

# THE JOURNAL

INDIANA ENVIRONMENTAL HEALTH ASSOCIATION, INC.

## Cancelling Fall Conference a hard decision

Voting members of the Executive Board likely made the toughest decision in the history of IEHA. Be-



The Lawrenceburg Event Center is again the planned host site for the conference in 2021.

cause of the prevailing COVID-19 pandemic, it was felt that cancelling the Annual Fall Educational Conference was the only choice. Although there may have been a way to conduct the conference safely, there was the risk that too many potential attendees would not be able to travel, or elect not to come. Too few attendees while fixed costs remain, could mean a loss for IEHA. There was also the risk of the perception that an envi-

ronmental health group wasn't taking the pandemic "seriously" as other events were being cancelled.

One almost never worries about the fine print in a contract, but sometimes, it makes all the difference. That was the case with the contract with the conference host site in Lawrenceburg that provides for penalties to be assessed if IEHA desires to cancel its reservation. The financial penalty the Event Center spokespersons said they would assess amounted to about \$10,000, money that could have created a serious financial hardship to IEHA.

However, the Event Center offered to not enforce any penalty if IEHA would agree to keep its conference there for next year, and credit money already paid. The Executive Board felt this was the best outcome for the association.

## Same time, same place, next year

In order to be able to secure the best outcome for IEHA, and its members, several things had to happen. One, the President Elect plans the fall conference (after being responsible for the spring conference the year before as Vice President) and suspending the 2020 fall conference for one year would obligate the incoming President Elect to use a site not of her choosing. That led to a

consideration of the constitutional requirement to elect officers annually. To solve this, the Executive Board decided to extend all officers for one year, subject to member approval. The member response was 100% in favor. The final result is that conferences will be held next year at the same locations and comparable dates to this year.

### Special points of interest:

- **Cancelling was the only choice after considering financial implications.**
- **The public health perception was a concern, too.**
- **Current officers will all continue in their current jobs one more year.**
- **2021 events will be the same as 2020.**

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## From the Ed desk



Here's the latest Journal for you to enjoy. If someone had told us a couple of years ago that in 2020 we'd be quarantining, meeting virtually via Zoom or MS Teams, wearing masks and generally avoiding social contact, we wouldn't have believed him or her. But here we are. As Environmental professionals, we end up more on the front lines than most, but we have the talents and abilities to make the best of it all. Do check out the article on how the lack of funding has adversely affected us.

I've attempted to keep the Journal going with a sense of "normal", and I hope you will find something of interest and even informative. Contact information is on the back page, and I encourage you to sent along comments and article ideas. Stay well!

*Ed*

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## Is any mask better than no mask?

Researchers at Duke University say the answer to that question is no. Duke's Department of Medicine partnered with the Department of Physics to test many different types of face coverings to demonstrate which ones were effective, and which ones were not.

According to the Duke Health website, Duke physician Eric Westman was one of the first to believe that masks could help curtail the spread of the Coronavirus, but he wanted to know which masks available actually worked effectively. Were claims by manufacturers that masks

stopped the spread of the virus valid?

Dr. Westman approached Dr. Martin Fischer, a chemist and physicist, and director of the Advanced Light Imaging and Spectroscopy facility at Duke. Dr. Fischer already had simple equipment set up that could provide visual evidence of masks' effectiveness.

He said the lab confirmed that when someone speaks, small droplets get expelled enabling disease to spread from talking, not necessarily just by coughing or sneezing. The lab tests could show which masks were more effective

in blocking expelled droplets that could contain the virus.

As expected, "N95" masks used in hospitals were best, and surgical or polypropylene masks were also good filters, and cotton face covers eliminated a significant amount of emissions from normal speaking.

But, tests showed that bandanas and neck fleeces didn't block droplets much at all and could actually make things worse.

But Dr. Westman said that wearing the right mask is a simple and easy way to stop the spread of COVID-19.



Dr. Fischer shows the test setup at Duke University to demonstrate effectiveness of different face masks.

Tests showed that bandanas and neck fleeces didn't work and might make things worse.

## Our sun is boring, and that's good

Compared to other stars in the universe, our own sun is boring, cosmically speaking. As reported in *StarDate*, researchers looked at over 360 stars that are similar to the Sun, analyzing surface temperature, age, proportion of elements heavier than hydrogen and helium, plus rotation period.

The rotation of a star is what produces its magnetic field, driving fluctuations in activity, which

includes the numbers of magnetic storms on the surface, and the powerful eruptions of radiation and charged particles. Such storms can severely affect communications on Earth, but space observations have indicated that our Sun varies in brightness much less than other stars.

Other stars tended to show as much as five times more variability than our Sun over the past 140 years.

So why is this? The study suggests perhaps our Sun does vary but over a much larger time scale. Or maybe there are other differences not yet found.

So is our Sun's "boring" behavior just a basic trait? Or are we just in the midst of a millennia-long quiet period?

But boring is good as it's much less disruptive of our electronic technology and communications.





## Fall Conference award winners

Because there was no awards banquet since the Annual Fall Educational Conference had to be cancelled, award winners were announced during the virtual business meeting held September 21. The recipients were:

- Brenda Cummins, Environmental Health Specialist of the Year
- Lisa Harrison, Tim Sullivan Memorial Award

- Nicole Corwin, Rookie of the Year
- Linda Briles, Sanitarian Emeritus
- Wabash Valley Chapter, Harry E. Werkowski Memorial Award.

The physical award associated with each award will be presented at the 2021 Spring Conference, April 22, in Nashville.

“The IEHA annual business meeting was held virtually since meeting in person, wasn’t possible this year.”

Because the annual business meeting of IEHA wasn’t held in person, the meeting was held virtually, with more than six dozen members online.

Much of the yearly revenue for the association comes from the conferences. With both spring

and fall conferences cancelled, Treasurer Gretchen Quirk reported that IEHA’s budget will be in the “red”, but that money on hand in IEHA accounts means the association will be fine. But it puts more importance on next year’s conferences being successful.

Next year’s conference dates were confirmed as April 22 for the Spring gathering, and September 20 to 22 for fall. The locations will be the same as planned for this year, Nashville, and Lawrenceburg, respectively.

## IEHA members, by the numbers



Membership committee chair, Jason Ravenscroft, reported during the online IEHA business meeting that membership numbers are strong.

Jason provided a breakdown of the member numbers.

- 344 - Active members
- 1 - Associate
- 2 - Honorary
- 40 - Lifetime
- 38 - New
- 247 - Regular
- 5 - Retired
- 8 - Sustaining
- 3 - Student

Anyone interesting in joining IEHA need only to check the website at [www.iehaind.org](http://www.iehaind.org) for membership information. Dues remain quite reasonable at \$40 per year for a regular membership.

## Indiana's spill rule says what to do

With all the highway construction, accidents involving diesel fuel spills have been more common, says Dwayne Caldwell, Senior Environmental Manager at the Indiana Department of Emergency Management (IDEM). Dwayne took Wabash Valley Chapter members through an outline of Indiana's spill rule - 327 IAC 2-6.1 and how it explains what to do, when, and by whom, after a hazardous spill occurs.

Basically, he said, the rule says one can't damage the waters of the state, actual or imminent.

One of the first goals is to keep chemical spills

from reaching water, which would make contamination much worse and over a wider area. Not only are vehicle liquids a problem (fuel, antifreeze, other fluids) but the cargo can be a problem. Besides "hazardous" substances, the rule addresses "objectional" products including milk, cottage cheese, and beer. Any liquids can lead to fish kills if they reach water.

Any spill will require three things, Dwayne said. These are reporting, containment, and response. He said even though very small spills are not reportable, all require a response,

meaning mitigate the spill and keep it from water.

He advised those who respond to hazardous spills keep in mind that safety comes first. "Don't go beyond your training," Dwayne said. He added some of the best equipment to have when responding are binoculars (to observe from a safe distance), a flashlight, and means to take notes. A cellphone camera, that nearly everyone has, is also a good tool for documenting observations.

He added that proper response is also necessary at fixed facilities.



Malcolm Caldwell explains the intent and requirements of Indiana's spill rule.

**"Keep in mind that safety comes first. Don't go beyond your training."**

## Activities you should never do again

The COVID-19 pandemic coupled with the coming flu season has given us the opportunity to change some habits. *AARP Bulletin* pointed out six actions we should change permanently.

1. Don't pass a hand-washing sink without using it. People touch all sorts of contaminated surfaces from telephones to shopping carts. Two hours will allow hands to collect all the germs

they can hold.

2. Don't leave home without your own pen with you. Pens you use in public places from doctors' offices to stores, can pass microbes left by others to you.

3. Don't get too little rest. Researchers found that those with less than five hours of sleep per night were more likely to catch a virus than those sleeping over seven hours.

4. Don't drive if you can walk. Those who walk more are sick less.

5. Give up all tobacco products. COVID-19 patients who smoked were over 90% more likely to become critical or die.

6. Don't eat at a self-serve buffet. Touching the same utensils others have touched greatly increases the risk of picking up a virus.



Handling utensils at a buffet can transfer pathogens between customers.



## Golf courses can help monarchs

Recent *Journal* articles have illustrated how solar fields are using space between panels to plant wild flowers that attract bees, butterflies, and other pollinators. Golf courses are also helping.

EDF (Environmental Defense Fund) has reported that a number of golf courses in the United States are contributing to pollinator habitats by

including milkweed plants necessary for monarch survival in areas called “roughs”. Golfers searching for balls hit into the rough could find a pleasant surprise - the North American icon fluttering or resting on the plants.

The US has over 2 million acres dedicated to golf courses, and environmental stewardship just

makes sense says Gary Ingram, superintendent of a public course in California. “It should be more than just a place to play golf”. Monarch numbers have declined up to 90% in 20 years.

Several hundred courses have implemented some kind of habitat program under a program called “Monarchs in the Rough”.

“A mile of repaved California has been completed using recycled plastic bottles, a first in the nation.”

## First recycled highway completed

It looks like an ordinary highway but it’s a first of its kind. The *Good News Network* has shared that a mile of repaved state road in California is made from 150,000 single use plastic bottles. The company TechniSoil teamed up with CalTrans (California’s highway

department) to create the highway material and has planned other uses in the state for the material. The eco-friendly road formula is said to be up to 3 times more durable than traditional asphalt.

Typically, the top sever-

al inches of highway is mixed with a sludge-like binding agent called bitumen, and requires added imported asphalt. But replacing the bitumen with the polymer-based binding agent made from plastic bottles, eliminated the need for extra asphalt.

## The ISS orbiting for 20 years



The International Space Station (ISS) launched in November, 2000, and has been occupied ever since. As outlined in *StarDate* magazine, it is a joint effort of the United States, Russia, Europe, Japan, and Canada and has hosted 63 crews of astronauts and cosmo-

nauts who have conducted over 2,700 scientific investigations, many not possible to perform on Earth.

The ISS, including its solar panels, stretches longer than a football field, has a “low earth” orbit of about 250 miles,

and travels about 5 miles per second. The ISS orbits once every 96 minutes.

The ISS has a much clearer view of space than possible from Earth as it orbits above the atmosphere.

## Millions of mosquitoes to be released

Planning is underway for a biotech company to release over 750 million modified mosquitoes over the next two years in the Florida Keys.

*CNN* says the Environmental Protection Agency (EPA) approved the project with the goal of releasing *Aedes aegypti* mosquitoes with altered genes so female offspring die in the larval

stage. Project sponsors say this would lead to mosquito populations, known to carry Zika and other viruses, to die off quickly.

But not everyone is on board with the project. Environmental rights activists are raising concerns that the engineered mosquitoes could damage nearby ecosystems. Called a

“Jurassic Park” experiment, environmentalists say answers from officials have shown a lack of management skills and unprofessionalism.

Florida Keys Environmental Coalition members are among 230,000 petitioners wanting the EPA to say no to Oxitec, the company planning the mosquito release. The company denies

there will be any negative effects, citing years of investigation by EPA.

But part of the petition reads, “...mosquitoes could pose major risks to fragile ecosystems ... and may pose a risk to public health and safety.”

## New NSF research includes Purdue

Purdue University has announced it will be a partner in a new research project by the National Science Foundation (NSF) intended to tackle head-on food, energy, and water security challenges. A \$26 million grant has allowed NSF to create the Engineering Research Center (ERC) for the Internet of Things for Precision Agriculture (IoT4Ag), meant to take on large scale challenges. The center, at the University of Pennsylvania’s School of Engineering and Applied Science, will bring together talents of two dozen researchers from Purdue, Penn Engineering, University of California Merced, and University of Florida.

Melba Crawford, professor in the Agronomy Department and Electrical and Computer Engineering, will be System Integration lead for the project, joined by several Purdue faculty members.

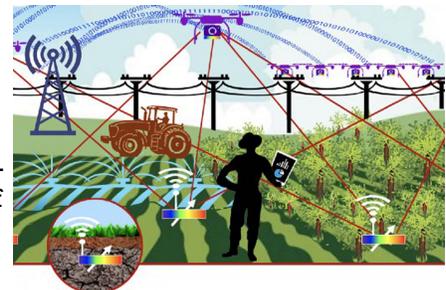
Technologies, from the soil to the digital cloud, developed through IoT4Ag ERC, will collect, share, and analyze data to improve farming practices, maximizing productivity while minimizing waste and ecological impact. This includes developing soil-based sensors, and ground and airborne robots, and networking them together to communicate in less than ideal conditions.

Researchers at Penn say new technology is need-

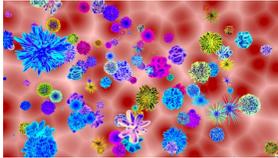
ed to meet challenges of the world’s growing population, and climate change. This will be done by combining a wide range of academic disciplines from the various universities and private industry, and will include students, faculty, and professionals.

The center will then serve to educate students, engineers, agriculture professionals along with other members of the farming community with specific classes and hands-on laboratory and field activities. The center says more crops must be produced for every drop of water or Joule of energy.

“More crops must be produced for every drop of water and Joule of energy.”



## Funding cuts hurt COVID response



The cuts to public health funding that have been pervasive for years has left many local health agencies unable to respond to the current pandemic that has meant the deaths of over 225,000 nationwide.

Kaiser Health News (KHN) surveys show that public health has been “starved” for decades and now lacks the resources to confront the worst health crisis in one hundred years. KHN talked to over 150 public health workers and other experts, looked at financial records of hundreds of local health departments and other entities and found that, on every level, public health is “underfunded, under threat, and unable to protect public health.”

Robert Redfield, Centers

for Disease Control and Prevention (CDC) said that for decades the nation has failed to effectively fund public health.

So when the pandemic struck, KHN says, the federal response was bungled, and “hollowed-out” state and local health departments were not equipped to step up.

### Numbers are stark

Public records tell the story. KHN found that from 2008 to 2019, local public health work forces shrunk from 162,000 to 136,000, with some staffs stretched so thin even basic services like food, pool, and sewage inspections, rodent and pest control weren’t being done, and this was before the pandemic.

Florida is an example of the public health crisis

adversely affecting citizens. The legislature had continually cut public health funding, arguing that services could be taken over by private for-profit entities. But that hasn’t happened, and with state public health funding cut 41% over the last ten years, there were already fewer investigators to track, trace, and contain diseases, let alone conduct inspections. Then the pandemic struck Florida, which seemed totally unprepared, and that was termed “governmental malpractice” by Dr. Leslie Beitsch, former deputy secretary of Florida’s health department.

“People are going to die because of irresponsibility,” says Ron Bialek, president of the Public Health Foundation.

“Public health funding was cut 41% in Florida over the past ten years, leaving too few investigators. Then the pandemic hit.”

## Switching for the environment

The Indianapolis Zoo has announced it is making a change. Not a change that will affect the animals, at least not directly, but it is changing beverage containers being sold on the zoo grounds.

Zoo staff are getting rid of all beverages in plastic con-

tainers and replacing them with aluminum, stating in its *Indianapolis Zoo Magazine* that aluminum is one of the most sustainable materials that can be recycled. Aluminum cans, they say, can be recycled many times without losing quality, requiring less energy than required to recycle glass or plastic into new usable products.



# Sustaining members invaluable to IEHA

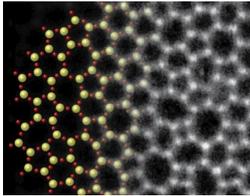


Sustaining members enable IEHA to provide the programs and services to all its members. Supporting the members that support us!



**ACCORDING TO THE OCEAN CONSERVANCY, WE DUMP 8 MILLION TONS OF PLASTIC INTO THE OCEANS EVERY YEAR. THAT'S ABOUT EQUAL TO A NEW YORK CITY TRASH TRUCK LOAD OF PLASTIC DUMPED EVERY MINUTE OF EVERY DAY!**

## Clean, unlimited power from graphene



Ripples occurring in graphene can produce usable power.

Physicists from the University of Arkansas successfully developed a circuit that captures the thermal motion of graphene and converts it to electrical current.

*www.phys.org* recently reported on the research that would allow “an energy harvesting circuit based on graphene to provide clean, limitless,

low voltage power for small devices or sensors”, according to lead researcher Paul Thibado. It was discovered that a single, free standing, layer of carbon atoms ripples in a way that could generate energy.

The research team found that the thermal motion of graphene induces an alternating current (AC)

in a circuit, a feat previously thought not possible. The additions of diodes to the circuit converts the AC to DC (direct current). The team found that the switching behavior of diodes can actually amplify the power, not reduce it. They next want to see if power can be saved in a capacitor for future use.

“Flies will regurgitate where they land to soften the “food” so they can then ingest it for nourishment.”



Flies are looking for food when they land on you.

## A fly lands on you. Why did it do that?

Many viewers during a recent political debate saw that a fly landed on one of the candidates.

*BestLifeOnline.com* recently shared some reasons why flies do what they do. Anyone who has tried to shoo a fly knows they can be persistent.

First, flies are scavengers and might think you are a food source. Nancy Troyano, PhD, and a board certified entomologist, says, “Flies have a good sense of smell and investigate odors that

might be a potential food source.” Humans give off heat and carbon dioxide, plus other odors that might say “food” to a fly.

Secondly, flies will absorb the moisture from a person’s skin. This might be from perspiring after eating or drinking. The odor present, even though we don’t smell it, is strong to a fly. Flies don’t digest solid food, so “sop up’ skin moisture using their sponging mouthparts.

Flies will ingest the dead

skin cells we constantly shed. Then along with the moisture they’ve collected, will regurgitate on the spot they landed on (your skin), so they can ingest the liquified “food” for nourishment.

Which leads to the fact that flies might leave a “little something” behind when they move on. Remember, the fly landing on you likely already visited something decaying, fecal material, or other substances you don’t want to eat.

**Plan now to attend the Spring Conference, April 22, in Nashville, Indiana.**

## Not sure if you have COVID-19?

The coronavirus COVID-19 has symptoms that mimic influenza, like fever, cough, but a recent study has shown that the loss of taste and smell seem to be unique to COVID-19. According to a report in *BGR.com*, the loss of the ability of taste and smell might be a big indicator the virus is present. One study at Vanderbilt University showed that this was the

only symptom about a quarter of the people diagnosed with COVID-19 experienced. Nearly all patients showing typical symptoms also reported a loss of smell.

But not discovered earlier was that the loss of the ability to distinguish two particular smells was most likely a key indicator. About a quarter of the study's participants said they couldn't smell

peppermint, and just over 20% couldn't smell coconut oil.

Vanderbilt researchers said upper respiratory infections can cause congestion, drainage, and symptoms that can block the odors reaching the smell nerve. Ongoing loss might be from the inflammatory reaction leading to a loss of olfactory neurons.



## Largest food facility serves millions

It's hard to envision how large a foodservice facility has to be to serve nearly a quarter million meals a day. But the Emirates Flight Catering (EFC) facility in Dubai, UAE, prepares food for over 100 airline clients, foodservices in airline terminals, and other clients who wish their services, in a facility that covers over 130,000 sq. ft. with more than 6,000 employees.

Airline foodservice has traveled a long way since the first airline meal was served in 1919. On a transport flight from London to Paris, passengers were served a pre-made box lunch for an equivalent of almost \$10 in today's cost.

Besides the food preparation side of the business, there is also the section that handles ware washing of returned dishes and utensils used in flights. Items to be washed yearly number in the millions. Upon arrival, soiled dishes are separated completely away from clean equipment, sorted into food or beverage equipment, then moved about a mile and a half by monorail to the ware wash area. Imagine the size of a dish machine to handle the load!

Once cleaned and sanitized, dishes are moved to the food preparation area where food is prepared on a massive scale. Food selection for each client is based up-

on what a particular customer (i.e. airline) wants, and will vary between classes of tickets.

EFC follows HACCP principles (Hazard Analysis Critical Control Point) throughout the operation. Proper temperatures are maintained and it is intended that food will be consumed within hours of being prepared.

Chefs will prepare a sample dish, then workers will duplicate that meal many times. Different kitchens will prepare different cuisines. (Emirates Flight Catering press releases)

"A monorail transports soiled dishes over a mile to the dish washing area."



Emirates Flight Catering is the largest foodservice facility in the world, serving millions of meals yearly.

**IEHA is an Indiana not for profit corporation since 1951.**

IEHA  
PO Box 457  
Indianapolis, IN 46206-0457

Phone: 317-797-3255  
Email: [info@iehaind.org](mailto:info@iehaind.org)

Journal editor:  
[fsio99@gmail.com](mailto:fsio99@gmail.com)

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*"The Mission of the Indiana Environmental Health Association, Inc. is to promote, preserve and protect environmental public health in the state of Indiana, and to encourage a spirit of cooperation among all environmental health stakeholders while serving its members in the regulatory, industry, and academic communities."*

## More about IEHA



The Indiana Environmental Health Association, Inc. (IEHA) was founded in 1951 as the Indiana Association of Sanitarians (IAS). There were 16 charter members. The name was officially changed to the

Indiana Environmental Health Association in 1985. IEHA is affiliated with the National Environmental

Health Association (NEHA), and the International Association for Food Protection (IAFP).

IEHA is comprised of eight regional chapters. They are Central, East Central, Northeast, Northwest, Southeastern, Southern, Wabash Valley, and West Central. There are four standing committees, which include Food Protection, General Environmental Health Services, Terrorism And All Hazards Preparedness, and Wastewater.

The operations of IEHA are governed by an Executive Board that meets regularly. The Board and various standing committees are made up of voting and non-voting members. Information plus meeting dates, times and locations for the chapters and standing committees may be found on the IEHA website listed on this page. All meetings are open to any member or guest but only "voting members" may vote or hold an office.