NEWSLTR

Faith Group

IN THIS ISSUE:

TAKE IT ON FAITH: RETIREMENTS & MENTORING

A message from Faith Varwig on how key retirements sparked development of a Mentoring Application and Mentoring program.

TRB PUBLISHES ACRP DOCUMENT 50 RESEARCH ROADMAP ON SAFETY ISSUES

As a major contributor, Faith Group was part of the team to publish industry Report to address key short- and long-term safety topics that are considered most at risk and an interactive safety roadmap.

TECHNOLOGY UPDATE: GETTING AHEAD OF THE MERV CURVE

With the pandemic changing the way we sanitize our indoor air, Faith Group takes a look at the effectiveness of different air filters and UV lighting.

Madison Co. Transit

Kicking Off Phase 2 of New Administration Building

TAKE IT ON FAITH
RETIREMENTS & MENTORING

Recently, Faith Group has had several of its original & founding staff members reach the exciting milestone of retirement. While I am not there yet, I personally cannot wait to kick back and spend more time in my garden and greenhouse. What this process has brought to light is something our industry has always been challenged by every day. How do we hand off the torch to the next generation and facilitate that important process of transferring knowledge & skillsets?

In that light, over the past several months, Faith Group has been developing a Mentoring Application to help pair internal staff members together to enhance personal development, acquire technical skills, and learn about other aspects of our organization. Investing in our employees' personal & career development is an important part of the culture at Faith Group. We are also able to use this App as a tool to assist the organization in succession planning and development. I am a firm believer that the stronger our employees are, the stronger the firm is as a whole, and that results in all of us presenting a greater value to our clients.

The App allows employees to participate in either a mutual selection or skill-based mentor pairing, and engage in real life knowledge share. The company's Operational Excellence Team (OET) is currently running a Pilot Program, which will follow with a company-wide launch.

Incredible projects are designed and built by a dedicated, collaborative team. It only makes sense for us to mentor each other, peer-to-peer and professional-to-professional, to help the next generation hone their skillsets while possibly uncovering new ones. In an age where technology changes every day and 20-story developments go up overnight, we need to focus on a new development – in our people.

IN THIS ISSUE:

IN THE NEWS: WINS

- IT Policy, Strategy, and Planning Consulting Services: Terminal Passenger Systems and Cybersecurity Assessment for Metropolitan Knoxville Airport Authority
- Metro Center Street ESOC for Los Angeles County Metropolitan Transportation Authority as a subconsultant to Comet Electric
- West Cargo Facility Rehabilitation GAMMA for San Antonio International Airport as a subconsultant to Bain Medina Bain
- EOC/AOC Host Space Remodel for St. Louis Lambert International Airport as a subconsultant to CMT
- Airport Integrated Operations Center Planning for San Francisco International Airport as a subconsultant to HNTB
- Project Ariana Precast Warehouse Building as a subconsultant to Opus AE Group
- Safety Risk Management Panel for RW 16L-34R for Denver International Airport as a subconsultant to RS&H
- Greenhouse for Rung Foundation, Inc. as a subconsultant to Christner
- Airport Expansion for Midamerica Airport as a subconsultant to HOK
- Biometric Exit Design, Airport Operations Center Design, and Queue Management System Infrastructure Design for Philadelphia International Airport
- Kenco TI Building A for Winchester Logistics as a subconsultant to Opus AE Group
- Pentagon Pharmacy Relocation for the U.S. Department of Defense as a subconsultant to Millcreek

FOCUS: TRANSIT
MADISON COUNTY TRANSIT
NEW ADMINISTRATION BUILDING

Faith Group recently completed the low voltage systems schematic (30%) design for the new Madison County Transit Administration Building. The firm has now been awarded and begun Phase 2, which includes design development, construction documents, procurement assistance, and construction administration.

The technologies and systems that Faith Group is designing include:
- Physical Access Control (PACS)
- Video Surveillance System (VSS)
- Video Analytics
- Intercom System
- Data Center Migration
- Campus Network Architecture
- Telecom Room Relocation
- Inside Plant (ISP) and Outside Plant (OSP) Cabling Systems
- VoIP Integration
- Perimeter Barriers, Vehicle Gates and Fence line Coordination

The new state-of-the art Administration Building will house the transit operations staff and administrative officials. Acting as the hub for County-wide transit administration, work includes key elements necessary to integrate the transit authority's campus wide systems for a unified front-end with federated network architecture.

The project is being funded as part of a $15.2M Rebuild Illinois Capital Program grant, which was awarded to Madison County Transit, and completion is slated for August 2022..


Chris Fasano, Project Manager

PRESS

Faith Group Partners with ACRP to Publish Research Roadmap on Safety Issues

Each year Faith Group looks for meaningful ways to provide valuable information and knowledge to its aviation clients and partners. One of the most consistent avenues to do this is through the Airport Cooperative Research Program (ACRP) and the National Safe Skies Alliance PARAS. The firm's work on these research projects enables Faith Group to succinctly gather and provide guidance to the aviation industry. The most recent publication is ACRP Web-Only Document 50: Research Roadmap on Safety Issues. The goal of the research roadmap is to identify gaps in safety knowledge and practice, uncover opportunities and challenges, and outline and prioritize specific research ideas needed to address these gaps. The Guidebook lays out the Roadmap's plan in two phases. Phase 1 includes documentation of past and ongoing airport safety research, analysis of results for gaps, and identification of future research needs and priorities. Phase 2 includes vetting research recommendations with Airport Operators and development of a visual research roadmap.

In addition to the Guidebook, the Team produced a Research Roadmap with six distinct priority research blocks organized into Safety Focus Areas. These areas include Airside Driving, Airport Losses, Emergency Management, Movement Area, Non-Movement Area & Ramp, Runway Safety, Safety Management, and Terminal Safety. Some of the principles used in developing this Roadmap include a key focus on airport safety issues to be addressed in the short-term (within the next 5 years) and the inclusion of a long-term research needs assessment that accounts for uncertainty and emerging issues such as guidance for Safety Risk Management (SRM) applied to daily airport operations and guidance for integrating safety assurance and risk management.

Faith Group worked as the lead subconsultant on this effort with Prime, Futron, and partner Airport Safety
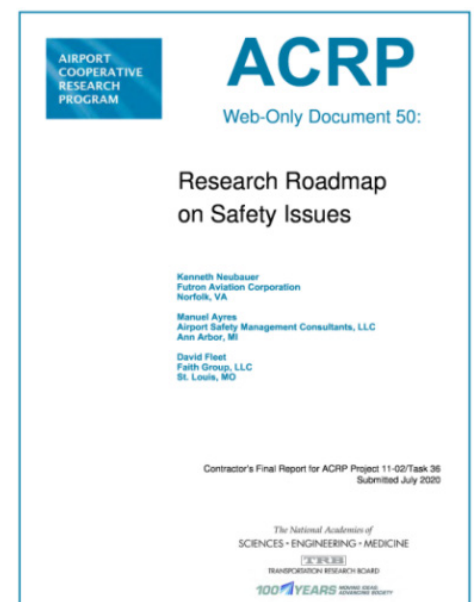
Management Consultants, LLC. The firm is pleased with the final product and its ability to address key safety topics that are considered most at risk both short- and long-term in an easy-to-understand, visual roadmap. Faith Group believes the industry will find this information helpful when it comes to understanding the knowledge that is and will be available regarding safety. Download a complimentary copy HERE!

SPOTLIGHT: COMMITTEE POSITIONS
AIRPORTS COUNCIL INTERNATIONAL (ACI) AND AIRPORT CONSULTANTS COUNCIL (ACC)

Faith Group would like to recognize three of its staff members that have recently accepted key committee positions with the Airports Council International (ACI) and Airport Consultants Council (ACC): Heidi Benaman, Geoff Kiner, and Grant Gray.

Heidi Benaman

Heidi Benaman recently accepted the position of Co-Chair of the Airports Council International (ACI) Operations and Safety Working Group (OSWG). This Group is one of six working groups that make up the Operations, Planning, Safety, Infrastructure, & Development (OPSID) Steering Group Committee (formerly known as Operations and Technical Affairs). The focus of the OPSID Steering Group Committee is to respond to issues and topics surrounding airfield operations, safety management systems (SMS), facilities and maintenance operations, construction, planning and development, and NextGen navigation efforts. Heidi shares the OSWG Co-Chair position with Ron Reichel, Airport SMS Manager at Sacramento International Airport. The OSWG deals with airport operations, airport safety, airport emergency planning and response, and associated regulatory compliance issues. OSWG objectives include advising on airport safety and operations priorities and issues; monitoring, communicating, disseminating, and commenting on proposed FAA rules, regulations, and advisory circulars; serving as industry experts on airport safety and operations; supporting the ACI World Airport Excellence in Safety (APEX) program; and developing and maintaining a list of research needs and opportunities for enhancing airport operations and safety and communicating those needs to ongoing research programs of the National Academies, NASA, FAA, and JPDO. This position provides Heidi and Faith Group with the most current information concerning airport operations and safety and involvement in making direct continuous improvements as experts for our clients and the transportation industry.

Geoff Kiner

The ACC Young Professionals (YP) Forum has grown to more than 300 members and with its growth has come the development of new leadership positions. Most recently the YP Forum added YP Committee Liaisons for each of its eight committees to provide relevant knowledge and information directly to the YP group at-large, as well as have YP representation on the Committees as well. Geoff Kiner was recently nominated and accepted the role of YP Committee Liaison for the ACC Security Committee. In his role he is in charge of giving quarterly updates to Committee members, facilitating YP security interactions, and serves as the point of contact for any YPs interested in security.

Grant Gray

Grant Gray also accepted a position with ACI. He was elected by the Business Information Technology (BIT) Committee and accepted a four-year position as a Steering Group member. He will provide leadership to the full BIT committee as a steering group member. The steering group position makes recommendations on ground-breaking airport technology and policy based on current events to establish industry-wide airport technology standards and best practices. The steering group reports to the BIT Committee group which works to facilitate education of its members and collaborate with other aviation industry bodies such as Airlines for America (A4A), International Air Transport Association (IATA), International Civil Aviation Organization (ICAO) to foster innovation across the aviation travel sector. They also respond to regulatory proposals and develop national and international policies for airport operators. The BIT Committee's current agenda includes developing standard biometrics solutions for U.S. airports, Airport API Digital Ecosystem, and collaboration with ACI World IT Task Forces to deal with the current health crisis.

TECHNOLOGY UPDATE:
GETTING AHEAD OF THE MERV CURVE - UV LIGHTING VS. MERV-RATED AIR FILTERS

Authored by Raechelle May, PE - Sr. Engineer

The world has been in the middle of a pandemic for over a year now. The Coronavirus, COVID-19, has vastly affected everyday life. From work to school to travel, our everyday existence has been challenged due to COVID-19 and the measures taken to slow and/or stop the spread of the virus. Research has been ongoing to determine which technologies should be applied to what areas to combat the virus and make living through the pandemic easier and safer for us all. This research has certainly hit more than its share of challenges; however,

scientists and engineers press on in an attempt to do what we do best: support and further the advancement of humanity while maintaining the protection of the health and safety of the public. As we move forward, several have turned to methods that have been around for a while but primarily only used in specific sterile use cases, such as healthcare.

UV Lighting has come to the forefront as a potential viable solution to mitigate Covid-19 particulates within buildings. Companies have been using UV for many years for equipment sterilization and in healthcare applications, primarily in air handlers . Now that we have the Coronavirus as the most active disease of this decade, many are exploring main-streaming UV lighting applications outside of the healthcare environment to sterilize public facilities' circulating air. Let's take a dive into understanding the different types of UV Lighting and which are used to combat viral particulates and sanitize air and surfaces.
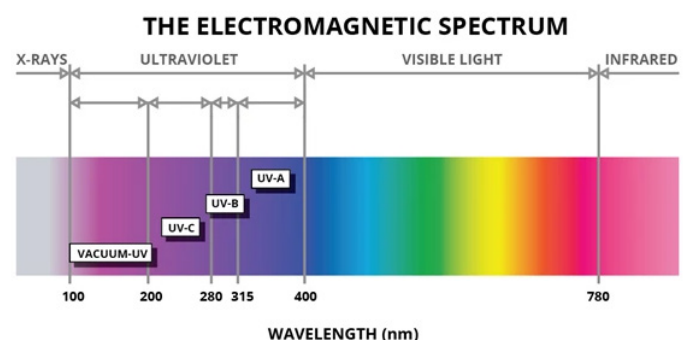
What is Ultraviolet (UV) Light?

Ultraviolet (UV) light is a natural occurring part of the overall light spectrum, ranging from 10nm-400nm. The UV spectrum is broken up into three main ranges: UV-A, UV-B, ad UV-C. UV-A light is the majority type of natural UV lighting that reaches the Earth's surface. It is powerful enough to penetrate through human skin and causes skin aging, and sometimes skin cancer. UV-B lighting is more powerful than UV-A, managing to cause damage all the way to the DNA level if in contact with human skin. UV-C is the most powerful natural UV lighting, and also the most damaging to humans. UV-C destroys genetic materials, whether it be human or viral (Gorvett).

While naturally occurring UV-B and UV-C wavelengths are mostly filtered out by the Earth's atmosphere, scientists and engineers have been able to recreate these ranges below the Earth's atmosphere for use in many commercial and industrial applications.

How has UV Light been used in past applications?

Hospitals, subways, and other public locations have used UV-C light for many years to help disinfect high traffic areas and surfaces and kill viruses. Surface disinfection using UV lighting must be done when there are no people occupying the area (Penn Medicine), due to the damage that direct exposure to UV lighting can cause to humans. But what

THE ELECTROMAGNETIC SPECTRUM

X-RAYS | ULTRAVIOLET | VISIBLE LIGHT | INFRARED

UV-A

UV-B

UV-C

VACUUM-UV

100   200   280 315   400   780

WAVELENGTH (nm)

TECHNOLOGY UPDATE:
CONTINUED...

about uses for air quality? There are many air filter manufacturers that use such technology in their filters, thereby keeping humans safe from direct exposure to UV Lighting, while disinfecting the air they breathe and improving overall air quality. Termed "Germicidal ultraviolet light," a wavelength set of UV lighting "is effective in this context" against airborne pathogens, bacteria, and viruses. Recent studies show Far-UVC light (222nm) efficiently and safely inactivates airborne human coronavirus particles (U.S. Food and Drug Administration).

How does UV Light compare to HEPA and other MERV-rated filters?

HEPA and MERV 13 filters are great for removing pollutants from the air, but the problem lies in the particle size. The coronavirus is approximately 0.12 microns in diameter (Stiepan), whereas HEPA filters are shown to be very effective at removing pollutants that are .3 microns or larger (Schentag). A MERV 13 filter is at least 85% efficient at capturing particles in the 1–3-micron size range.

A MERV 14 filter is at least 90% efficient at capturing those same particles (ASHRAE). While some droplets the coronavirus might be traveling in may fall within this size range, the virus itself is much smaller, and this makes both HEPA and MERV filters less effective at capturing these coronavirus particles. There is still not enough research to be able to confidently say that they will prevent the virus from living in our air. UV Lighting kills the virus itself, breaking its chemical bond, while the filters discussed above merely capture the particles.

In conclusion, let's identify four main factors that maximize the efficacy of filtration and sterilization utilizing UV light.

- **Light Intensity:** ensuring implementation of the optimal UV-C light range (200-280nm) is critical to the efficiency at which viral particulate is eradicated.
- **Distance from Light:** UV-C lighting can be effective up to 8 feet away from the contamination media; however, proximity is optimized in the 6-inch range.
- **Contact Time:** In conjunction with distance from the UV-C light source, contact time between the UV-C rays and

viral particulate is also of paramount importance. Longer exposure times result in more effective eradication of viral particulate. This is important when addressing UV-C light distribution, especially within air handling units.
- **Filtration Medium:** Utilizing a combination of filtration media with high efficiencies is always most effective. Utilizing the highest MERV rating, MERV-13 or HEPA (considered to rate as MERV-17 to MERV-20) in combination with High Intensity UV-C (200-280nm) provides an effective filtration medium to help mitigate COVID-19.

UV Lighting has been proven as a safe and effective means for improving air quality via air filters. It is safe to say UV Lighting is an effective means for disinfecting surfaces and killing virus particles in our air, such as COVID-19. As researchers study additional ways to use UV lighting to improve human health, it is good to know that we have practical and safe applications that can be re-purposed to be used in other applications.

FUN FACTS

UV LED's have a lifetime of at least 20,000 hours.

UV light can be seen by bees – it reflects off flower petals and the bees use it to direct themselves to the pollen.

MERV is a measurement scale designed in 1987 by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).