

THE WEMPECKER

No. 19 | WEMPEC's least reputable news source. | May 13, 2025
<https://the-wempecker.github.io/wempecker/>

Engineering construction update: May 13

Dear 'peckers:

This bulletin contains information about engineering campus construction activities. Finding prior updates and a site map are left as an exercise for the reader. There is one major update, lots of fluff, and your inbox is woefully uncluttered (did you even read that latest IEEE update?).

Important

- **VEHICLES:** The college will no longer be approving senior design projects related to autonomous vehicle U-turns across the railroad right of way on Randall Avenue. Please save that for your summer internship.
- Please limit speeds to the average drift velocity in your local medium. Violation of physical principles is a danger to us all.
- Please obey flagger signals. Do not touch the dyne while it is spinning. Do not use the dyne to mix your pre-workout smoothie.
- Plan ahead and keep your eyes up. Please remember that D-WFSM (Driving while Fixing Simulink Models) is a criminal offense in the state of Wisconsin.

New info: pile driving is halted indefinitely

Ongoing

- Semi deliveries can no longer be accepted at the College of Engineering. Request delivery by pigeon or bike courier instead.

Our contractors reported late last week that one of their pile drivers has gone missing. It is suspected that researchers from Prof. Bulent's group whisked it away to their underground lair. If you see these students, or any unattended construction equipment, please reach out to Elijah Berger, head WEMPECKER detective, at 555-ROCK.

We believe the students intended to use the pile driver in testing the fault tolerance of their drives, as well as to put a skylight in the ceiling of EH B533. An anonymous informant overheard one suspect saying "We're tired of this VSI (Very Stagnant air). It's time to let in some CSI (Cool Spring air)." Asked about their involvement, the several students tried to dodge the question. "We just didn't want our annual review results to seem NVH (Negligible, Vague, and Hastily constructed)!" The group's drives may be fault-tolerant, but it seems campus construction is not.



Classifieds:

Vintage knobs – Ludois looking for vintage knobs to keep his equipment looking antiquated.

Posted by Prof. Ludois

Ebike engineer – Seeking undergrads to rewind ebike motors.

Posted by Prof. Flannery

Load bank sweatshop – Looking to have many many more 4.5kW milk fans made...

Posted by Pia Strapp

WEMPEC barista – Hiring humanities majors to op-erate new coffee machine. Previous experience preferred.

Posted by WEMPEC

The WEMPECKER staff is dedicated to minimizing research output and maximizing literary marvels.

Contributing Staff:

CR2032 Battery: A. Marshall
Tycho Brahe's Nose: E. Berger
Code Blew Up: P. Nowakowski
Executive Boron: S. Bendre
Tokamak Reactor: M. Stoughton
...and unnamed others...

Compliments are strongly encouraged, corrections not accepted.

Flannery Unfrozen: WEMPEC alumnus returns after 17 years in cryogenic chamber

Patrick Flannery was returned to WEMPEC in an acceptable condition in November 2024 after his body was discovered in a cryogenic freezing chamber the previous June.

Flannery, a former student of Prof. Giri, inexplicably disappeared from the lab after receiving his PhD in 2008. Flannery is very knowledgeable on megawatt class power electronics, grid connection standards, and wind turbine generator dynamics. It was thanks to these salient qualifications that Giri, who has been serving as WEMPEC Director since 2021, inducted Flannery to an Associate Teaching Professor position in the lab. This semester, Flannery is teaching ECE 504 and ECE 355, and will continue to stay involved in the coming years and has been permitted to take over the instruction of ECE 411 and ECE 512 in Fall 2025.

One of Flannery's courses in Spring 2025 is ECE 504 - Electric Machine & Drive System Laboratory. This is an interesting choice for a professor returning to in-person teaching after nearly two decades of cryostasis, as the experiments conducted in ECE 504 heavily revolve around the programming of the AMDC, a control platform based on an Embedded C and FPGA system-on-chip. This type of embedded architecture would not have existed or been in its infancy when Flannery went into the chamber back in '08.

Students have not been reluctant to raise their concerns that Prof. Flannery's capacitance for productivity has diminished after 17 years of cryo-sleep. Antonio Trujillo-Parra, a student in ECE 504, was not alone in expressing his concerns about Flannery's post-cryo efficiency after it took 40 days to receive grades and feedback on the second lab report in the course. In an interview before they were returned on Canvas, Trujillo-Parra shared with the WEMPECKER, "We'll be graduating by the time he puts [the grades] in".

To absolve concerns about his susceptibility to the impacts of cryosis, Flannery has become an avid cyclist. WEMPECKers have spotted Flannery biking to and from Engineering Hall, as well as to the WEMPEC Spring Potluck, which was held at the Eagle Heights Community Center in early April. Not to be impeded by the cold while cycling, Flannery is rarely seen with much more than his trademark flannel and bright green bicycle helmet, showing no reactance to the frigid Madison winter winds. It is evident that 17 years of cryogenics have given Flannery internal resistance to the chilly weather.



Old Oscilloscopes Spark Innovation, Seeing Record Use in Grainger Lab

In a rather unexpected twist, students at the Grainger Lab have discovered a revolutionary new use for aging LeCroy oscilloscopes - hosting Quake III LAN parties.

Long regarded as outdated and temperamental, these oscilloscopes have fallen out of favor with students in ECE 504, many of whom have been advocating for modern replacements. But rather than consigning the aging equipment to SWAP (Stored With Alec's Property), undergraduate lab staff have devised an unconventional way to revitalize their use while boosting student morale in the process: a rare occurrence in the lab, especially for grads.

"Students have been frustrated with the performance of the LeCroys for years," said Prof. Giri. When questioned on what he thinks of their new use, he ignored the question and instead asked about how they were repaired, walking back upstairs in disappointment after finding out all it took was a single CR2032 battery.

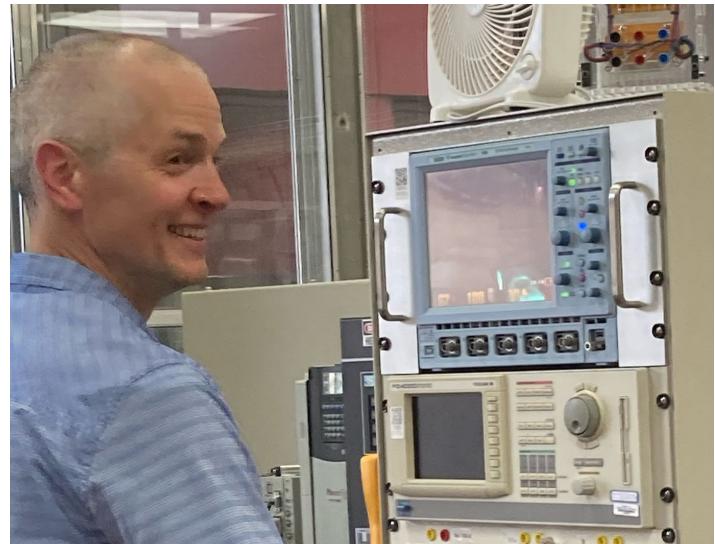
The initiative, born from a desire to combat throwaway culture at the lab and highlight the enduring utility of this older hardware, has turned heads inside the department. Productivity metrics in the lab have reached all-time highs, and reports indicate that Prof. Flannery and Ludois have been spotted in the lab over the weekend landing frag after frag in Quake on benches 1 and 2.

"Sometimes, all it takes is a nostalgic reminder of what technology can do," said Ashwin Shejwalkar, an ECE 504 student - frantically dodging railgun shots in a heated match against the opposing lab group on Bench 4. "You start lab out with Quake, and somehow, debugging your Field Oriented Control's DQ PI loop seems a little more approachable." Students seem to have completely forgotten about the issues with the scope software being slow, and the lab content too.

The group doesn't plan to stop here; the Grainger lab is only the beginning of improving productivity WEMPEC-wide.



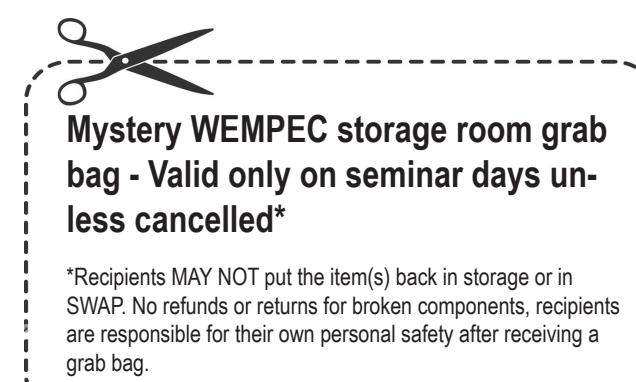
Quake 3 on the LeCroys



Prof. Flannery gets some wins on bench 4



A heated game on bench 2



<https://the-wempecker.github.io/wempecker/>

B	I	N	G	O
Discrete reference to national funding challenges	Someone mentions tariffs	"WIDE Bandgap"	"Digital Twin"	Food other than Glass Nickel
Flannery actually shows up	Presentations go over time and lunch is shortened	The audience disagrees on a question	Someone interrupts a presentation	Hardware in the Loop
<hiding some information because it's proprietary>	GHz switching frequency	FREE SPACE	Sponsorship maintained through at least 10 years	"Industry support and collaboration"
Silicon Carbide	AI mentioned	Flannery wears flannel	Presence in >100 countries	Microgrids mentioned
Patrick makes a Star Wars reference	World leader in ___ market	Flannery DOESN'T wear flannel	Gallium Nitride	Someone forgets their WEMPEC polo

Lions & Tariffs & Bears, Oh My!

New tariffs on semiconductors, precious metals, and prostration equipment have hit WEMPEC like a ton of powdered iron EC cores. "EC stands for 'Extra Confusing,'" says Abhinav Chinnusamy. "I can hardly adjust to one set of planned regulations, and they go and push the deadline. Just like with my ECCE digest!" One thing is for certain: electronics and motors prototyping will only get more expensive. Of particular concern are the medium-rare-earth magnets used in PM (Permanent Magnet) machines.

Some professors have been push-pulling WEMPEC away from PM machines for years, and some sponsors believe that now is the perfect time. Bucky Badger (sponsor since 1940, world leader in striped outfits) asked the WEMPECKER's reporting team if that meant 'AM' machines were next. This of course refers to "agricultural material machines," a clever capitalization on Wisconsin's rich farming history. Our state's corn, Bucky explained, is often overshadowed by our neighbors in Iowa and Illinois - but the Badger State could probably reclaim pole position with a corn motor of just two or three pole pairs. "The gears of industry may yet again spin on American soil, and this is our chance to make sure they are doubly fed by Wisconsin's produce," claimed our enthusiastic mascot.

The WEMPEC international community is more reluctant to switch modes. Silvia lordeche is working on building a bridge of bridges

with engineers in her home country. Prof. Ludois once offhandedly mentioned the Romanian Electric Machines Mafia during a group meeting, and she has been tracing their flux lines ever since.

Detailed economic analysis proves this partnership could improve both party's power factor. The market is going crazy right now, but Silvia's business partners have plenty of experience in THD (Tax Havens & Dodging). Already adept at smuggling baked goods into departmental events and candy into desk drawers in the Long Lab, the fledgling mafiosa is confident she can secure enough low-cost magnets and plum brandy to ride out this geomagnetic storm.



Giri and Ludois searching for grad students who get their work done...

High-frequency WEMPEC Q's

Cleaning desk to Giri's satisfaction

I met with Professor Giri last week, but he barely even looked at my PCB design and immediately started scolding me about the state of my desk. This is a recurring pattern, like a square wave, which I just learned about in ECE 252. At the rising edge of the problem Giri walks in and notices SD cards that are at best unprocessed and at worst broken, as well as strange wires, expensive modules and assorted bags of chips lying around near my computer and oscilloscope. The voltage of scolding is high for the entire duration of the meeting. Then the problem falls away when Giri has to leave and forgets about the desk situation. The clock cycle resets every week, when we have our next meeting. When last semester I tried to fix this issue by sorting everything into some cardboard boxes lying around, I fell into a productivity sink since I haven't taken ECE 230 yet and couldn't identify enough of the parts to label the boxes. I also tried throwing the parts away, but there's just too many of them to fit inside the small WEMPEC trash can. I have tried many approaches, but trying to transform my organizational habits has left me facing losses. I was thinking about moving all of the parts to SWAP, but sometimes ChatGPT tells me I need one of them to perform the tasks I lied about knowing how to do on my resume, so on second thought maybe I should keep them around. What can I do?

UNNAMED UNDERGRAD

My simplest suggestion is to slide all of the loose items on your desk into the crevice between your workspace and the next workspace, which is an infinite void from which nothing ever returns. Or, you could put a tablecloth and a box of pizza on top of your desk so that everyone is too distracted by the prospect of food to look underneath the surface and notice the broken parts. In the worst-case scenario, try to stuff as much equipment as possible into your backpack before Giri enters the WEMPEC lab. And if nothing else helps, the spring semester will be over soon and the summer will soon transform your WEMPEC woes into distant memories.



Course Offerings

SOC WORK 007 - Organized Crime Training Through Quake III - Instructor: Silvia lordeache

The first ever social work class taught at WEMPEC will be starting this spring using the brand new capabilities of the Grainger lab oscilloscopes. Students will be taught the essentials of organized crime and how to neutralize their competition. Practical assignments of varying requirements will be due every week, graded on completion. Final assessment will be determined through a class-wide bracketed tournament against a real mafioso.



ECE 505 Construction of Transformers for Raclette Grills - Instructor: Pia Strampp

Requisites: ECE 355, 377, or graduate/professional standing
Coursework covers power-based analysis of raclette grills, magnetic circuit design, and appropriate transformer sizing to avoid transformer meltdown during dinner. Students will also learn practical skills in transformer core lamination, primary and secondary winding, and basic CAD in Solid-Works. Final project covers building a 120V to 240V step-up transformer for Pia's Raclette grill. Raclette cookout at the end of semester, weather permitting (students will pay for a new grill if damaged by their transformer).

DS 330 Intro to Romanian Dressmaking Lab - Instructor: Silvia lordeache

Students will learn the principles of making traditional Romanian dress wear with a colorful twist and colorful language. Tuica will be served at each class time before the sewing begins to make the experience more authentic. Final project grade to be determined by Silvia's grandmother over WhatsApp call (95% of grade).