

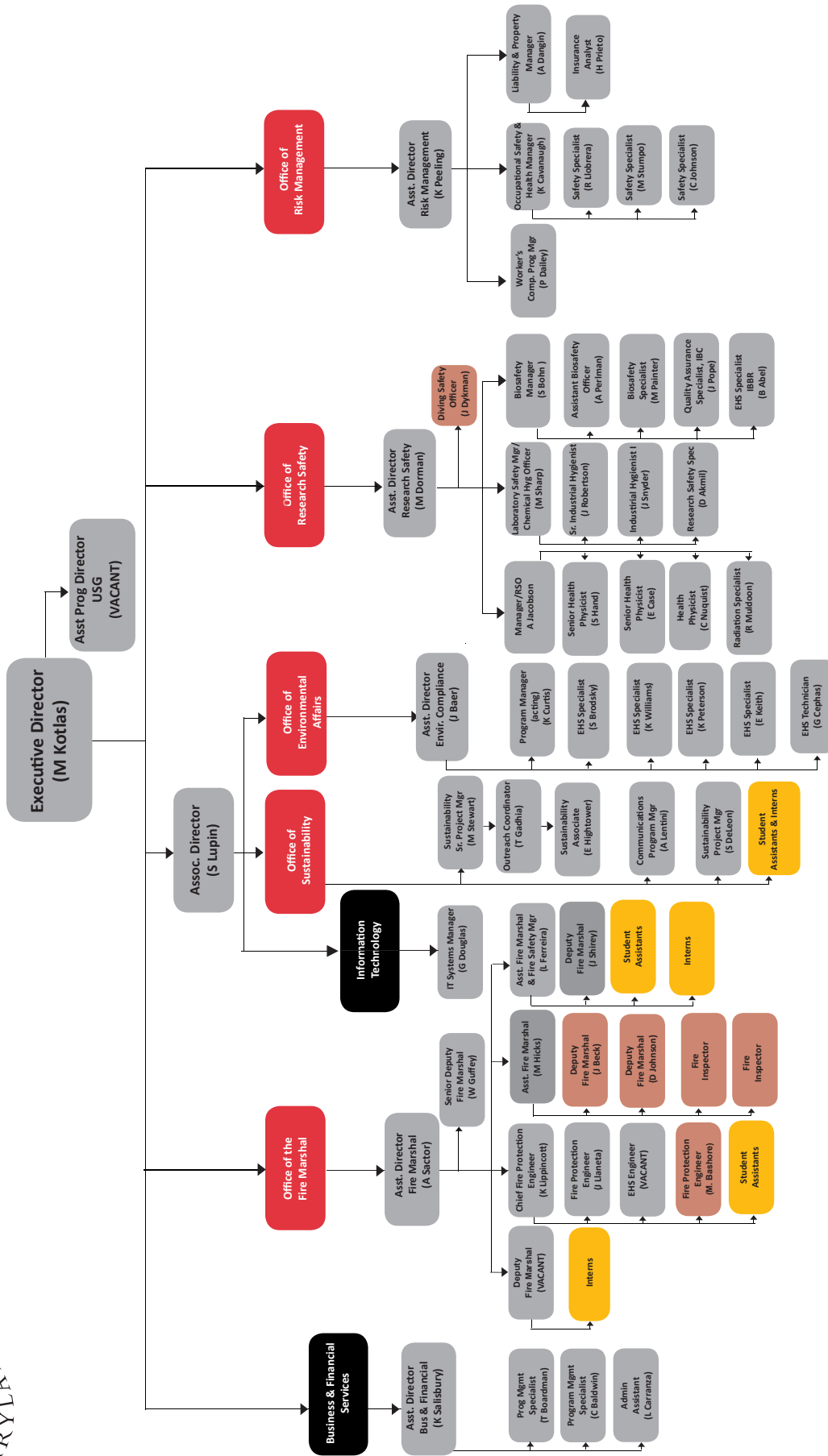


DEPARTMENT OF
ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK

ANNUAL REPORT **2019-2020**



DEPARTMENT OF ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK



MESSAGE FROM THE EXECUTIVE DIRECTOR



An Extraordinary Year

The University of Maryland College Park and the Department of Environmental Safety, Sustainability and Risk (ESSR) experienced a year like no other. In early January 2020, the world first learned of a new coronavirus strain circulating in Wuhan, China. By January 21, the Center for Disease Control and Prevention (CDC) confirmed the first U.S. case. A Global Health Emergency was declared on January 31. The U.S. declared a Public Health Emergency a few days later and the State of Maryland saw its first cases on March 5. On March 11, 2020, The World Health Organization (WHO) declared a COVID-19 Pandemic.

It is impossible to summarize the noteworthy events and initiatives that the Department of ESSR has been involved with in this past year without including COVID-19. However, there are many more accomplishments that we will talk about in this annual report. It is through the dedication of ESSR members that we are able to provide these examples of the many accomplishments beyond the significant work that has been done by ESSR members to support the university through the pandemic.

COVID-19

On January 24, 2020 the Campus Infectious Disease Management Committee (CIDMC) met to discuss the coronavirus situation. The CIDMC met again during the following week. At this point, the University's Incident Response Team (IRT) became the primary strategy group with a number of CIDMC members also members of the IRT. The University held a pandemic planning tabletop exercise on February 28 and the University System hosted a pandemic planning tabletop exercise at the University of Maryland Baltimore on March 4. ESSR was involved in all of these meetings and the two exercises.

In March, students were told not to return to campus after Spring Break. The University System of Maryland told the campuses to extend online classes beyond the original date of April 10 to the end of the semester. Employees were told to telework until April 10 if possible. While some essential staff returned after Spring Break and others returned within the following months, many university employees have continued to telework to present day.

ESSR has been involved with a number of task forces, work groups, committees and task teams during the pandemic. These include the IRT; the Health, Safety and Risk Management Task Force; Return to Campus Operations Work Group; Student Life Advisory Committee; two COVID-19 Testing committees; the Metrics and Operations Monitoring work group; and the reconstituted COVID-19 Emergency Management Council. The ESSR Executive Director was asked to chair a Face Coverings Task Team. From an international perspective, ESSR serves on the International Risk Management Committee which made decisions about study abroad programs as well as a newly formed Global Operations Committee. A number of other groups have formed to consider environmental monitoring for SARS-CoV-2 (air, surface, and wastewater) and FAR UVC 222 NM disinfection technology among others.



MESSAGE FROM THE EXECUTIVE DIRECTOR CONTINUED

>> Other Accomplishments

Throughout this report, there are many examples of the work ESSR has carried on with during the pandemic. The following are just a few.

- ESSR held a Risk Communication Workshop that was presented by the world-renowned expert in risk communication, Dr. Vincent Covello (<http://centerforriskcommunication.org/>). We completed the first step in an Administrative Unit Review of ESSR, a self-study, initiated by the Vice President of Administration and Finance. ESSR has a new position to provide onsite support to the Universities at Shady Grove and is currently in the search process. ESSR represented the University along with some other units in interview and responses to a University System of Maryland Independent Review of the campus response to adenovirus and mold.
- ESSR was also instrumental in revising the University's policy on Use of University Facilities by Non-University Users for Research Purposes which was reviewed by the University Senate and approved by the President. The ESSR Executive Director chaired two site review committees to gather input from faculty, staff and student representatives for the impacts on locations for new buildings: the new student dormitory and dining hall, and the Solar Decathlon Building.
- ESSR's involvement with external groups is an important way to benchmark and share the important work we do and the expertise we have. ESSR is a member of the BIG Ten EHS Directors group and attends monthly meetings; the Campus Safety, Health & Environmental Management Association (CSHEMA) Advocacy Council; and the D.C. Area University Consortium on Workplace Safety among others. The ESSR Executive Director was an invited speaker at the National Nuclear Security Agency workshop on insider threats on college campuses; and by the University's Office of China Studies to speak with representatives from Beijing Technical University about COVID-19 compliance.

Sincerely,
Maureen Kotlas
Executive Director
www.essr.umd.edu

DEPARTMENT OF ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK

Our Vision

Our vision is a campus where safety and sustainability are core values at every level of the institution.

Our Mission

Our mission is to provide leadership in the identification and management of safety and environmental risks and to foster excellence in safety and sustainability through our technical expertise, our quality of work and our professional integrity.

Our Values

The Department of Environmental Safety, Sustainability & Risk (ESSR) holds these values as intrinsic to our mission —

Protect People and the Environment

We put the highest priority in returning people home the same or better than they arrived. Through education, training and knowledge sharing we promote a culture of safety and sustainability.

Excellence

We expect state-of-the-art competencies of ourselves and others in all areas of workplace safety, environmental management and sustainability. We deliver high quality programs and services to the campus community.

Leadership

Our people at all levels, have ownership and take initiative in their areas of responsibility and demonstrate the safe, sustainable and environmentally friendly behaviors we expect of others.

Service

We provide professional services to the University of Maryland community. We are a resource for those we support and we follow through on our commitments in a timely manner.

Diversity

We acknowledge and honor the fundamental value and dignity of all individuals. We are committed to inclusiveness and actively seeking and encouraging discussion and participation from a diverse group with different perspectives and experiences.

Collaboration

We are committed to building partnerships and working together to find the best solutions to collectively achieve our goals. We are open to new ideas and creative solutions. We seek to engage and motivate the campus community to accept ownership of the university's safety and sustainability culture.

The Office of Environmental Affairs (OEA) is engaged in two primary areas of focus — regulated waste management and environmental compliance assurance for the University. OEA works with campus stakeholders to facilitate campus-wide compliance with federal and state environmental regulations including regulated waste management (chemical, biological, and radioactive), air quality permits, fuel and oil storage tank management, stormwater and water quality permits, environmental site assessments, and real estate initiatives. OEA helps the campus community manage environmental risk by developing policies, procedures, training, and consulting with campus entities including faculty, staff and students in labs, offices, and maintenance shops. OEA conducts required regulatory inspections, testing, and reporting. Additionally, OEA provides oil and hazardous materials spill response and cleanup capabilities for the campus.

Regulated Waste Management Programs

The regulated waste programs encompass the collection, management, and disposal of all chemical, biological, radioactive and “universal” waste generated at the College Park campus and UMD’s satellite facilities. OEA operates a fully-permitted storage facility on campus, one of only 13 such facilities in the State of Maryland. The facility’s operations are performed in a safe manner to ensure that all waste is managed safely and practices meet all federal and state environmental regulations. Additionally, the permitted facility allows the university to manage the wastes generated in the most cost-effective manner. In FY20, OEA collected and managed approximately 50,500 pounds of hazardous chemical waste, 26,700 pounds of biohazardous waste, and 1,900 pounds of radioactive waste. OEA also manages and disposes of regulated universal waste. Batteries, fluorescent bulbs, and light ballasts are collected and recycled when possible to minimize hazards to the environment. OEA collected and recycled approximately 36,100 pounds of universal waste in FY20. In addition to this, OEA was able to divert and recycle over 2,000 pounds of scrap and semi-precious metals last year. Required regulated waste training was provided to over 10,600 University faculty, staff, and students during FY20. During FY20, the University successfully completed a hazardous waste audit by the Maryland Department of the Environment.

Stormwater/Pollution Prevention Compliance and Training

Stormwater management, permitting, and pollution control efforts remained priorities for OEA, who currently oversees three National Pollutant Discharge Elimination System (NPDES) permits for the university: an Individual Industrial Permit, which specifically regulates campus outfalls to surrounding streams (Permit #08-DP-2618), a 12-SW Permit, which permits the discharge of stormwater from



OEA staff member, Samantha Brodsky takes a water sample from a creek.

certain facilities that are targeted as high potential sources for stormwater pollution, and a NPDES Municipal Separate Storm Sewer System (MS4) Phase II General Permit (Permit #13-SF-5501), which covers the general discharge of stormwater run-off from land, pavement, building rooftops and construction sites on campus. Collectively, these permits require the university to monitor its discharges, meet certain discharge limitations, and employ Best Management Practices (BMPs) to minimize pollutants discharged in the stormwater. In addition to stormwater management efforts on the College Park campus, OEA provided similar support to the IBBR USG campus in Rockville.

As required by the federal Clean Water Act, OEA has developed and maintains a “Spill Prevention Control and Countermeasure” (SPCC) Plan to prevent and mitigate oil spills on campus. OEA is responsible for tank and piping >>



testing, monthly tank inspections, personnel training, above ground fuel storage tank projects, and SPCC Plan revisions. During FY20, OEA completed a comprehensive audit of approximately 400 oil tanks on campus and finalized a required 5-year overhaul of the SPCC Plan. OEA provided similar SPCC support to the IBBR/USG campus, as well as the 6 farms operated by the University.

During FY20, OEA renewed the University’s Oil Operations Permit that allows for the storage, transportation, and dispensing of oil on the campus. SPCC and stormwater pollution prevention training was provided to 153 University employees by OEA, as required by our various permits and the governing regulations.

Air Quality Permitting and Reporting

UMD is required under federal and state regulations to hold a Title V Air Quality Permit, with this requirement being primarily driven by the university’s Combined Heat and Power (CHP) facility. OEA collaborates with other departments on campus to ensure that various management tasks associated with the Title V Air Quality Permit are completed and submitted in a timely manner, including testing fuel-burning equipment, permitting new fuel-burning equipment and reporting air emissions from the campus, including “greenhouse gas” emissions. During the last year, OEA began a facility-wide audit in support of the renewal of this permit, which governs the operation of approximately 100 pieces of fuel-burning equipment, including turbines, boilers, generators, water heaters, furnaces, and charbroilers. The renewal application package for the Title V Air Quality Permit was submitted in FY20. Additionally, OEA provided support to the IBBR campus as they deployed their new micro CHP systems in conjunction with their new state-issued air Permit to Operate. Combustion optimization training was provided to 20 University staff members, as required by our Title V Air Quality Permit. OEA continues to provide technical support to the University as we plan and implement the NextGen project, which seeks to refurbish the University’s CHP facility. During FY20, the University successfully completed an audit by the Maryland Department of the Environment related to the Title V Air Quality Permit.



OEA staff member responding to a spill incident.

Spill & Incident Response

Clean up and spill responses for most HAZMAT incidents are managed by the OEA unit. OEA staff are on call 24 hours a day, 365 days a year to respond to and mitigate environmental incidents on the campus. OEA responded to 10 incidents in FY20. Most of these spill responses were conducted solely by OEA staff, while several were conducted with the assistance of the Prince George’s County Fire Department. Additionally, OEA staff conducted investigations of 5 reported illicit stormwater discharges, as part of the Illicit Discharge Detection and Elimination (IDDE) program required by the MS4 stormwater permit.

Campus Development Initiatives

During FY20, OEA continued to provide support to the University as we acquired new property, developed existing properties, and engaged in new relationships with non-University entities. In addition to conducting environmental site assessments related to property acquisition/divestment transactions, OEA provided technical assistance to multiple partnerships with non-University entities, including the Purple Line Project, several start-up ventures, and projects related to the beneficial redevelopment of the University’s former landfill areas.

The Office of the Fire Marshal (OFM), works to preserve and protect life and property from fire, explosion, and natural hazards. This is accomplished through enforcement of the State Fire Prevention Code, fire protection engineering, training, public education, fire investigation, and emergency response and preparedness. OFM is the Authority Having Jurisdiction (AHJ) for the University of Maryland with delegated legal authority of the Maryland State Fire Marshal. The Fire Marshal serves as Assistant State Fire Marshal.

State of Maryland Life Safety Educator of the Year

Maryland State Fire Marshal Brian Geraci presented UMD Assistant Fire Marshal Luisa Ferreira with the John C. Spiker, Sr. Excellence in Life Safety Award 2019 at the annual Mid-Atlantic Life Safety Conference. AFM Ferreira was recognized as State's top fire and life safety educator for her efforts, over her UMD career, in developing programs for the university community and Prince George's County, as well as nationwide initiatives targeting university populations.



Assistant Fire Marshal Luisa Ferreira

New Fire Protection Engineer Helps Meet Construction Challenges

Fire Protection Engineer Jessimay Llaneta, with a background in municipal government plan review and private sector architecture, joined Chief Fire Protection Engineer Keith Lippincott in the Plan Review and Construction section during a challenging period of construction. The plan review and construction section was busy throughout FY 2019–2020 providing fire protection engineering services for the numerous construction projects at UMD, as well as other USM institutions through the USM College Park Service Center. As essential employees, OFM fire protection engineers worked and traveled to other campuses during the shutdown. Major projects completed and granted final occupancy in FY 2019–2020 include The Brendan Iribe Center for Computer Science and Engineering at College Park, The BioMedical Sciences & Engineering education facility at the Universities at Shady Grove, and The Hall College Park arts and entertainment venue in the Discovery District. >>

Campus Preparedness Collaboration

At the end of February 2020 before the World Health Organization declared the novel coronavirus outbreak a pandemic, OFM collaborated with VPAF and UMPD to facilitate a campus-wide work group and planning exercise. Fire Marshal Alan Sactor lead the discussion among more than 80 representatives from UMD departments and community partners gathered to discuss strategies for dealing with the impacts of COVID-19. Areas addressed included: academics; research; student housing; human resources and telework; international students and study abroad; healthcare delivery; disinfection of facilities personal protective equipment and supplies; and communication strategies. The effort was successful in helping the campus prepare for the eventual stay-at-home order and shut down of campus later in March.

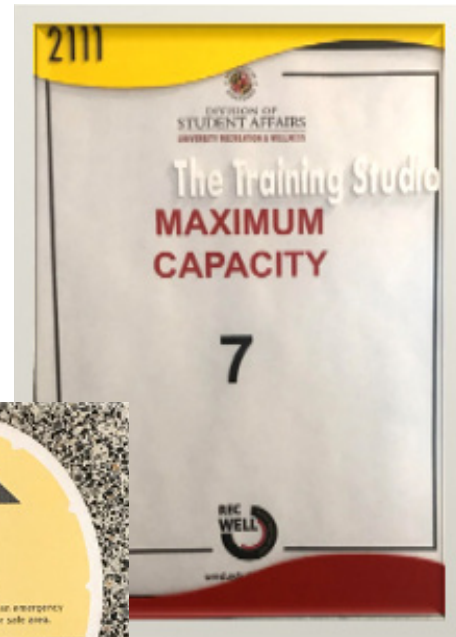


Fire Protection Engineers Keith Lippincott and Jessimay Llaneta conduct a site inspection at Cole Field House



OFM Integral in COVID-19 Operations

When UMD operations were shut down on March 19, 2020, as essential staff, OFM continued to provide day and evening on-site services. Nearly 1,000 walk-throughs of buildings were performed to monitor research facilities and other high hazard areas. OFM, with Assistant Fire Marshal Matthew Hicks on point, worked with the Planning Office and the Provost's Office as they developed reduced capacities and building circulation plans. Fire protection expertise was sought by campus departments and groups as they dealt with the challenges of constantly evolving state and county orders for capacities.



COVID-19 room capacity and directional signage, and directional floor clings.

Mysterious Fire Solved

In May, a fire alarm signal for a sprinkler activation was received at the DPS Security Operations Center. A fire had occurred in a room in Calvert Hall which had been vacated of residents since March. Residents had left their belongings thinking they would return after spring break, but were instructed to unplug all electrical items. With no occupants, and after confirming no possible electrical cause, the fire was a mystery. Fire Marshal Alan Sactor noticed light reflecting off a magnifying mirror on the desk. The time of the fire and the angle of the sun, combined with the room occupant's confirmation of the location of the mirror, led him to believe that the fire was caused by the mirror's intense reflection on the fabric seat cushion. A similar fire had occurred a few months earlier at the University of Southern California which was investigated by a colleague, USC Fire/EMS Capt. Jeff Pendley.



Fire Marshal Alan Sactor examines the items involved in a resident room fire during the campus closure.

The Office of Research Safety (ORS) includes the expertise of the Biosafety, Laboratory Safety, Radiation Safety and Scientific Diving Safety professional staff who support the research community in meeting the University's *Expectations for Conducting Safe Research*. At UMD, our researchers know that research excellence and safety are inextricably intertwined. Thus, safety is a core value of our institution and an integral part of the responsible conduct of research. The University leadership expects all members of our research community to integrate safety into their research activities, to strive for excellence and to go beyond minimum compliance.

From collecting samples in remote areas around the world to handling hazardous materials within the research and teaching laboratories on campus, research often provides for multiple health and safety risks and regulatory requirements to be identified and managed. ORS offers a broad range of services and partners with the research community by providing comprehensive safety training classes, conducting risk assessments and exposure monitoring, and assisting with implementation of safety controls to minimize risks. ORS directly administers many of the university's federal and state licenses and registrations for hazardous and risk significant materials, ensuring regulatory commitments are met as the research community works to achieve their research goals.

Demonstrating Resiliency During COVID-19

In 2020 the world was faced with the challenge of a responding to a global pandemic involving a novel coronavirus, SARS-CoV-2. It was a health crisis on a scale that no one in the world had ever directly experienced. As a university community, we faced this challenge together and our priority was supporting our faculty, students and staff. As knowledge and guidance from experts became available, the campus developed strategies for working safely. Together ORS and the UMD research enterprise stepped up to the challenge and faced this crisis head-on, exemplifying our collective resiliency .

In March 2020, the UMD research enterprise went into severe research restrictions. At that time, the ORS worked closely with the Vice President for Research to immediately communicate guidelines for the Safe Shut-Down of Laboratories. Not all research paused however — initially approximately 10 percent of Principal Investigators and researchers continued to work on campus during the severe restrictions, maintaining critical laboratory assets and conducting research related to the novel coronavirus. To support them, ORS quickly created and published new initial safety guidelines including *Working Safely During COVID-19*, *Daily Risk Assessments for Field Researchers*, and *Interim Laboratory Biosafety Guidance for Research with SARS-CoV-2* and *IBC Requirements under the NIH Guidelines*. ORS partnered with leaders in the University of Maryland Police Department (UMPD) to communicate the UMPD resources available for researchers who would be working alone on campus during staggered hours. To help researchers evaluate and communicate the status of their labs when keeping their lab occupancy density low, ORS created a *BioRAFT Laboratory Self-Assessment Safety Checklist*.

When it was deemed safe to do so, leadership began a careful phased in approach to the restart of research. In June, Phase 1 began with 25 percent of the researchers returning to the labs. ORS supported the Division of Research in developing a Safety Assuredness Plan for laboratories, which provided a template and guidelines for implementing the required safe practices to reduce the spread of COVID-19 in a research laboratory setting. These measures included wearing cloth face coverings, physical distancing, density limitations, cleaning and disinfecting, and health monitoring requirements. As campus resources became published, the new guidelines were then integrated into the research safety plans and ORS continued to develop useful tools such as *Cleaning and Disinfecting Laboratories During COVID-19*.

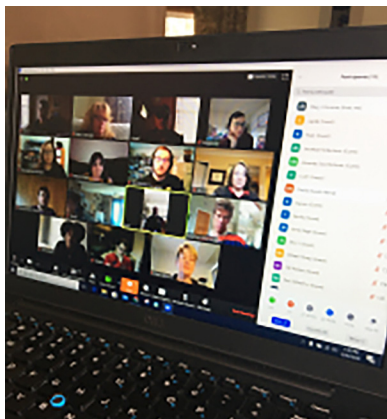
Maintaining our Core Functions

Throughout the COVID-19 pandemic response, ORS maintained its core functions and support. From the start of the severe restrictions, remote on-line meetings and learning became the standard, and ORS quickly adapted. All required laboratory safety training moved to a virtual platform. A remote learning success story was realized in the Emergency Preparedness Table Top exercise for the select agent program, led by the Biosafety Office. Completed virtually for the first time, the exercise brought together over 20 internal and external stakeholders in an engaging session focused on three realistic incident scenarios. In addition, campus compliance committee meetings for the Dive Control Board, Radiation Safety Committee, Institutional Biosafety Committee and the Laboratory Operations and Safety Committee (LOSC) were all held as scheduled and successfully conducted virtually.





Not all ORS support can be provided virtually and very few regulatory agencies allowed regulatory actions to be placed on hold. Therefore, ORS developed new plans and coordinated actions for safely conducting regulatory required work on campus.



ORS staff participating in a virtual training on-line.

ORS continued to complete all regulatory required laboratory inspections, laboratory fume hood testing, radiological surveys and assessments, hazard warning signage updates, environmental and occupational dosimetry, radioactive material package receipt and delivery and supported the university's successful State of Maryland inspection of the Irradiator Program.



Health Physicist Clay Nuquist conducts radiation surveys an incoming radioactive material package prior to delivery to a research laboratory.

Laser Safety Program Development

ORS's Laboratory Safety and Radiation Safety groups partnered to strengthen the Laser Safety Program. Capitalizing on the opportunity the COVID-19 pause in research provided for some professors, research faculty, and graduate students, ORS began conducting laser safety meet-and-greets over Zoom. Principal investigators have participated across the College of Computer, Mathematical, and Natural Sciences, the A. James Clark School of Engineering, Terrapin Works, and other groups. These meetings have evolved over this short period of time to become an effective tool in addressing basic questions on inventory and policy, as well as for addressing specific issues in laser labs.

Leadership Driving a Strong Safety Culture

In an outreach campaign — *Fearless Vision: Achieving Excellence in Research Safety*, ORS joined efforts with the Division of Research and the Laboratory Operations Safety Committee, to engage with campus leaders and administrators on the importance of laboratory safety. Highlighting the national focus on laboratory safety, and using UMD specific metrics collected within the BioRAFT safety management system, leadership at all levels received College specific safety data.

As a result, and as a representation of the strong engagement and support to safety, leaders committed to actions that would strengthen the campus program. Funding for a prescription safety glasses program in research was announced. ORS initiated an *Annual Safety Report* to the Deans and Vice President for Research which includes metrics and safety success stories, specifically highlighting collaborative programs that strengthened safety within their College. ORS participated in a Research Compliance “Meet and Greet”, where Division of Research compliance administrators met with entire ORS staff establishing partnerships and connections that will enhance synergies across the divisions.

ALD Workshop

In May 2019, a small vessel attached to an ALD (atomic layer deposition) reactor exploded during an experiment and caused a small fire. ESSR staff from the Offices of the Fire Marshal and Research Safety investigated this incident and determined the root cause to be an unwanted chemical reaction through an unknown contamination event. After the investigation, ORS worked closely with the laboratory involved in the incident to create a 4-hour ALD Safety Workshop to discuss hazards and safety practices present in the field.



UMD, NIST and NASA researchers attend an ALD Safety Workshop.

The Office of Risk Management (ORM) provides support and consultation regarding the risks naturally encountered in the course of the research, service, and teaching mission of the university. The ORM works to reduce the chance and severity of loss to the university's human resources, physical property, financial and reputational assets. This is accomplished through identification of these hazards and development of controls. Both traditional and progressive programs are utilized by Occupational Safety and Health (OSH), Worker's Compensation, and Risk Management/Insurance to accomplish this goal.

Occupational Safety and Health Unit (OSH)

Asbestos Program

OSH maintains an asbestos inventory for all buildings constructed prior to 1985 that includes all known locations of asbestos containing materials (ACM). Prior to any renovation project, disturbance, or emergency response affecting building materials, the inventory is consulted. Additional samples are obtained if suspect ACM are identified. In 2019, OSH identified a need to transfer sampling responsibilities to project managers and their contractors in order for the OSH unit to expand efforts to improve the safety culture in other areas at the University.

From 2019–2020, OSH collaborated with Facilities Management (FM), and Department of Residential Facilities (DRF) personnel to outline responsibilities in a formal written program. It was written as a companion to the report submitted annually by OSH to MDE detailing contact information, emergency procedures, and recordkeeping for abatement projects completed that year.

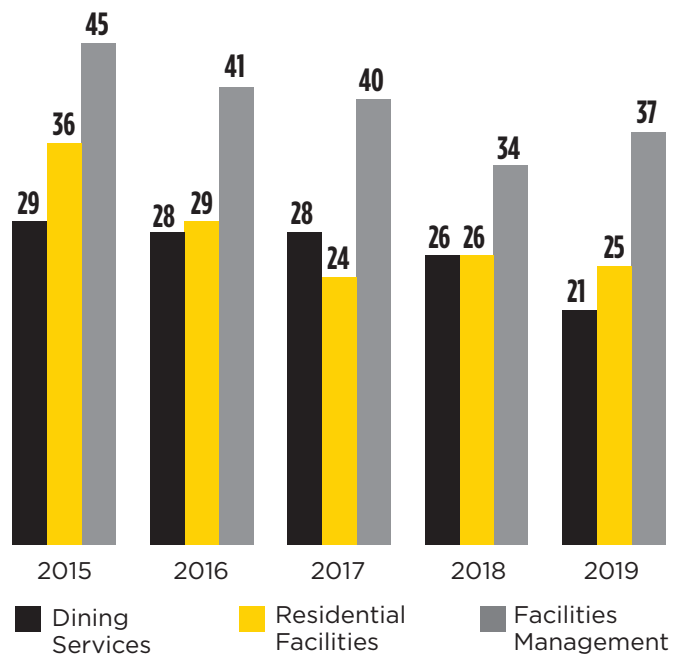
The new program allows the OSH unit to continue to manage the asbestos inventory, record keeping, and oversight of abatement projects while providing specific guidance to project managers and emergency responders. >>

Many concerns on campus find their way to ESSR's ORM for guidance and resolution. When University buildings or property are damaged by extreme weather, or faculty members are injured while on sabbatical, or staff members are injured while providing building maintenance and services to the campus, the ORM is there with the first responders. When Faculty or staff members accidentally trip and fall, or have a fender bender in a State Vehicle, or a staff member needs an ergonomic evaluation, ORM responds.

Work injuries are managed by Workers' Compensation, a part of the ORM. Workers' Compensation works closely with University Schools and departments in the prevention of injuries and illnesses, and when they occur. The majority of the University injuries and illnesses arise out of our three main trades departments; Facilities Management, Residential Facilities, and Dining Services. ORM and Workers' Compensation reviewed their injury data several years ago and began regularly sharing the data with the respective departments.

Over the past few years the OSHA Recordable data for these departments continues to reflect a downward trend in recordable injuries and illnesses.

2015-2019 OSHA RECORDABLE INJURIES AND ILLNESSES



These results reflect a positive safety culture and include: proactive leadership, training that engages employees in preventative measures, and continually fostering a safe work environment.



COVID-19 Response

The OSH unit contributed many reference pieces and training shorts (translated into several languages) to the ESSR webpage devoted to the crisis and worked on various teams across the University to help craft guidance for safely working and for returning to campus.

OSH staff continue to provide guidance and assist campus units tailor their COVID-19 precautions to best meet the needs of their employees. OSH staff assisted various units including DOTS, UMD Shuttle, Mail Services, Office of Research, and The Clarice in reviewing their day-to-day activities, reviewing training presentations, and providing expertise during town halls and meetings. OSH staff would like to thank everyone in these units.

Tiger Team

On a campus as large as UMD, with many buildings built before modern HVAC systems, it can be a challenge to meet the indoor air quality expectations of building occupants. ORM, OSH and Research Safety partnered with Facilities Management to form a “Tiger Team” to address indoor air quality and mold complaints. The collective efforts identified numerous ways in which the responses, investigations, communications and solutions can be more effective. Taking a more holistic approach to evaluating both working and learning spaces should lead to better planning for the use of spaces on campus. New procedures were developed leading to faster response times and better communication.

Insurance/Risk

Unmanned Aerial Systems (UAS) Risk Assessments

The ORM performs risk assessments for various departments on and off the College Park campus. The purpose of these assessments is to find approaches to reduce the chance of injury, property damage, and/or financial loss and to ensure measures are in place to mitigate a loss when it occurs.

In 2019, ORM conducted such an assessment for our Unmanned Aerial Systems (UAS) Test Site in California, MD.

ORM made some recommendations to their operational procedures and language enhancements to proposed partnership agreements that reduced the risk of liability for the UAS Test Site and UMD. In addition, a thorough review of their current commercial aviation liability insurance policy was conducted and ORM determined that physical damage coverage was needed for their fleet of Tigershark drones. This coverage provides financial protection to UMD in the event a Tigershark is destroyed in an accident. When the policy was renewed in August 2019, this coverage was added.



Tigershark Aircraft courtesy James Alexander

The Office of Sustainability (OS) supports and advances environmental performance, economic prosperity and social equality through a variety of initiatives. The staff facilitate the development and implementation of sustainable policies, practices and curricula for the campus community by:

Accelerating Carbon Neutrality

Climate change and the need to achieve carbon neutrality has been a central issue at the university since the adoption of the Climate Action Plan in 2009. Since then, scientific studies have shown that the rate of global warming is faster than originally projected. In 2018, the Intergovernmental Panel on Climate Change (IPCC) issued a report noting the accelerating impacts of global climate change. In response, UMD students requested that the university accelerate its established carbon neutrality date from 2050 to 2025.

The university had already met its interim goal of a 50% reduction in greenhouse gas emissions, but the IPCC report and student request resonated with the University Sustainability Council. The Council evaluated the feasibility of meeting the earlier deadline by assessing the remaining sources of UMD's carbon emissions. In 2020, the Council adopted recommendations that supported the student request which will be forwarded to the University President.

Sustainability Fund

Over the past 10 years, the Sustainability Fund provided \$2.8 million in grant funding to 146 projects at UMD. The OS administers the Fund and coordinates a student-majority committee that reviews grant proposals and makes funding recommendations to the University Sustainability Council. All revenue comes from student fees.

The Fund was not able to provide its normal level of funding to projects in FY20. When COVID-19 suspended many campus activities in spring 2020, the university refunded select student fees, including the Student Sustainability Fee. As a result, the Fund gave back one quarter of its budget.

Nonetheless, several exciting projects received support from the Fund in FY20. The OS received \$66,000 to further integrate sustainability across the curriculum. Geographical Sciences received \$27,327 to calculate carbon sequestration rates in forests owned by UMD. Facilities Management received \$3,400 to plant more trees in wooded areas on campus to increase the density of understory plants and improve biodiversity.

Sustainability Outreach

Outreach is conducted with numerous partners to encourage sustainable behaviors, primarily through three unique certification programs: the Green Terp, the Green Chapter, and Green Office programs. In the 2019-2020 academic year, the SustainableUMD outreach team consisted of staff, graduate assistants, interns, and volunteers. Together, this team conducted nearly 120 hours of direct outreach to students, including 88 events and registering 2,323 students to take the Green Terp pledge. Despite the challenges of the campus shut down, 17 of 20 participating fraternity and sorority chapters still earned Green Chapter >>



Sustainability Fund Grant Award Ceremony



Sustainability Outreach Event

certification. During the year, the Green Office program was streamlined and updated, using digital tools to further support staff in conserving resources. The group worked quickly to pivot to online programming for Earth Month in April and found new ways to conduct virtual outreach during the pandemic.

President's Energy Initiatives

The OS provided support to Facilities Management to implement and assess performance on a five-year effort to reduce the campus energy footprint. The President's Energy initiatives, announced by former President Loh on Earth Day 2014, set targets to reduce electricity use on campus, transition to renewable electric power, and prevent new construction from inflating the campus carbon



Green Roof - Physical Sciences Building

footprint. Efforts to improve building energy efficiency and conserve electricity resulted in a 5% reduction in electricity consumption in facilities on main campus from 2015-2019. As of 2020, 100% of the electricity that the university purchases from utility service providers is renewable, mainly from solar and wind. The Brendan Iribe Center is the first net-zero carbon building on campus; the OS managed procurement of verified carbon credits to offset carbon emissions from the natural gas needed to heat the building.

Carbon Neutral Fleet Work Group

The Office of Sustainability facilitated a University of Sustainability Council work group to develop recommendations for reducing the carbon footprint of UMD's vehicle fleet and transitioning to electric vehicles and other zero-emission vehicle options. Participants from the Administrative Modernization Program, the College of Agriculture and Natural Resources, Dining Services, Facilities Management, Motor Transportation Services, and Transportation Services came together to agree on strategies that they presented back to the Council. Following Council approval, the OS and the Administrative Modernization Program began the necessary data gathering, administrative processes, collaboration and analyses that will help UMD transition to a more environmentally-friendly vehicle fleet.



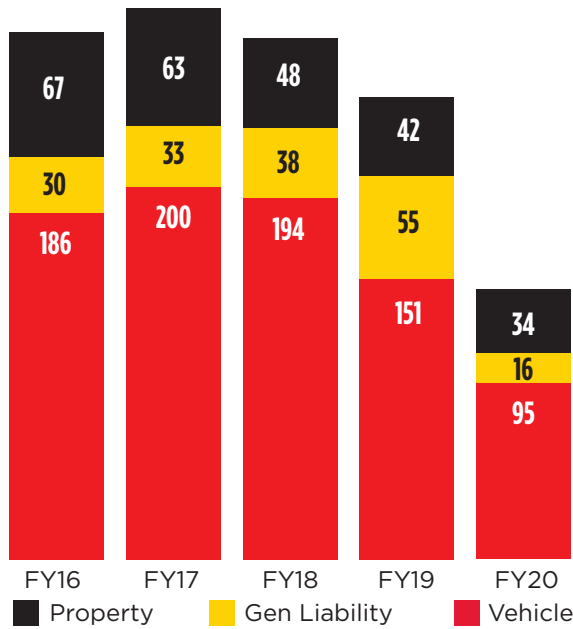
Electric Vehicle Charging



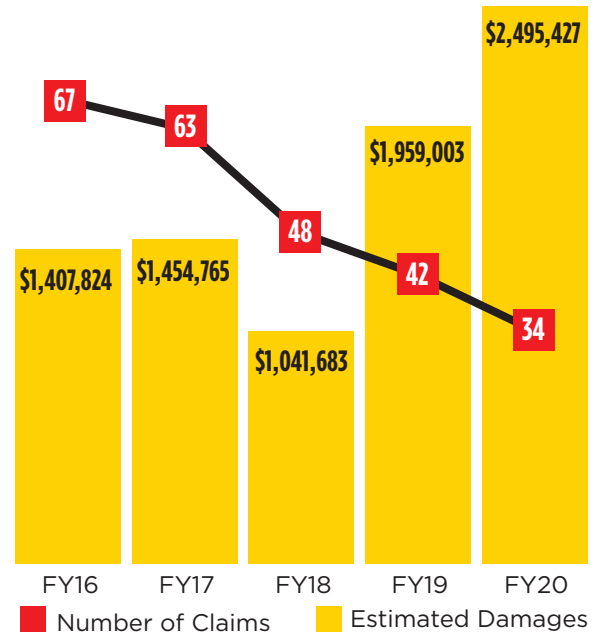
Solar Panels on UMD Parking Garage

METRICS

INSURANCE PROCESSING CLAIMS FY16-FY20



PROPERTY CLAIMS FY16-FY20



FY20 PROPERTY CLAIMS

Type of Claim	Number of Claims	Damages (in dollars)
EXPLOSION	1	150,000.00
FIRE	1	75,000.00
FLOOD	19	1,734,335.05
OTHER	11	428,159.18
POWER OUTAGE	1	6,320.00
THEFT	1	50,000.00
WEATHER	1	5,791.06
TOTAL	34	2,443,814.23

FY20 GENERAL LIABILITY

Type of Claim	Number of Claims
TORT INJURY	9
TORT PROPERTY	7
TOTAL	16

FY20 STATE VEHICLE CLAIMS

Type of Claim	Number of Claims
SIDESWIPE	52
BACKING	17
OTHER	12
REARENDED	10
T-BONE	3
HEAD ON	1
TOTAL	95

TRIR = # of injuries x 200,000 ÷ total # hours worked.
 UMD's 2018 TRIR is 0.9 continuing the downward trend. The Bureau of Labor Statistics (BLS) uses the North American Industry Classification System (NAICS) for industry comparison. The NAICS 2017 TRIR calculation (most recent) for colleges, universities, and professional schools (6113) is 1.71. UMD continues to outperform the national average.



DEPARTMENT OF ENVIRONMENTAL
SAFETY, SUSTAINABILITY & RISK

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