he now sees them as people who have answers but just need clarity—moving from a framework of “empty vessels to fill” to one of “rich assets to cultivate.”

The yearlong program offered a range of helpful information for new faculty members. Participants were offered teaching tips, including how to be more effective teachers who are more inclusive of students, regardless of race, ability, or socio-economic status. They also learned how to make their courses more accessible, how to manage their time, and even how to say “no” when needed.

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PHOTO COURTESY FURMAN COLLEGE

He also aims to pilot a coaching program this spring for third-year faculty as they approach their third-year review. These faculty members will “drill down on their values and pedagogical approach, reflecting on what their first three years at Furman has taught them about themselves, their research, and their teaching,” Haywood says.

Addison Smith, Student Organizations Coordinator in Furman’s Office of Student Involvement and Engagement—and recent Furman graduate—has benefitted from Haywood’s coaching approach. Smith says that a big part of his job is mentoring and training student organization advisors. As a recent grad—and a former student of some of the faculty members he was working with—he was a bit daunted, particularly since formal training of these advisors had not previously existed. Having heard about the FDC, Smith reached out to Haywood. Once the two had chatted about Smith’s ideas and expectation—and Haywood had offered his

perspectives—Smith felt confident in developing a training outline plan, especially after Haywood unexpectedly did further research and sent additional resources for Smith to use. Now the two are considering plans for a lunch and learn series, with potential topics ranging from navigating crises to making DEI concerns integral parts of every student organization. Through their work together, Smith says, Haywood has helped him to “think much more broadly about mentoring.”

This year, Dickey says, she and Haywood have been working one-on-one to focus on new course development. Haywood is showing her “better ways of thinking about learning outcomes,” to drive the process. While she had been exposed to pedagogical strategies and assessment in some of her prior roles, Dickey says that it is incredibly helpful to bounce ideas off someone with the depth of resources Haywood can provide. Like many people, Dickey “finds her best ideas through discourse,” and she likens her work

with Haywood to the writing center sessions she has led. In fact, the two are talking about how to do more of this work with other faculty members, offering collaborative, group sessions to workshop ideas for both teaching and research. In this vein, the FDC has partnered with the Furman Humanities Center this year to launch a writing accountability program called Write Now!

Gilliland says that he and Haywood have recently been working together on curriculum revision within the chemistry department. Haywood has helped Gilliland understand how to better structure course designs to be more inclusive and equitable. While the department as a whole was already deeply engaged with DEI concerns, Gilliland says that the backwards course design strategies that Haywood has shown him have worked so that the new course better fulfill these goals. Gilliland points out the importance of Haywood’s expertise: “I do my best to keep up with the teaching literature, but I have to keep up with chemistry, too!”

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Rubik's Cube Learning Challenge

In a recent initiative which showcases the array of Haywood's strengths, he worked

with Lew Ludwig, Director of the Center for Learning and Teaching and Professor in the Department of Mathematics and Computer Science at Denison University to create a faculty learning challenge. Ludwig reports that he had a "harebrained idea" that, during the break between the Fall '20 and

Spring '21 terms, faculty members should have a way to be engaged with teaching and learning by becoming novice learners again in some way. "Luckily," Ludwig says, Haywood signed on, turning the "harebrained idea" into a six-week program with a plan and online written materials. The challenge—which Haywood calls an "expert blind spot learning adventure"—was for participants to learn to solve a Rubik's cube in five minutes by the end of the six weeks. Haywood set up guidelines through the learning management system, including weekly discussion chats, tutorials, and opportunities for reflection. In completing these reflections, faculty members thought about their experiences as novice learners and the relationship of these experiences to their pedagogical approaches.

Haywood and Ludwig set up the experience as a friendly competition between the two schools. If the Denison contingent lost, they agreed to send buckeye candy to their Furman competitors, since they are located in Ohio, the Buckeye State. If the Furman group lost, they agreed to send peanut brittle, a treat beloved in South Carolina. Ludwig reports that Denison's faculty members won the challenge, but sweat treats were sent both ways.

Ludwig says that the Rubik's cube challenge helped faculty members to remember what it is like to learn new ideas and skills from scratch. As they participated in the program, the faculty members also received resources to help them move through the learning process—resources that they can now use to support their students. To ensure better transfer of these ideas, the participants met at the end of the six weeks to ground their experiences in research, pedagogy, and practice.; they really thought through, Haywood says, what the experience meant for their own teaching. The challenge provided an important reminder for faculty members that they "can't make assumptions about what students know," Haywood says.

Additionally, participants realized that they got to the goal in different ways—some wanted visuals; some, step-by-step instructions; some, an overview of the entire process. Faculty members recognized that they had assumed that everyone learned the way they did, and the challenge showed them that providing many paths for students can lay better groundwork for success. Faculty

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members learned, Haywood says, that they often don't provide enough time for students to "sit with the struggle." Many participants also learned the value of learning from and with peers—"not a workshop, not a lecture"—by getting on Zoom to watch and practice together. Haywood says that the experience reminded participants "what it was like not to know foundational information and ideas." These foundational ideas and assumptions about learning differ from discipline to discipline. In one particularly fascinating discussion, Haywood notes, the participants considered the question of whether memorization is a valuable learning tool. This challenge was particularly effective, Ludwig says, because it was low cost and, unlike a book group, people "got frustrated, emotionally attached—they could really identify with the students."

Haywood and Ludwig had connected online during the height of the pandemic through the POD Network, a professional organization for people engaged in faculty development work. The Rubik's cube challenge won the POD Network's 2021 Innovation Award, and it was profiled in a Wall Street Journal article. Ludwig says that he and Haywood make a good team, with Haywood's attention to detail providing structure around Ludwig's original idea. Ludwig has presented their work at two conferences, and the two will finally meet in person at another conference this month.

Takeaways

Faculty development work can often go unrecognized, even though its effects permeate campuses. As a student, Smith says, he "had no clue" that FDC even existed, but he reflects, "I had phenomenal professors, though, so the Faculty Development Center must have been doing something right!" Haywood's approach to faculty development—his flexibility in meeting faculty needs, his collaborative spirit, and his ability to "ask good questions," as Gilliland says, all work together to underpin Furman's faculty and, ultimately, its mission.

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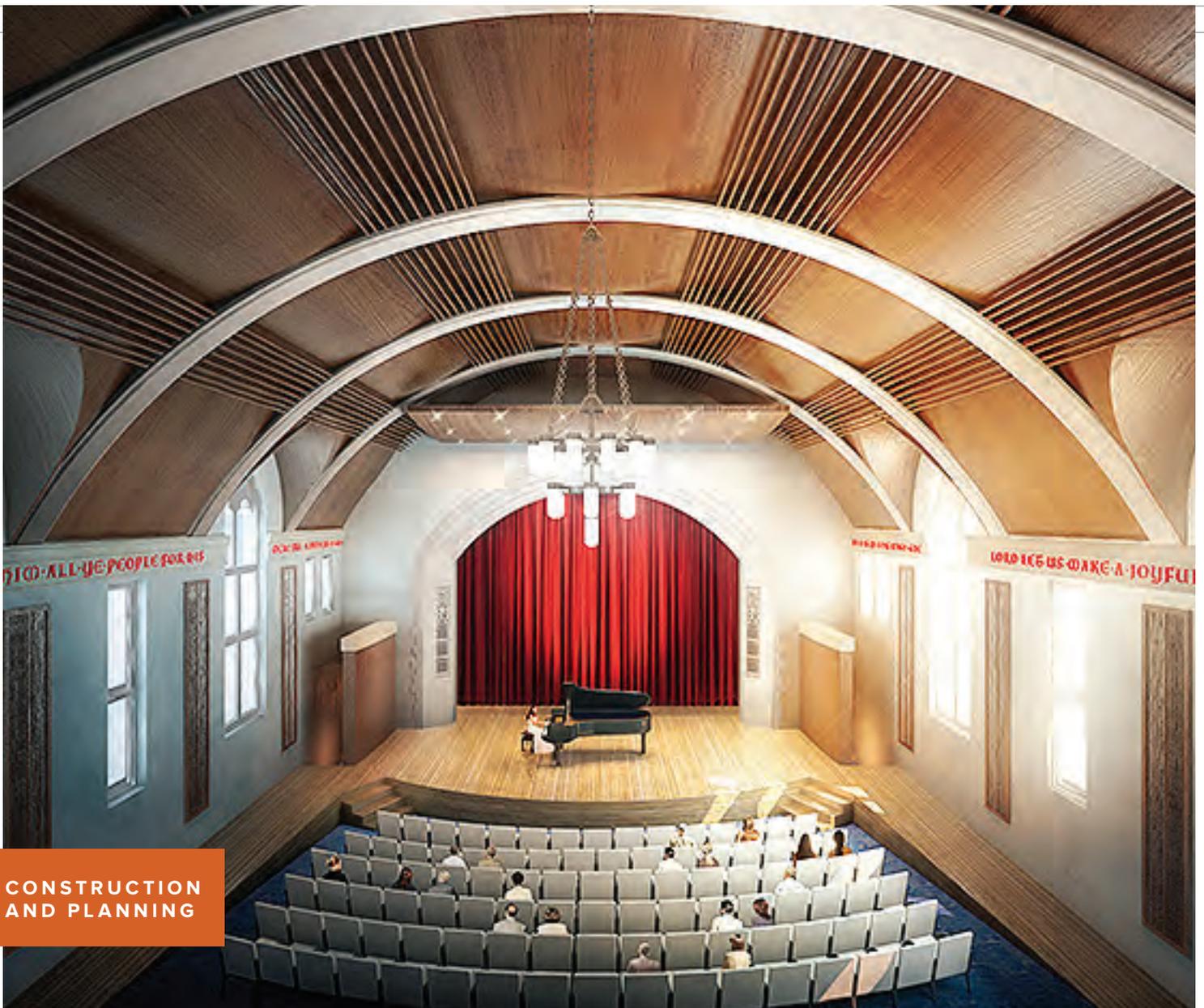
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CONSTRUCTION
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Renewing an Icon: Berry College's Ford Auditorium

BY RICK WOODALL

Berry College is renowned for the beauty of its expansive Northwest Georgia campus—at 27,000 acres the world's largest—but one spot holds particular allure for students and alumni with a love of music: Ford Auditorium.

A Centerpiece of Music Education

For more than ninety years, this beautiful English Gothic structure—distinguished by its exterior stonework, soaring spire, and clock tower, as well as the Bible verses and woodcarvings that adorn its interior—has been the centerpiece of music education and performance on the Berry campus. In 2019, the facility was transformed into a first-class

recital hall combining modern acoustics with restored historic touches that will continue to awe and inspire, just as they have since the earliest days of the school. “Our students deserve a venue that inspires their instrumental and vocal performances and enriches the experience for the listening audience,” says Berry President Steve Briggs. “This renovation achieves that goal while renewing

and celebrating the features that make this such a memorable and venerable place.”

All of this attention would be music to the ears of the man responsible for first breathing life into the Ford Buildings in the 1920s—Henry Ford himself. Ford and his wife, Clara, were among the many noted philanthropists of their day who were captivated by Martha Berry's vision of combining intellectual and practical skills to powerful effect in the lives of her students by offering a distinctive “head, heart, and hands” education that molded graduates known for their work ethic, integrity, resourcefulness, and willingness to serve.



Champions of the School

The Fords became early champions of the school, and nearly a century later, the Ford Buildings are both a testament to their generosity and Berry's most recognizable landmark, recently earning placement on *USA Today's* list of America's "Fifty-one most amazing college and university buildings."

"When I came here in 1956, I was really taken aback at this gorgeous place," recalls Ross Magoulas, a former faculty member and honorary alumnus who returns to Berry regularly to direct the school's alumni choir. "I couldn't imagine that I was going to be working here and living here. It's just fantastic, all these beautiful buildings."

The Science of Acoustics

While its beauty continues to inspire, advances in the science of acoustics exposed challenges presented by the facility's highly arched ceiling and open structure. This architecture diminished the aural experience for all and—in some cases—forced vocalists, instrumentalists, and small ensembles to seek out other venues on campus. In addition,

the previous stage was too small for large instrumental ensembles, further limiting programming potential.

Recognizing these issues, college officials reached out to Kirkegaard Associates of Chicago, one of the nation's foremost acoustics consulting firms, to develop a plan for renewal. Highlights of this work included installation of an all-wood ceiling, wood-carved acoustical paneling, adjustable acoustical banners, and sound reflectors; a 1,086 square-foot accessible stage with curved front; a new arched seating configuration with room for three hundred and sixty-six; a redesigned balcony with improved sightlines; and many other enhancements, including updates to adjacent music department spaces.

A ceremonial "swinging of the sledgehammer" signified that the curtain was rising on the \$6.3 million project, funded with gifts from more than 400 alumni and friends. These donors, Briggs notes, "banded together, each playing a part like the members of an orchestra, to accomplish something beautiful that transcends their separate contributions."

Gifts that Honor Student Expression

Fittingly, some of the most significant gifts honored alums whose lives found expression through their experiences as students in Ford Auditorium and the surrounding Ford Buildings. Those women will now be forever associated with the project through the naming of the Betty Anne Rouse Bell Recital Hall, the Margaret Weaver Faison Entrance Hall and the Ouida Word Dickey Living Room (located in the Berry Alumni Center, which is also housed in the Ford Complex).

Also notable is the M. Bobbie Bailey Performance Stage, named in memory of a generous Berry friend and longtime champion of the arts whose sister, Audrey Morgan, spearheaded earlier efforts to revive Berry's dramatic arts facilities. When completed in 2017, the building was christened Sisters Theatre in recognition of the bonds of love and family the two women shared.

"Great spaces inspire great performances," says Dr. Adam Hayes, chair of Berry's fine arts program and a talented trumpeter in his own right. "And that's our goal with this renovation." Music making has long thrived

“Great spaces inspire great performances,” says Dr. Adam Hayes, chair of Berry’s fine arts program and a talented trumpeter in his own right. “And that’s our goal with this renovation.” Music making has long thrived on the Berry campus.

on the Berry campus. The college’s music program engages as many as two hundred students annually—more than 10% of the undergraduate population—in its seventeen performance ensembles. Many others attend the more than fifty concerts and recitals held each year on the Ford stage.

Balancing Sounds and Maintaining Timing

The facility also provides rehearsal and performance space for the Georgia Governor’s Honors Program—a summer residential experience for more than six hundred of the state’s brightest and most artistically talented high school juniors and seniors—and supports public music education by hosting other statewide events.

Now that work has been completed, performers who grace the Ford stage can hear themselves and each other more clearly, enabling them to balance sounds, maintain timing, and work as a cohesive

whole to deliver higher-quality performances. Just as importantly, the facility is now able to better enhance the cultural life of the campus and surrounding communities by providing an improved audience experience and allowing for a wider range of guest artists.

Leif Atchley, a 2019 Berry graduate, is excited to see his alma mater make such a lasting investment in its students and the arts. “I think this is a really powerful statement” he says, “that Berry believes in the power of music to change the lives of the students who come here.”



ABOUT THE AUTHOR: Rick Woodall is director of philanthropic communications at Berry College, his professional home since 2004. He also serves as editor of Berry magazine. The 1993 Berry graduate and former sportswriter has worked in the field of higher education communications since 2001.

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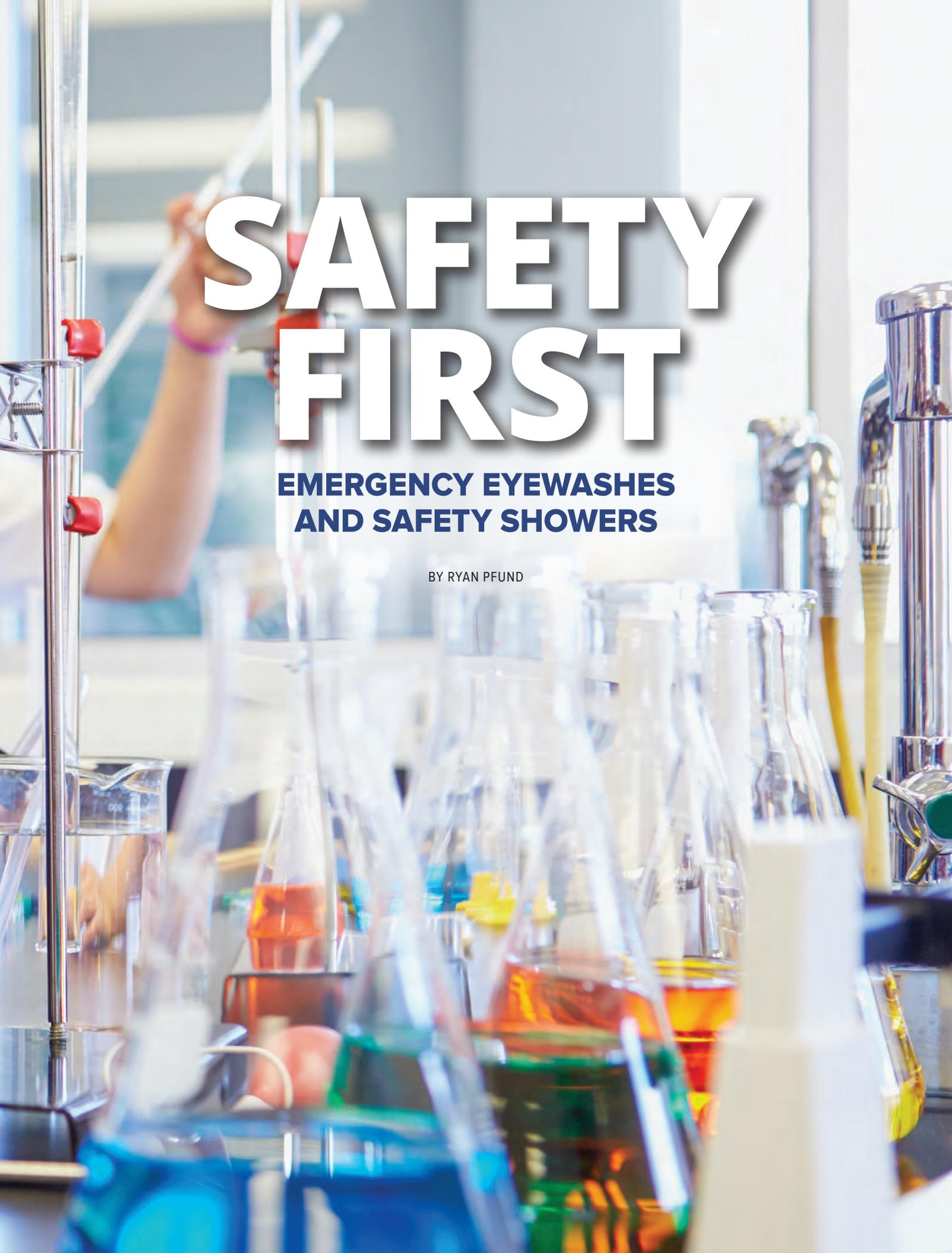
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SAFETY FIRST

EMERGENCY EYEWASHES AND SAFETY SHOWERS

BY RYAN PFUND



Colleges and universities are responsible for providing reliable health and safety protocols for students and staff. University administrators must ensure that properly plumbed emergency eyewash and safety shower equipment is part of the safety plan for campus facilities that deal with chemicals and other hazardous materials.

Plumbed emergency shower equipment is essential in all types of commercial settings that involve any types of chemical, flammable, or particulate hazards. In universities, some of these environments can include:

- Chemistry classrooms/labs
- Chemical and custodial storage areas
- Buildings and grounds chemical storage areas
- Swimming pool chlorine storage areas
- Industrial arts
- Art rooms/darkrooms

- Print shops
- Health centers
- Boiler rooms
- Kitchens

Unfortunately, some older schools still lack drench showers and eyewashes in many of these critical areas; these campuses may also have equipment that is outdated, obsolete, or fails to meet the current American National Standards Institute (ANSI) Standard. Further, few schools follow ANSI/ISEA standards for correct placement and regular testing of emergency equipment to make sure it is in proper working order.

If chemical spills or toxic fumes occur, students and employees in the area could be at risk for serious chemical burns, eye injuries or blindness, and respiratory irritation; the cause could be something as simple as cleaning staff combining bleach and ammonia—thereby releasing highly irritating fumes—or students inadvertently mixing or heating

volatile chemicals incorrectly. These types of incidents dramatically illustrate why facilities with potential hazards must provide the right emergency equipment to protect against serious injuries from chemical exposure. Plumbed drench showers and eyewash stations are usually the best solutions in these areas; when there is no access to plumbing, non-plumbed options are also available.

Hazards and Emergency Shower/Eyewash Options

To begin the selection process of emergency shower and eyewash equipment, administrators should start by identifying potential hazards on campus. Safety data sheets for hazardous substances should be carefully reviewed to ensure the proper protection and safety plans are in place for each area. Equipment should be selected based on the type and level of potential exposure to people, as well as in consideration of how many individuals could be affected. For example:

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- Provide a large distribution pattern of water—minimum three gallons per minute—to effectively rinse the entire face

Drench showers

- Used when larger areas of the body are at risk
- Flush a larger portion of the body but are not appropriate for the eyes. A combination eyewash and drench shower may be used to



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simultaneously flush the eyes and rinse larger areas of the body.

Non-plumbed, self-contained eyewash fixtures

- Used when there is no access to a plumbed water source
- Deliver a minimum of .4 gallons per minute for a minimum of fifteen minutes
- Systems can be portable and gravity fed

Location and Accessibility

The ANSI/ISEA standard requires that such fixtures be installed within ten seconds' reach of each hazard, or no more than about fifty-five feet away. At sites where strong acids or caustics are used, the equipment should be placed immediately adjacent to where the exposure could occur. The equipment should be on the same level as the potential hazard. Drench showers and eyewash stations must supply tepid water with a temperature between 60° and 100° F and be capable of a full fifteen-minute flush.

continued on next page



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Conducting a walk-through of facilities with a health or safety expert can help administrators determine proper placement and types of fixtures for each location. Manufacturers often conduct free site surveys to ensure proper placement and other best practices for ANSI/ISEA compliance.

New Technology Ensures the Best Washdown Coverage

The newest generation of emergency fixtures is designed to deliver a more uniform and complete spray pattern distribution. Older shower designs push the flow of water to the outer rim of the showerhead, creating a hollow space in the center of the pattern that can miss affected areas.

Using the latest technology in fluid dynamics, new drench shower designs work in tandem with a pressure-regulated flow control and the spinning motion of water, creating an optimal spray pattern to rinse off contaminants as quickly and thoroughly as possible. The contoured shape combined with the spinning water funnels the water into a concentrated, yet gentle, deluge to ensure the most effective flush available.

New eye/face wash designs using this new technology can ensure that water is dispersed to all areas of the face, including the forehead, temples, and chin. These new types of eye/face washes provide twenty percent better washdown protection than other designs.

Swing-Activated Eyewash Models

For facilities such as classrooms, laboratory environments, and tight workspaces, a new generation eyewash model combines a sink faucet with an eyewash built in for emergency eyewash use, offering a highly efficient and convenient space-saving solution for educational facilities.

During regular faucet use, the eyewash is stored out of the way. In an emergency, the eyewash is immediately activated when it is swung out 90° over the sink. When the eyewash is activated, the swing-activated design ensures that the faucet moves out of the way, positioning the eyewash directly over the sink and allowing clear access to the fixture. With the eyewash in the optimal position over the sink, water is contained in the sink without dripping or spraying on countertops and floors, thereby limiting mess and risk of slipping and falling.

In Good Working Order

According to the ANSI/ISEA standard, emergency drench showers and eye and eye/face washes must be activated one time per week to ensure they work properly in supplying tepid water when needed. Unless the product is activated on a weekly basis, water stagnating in the supply piping may not be clean. Weekly

continued on next page

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activation ensures that the product is properly functioning and safe for the person to use when needed. This activation makes sure that nothing is blocking the flow of the flushing fluid and eliminates any chance of contamination from stagnant water.

Finally, administrators should regularly review safety plans to ensure that all students, faculty, and staff are protected. Even though these issues may be not top-of-mind during the daily work routines on campus, paying attention to crucial safety equipment details will result in a safer learning environment.



ABOUT THE AUTHOR: Ryan Pfund is Senior Product Manager, Emergency Fixtures, for Bradley Corporation of Menomonee Falls, Wisconsin, a USGBC and ISEA member and manufacturer of locker room products, plumbing fixtures, washroom accessories, partitions, emergency fixtures, and tankless water heaters.

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Cosmetic Surgery for Deteriorated Concrete Floors

Owners of a construction equipment repair operation in northwestern Pennsylvania recently decided it was time to deal with their cracked, chipped and spalled concrete floor and loading dock. The floor had seen decades of heavy wear and abuse from forklifts and construction equipment, along with ground-in grease, oil and grime. Certainly, the floor could be repaired, but what about restoring it to an acceptable appearance at the same time?

“Making repairs to a distressed concrete floor is pretty much a standard request,” says Scott Thome, director of product development for DiamaPro® Systems, a manufacturer of concrete repair and protection materials. “But blending in and masking repairs can pose a challenge at times.”

Proceeding with the restoration, managers at the repair facility had to first decide on an epoxy or urethane-based system. Consulting with Thome, they chose a urethane UV cured topcoat, DiamaPro® UV-HS Plus, to be used in conjunction with DiamaPro® Diama-TLC Select. “The most apparent factors controlling their decision were abrasion resistance, cure time and fumes,” said Thome. “They wanted to keep the facility in operation during the restoration project. Since DiamaPro UV-HS Plus cures instantly with exposure to a portable UV light, the floor could be done in segments without shutting down the entire building. DiamaPro UV-HS Plus also has a low VOC content and is odorless once cured, so there are no odors or harmful vapors once cured. And DiamaPro UV-HS Plus won’t crack, chip or peel, which can be a problem with other coatings.”

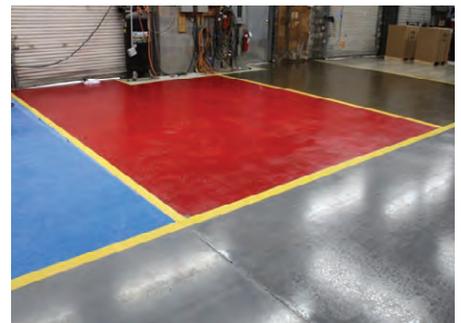
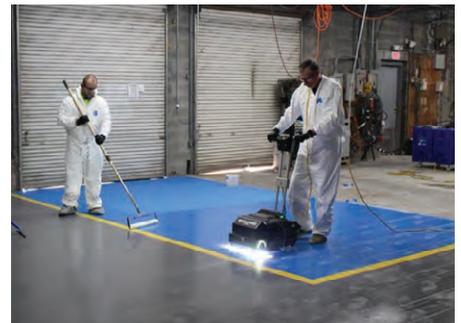
First, the worn floor in the repair facility was ground using a succession of diamond tooling. During the grinding process surface stains and grime were removed, and the surface was restored to a uniform flat surface.

Repairing cracks, spalls and joints was the next step in the resurfacing project. DiamaPro Diama-Joint Fill was used in all open control joints providing a smooth transition from slab to slab. DiamaPro Diama-Grout was then used to fill in small spalls and pits.

With repairs completed, the floor was ground with a 70-grit diamond tool removing the excess joint fill and grout leaving a pinhole free surface. The area was then auto scrubbed removing the remaining dust particles. At this stage, DiamaPro Diama-TLC Select, was roller applied. In addition to imparting a uniform color, the product chemically bonds to the concrete substrate and is completely compatible with the UV cured topcoat.

Different colors of the DiamaPro Diama-TLC Select were selected to demarcate workstations and forklift traffic lanes within the facility. To achieve the desired saturation, several coats of each color were applied. Approximately one hour was required for drying between coats, the clean-up was extremely easy requiring only soap and water. Because it has a low VOC content and minimal odor, DiamaPro Diama-TLC Select is an environmentally friendly alternative to solvent-borne colorants.

DiamaPro UV-HS Plus was selected as the protective topcoat for the facility because of its exceptional abrasion and chemical resistance. In addition, instant curing was a critical factor. “Traditional resinous coatings can require hours or even days to completely cure,” said Thome, “necessitating serious interruptions to operations. With UV curing, a floor may be immediately returned to service with minimal downtime.”



Floor preparation done with Lavina by Superabrasive grinders.

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DRIVE SAVINGS, SAFETY, AND SUSTAINABILITY

THROUGH SMART PLUMBING SOLUTIONS

BY PAUL NELSON

The capacity to do more with less has never been more relevant on campus than today. Administrators facing enrollment pressure need to set their schools apart with safe student experiences and commitment to sustainable practices. At the same time, maintenance teams facing staff shortages need innovative ways to improve efficiency and keep costs under control. Ensuring students' safety through campus restroom cleanliness and uptime is also an important aspect of meeting these higher ed goals.



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Smart restrooms have become a key higher ed solution for improving safety, reducing costs, and enhancing sustainability in campus buildings. Some of the first smart plumbing products are restroom faucets, flush valves, and backflow preventers. Connected faucets and connected flush valves enable maintenance managers to align cleaning schedules with traffic volume, predict maintenance needs, and respond faster to unanticipated issues. Connected backflow preventers make it easier, faster, and less costly to reduce flood risk and to better understand water use. With these smart finish and rough plumbing solutions, universities and colleges become more data-driven in building operations and can leverage water- and energy-saving opportunities.

Gaining Real-Time Insights

Smart plumbing products deliver real-time insights securely to a desktop or mobile dashboard.

- Sensors on the product gather data on water activations and water usage, detecting anomalies
- The data is communicated through a secure connection to cloud data storage
- Software analyzes the data and delivers real-time insights to the dashboard

Advanced smart plumbing applications such as plumbSMART™ powered by Zurn can deliver analytics at the device, room, and building levels. Campus facilities managers use these insights to anticipate and manage maintenance more efficiently and clean more effectively. When an unexpected issue arises, they become aware of it more quickly and respond with the right solution because they understand the problem sooner.

Smart Restroom Essentials

Touchless smart faucets and touchless smart flush valves are central components of a smart restroom. Smart products enable cleaning and maintenance based on actual usage data instead of guesswork and set-time intervals, so universities can deliver more restroom uptime and a more hygienic and satisfactory user experience.

As with all smart plumbing products, the value is in the data. Campus facilities managers and maintenance teams have access to real-time data and analytics on usage and activations, as well as solenoid and battery life. They can see more of their facilities, be in more places virtually, and identify areas to concentrate efforts for efficiency, improvement, and conservation. With a smart plumbing platform, they also receive real-time handwashing scores, which can help promote hand hygiene best practices.

Smart restroom products enable campus building managers to

- Rapidly detect and proactively respond to restroom issues and abnormalities, so students, staff, and campus visitors enjoy a cleaner, safe, and stocked restroom experience.

Smart restrooms have become a key higher ed solution for improving safety, reducing costs, and enhancing sustainability in campus buildings. Some of the first smart plumbing products are restroom faucets, flush valves, and backflow preventers. Connected faucets and connected flush valves enable maintenance managers to align cleaning schedules with traffic volume, predict maintenance needs, and respond faster to unanticipated issues.

- Remotely monitor 24/7 to locate and confirm issues before sending staff. When maintenance teams are stretched, this oversight is an important benefit. Remote monitoring can eliminate daily walkaround testing of faucets and flush valves and reduce the need for after-hours and weekend plumbing maintenance.
- Predict maintenance tasks through data analytics such as battery life monitoring and alerts. With actual use data, campus facilities managers can optimize maintenance team productivity, which reduces cost.
- Efficiently manage cleaning schedules to match actual use and traffic volumes. Restroom downtime is reduced, as is the work, cost, and waste from unnecessary cleanings.

Remote Purging for Legionella Control

Some smart plumbing platforms also have a purge feature that allows maintenance teams to accomplish purges remotely across campus, such as those required for legionella control. Teams can also remotely monitor when fixtures were last used, and how long they ran, to identify which fixtures require purging. Reporting within the platform provides documentation and visibility to ensure efficient and compliant purge completion.

Smart Backflow Preventers Provide Visibility

Smart backflow preventers give universities and colleges more data and control over this essential part of building water systems. The original purpose of backflow preventers—to protect the water supply against back siphonage and backpressure of contaminated water into the system—is still in force.

Smart features add remote monitoring and real-time alerts when water pressure falls outside of set parameters or when discharge events surpass customized tolerances. Remote monitoring enables campus facilities managers to know that a discharge event is happening and take appropriate action sooner, which is important since an 8-inch backflow preventer can discharge 33,000 gallons in one hour.

continued on next page

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Smart features of connected backflow preventers include:

- Pressure readings
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- Flow meter
- Historical analytics

In addition, with flow monitoring by smart backflow preventers, higher ed institutions can better understand water consumption campus wide. This tracking enables the deployment of water conservation plans based on historical data and evaluation of use against consumption reduction plans.

The Smart Plumbing Dashboard

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advanced solutions offer sophisticated features that enable campus facilities managers to do more to increase safety, savings, and sustainability.

These features include:

- Customizable maintenance alerts for battery life, run-ons, and more
- Viewing peak traffic and historical usage patterns
- Viewing water consumption trends by device, room, and building to identify opportunities for improvement
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Smart plumbing products enable universities and colleges to meet multiple and sometimes competing goals for savings, safety, and sustainability. The transition to smart plumbing products managed with a single system campus-wide opens the door to more efficient use of the maintenance and water resources universities have today.



ABOUT THE AUTHOR: Paul Nelson is the Product Manager for Connected Products at Zurn Elkay Water Solutions. His focus is directing engineering and sales teams at Zurn Elkay to integrate plumbing solutions into a digital management platform like plumbSMART™ powered by Zurn. With years of experience in the plumbing industry, he is excited to see more restrooms and commercial plumbing equipment gather useful data for building owners and facility managers to be more efficient and sustainable. He is based in Milwaukee, Wisconsin.

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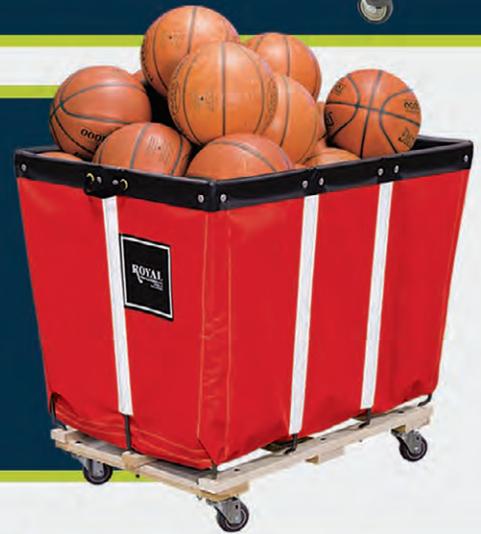
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A long, brightly lit indoor hallway with a perforated metal wall and a corrugated metal ceiling. The hallway is empty, with a yellow line on the floor. The wall is made of light-colored perforated metal panels, and the ceiling is made of corrugated metal panels. The lighting is bright and even, creating a clean and modern atmosphere.

SHINE A LITTLE LIGHT

ON ATHLETIC PERFORMANCE

BY MIKE CROWDER

Recruiting top athletes is serious business for universities, and having high-quality facilities is one of the best ways a school can gain an edge in the recruitment process. Facilities that are bright and welcoming—filled with diffuse, natural daylight—help make a good first impression, so people want to stay.



CLEMSON INDOOR FOOTBALL PRACTICE FACILITY.
PHOTO BY GMC + SHERMAN CONSTRUCTION

Scientific studies have proven the benefits of daylighting again and again. The most cited example is a study by the Heschong Mahone Group, which shows that students in classrooms with the most daylighting progressed 20% faster on math tests and 26% faster on reading tests over a year period than those with the least daylighting. This performance boost is tied to daylighting's ability to improve mood and overall wellness—and its impact isn't just for academics.

When done right, daylighting can also provide benefits beyond satisfied students—and student-athletes. Improved energy efficiency in the facilities, for example, can help make an entire athletics program more successful. From indoor practice areas to gyms and fitness centers to pools and natatoriums, this article covers some aspects of the daylighting playbook for administrators to consider more closely.

Quality of Light

The best-quality daylight is diffuse and full spectrum. Full-spectrum daylight most closely

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mimics natural sunlight while ideally still filtering out harmful UV rays. It's the dynamic, natural wavelengths of light that help maintain circadian rhythms, ensuring alertness during the day (blue light) and relaxing us for better sleep at night (red and orange light). Athletes need their bodies to perform well and heal quickly; daylighting can help with these needs.

Artificial light typically creates white light by only using a couple colors of the spectrum, so not only does it do a terrible job mimicking natural wavelengths, but it also cannot match the natural fluctuations human bodies require by time of day or season. Some LED lights, while more energy efficient, provide even fewer wavelengths than incandescent bulbs. Even some daylighting materials filter out important light wavelengths, so it's important to ensure that daylighting strategies include full-spectrum light.

At the same time, daylight should be diffuse. Those who have driven while looking directly toward the sun know exactly how hard it can be to perform in direct sunlight. Glare is

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METEA VALLEY HIGH SCHOOL NATATORIUM
PHOTO BY JAMES STEINKAMP



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PHOTO BY ALEX UPTON

uncomfortable and dangerous, especially in a pool setting where glare on the surface of the water can prevent a lifeguard from seeing bodies underneath. In competition settings, an event can even be cancelled if there's glare. Diffusing daylight eliminates glare and ensures the light entering a space is balanced.

Diffuse, full-spectrum light also helps with color rendition and visual acuity so people can see colors vibrantly and absorb the details of a space. For athletes, this clarity might mean differentiating the lines on a court or field. For coaches, this clarity can provide the ideal environment for videography so practices can be reviewed clearly.

Energy Efficiency

Athletic programs can be huge money-makers for universities, but they can also be money pits. As more emphasis is placed on ensuring that all buildings are meeting net-zero and sustainability goals, athletic facilities can provide a huge challenge. Daylighting creates energy-efficient

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spaces in both obvious and not-so-obvious ways.

By taking advantage of natural light, facilities can reduce reliance on artificial lights. When the University of Idaho replaced the wooden end wall of its indoor football stadium, the Kibbie Dome, with a translucent daylighting system by Kalwall, the school reportedly saved \$100,000 in electrical costs the first year.

The ideal daylighting system can also positively impact a facility's HVAC costs. While traditional glass windows can be a thermal nightmare, the most highly insulated daylighting panels can provide thermal performance similar to that of a solid wall in addition to maximizing solar heat gain control. Diffuse, balanced light also does away with hot spots for an overall more comfortable space.

Translucent vs. Transparent

One of the easiest ways to optimize campus daylighting strategies is to focus on translucent materials vs. transparent ones. Transparent

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materials—primarily glass—are a daylighting standard, but they are not the MVP. Glass struggles when it comes to quality of light—allowing unfiltered glare—and energy efficiency. Translucent materials more naturally diffuse light, and some can have very impressive thermal performance properties. But there are even more reasons to consider one over the other.

In athletic settings, especially gyms and locker rooms, privacy is important. Translucent materials provide line-of-sight protection while introducing diffuse light into a space, whereas people can see straight through glass. Choosing translucent materials can not only provide personal protection, but also protection for a team's game book. The translucent panels prevent spying and videography from unwanted outside sources; this consideration is just one of the reasons this kind of daylighting is the top choice for universities and professional sports teams across the country.

Alternatives to glass are also more likely to offer impact resistance. It's a great benefit to know that in facilities where balls are flying everywhere, maintenance crews aren't going to have to deal with fixing broken glass every season.

A Winning Solution

Daylighting helps both people and facilities perform at their best, but the perfect strategy isn't one size fits all. Whether campus planners intend to build a new facility or renovate an old one, starting with daylight modeling can help to identify the right materials and positioning for the space. By simulating the building and capturing every pattern of daylight, 3D software helps measure key daylighting metrics, such as spatial daylight autonomy (SDA) and annual sun exposure (ASE). These models not only ensure that planners are getting proper daylighting levels and avoiding issues with glare, but they can also help to document code compliance and points for sustainability programs.

So, we recommend that campus planners kick off the next project to a great start by adding daylight modeling to the playbook.



ABOUT THE AUTHOR: Mike Crowder, LEED AP, of Kalwall Corporation, has 25+ years of experience in the building materials industry. He travels across the U.S.

and Canada, educating architects, engineers and contractors on the benefits of natural daylighting. Learn more about Kalwall's complimentary daylight modeling services at www.kalwall.com/daylight-modeling-services/.

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Clark Breaks Ground on the Center for Media Arts, Computing, and Design

BY MELISSA HANSON; ORIGINALLY PUBLISHED 28 APRIL 2022 ON CLARKNOW (CLARKNOW.CLARKU.EDU)

Clark University today broke ground on the Center for Media Arts, Computing, and Design, the planned home for the Becker School of Design and Technology, the Department of Computer Science, and programs within the Department of Visual and Performing Arts. President David B. Fithian ('87) welcomed a crowd of faculty, staff, students, trustees, and local officials who gathered beneath a tent near the outskirts of the Woodland Street site where excavation is currently taking place. He emphasized that the academic pursuits occurring in the new building will result in connections and collaborations across multiple disciplines. "When we think about our facilities, and especially our new buildings, we don't just think about containers of activity but rather purpose-built spaces that encourage collaboration, convening, cooperation, and even collisions—that is, chance encounters of people from different disciplines, departments, and different ways of thinking," Fithian says. "The building soon to come out of the ground behind me will have many of just those types of spaces. It will bring together different departments and programs with evident synergies but also the potential for new creative instigations and alchemy."

The four-story, 70,000-square-foot building, with a targeted opening of Fall 2023, will be located just southeast of the Strassler Center, between Woodland and Hawthorne streets, and its main entrance will be oriented toward the Goddard Library.

Betsy Huang, associate provost and dean of the college, noted that "to truly practice and embody interdisciplinarity, we have to not only evolve our curriculum but also reconfigure the spaces within which we do that work. The ideals of interdisciplinarity and the core values of our liberal education are baked into this building and this center's structural DNA. As she notes, "We all know the sparks that happen when we put people of great



creativity, intellect, and decency in the same space, working side by side, learning from each other, building trust and community, breathing the same air, and feeling the life of the different and the new."

Ayers Saint Gross, an internationally recognized, employee-owned design firm, is leading the design process and has facilitated extensive engagement with Clark faculty, students, and staff to envision the building and the functionality of space within it. The firm is also Clark's partner on the comprehensive Campus Design Initiative, which offers a strategic blueprint for reimagining the University's buildings and grounds. The construction work is being done by Shawmut Design and Construction. "More than just a wonderful new addition to our campus, this project symbolizes a new philosophy and era for Clark, not only to envision what is possible, but to make it a reality," says Ross Gilman ('81), chair of the Board of Trustees. "This is the first of what I know will be many changes made at Clark during David's term."

The building will include a multi-floor tiered classroom, a multimedia gallery, a robotics lab, a data science lab, teaching and collaboration spaces, and a video game library for researching interactive media and playing games, among other features.

Wednesday D'Angelo ('22), a student in the Becker School of Design and Technology, and Dilasha Shrestha ('22), a computer science major, spoke of their enthusiasm for Clark's newest space. "I think this new building will draw students from across the University

to take classes and collaborate on different projects and ideas," Shrestha says.

The building will be laid out in two "wings" clad in a grid of metal panels. The layout of the building and grounds will form a new academic quadrangle, adding additional green space to the campus. Floor-to-ceiling windows will overlook the new landscaping.

The University is pursuing LEED Gold certification for "green" construction and operation. The building will be Clark's first to utilize geothermal energy as a primary source for heating and cooling. It also will contain 100 percent all-gender restrooms, and meet, if not exceed, goals for workforce and contractor diversity, according to President Fithian.

The project represents not just an investment in students, faculty, and staff, he says, but also in the community. The Center "enhances Clark's ability to attract and retain more of the talented individuals who will contribute to our local economy and who may well remain in Worcester after their time at Clark," he says.

Worcester Mayor Joseph Petty and City Manager Edward Augustus Jr. laud Clark for its sustained commitment to the city and inspired partnership with the Main South neighborhood. "Clark University has really set the pace for colleges and universities throughout the United States in terms of how they partner with their host community," Augustus says. "They do authentic work with their host community, not just one-off projects, but things that are integral to who they are as a university, to the culture on the campus, in the classroom, and in the community."

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Briarcliff Property to Become Senior Living Community

BY KELUNDRAS SMITH

Emory plans to enter into a long-term ground lease with Galerie Living to develop and operate a senior living community on about 32 acres of the 42-acre Briarcliff property at 1260 Briarcliff Road. As part of the agreement, Galerie will restore the historic Candler Mansion.

Virtual and in-person community meetings were held in June to give more details about the project. “The restoration of the mansion will be extensive,” says David C. Payne, associate vice president of planning and engagement at Emory. “Once it is restored, we are hopeful that there will be opportunity for campus and community use.”

Following the community meetings, Galerie Living made its filings with DeKalb County in the hope of breaking ground by 2023 or 2024.

Once Upon a Fairyland

The Candler Mansion has a storied history at Emory and in the surrounding community. The home was built in the 1920s by Coca-Cola heir Asa “Buddie” G. Candler Jr. The mansion took more than a decade to build, but by its completion it was considered one of the finest estates in the region.

In 1921, the Atlanta Constitution (now the Atlanta Journal-Constitution) published an article titled “Forty Acres of Fairyland.” In it, the reporter writes, “As one enters, the grounds resemble a great park.... A popular spot is the swimming pool, which is enjoyed by Mr. Candler, his family and friends. Below the swimming pool is located the bath house, built of cream brick, with marble partitions and tile floors, eight dressing rooms, two showers, dressing tables, mirrors and other conveniences.”

Over the years, Candler and his wife, Helen, added onto the property, which ultimately included forty rooms, several greenhouses, two solariums, a ballroom, and even a zoo. It is on the National Registry of Historic Properties.

By 1998, when Emory University purchased the Briarcliff property, the once-palatial estate had seen better days. In the ensuing time, there have been many plans about what to do with the Candler Mansion, including a boutique hotel and event center, most recently.

In addition to the restored mansion, the Library Service Center, a joint library archival facility for Emory and Georgia Tech, will remain on the land. This new agreement with Galerie Living represents a chance to imbue new life into the property. “The Candler Mansion was truly elegant in its heyday and should be restored to its grandeur. This plan will do that,” says Payne.

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