Our Club

RCSI is a nonprofit 501(c)(3) group open for membership to anyone interested in computers and new technology. Established in 1981, our aim is to provide an exchange of information between users of digital devices. We are not in any way affiliated with any computer manufacturer or software company, and *we do not sell your data or email address*.

Program Meetings

No admission fee for non-members. Everyone is welcome! Second Tuesday of every month, *except July and August*, from 6:30pm-8:30pm.

Help's Half Hour (Q & A) 6:30pm – 7:00pm. *Members and Guests are welcome to attend and bring their computer related questions with them to get answered.* **Yes, you may bring the problem computer with you.**

7:00 – 7:10, Club Business

7:10 – 8:30+, Main Presentation Come and join in the fun and enjoy a snack! **You are welcome to bring a guest**.

Become a Member

The club would like to have you as a member, and your subscription will help to keep us going. Go to our website, www.rcsi.org, and download a printed form for use by the Post Office mail, **or** enter your info online and pay with a credit card or PayPal, **or** attend a meeting.

The Rochester Computer Society, Inc.

a computer/tech club open to everyone

M NIT R

Jan 14, 2025, 'Impact of AI on jobs',
'Free Windows Software'

**Feb 11, 'Best of CES 2025',
'Top Research Trends for 2025'**

In This Issue

Why Encryption Backdoors Are a Horrific Idea

by Leo Notenboom, https://askleo.com/
Making Technology Work For Everyone

They assume perfection, and we all know how that goes.

A phrase we've heard more and more often in recent years is *encryption* backdoor. The concept is simple: government agencies want to be able to monitor otherwise encrypted communications.

The concept is flawed.

Encryption backdoors
Encryption backdoors allow governments or other entities to access private communications, undermining privacy. These

backdoors create vulnerabilities; they rely on the trustworthiness of those entities to use backdoor keys responsibly and prevent leaks. Criminals can still bypass such measures using traditional, non-backdoored encryption. Encryption backdoors risk your privacy without effectively improving anyone's security.

Securing communications with encryption
The fundamental concept of encrypted communications is that only the sender and the recipient can read a message exchanged between them. The sender encrypts it before sending, and only the recipient has the ability to decrypt it.[1] One example I run into regularly is sending someone a password — you don't want someone "in the middle" to be able to see it. An end-to-end encrypted messaging service is one solution.

Governments don't like this at all. At its most basic, encryption prevents law enforcement from monitoring potentially illegal activities. At its most extreme, it prevents oppressive governments from monitoring what their citizens might be up to.

As a result, from time to time we hear of proposed legislation to force service providers to provide a back door that would allow authorized entities such as governments and perhaps others to access otherwise inaccessible communications.

How a backdoor might work
Traditional encryption works in one of two ways. One method uses a common secret, like a password, which is used to both encrypt and decrypt data. The other method uses a key-pair: one key can decrypt data encrypted by the other, and vice versa. Without the appropriate password or key, encrypted data cannot be decrypted.[2]

What both these approaches have in common is math — lots and lots of advanced, complex math.

A backdoor adds more math. In addition to the password or key, some kind of "master key" would also be needed to decrypt the data. That master key would be shared only with trusted entities (like governments) with (hopefully) legitimate reasons to decrypt the data.

A real-world physical example
Consider the TSA-approved padlock.

This padlock might have a key or combination. If you have the key or know the combination, you can unlock it.

In the United States, the TSA (Transportation Security Administration) has mandated that approved padlocks also have an

additional key slot — a key slot for which their agents have a master key.

This master key is a back door allowing them to bypass your padlock's mechanism completely and open it. This allows them to examine the contents of your luggage. You can use a non-compliant padlock, but the TSA has the right to break the lock.

There's a reasonable argument that this contributes to public safety. However, even though it's likely illegal to possess, the master key has long been available to anyone who cares to get it. Travelers have been forced to sacrifice personal privacy for public security.

Physical versus digital
The major difference between our physical example and encryption is the bolt cutter. Luggage locks are easily broken. Even the most secure locking mechanisms can typically be thwarted with enough skill or force.

That's not quite the same as digital encryption. An appropriately strong encryption algorithm can be practically impossible to break.

Again, governments don't like this. They would very much like a way to break the lock, so to speak, of digital encryption.

Why backdoors are a bad idea
Encryption backdoors are not just a bad idea; they're a horrific idea.

To begin with, we would have to trust the government to hold the master key **completely**. That means:

- They would have sufficient security in place to prevent the key from being stolen.
- They would have sufficient security in place to prevent the key from being copied.
- They would only use the key appropriately in legitimate circumstances.

Every single employee of the entity holding a backdoor key would have to be trusted completely.

TSA master keys have already failed the first two tests; the master key is readily available.

Just like the TSA master key, the chances of an encryption master key being leaked are very, very close to 100%.

Besides which, *the backdoor may not even increase public safety.*

Good encryption already exists
Even in extreme cases where encryption backdoors are mandated and the use of non-backdoored encryption is outlawed, criminals still use uncrackable encryption to render any backdoors to new encryption algorithms pointless. Honestly, I don't understand why more of the conversations on this topic don't include this tidbit.

If good encryption is outlawed, then only outlaws will use good encryption.

That password I shared with someone? With a back door, anyone with the backdoor key could still see it if so inclined. The only way I have to ensure that's not possible is to keep using non-backdoored encryption — legal or otherwise.

It just doesn't make sense
Encryption with backdoors doesn't make sense.

- Those who use it run the real risk of having their privacy violated.
- Those who understand it avoid it and take their communications elsewhere.
- Criminals naturally avoid it and continue to use more secure methods, legal or otherwise, to communicate.

It's an ineffective approach to security that decreases the privacy of honest individuals.

Do this
Understand the discussion when you hear or read about it. However, if you're able to communicate your thoughts to your elected officials here in the United States when the topic comes up (and it will), or the appropriate agency if you're elsewhere, let them know how pointless this effort is.

No backdoors here! Subscribing to my weekly newsletter, Confident Computing? Less frustration and more confidence, solutions, answers, and tips in your inbox every week.

<p align="center"># # # END OF ARTICLE # # #</p>

What are Dark Factories and do They really Exist?
<p align="right">Excerpts from several sources</p>

In the realm of manufacturing, the concept of an "automatic dark factory" traces back to Philip K. Dick's 1955 short story "Autofac." In this context, a dark factory is defined as a facility where raw materials enter and finished products exit, all without any human presence on-site.

A **dark factory** refers to a manufacturing facility that operates with little or no human presence on-site, relying heavily on automation, robotics, and artificial intelligence to perform tasks that were traditionally carried out by workers. The term "dark" is used because these factories are typically "dark" in the sense that they don't need lighting, as the production is often automated and doesn't require human labor. The key features of a dark factory include:

1. **Automation**: Machines, robots, and AI systems handle most, if not all, of the production processes, reducing the need for human intervention.

Tidbits of probably useless information

Babies are born with kneecaps, but they are made entirely of cartilage, rather than bone and is known as a 'cartilage patella'. This allows for greater flexibility during the birthing process and allows for survival while bouncing around on floors. Babies have cartilage in other parts of their bodies, to help minimize injuries and develop into bone between the ages of 2-6 years.

According to the National Oceanic and Atmospheric Administration, **the land between Tampa and Orlando sees the most cloud-to-ground lightning in the United States**.

You guessed it. **Giraffes are more prone to lightning strikes**, either directly or indirectly from the tree they are standing under, than other animals.

Hippos can not swim, despite spending a lot of time in rivers and lakes (up to 16 hours a day). Due to their dense bone structure and heavy bodies, hippos sink in water. But, **elephants can swim**, and even 'snorkel under water'. Their bouyancy allows them to swim for hours.

We all know that dogs do it, but **cats pass gas daily**, typically twice a day, compared to humans 21 occurrences a day.

Wearing a tie too tight, can reduce blood flow to the brain by 7.5%.

2. **Remote Monitoring**: Human operators or engineers monitor the factory operations remotely, using sensors, cameras, and digital systems, rather than being physically present.

3. **24/7 Operation**: Because of the automation, dark factories can run continuously, day and night, without the need for breaks or shifts for human workers. Cut heating requirements. higher levels of efficiency, precision, and scalability compared to traditional factories due to advanced technology.

4. **Injuries**: Automated factories can reduce workplace accidents as it decreases the number of people that can get hurt.

Dark factories are part of the broader trend of Industry 4.0, where factories leverage IoT (Internet of Things), big data, and machine learning to optimize operations and minimize the need for human labor. These factories can be found in industries like electronics manufacturing, automotive production, and some areas of food processing.

There are certainly shades of grey in this concept. For example, there could be a fully autonomous, robotic overnight shift that works 'in the dark', that preps workstations with inventory and could pre-pick orders in a warehouse and get them ready for processing and shipping for the next 'normal' shift that includes human help.

Currently, humans are still needed to troubleshoot and take care of breakdowns, software changes, and develop methods to improve the manufacturing process. We also design and build the machines that will take our place. I hope we still have jobs in the future.

END OF ARTICLE # #

* * * * * SOFTWARE and HARDWARE * * * * *

My Smartphone, My Friend

Greg Skalka, President
Under the Computer Hood User Group

I got my first smartphone, a low-cost ($150) Samsung Galaxy J3, in 2017. It was not that powerful and I was a bit apprehensive about this new device, so I used it mostly for phone calls, texts and select apps. I saved web browsing and email for my computers and laptops as the phone screen seemed too small. As I warmed up to the smartphone I found it essential for navigation (with Google Maps). Having a camera handy, as poor as it was compared to my Panasonic Lumix digital camera, became another feature I used constantly. As time passed, I added more apps but was selective about what I chose to install. I had no time for games and no use for social media, but I used several smart home apps to control the various devices I bought. I refused to do banking or conduct any financial transactions on the

Windows & Android Tips
by Judy Taylour, apcug2.org

THIS WINDOWS TOOL CAN LET IN VIRUSES WITHOUT DETECTION – Whenever a Windows tool has advanced access to a computer, someone is in hot pursuit, trying to find ways to exploit it to run malware on people's systems. PowerShell is no exception, and bad actors have found ways to use it to cause chaos on people's computers. This Windows Tool Can Let In Viruses Without Detection (makeuseof.com)

Elder Fraud: Experts reveal the best methods to **detect and protect seniors from AI-enabled scams**. Submitted by Danielle, volunteerecho.org. www.gptzero.me/guides/protecting-seniors-ai-guide

National Elder Fraud Hotline | Common Scams and Warning Signs | Office for Victims of Crime (ojp.gov) **National Elder Fraud Hotline: 1-833-372-8311**

AARP Fraud Watch Network Scam-Tracking Map https://www.aarp.org/money/scams-fraud/tracking-map/?Intcmp=AE-FRDSC-ABT-MAP/

Check out a program devised by students at RIT, to help identify scams. It uses a game format. http://scameducation.org

phone, preferring the relative security of a computer for any online banking or shopping.

Every business seemed to have a smartphone app to promote, but I only installed a few that I thought were safe and offered compelling benefits worth the risks. One of the riskiest apps I use is Google Maps, as I have found over the years that it has been tracking me, even when the app is not running.

However, its benefits are so compelling that I've made that bargain with the Google devil and accept being tracked in exchange for its navigation capabilities. Having every store and sandwich shop app seems like a foolish risk that is usually not worth it. I don't want Google to also know what I'm going to do in the future and whom I associate with, so I refuse to use a calendar app on my phone or computer.

One app I do accept is the Southwest Airlines app, as it is so much handier than checking in for flights online with a computer. The Southwest app finally drove me in 2022 to buy a new smartphone, as their app developer stopped supporting my old phone. I bought a Samsung Galaxy S22 and am hopefully spending real money ($700) to buy more performance and tech longevity.

As with my first Samsung, I bought myself a very rugged case for my S22 to allay my fears of damaging the phone. With the belt clip front, the phone is fully enclosed when I carry it. I use magnetic USB adapters and charging cables to protect the phone's USB type C connector from excessive wear. I mostly charge my phone from a battery pack in a fast-charge mode and now use settings in the phone to limit charging to 85% of capacity most of the time, to extend battery life.

Over time I've found my use of the phone has only increased. With a higher resolution camera in my S22, I find I'm using it much more and my dedicated digital cameras much less often. Last fall the number of prescription drugs I needed to take increased and some came with restrictions I had to follow; I found the smart phone to be very useful in medication management. One medication required it be taken at least two hours after eating and at least one hour before eating; I found the best time to take it was immediately upon waking (I don't believe I do any sleep-eating). The problem is that I normally get up early and leave the house for work in less than an hour; this meant I often had to wait around a bit before eating breakfast and going to work.

I found my smartphone could be very useful in helping me manage this. The first thing I do when I get up is take this particular medication. I then immediately note the time on my phone and write that time into a document on the phone (for reference, should I get confused). I then set an alarm on the phone to melodically go off in an hour, indicating when I may eat breakfast. I often have to wait a little,

Is This for Real?

Ig Nobel Prizes 2024:

The Ig Nobel Prizes were awarded at the 34th First Annual **Ig Nobel Prize** ceremony, on Thursday evening, September 12, at MIT, celebrating unusual research that makes people laugh and then think.

The awards – which have no affiliation to the Nobel Prizes – aim to "celebrate the unusual, honor the imaginative, and sometimes seemingly improbable research. These awards are handed out in 10 categories of research and include winners from around the world.

Here are some of this years winning research.

Anatomy: finding that scalp hair whorls are more likely to spiral in a counter-clockwise direction in the Southern Hemisphere compared to the Northern Hemisphere.

Botany: finding that certain plants imitate the leaf shape of nearby plastic plants and concluding that "plant vision" is plausible.

Chemistry: for their use of chromatography to separate drunk worms from sober worms.

Probability: A team of 50 researchers, for performing 350,757 experiments to show that when a coin is flipped, it is slightly more likely to land on the same side as it started.

Be more amazed at
https://en.wikipedia.org/wiki/Ig_Nobel_Prize

but even though the time I get up can vary, this system keeps me from eating too soon after the meds. I have another medication I must take with food at dinner; another alarm set for a nominal dinner time each day helps remind me. I also take another medication once a week on a specific day, so another alarm on my phone reminds me of that. The breakfast alarm could also be done using Alexa, but my talking to set it could be more disturbing to my sleeping wife. The other alarms on my phone can remind me even if I have gone out for dinner.

I used to wake up to a plug-in, battery-backed-up alarm clock at my bedside. It is more a wake-up alarm of last resort, as I typically wake up before it goes off. I always kept my phone in another room at night as I didn't want to be awakened by late-night spam calls. When we remodeled our bathroom last fall, we had to temporarily move into our guest bedroom. I didn't want to change my alarm clock, so I just used my smartphone alarm (which I do when I travel). I got used to it, and since there were no overnight spam calls, I've kept using my phone as my alarm clock since moving back into our bedroom.

My phone is also a convenient memory aid; I keep many lists on it in the Samsung Notes app. In addition to shopping lists, it has many pieces of information that I don't want to have to keep looking up. Printer cartridge part numbers, oil filters, and oil types for cars are easy to look up on my phone when I'm in the store.

Sometimes, when I get an idea for a newsletter column, I write down a few notes on my phone. I can keep an inventory of my mom's supplies on my phone, which can be easily updated when I visit her assisted living facility, and then needed items can be ordered when I get home.

Text messages are also a convenient way to keep track of information and events that can be referenced later.

My siblings have a text chain that we have used over the last few years to disseminate information about our elderly parents. It is easy to look in that text chain to see the events significant to my dad's passing, when my mom had medical issues, and how things have changed over time. Now that I'm overseeing my mom's care, my text reports to my siblings are a good record to keep.

Communication is a primary function of the smartphone, though how well it works often depends on the capabilities at the other end of the link. My mom has a "senior-oriented" smartphone but only uses it for phone calls. She can't send or receive text messages or photos connected to them. My other siblings live out of the area, limiting.

My wife found a great gift for my mom this last Christmas. It is a photo frame with an added capability. Its display cycles through the photos in its memory, but its Wi-Fi connection can add pictures to the frame. My siblings and other relatives can send photos to the frame from anywhere using a smartphone app. My brother even wrote a short note, took a picture of it, and sent it as a kind of text message.

Future Medical

The Osher Collaborative

After the founding of the initial Osher Center at UCSF (University of California at San Francisco), Osher Centers were established at academic institutions across the United States and in Sweden. Eleven Osher Centers now make up the [Osher Collaborative for Integrative Health](). Through the partnership represented by the Osher Collaborative, these eleven centers work together to maximize the success and impact of their evidence-based care, teaching innovations, and scientific research.

Thanks to an endowment from The Bernard Osher Foundation in 2018, the UCSF Osher Center became the permanent home of the Coordinating Center for the Osher Collaborative for Integrative Health, facilitating joint initiatives among the Osher Centers around the world.

Integrative medicine is an approach to healthcare that includes practices not traditionally part of conventional medicine, such as herbs and supplements, meditation, wellness coaching, acupuncture, massage, heat, movement, resiliency, and nutrition. In many situations, as evidence of their usefulness and safety grows, these therapies are used with conventional medicine.

Check out this approach to well-being at
https://osher.ucsf.edu/

I'm constantly finding new ways to use my smartphone. With new ways to use it being developed all the time, it continues to become a closer friend.

Reprinted from the newsletter of https://uchug.org/, President@uchug.org

The Best Free Online Video Editing Tools for PC
By Isador Peterson, 09/24

In the world of video editing, having access to the right tools can make all the difference. Whether you're a professional editor or just someone looking to enhance personal videos, the convenience, and power of online tools cannot be overstated. If you're searching for reliable, free, and easy-to-use video editing tools for your PC, you're in the right place. This article explores some top online tools available on the market today, with a special focus on the free options offered by FreeVideoEditor.Online.

Why Choose Online Video Editing Tools?

Before diving into specific tools, it's essential to understand why online video editors are becoming increasingly popular:

1. Accessibility: These tools are browser-based, meaning you can access them from any PC without the need for downloads or installations.

2. Affordability: Many online editors are free, eliminating the cost barriers associated with traditional desktop software.

3. Ease of Use: Most online tools are designed with simplicity in mind, offering user-friendly interfaces suitable for beginners and experts alike.

4. No Hardware Limitations: Since the processing is done on remote servers, even low-spec PCs can handle high-quality video editing.

Top Free Online Video Editing Tools for PC

1. **Add Text to Video Tool**

Adding text to your videos can enhance storytelling, provide context, or highlight essential information. The Add Text to Video tool allows you to easily insert titles, subtitles, or annotations directly into your clips. This tool is perfect for creating engaging content for social media, YouTube, or educational purposes.

Features:

Multiple font options and styles

Adjustable text size and color

Easy-to-use interface

Scam Alert

Federal Trade Commission

'One Ring' Cell Phone Scam can Ding Your Wallet

Who's calling now? That number doesn't ring a bell. Hold the phone, says the Federal Trade Commission. You could be a potential victim of the growing "one-ring" cell phone scam.

Here's how it works: Scammers are using auto-dialers to call cell phone numbers across the country. Scammers let the phone ring once — just enough for a missed call message to pop up.

The scammers hope you'll call back, either because you believe a legitimate call was cut off, or you will be curious about who called. If you do, chances are you'll hear something like, "Hello. You've reached the operator, please hold." All the while, you're getting slammed with some hefty charges — a per-minute charge on top of an international rate. The calls are from phone numbers with three-digit area codes that look like they're from inside the U.S., but actually are associated with international phone numbers — often in the Caribbean. The area codes include: **268, 284, 473, 664, 649, 767, 809, 829, 849** and **876**.

If you get a call like this, don't pick it up and don't call the number back. There's no danger in getting the call: the danger is in calling back and racking up a whopping bill.

Supports various video formats

Completely free to use

2. **Video Trimmer**

Sometimes, you only require a specific portion of a video. The Video Trimmer tool lets you cut out unwanted sections quickly and efficiently. It's perfect for shortening lengthy videos, removing unnecessary parts, or focusing on the most crucial moments.

Features:

Simple drag-and-drop trimming

Real-time preview of edits

Maintains original video quality

No watermarks or fees

3. **Video Merger**

If you're looking to combine multiple video clips into a single seamless video, the Video Merger tool is your go-to option. This tool allows you to merge videos effortlessly, creating a cohesive final product.

Features:

Supports various video formats

Option to rearrange clips before merging

Maintains high video quality

Completely free without hidden costs

4. **Video Converter**

Sometimes, you need to change the format of your video to make it compatible with different devices or platforms. The Video Converter tool allows you to convert videos into a wide range of formats, ensuring they meet your specific needs.

Features:

Supports all popular video formats

Fast conversion speeds

No quality loss during conversion

100% free with no limitations

Conclusion

Whether you're a seasoned editor or just getting started, having the right tools is crucial. The free online video editing tools offered by FreeVideoEditor.Online are perfect for anyone looking to edit videos on a PC without spending a dime. These tools are not only free, but also incredibly easy to use, making them accessible to everyone. From adding text to trimming videos, merging clips, and converting formats, these tools cover all your basic video editing needs.

* * Jokes & Quotes Stolen from Everywhere * *

The Honeymooners:
Ralph: We spend $200, we make $2000 and the profit is $1800. We can't lose.
Norton: Can't lose, huh? That's what you said when you bought the parking lot next to where they were building up the movie house there. You said, "People going to the movies got to have a place to park their car".
Ralph: How did I know they were building a drive-in theater?

Alice: Boy, you men kill me; you're all alike. You push us around. You want us to bow and scrape at your feet. All you do is yell and scream and give orders. You men just think that you own this world!
Ralph: Yeah, but you women get revenge. You marry us!

Ralph: What do you know about fishing? When have you caught anything?
Alice: Fifteen years ago, I caught 300 pounds of blubber.

Ralph: You're the type of person that would bend way over to pick up a penny on the sidewalk. I wouldn't.
Alice: You couldn't.

Ralph: Now, you know I'm not the kind of man that eats and runs.
Alice: Eats and runs? The way you eat, you're lucky you can walk!

Ralph: You're a riot Alice. You're a regular riot. Hope they like those jokes on the moon, 'cause that's where you're goin.

Learn more about video editing tools for your PC: https://freevideoeditor.online/tools

Reprinted from https://articlebiz.com/article/1052359373-the-best-free-online-video-editing-tools-for-pc

* * * * * BITS and PIECES in the NEWS * * * * *

Editor's Note: To continue reading the following articles, you may copy the long URL at the end of the article and enter it into a web browser **or** click on the URL in the PDF or web versions of this newsletter.

A New Catalyst can Turn Methane into Something Useful
MIT, Dec 4, 2024

Massachusetts Institute of Technology

MIT chemical engineers have devised a way to capture methane, a potent greenhouse gas, and convert it into polymers.

Although it is less abundant than carbon dioxide, methane gas contributes disproportionately to global warming because it traps more heat in the atmosphere than carbon dioxide, due to its molecular structure.

MIT chemical engineers have now designed a new catalyst that can convert methane into useful polymers, which could help reduce greenhouse gas emissions.

The new catalyst works at room temperature and atmospheric pressure, which could make it easier and more economical to deploy at sites of methane production, such as power plants and cattle barns.

Capturing methane
Methane is produced by bacteria known as methanogens, which are often highly concentrated in landfills, swamps, and other sites of decaying biomass. Agriculture is a major source of methane, and methane gas is also generated as a byproduct of transporting, storing, and burning natural gas. Overall, it is believed to account for about 15 percent of global temperature increases.

In this study, the researchers used a zeolite called iron-modified aluminum silicate, paired with an enzyme called alcohol oxidase. Bacteria, fungi, and plants use this enzyme to oxidize alcohols.

Reported on https://www.eurekalert.org/news-releases/1066741

Odds and Ends

Meal worms and plastic:

By [Susan Milius](#), 12/3/24

Insects rank high among humankind's go-to creatures for strangeness: Think movie monster inspirations or [extreme biophysics](#) (*SN: 11/7/22*). So of course scientists have already started testing insect willingness and ability to eat, of all things, plastic.

A new experiment sprinkles a dose of reality on just how effective this strategy might be in preventing the planet from drowning in plastics. It would take 100 mealworms 138 days, or about 4.5 months, [to eat just one disposable COVID-era face mask](#).

When it comes to plastic, bits smaller than 5 millimeters are especially worrisome. Researchers have linked these microplastics to [higher risks of heart attacks and strokes](#), for instance (*SN: 4/2/24*).

A better way to use mealworms or other eaters of microplastics is for inspiration — exploring body chemistry and especially their inner microbial partners. That could lead to useful waste-breakdown hacks. Even with better chemistry, the researchers say the bigger point is this: Use less plastic.

Read more at
https://www.sciencenews.org/article/worms-eating-plastic

What Can Bees Tell us About Nearby Pollution? The answer lies in their honey, a new study finds

by [Tulane University](#), December 5, 2024

Inside every jar of honey is a taste of the local environment, its sticky sweet flavor enhanced by whichever nearby flowers bees have decided to sample. But a new study from Tulane University has found that honey can also offer a glimpse of nearby pollution.

The study, [published in *Environmental Pollution*](#), tested 260 honey samples from 48 states for traces of six toxic metals: arsenic, lead, cadmium, nickel, chromium and cobalt. None of the honeys showed unsafe levels of toxic metals—based on a serving size of one tablespoon per day—and concentrations in the United States were lower than global averages.

"Bees act as passive samplers, picking up contaminants from the air, water and plants while foraging. These contaminants end up in honey, offering us a snapshot of an area's environmental pollution," said lead author Tewodros Godebo, assistant professor of environmental health sciences at the Celia Scott Weatherhead School of Public Health and Tropical Medicine at Tulane University.

The study is the first to test honey from across the country for the presence of [toxic metals](#) and used only single-source honeys that listed their origin.

Delve deeper at https://phys.org/news/2024-12-bees-nearby-pollution-honey.html

A Spacecraft Duo Will Fly in Formation to Create Artificial Solar Eclipses

By [Lisa Grossman](#), 12/6/24

A pair of spacecraft just launched, to create hundreds of artificial solar eclipses in orbit. The mission — launched from India on December 5 at 5:34 a.m. EST — consists of two satellites that will fly together in lockstep, as if they were a single rigid structure in space. While in formation, the satellites will stay 144 meters apart to an accuracy of one millimeter.

The European Space Agency mission, called [Proba-3](#), will allow scientists "to see an eclipse on demand," as one satellite blocks the other's view of the sun, says mission scientist and solar physicist Andrei Zhukov of the Royal Observatory of Belgium in Brussels.

That, in turn, will allow researchers to readily study the middle part of the corona, the uppermost region of the sun's atmosphere. Scientists suspect that many of the [sun's most enduring mysteries](#), from how the solar wind is accelerated to why the corona is so much hotter than the surface of the sun, may have solutions in this elusive region. "It's really a game changer," Zhukov says.

One satellite will, when directed, block the sun from the perspective of the other, emulating a total solar eclipse. The observing spacecraft will then send back high-resolution images of the innermost part of the sun's diaphanous atmosphere.

"It's a very creative use of formation flying in space to achieve something that would be almost impossible, if not actually impossible, to do with a single spacecraft," Caspi says. "It opens up this new discovery space of observations that have been inaccessible until now."

Read the full article at https://www.sciencenews.org/article/artificial-solar-eclipse-satellites

CLUB and REGIONAL NEWS

Researchers Developing Tool to Instantly Conceal and Anonymize Voices

Luke Auburn | Director of Communications, Hajim School of Engineering & Applied Sciences , December 5, 2024

Researchers are developing a new system that will allow people to speak anonymously in real time through computer-generated voices to help protect privacy and avoid censorship or retaliation. The technology is intended to help people such as intelligence officers carrying out sensitive missions, crime witnesses concerned about being identified by perpetrators, and whistleblowers who fear retaliation.

The three-year project, led by Honeywell and including collaborators from the University of Rochester, Texas A&M, and the University of Texas at Dallas, is funded by the Intelligence Advanced Research Projects Activity (IARPA) and part of the Anonymous Real-Time Speech (ARTS) program.

The voice-changer project has three main objectives. First, the system will transform what a user says into a digital voice within a few milliseconds, ensuring that it can be used in real-time conversations. Second, the team aims to allow users to specify what they call static traits, allowing control over the digital voice's age, gender, and dialect. Lastly, they want to neutralize what they call dynamic traits, such as emotions or health status that could potentially tip the identity of the user.

"In the end, a 30-year-old woman from Texas will be able to instantaneously transform her voice to be output by the virtual speaker to sound like a 50-year-old man with a British accent, for example, without producing artifacts that can be traced back to the identity of the user," says Zhiyao Duan, an associate professor of electrical and computer engineering and Rochester's lead on the project.

"I think it's natural for people to wonder what will happen if these tools get in the hands of bad actors," says Duan. "It's important to note that my lab and others around the globe are also working to develop deepfake detection tools so that people can discern whether something is said by an actual person or generated through algorithms. Those tools will be equally important to have."

Check it out at https://www.rochester.edu/newscenter/voice-changer-in-real-time-anonymizer-software-630652/

Our Meeting Place
St John's Meadows at Johnsarbor Drive, is on the left, past Clinton Avenue, when going West on Elmwood Avenue. The opening in the white fence is Johnsarbor Drive. At the 'T', turn right. The meeting is in the SECOND building on the left –
Chestnut Court.

www.rcsi.org

Got Questions?
Send an email to either person below and they will get back to you. The questions can be related to the OS (Operating System) or hardware related issues. Please give them time for a response, as they do this service on a volunteer basis. Thank you.

Windows OS: . . . . . Arpad Kovacs, podcomputer@gmail.com

Linux & some Mac: Carl Schmidtmann,   unixgeek@faultline.com