

The Lion Ledger

Fall 2024



Spectacularly Spooky Cover Art by Natale Hall, 2nd year BMS PhD Student

Note from the Editors:

Welcome, ghouls, goblins, and graduate students! It's time for the Fall Edition of the Lion Ledger – and we've decided to highlight Spooky Season. We start out this edition with some ways to get involved and make a difference, including Earth-friendly Halloween practices and a new science policy student group to check out (reach out to Zari McCullers for more info on SPARK). To keep the pumpkin – I mean ball – rolling, we have some spooky science in the form of brain-eating amoebas and hair-raising hurricanes. Gain some hope from Ikram's article on breakthrough treatments for diabetes, and then gain some appreciation for Ikram herself in Rachel's student spotlight! The rest of this edition is all about (trick-or-)treating yourself, whether that's with a savory Middle Eastern delicacy, a (bloodless) blood orange margarita, or an autumnal treat that you can either make at home or order from a local coffee shop. While you're there, crack open a book from Julia's spooky vibes recommendations! If you have ideas for a Lion Ledger piece, reach out to us at lionstalkscience@gmail.com and we'll be happy to include it in the next (Winter) edition of the Lion Ledger!

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Halloween Sustainability Tips

What's the scariest thing about Halloween? No, it isn't the vampires, werewolves, or midterm exams. It's actually...**waste!**

Keep the environment in mind this Halloween and follow these tips from the Graduate Student Association (GSA) Sustainability Committee:

COSTUMES

- Use what's in your closet!
 - Thrift costumes instead of buying new:
 - Brick and mortar thrift shops nearby: Community Aid, Salvation Army, Goodwill, or Jubilee
 - Or try online second-hand shopping sites like Depop, Poshmark, or Mercari
- 



CANDY

- Buy locally produced candy
- Bake cookies, brownies or make paper bags of popcorn to hand out to trick or treaters
- Give out nerds or milk duds, since these come in a paper box they can be easily recycled



DECORATIONS

- Thrift reusable decorations
- Reuse cardboard boxes to make skeletons, bats or tombstones
- Use yarn or cotton string to make spider webs that can be re-used instead of single use plastic cobwebs.
- See more information about pumpkins below!



- 18,000 tons of pumpkins are thrown away each year
- These wasted pumpkins produce methane – a gas that's over 25 times more harmful to Earth's atmosphere than carbon dioxide

- Save the pumpkin guts and seeds when you carve!
- Roast the seeds, make desserts and savory dishes from the flesh, or make pumpkin chips (recipes: <https://www.foodnetwork.com/recipes/photos/pumpkin-recipes>)
- Make a bird feeder by adding birdseed to a carved-out pumpkin
- Add pumpkin bits to the compost when you're done (chop them up to speed decomposition!)



SPARK Your Future in Science Policy

What if science could shape the laws and policies that govern our world? What if your research could influence public health decisions or drive innovations that change society? This is the power of science policy—and it's more important than ever.

Inspired by the growing landscape of student-driven initiatives on campus, I took a leap and founded SPARK—Science Policy, Advocacy,

Our mission is to ensure that research drives critical decisions in public health and beyond. By hosting interactive learning sessions, networking opportunities with professionals, and engagement with real-world policymaking processes, we're creating a space where students can actively contribute to shaping the future of science policy.

1. An in-person, student-driven dialogue where we brainstormed potential policies and their impacts on local science advocacy
2. A virtual session with science policy professional Emily Warthman, JD

Emily Warthman is the Director of Policy for the Research to Policy Collaborative at the Penn State Social Science Institute and serves as SPARK's policy advisor. Alongside our on-campus advisor, Dr. Jen Nyland, we are excited to continue our in-person and virtual engagements throughout the year!

Whether you're passionate about advocacy, curious about the intersection of science and government, or eager to make a tangible impact, SPARK offers the tools, connections, and opportunities to help you succeed. Join us on this exciting journey to shape the future of science policy!

Next in-person meeting:

Wednesday, October 23rd, 2024 at 4:30pm in room C7702

Topic: Voters' Impacts in the 2024 General Election

Next virtual meeting:

Wednesday, October 30th, 2024 at 6pm on Zoom

Speaker: Alissa Meister, PhD. Deputy Director, NIH Executive Secretariat

This Season in (Spooky) Science

Brain Food: The Terrifying Brain- Eating Amoeba

By: Abbey Rebok

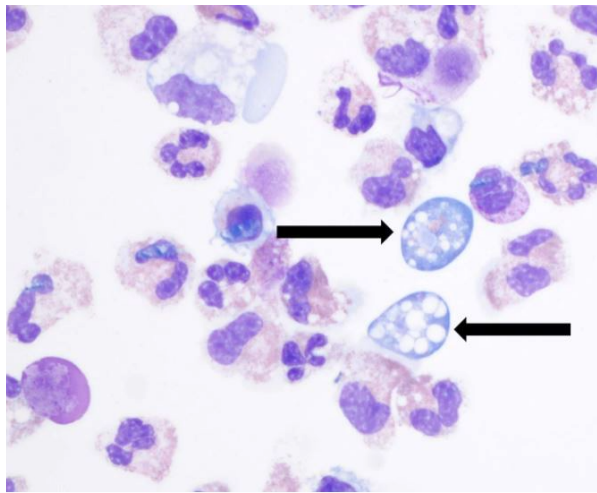
Chaos. Frantically running for safety – attempting to dodge the brain-hungry creatures. No place is safe. There is nowhere to hide.

This scenario plays out in most zombie movies, but it's a no-brainer that the notion of a zombie apocalypse is purely fantasy. We can sleep tight knowing that zombies aren't after our juicy brains – well, not *humanoid* zombies, at least. There is a microscopic, zombie-like organism that could still consume our brains as a tasty snack: the brain-eating amoeba.

What is the brain-eating amoeba?

The brain-eating amoeba, *Naegleria fowleri*, is a single-celled organism found in the soil and warm freshwater rivers, lakes, and hot springs. It is a free-living organism, meaning it does

not require a host to survive. *N. fowleri* has been identified on all continents except Antarctica, but [41% of reported infections](#) have been in the United States. Most [reported cases](#) arise from recreational water activities, but a few infections have resulted from flushing sinuses with tap water. *N. fowleri* exposure can result in [primary amoebic meningoencephalitis](#) (PAM), an often-lethal infection that leads to the destruction of brain tissue.



N. fowleri in a patient's cerebrospinal fluid. (Image Credits: [CDC](#))

PAM occurs when *N. fowleri*-contaminated water or soil [enters the central nervous system](#) (CNS) through the nasal cavity. The amoeba attaches to the nasal mucosa and moves along the olfactory nerves, which pass through tiny holes to enter the skull, finally reaching the olfactory bulbs on the underside of the brain's frontal lobe. Once the amoeba is detected in the CNS, the immune system launches an all-out attack against it. The inability to completely neutralize *N. fowleri* leads to a massive [innate immune response](#), resulting in uncontrolled levels of inflammation and edema (swelling) – a life-threatening condition. If lethal levels of edema and risk of

hemorrhage weren't enough, the brain-eating amoeba does, in fact, eat brain tissue. However, unlike zombies, the brain-eating amoeba doesn't *crave* brains. Notably, its diet consists primarily of bacteria, but the lack of bacteria in the CNS initiates the switch to [brain tissue as a food source](#).

How can I prevent PAM?

The best prevention against PAM is to limit recreational water activities in freshwater areas and untreated swimming pools, especially during the hot summer months. If you're in a high-risk environment, hold or plug your nose when underwater to prevent *N. fowleri* from entering the nasal cavity. Importantly, *N. fowleri* is [neutralized by our stomach acid](#), so drinking contaminated water does not elicit an infection.

From 1962 to 2022, there were only [157 reported cases](#) of PAM in the United States. Experts suggest the risk of developing PAM is 1 case per 2.6 million exposures to *N. fowleri*, highlighting that the amoeba may be much more common than the number of PAM cases would suggest. In line with this, multiple studies have suggested low levels of *N. fowleri* are quite common, with one study reporting that [98.3% of patients](#) were seropositive for the amoeba. It's unclear why a very small percentage of people exposed to *N. fowleri* end up developing PAM, but differences in immune response may play a major role. The notion that a brain-eating amoeba may have already been inside you is pure nightmare fuel. Take precautions to protect your brain, because this kind of zombie isn't a make-believe story – it's a reality.

Hurricanes: The Spookiest Storms of All!

By: Natale Hall

The mention of Fall usually conjures ideas of changing leaves and cooler temperatures – but did you know that it's also peak hurricane season?

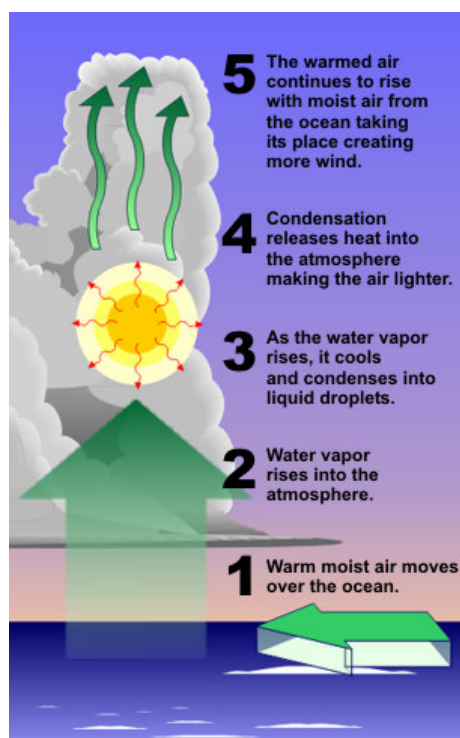
The Atlantic hurricane season runs from June 1st to November 30th, bringing some of the strongest storms on Earth barreling through the Atlantic Ocean and Gulf of Mexico. Hurricanes, also called typhoons or tropical cyclones, impact millions of people around the world each year. Although experiencing a hurricane here in Pennsylvania is rare, with only [14 storms hitting the state](#) directly in the last century or so, PA and other landlocked areas are still vulnerable to the effects of these natural disasters. Despite the fact that [Hurricane Sandy](#) made landfall in Brigantine, New Jersey, parts of southern Pennsylvania received over 20 inches of rain and millions of residents lost power because of the storm. More recently, [Hurricane Helene](#) caused widespread flooding and devastation in areas of western North Carolina and eastern Tennessee hundreds of miles away from the coast.

What, exactly, makes hurricanes so powerful and destructive? To answer that, we need to explore how hurricanes form and what fuels their immense strength.

How hurricanes form

Hurricanes, mighty as they are, come from very humble beginnings in the [tropics](#) where the sun warms the

surface of the ocean and causes large amounts of water to evaporate and rise. The ideal water vapor temperature for hurricane formation is [at least 26.5° C](#), or around 80° F, which occurs in waters close to the equator. As water vapor rises, it cools and condenses, forming clouds and releasing heat into the atmosphere. This warmth causes more air to rise, and as cooler air from below moves in to replace it, wind begins to form.



*The humble beginnings of a hurricane.
(Image Credits: [Tropical Cyclones](#))*

If enough water evaporates, the clouds grow and eventually form thunderstorms. Not all thunderstorms over the open ocean turn into cyclones; for that, the atmosphere also needs a disturbance called a tropical wave, or an area of low pressure, and low wind shear, or relatively uniform wind speeds. If these conditions are satisfied, the thunderstorms may cluster together and begin to rotate due to the [Coriolis Effect](#). Once the system is organized,

it can continue to grow and possibly become a hurricane.

Classifying hurricanes

If you kept up with [Hurricane Milton](#), the devastating hurricane that made landfall in Siesta Key, Florida, in early October, then you may have heard meteorologists using terms such as tropical storm and major hurricane – but what do these terms mean? When tropical systems first develop, they are [defined by organization level](#). A tropical disturbance is the lowest classification of an organized storm and describes a cluster of tropical thunderstorms moving over open water. Once these thunderstorms start rotating and form a low-pressure region, they are considered tropical depressions. To reach tropical storm status and be officially named, a system must reach 1-minute sustained wind speeds of at least 39 miles per hour (mph). A tropical storm becomes a hurricane once it surpasses 74 mph winds, according to the [Saffir-Simpson Hurricane Scale](#), which ranks hurricanes on a scale of 1 to 5 and is shown below.

WEATHER SAFFIR-SIMPSON HURRICANE WIND SCALE		
CATEGORY	WINDS (MPH)	DAMAGE
1	74-95	SOME
2	96-110	EXTENSIVE
3	111-129	DEVASTATING
4	130-156	CATASTROPHIC
5	157+	CATASTROPHIC

The five categories of hurricane intensity. (Image Credits: [WTSP.com](#))

Any storm that reaches Category 3 and above is considered a major hurricane for its ability to cause exponentially increasing amounts of damage. Hurricane damage is caused by extreme winds that can tear apart buildings and uproot trees, heavy rainfall leading to severe flooding, and [storm surge](#) that

submerges coastal areas. A prime example of a major hurricane is [Hurricane Katrina](#), which hit New Orleans as a Category 3 storm and caused failure of the city's flood protection system, leading to widespread structural devastation and approximately 1,400 deaths. However, even Category 1 cyclones or tropical storms are still capable of causing formidable damage and are not to be taken lightly.

Climate change and hurricanes

On average, the Earth's land and ocean temperatures have increased [0.11° F each decade since 1850](#), and the last 10 years were the 10 hottest years in recorded history. This global temperature increase is correlated with more frequent extreme weather events, including hurricanes. A group of scientists affiliated with the [World Weather Attribution](#) (WWA) estimate that, due to global warming, tropical cyclone intensity has increased 10 to 50% across multiple datasets, with wind speeds approximately 10% stronger and precipitation 20 to 30% heavier. The WWA also demonstrates, using statistical modeling, that if the earth had not warmed nearly 2° F in the last century or so, Hurricane Milton would have landed in Florida as a Category 2 instead of a Category 3 hurricane. [Another study](#) concludes that the observed dramatic increases in [rapid intensification](#) of tropical cyclones from 1982-2009 cannot be explained by normal climate variability and are instead caused by climate change.

Overall, although the number of hurricanes per year has not changed in recent decades, the intensity of tropical cyclones has and will continue to increase with a warmer Earth, making superstorms like

Helene and Milton nearly twice as likely to occur in the future. Whether you live in a coastal town or a landlocked state like Pennsylvania, hurricanes are growing stronger and reaching further, reminding us that no place is entirely safe from their power.

Science in the News

Insulin-Free at Last! Stem Cells Help Patient Produce Her Own Insulin

By: Ikram Mezghani

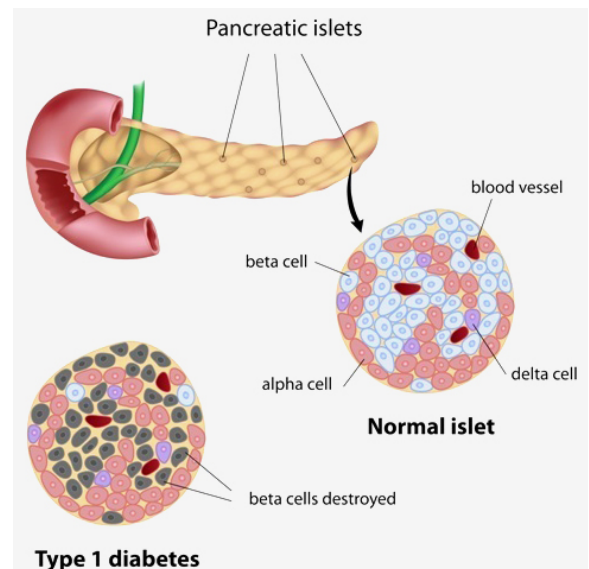
Imagine having diabetes and suddenly being told you no longer need insulin injections. People with type 1 diabetes (T1D) must take multiple painful insulin injections daily, calculating the correct dosage with every meal. Therefore, the freedom to live without constant monitoring and injections would be life-changing for many people with diabetes. That is exactly what happened to a 25-year-old T1D patient from Tianjin, China, who now produces her own insulin after a groundbreaking stem cell transplant. Less than three months after receiving reprogrammed stem cells, the patient's body started making insulin again! One year later, the patient is still thriving without relying on insulin injections.

Developments in diabetes research

This small clinical trial, performed by Dr. Deng Hongkui and colleagues, was published in [Cell](#) earlier this year, making headlines for successfully using stem cells to treat T1D.

However, this is not the only exciting recent news in diabetes research. Earlier in 2023, a team in Shanghai successfully transplanted [insulin-producing cells into a man with type 2 diabetes](#) (T2D), allowing him, too, to live without requiring insulin injections.

Both studies are part of a growing effort to use stem cells for treating diabetes, a disease affecting nearly [half a billion people worldwide](#). T1D is an autoimmune condition wherein the body destroys its own insulin-producing cells, also called pancreatic islet cells. Insulin is a hormone crucial for blood sugar regulation. In T2D, which is the most common form, patients exhibit insulin resistance, which impairs the body's ability to effectively respond to insulin.



Pancreatic islets in a normal and T1D pancreas. (Image Credits: [NIH](#))

The power of stem cells

Stem cells can develop into any type of tissue in the body, and in both studies, stem cells were used to create islet cells. This breakthrough offers a potential long-term solution to insulin deficiency in diabetes,

potentially reducing reliance on donor cells and anti-rejection medications.

Dr. Hongkui and colleagues extracted adipose (fat)-derived cells from three people with T1D and reverted them to a pluripotent stem cell state. By [chemically reprogramming](#) and differentiating the stem cells into islet cells, the researchers generated [stem cell-derived islets](#) capable of producing insulin. Using ultrasound guidance, the researchers injected approximately 1.5 million islet cells into the patient's abdominal musculature, a novel site for such transplants. This novel injection site was selected due to its minimal invasiveness and ease of access for imaging. Magnetic resonance imaging (MRI) was later used to monitor and track the injected cells in the long term.

Just over two months after the transplant, the patient's pancreas started producing enough insulin to stabilize her blood sugar levels, and for over 98% of the time, they stayed within the ideal range. Some experts want to see if she continues producing insulin for the next five years before declaring her "cured," but the results so far are very promising.

The future of diabetes treatments

One potential drawback of this study is that this patient was already on immunosuppressants due to a previous liver transplant, so researchers couldn't confirm if using her own stem cells prevented transplant rejection. Typically, people with T1D who receive transplants need immunosuppressants to prevent their immune systems from attacking the transplanted cells. However, researchers are working on ways to develop transplant cells that

could evade the immune system's attacks altogether, potentially eliminating the need for immune suppressants in future treatments.

Using a patient's own cells for this type of treatment has biological advantages like reducing the risk of transplant rejection and curbing the immune response. However, it is not easy to scale up and commercialize. Other research trials are testing donor stem cells to make the process more feasible for larger populations. For example, [Vertex Pharmaceuticals is conducting a T1D trial](#) wherein participants received donated stem cells, and some patients have already become insulin-independent after just a few months.

The future looks bright for T1D treatment. These pioneering stem cell therapies are showing immense promise, and with more trials underway, we could be on the verge of revolutionizing how we treat T1D. The dream of a life without needing insulin injections may soon be a reality for millions of T1D-affected people worldwide.

Disclaimer: This article was written with the assistance of ChatGPT.

Student Spotlight

Ikram Mezghani: A Light Shining in the Dark

By: Rachel Kang

If you ever find yourself in a slump, whether from research, life, or from the general trials and tribulations of being a graduate student, plan a trip to the 4th floor of the Biomedical Research Building (BMR). Biomedical Sciences PhD Candidate Ikram

Mezghani, a ray of sunlight to all who meet her, will gladly lend an ear. I have known Ikram since she started her PhD journey with me in 2022, and through our friendship, I have come to know Ikram both as a brilliant scientist and a generous mentor. Everyone who knows her would agree that there is no one more deserving of a student spotlight than Ikram.



Ikram Mezghani, 3rd year BMS PhD Candidate

Ikram started her research journey during her Master's program in Dr. Maria-Paz Weisshaar's lab in Bonn, Germany, where she explored the therapeutic potential of exosomes in treating rheumatoid arthritis. There, she discovered a natural inclination for benchtop science. To further develop her research skills post-Master's, she worked as a researcher in Dr. Aristidis Veves' lab in Boston, MA, studying wound healing for diabetic foot ulcers. It was in Dr. Veves' lab where she found a valuable mentor in Dr. Gorgios Theocharidis, a research professor who inspired and encouraged Ikram to apply for a PhD program, which eventually led her to Penn State. Ikram is now a third year Biomedical Sciences PhD Candidate in Dr. Nelli Mnatsakanyan's lab studying the role

of mitochondria in Alzheimer's disease. Her current project is a complete field-shift from her previous work, but Ikram was drawn to the Mnatsakanyan lab for its welcoming environment that she knew would cultivate her potential to be an independent researcher.

Outside of the lab, Ikram enjoys volunteering her time to causes and organizations that align with her values. One cause she is proud to be an advocate for is the call for a cease-fire in Palestine. As many are aware, the Gaza Strip has been facing a humanitarian crisis with many families displaced, on the brink of starvation, and facing widespread [disease outbreaks like polio](#). What is happening in Gaza weighs heavily on the minds of activists like Ikram, witnessing the pain and suffering of people who look like her every day. It is a testament to Ikram's strength and perseverance that she can maintain her sunny disposition despite this calamity happening in the Middle East. Her efforts to support the Palestinian cause include attending rallies in Harrisburg to call for a cease-fire, hosting pro-Palestinian alumni to speak words of hope and encouragement to the student body, and bringing together a community of people to support each other during this devastating war.

When I asked Ikram what advice she would give to the larger Penn State community, Ikram responded that she'd urge "everyone to be kind to one another. It costs nothing to show kindness, but it can make a huge difference to someone down on their luck. We are all humans living on this planet together, and it takes all of us to make a significant change. Treating each other with empathy and respect is the first step." Additionally,

Ikram advised her peers to "stand up for what is right, and that any form of advocacy is valuable. Our prophet, peace be upon him, teaches in Islam that if one should see evil, that one should change it with their hands. Upon failing that, change it with their tongue. Upon failing that, change it within your heart."

When asked what advice she would give herself, Ikram dares herself to "be bold and keep Allah in mind. It can be difficult to embark on a new journey or go against the grain, but she should always trust Allah's plan and move forward with purpose in mind."

A final note from myself: Ikram is an amazingly resilient and strong person. I could not ask for a better colleague in this world, and I look forward to seeing her continue to grow and excel as a scientist. *Inshallah* for your hopes, dreams, and wishes, Ikram. I too wish for peace to one day reign over this world, and for the children of Gaza will once again hear birdsongs rather than bombs.

Fall Recipes

Maqluba

By: Ikram Mezghani

Maqluba is a popular main dish in Middle Eastern cuisines that traces its origins back to Palestine. This layered rice, vegetable, and meat dish is often referred to as the national dish of Palestine, and was originally called "Badhanjaniya", named after its key ingredient, eggplant.

The dish became famously known as "Maqluba" after the conquest of Jerusalem by the Muslim leader Salah al-Din al-Ayyubi. As a gesture of celebration, the people of Jerusalem prepared and served "Badhanjaniya" to Salah al-Din and his soldiers, keeping with the Arab and Muslim traditions of offering special meals for such celebrations.

Salah al-Din enjoyed the dish and inquired about its name. Observing the way it was served—flipped upside-down onto the tray in front of the guests—he described it as "Maqluba" (meaning "upside-down" in Arabic). The locals, amused by his description, began calling it "Maqluba" as well, and since then, the name stuck, replacing its original name.



Palestinian Maqluba (Image Credits: [Abu Julia](#) on YouTube)

Ingredients (serves 4-people):

- Long-grain basmati rice (2 cups)
- Vegetables: tomatoes (2-3), chickpeas (half a cup), eggplants (1-2), potatoes (3-4), cauliflower (1 head), onions (2), and garlic (3 minced cloves)
- Chicken: breasts (4) or thighs (4) (depends on preference, can even mix breasts and thighs, or add drumsticks, up to you!)
- Ground spices: salt, and 7-spice blend (allspice, cumin, coriander,

black pepper, cinnamon, nutmeg, and cloves)

- Whole spices: bay leaves, green cardamom, and cinnamon sticks
- Toasted almonds or pine nuts (for toppings, around 1/4 cup)
- Extra virgin olive oil (1/3 cup)

Instructions:

1. Rinse rice well under cold water and soak for at least 30 minutes. Set aside while you prepare the other ingredients.
2. Lightly fry the onions and minced garlic in a pan.
3. Season chicken with the 7-spice, salt, and pepper, then fry with the onion and garlic for a few minutes on each side until the outside is browned.
4. Add water to the chicken/onion mix and cook, covered, for 20 minutes. Save the chicken broth for cooking the rice!
5. Chop the eggplants, potatoes, and cauliflower, then fry until they are golden/slightly cooked. Cut the tomatoes and set them aside.
6. Drain the rice and add salt and the 7-spice blend. Add olive oil to a large non-stick pot and layer in the tomatoes, chickpeas, rice, fried vegetables, then the rice again, chickpeas, chicken, fried vegetables, rice, and so on, until several layers have formed.
7. Use your hands to pack the layers down firmly, then poke a few holes in the rice with a chopstick or wooden spoon handle.
8. Pour the chicken broth over the layered ingredients and place bay leaves, cinnamon sticks, and cardamom on top. Some of the chicken or vegetables may float (that is OK). Cook on medium-low heat for 20-30 minutes.
9. Once the rice is cooked, let the Maqluba rest, covered, for

another 10 minutes. Remove the spices from the top of the rice, then confidently flip the pot over onto a large plate and carefully lift the pot away.

10. Top with roasted almonds/pine nuts and serve.
11. Serve yogurt or salad on the side and enjoy! Bel-hana wa Ashifa (Arabic for "wishing you enjoyment and healing" when eating the food)!

Pumpkin Bread

By: Katie Kimbark



Pumpkin bread (Image Credits: [All Recipes](#))

I, personally, am a sucker for pumpkin desserts and will look for any excuse to make them. Luckily, this pumpkin bread is beautifully versatile and makes for the perfect treat for a lunch party, Thanksgiving dinner, or just a chilly, fall morning with a cup of coffee. Enjoy!

Ingredients:

- 15-oz can of pumpkin puree
- 4 large eggs
- 1 cup vegetable oil
- 2/3 cup water
- 3 cups granulated sugar (can use 2 cups if you'd like a less-sweet bread)
- 3 1/2 cups all-purpose flour
- 2 teaspoons baking soda
- 1 1/2 teaspoons salt

- 1 teaspoon ground cinnamon
- 1 teaspoon ground nutmeg
- 1/2 teaspoon ground cloves
- 1/4 teaspoon ground ginger

Instructions:

1. Preheat oven to 350°F. Grease and flour 2 9x5-inch loaf pans (you can also spray and use parchment paper).
2. In a large bowl, whisk together flour, baking soda, salt, cinnamon, nutmeg, cloves, and ginger.
3. In a separate bowl, mix pumpkin, eggs, oil, water, and sugar until well-combined.
4. Pour flour mixture into pumpkin mixture and mix until just fully combined.
5. At this point, I usually throw in a bunch of chocolate chips, but feel free to add any extra mix-ins you'd like (walnuts, pecans, chocolate, maybe a sweet cream-cheese swirl if you're feeling ambitious).
6. Distribute batter evenly between prepared pans and bake for about 50 minutes (or until a toothpick comes out clean when inserted). I usually like to set the timer for 40 minutes first and check it in shorter increments to make sure I don't overbake it.

Blood Orange Margarita

By: Laura Odom

In case you haven't been following previous Lion Ledger editions, I love margaritas. The mix of sour, sweet, and sometimes spicy flavors go well together for any libations-friendly occasion. For this spooky Fall Lion Ledger, I'm sharing a scary good recipe for a blood orange margarita (blood-free, of course). Drink responsibly and remember that you

can always opt for less or no alcohol if you want!



Blood orange margarita (Image Credits: [Dishes Delish](#))

Ingredients:

- 1 ½ ounce silver tequila
- ¾ ounce triple sec -or- other orange liqueur
- 2 ounces lime juice
- 1 blood orange (+/- 1 blood orange, depending on how juicy it is)
- ¼ ounce simple syrup (optional, to taste)
- red food coloring (optional, beware of potential allergens)
- fake vampire teeth (optional décor)
- sea salt
- ice

Instructions:

1. Cut blood orange in half and squeeze as much juice as possible into a glass by hand or using a citrus juicer.
2. Add blood orange juice, tequila, triple sec, lime juice, and simple syrup to a metal shaker.
3. Add a handful of ice and shake well.
4. To salt the rim: invert serving glass and dip the rim into lime juice, followed by sea salt.
5. Add more ice to the salted glass and strain in margarita mixture.

6. For a more sanguine appearance, optionally add a drop of red food coloring.
7. Dress up the drink by adding fake vampire teeth as a “wedge” on the rim of the glass.
8. Enjoy the spooky *spirits*!

Reviews & Recommendations

A Review of Select Trader Joe's Fall Items

By: Natale Hall

Fall is finally here, and with it comes a delightful array of seasonal offerings at Trader Joe's! From pumpkin-flavored treats to cozy comfort foods, this season's lineup is filled with new and returning favorites. Whether you're a longtime fan or just curious about what's in store, here's a roundup of some of the fall items Trader Joe's has to offer this year. But remember, everyone's taste buds are different, so I encourage you to try these fall items out and see what you think!

Autumnal Harvest Soup



Autumnal harvest soup (Image Credits: [Trader Joe's](#))

Though visually appealing with its vibrant orange color and packed with ingredients like tomatoes, carrots,

and squash, the Autumnal Harvest Soup didn't quite live up to my expectations. The flavor was a bit bland for my taste, resembling more of a generic tomato soup and lacking the depth that one would expect from a “fall” soup. While it's hearty and creamy, it could have used more seasoning or a richer flavor profile to stand out among other seasonal items. It's a decent option for a quick lunch or dinner on a chilly fall day, but it was ultimately uninspiring and forgettable.

Overall rating: 6/10

Purchase again? No.

Honey Crisp Apple Cinnamon Greek Yogurt



Honey crisp apple cinnamon Greek yogurt (Image Credits: [Trader Joe's](#))

A seemingly overlooked fall item, the Honey Crisp Apple Cinnamon Greek Yogurt was a delightful surprise. While on the sweeter side for Greek yogurt, it has a great combination of tartness from the tiny, chopped apple pieces and sweetness from the cinnamon. It's indulgent yet light, making it perfect for breakfast or a snack. I highly recommend pairing it with the Honeycrisp Apple Granola (also a Trader Joe's fall special) for an extra boost of texture and flavor. However, any kind of granola or fruit pairing is sure to be a delicious addition to this hidden fall treat.

Overall rating: 8/10

Purchase again? Yes.

Cinnamon Bun Non-Dairy Oat Creamer

As an avid buyer of the non-dairy creamers at Trader Joe's, I had to try out this new fall-themed addition. While it gets the job done as a coffee creamer, I was a bit disappointed by the subtlety of the cinnamon flavor. I expected more of a bold, comforting cinnamon bun taste to come through, but it was quite mild, and almost indistinguishable from the Brown Sugar Non-Dairy Creamer available at Trader Joe's year-round. That said, it does provide a creamy texture and pairs well with fall coffee flavors, but for those seeking a strong cinnamon kick, this might not fully satisfy.

Overall rating: 6.5/10

Purchase again? Yes, but only because I always buy coffee creamer anyways.



Cinnamon bun non-dairy oat creamer (Image Credits: [Trader Joe's](#))

Pumpkin & Spice Snickerdoodle Cookie Mix

This cookie mix was the first fall item in my cart, and it did not disappoint! The box comes with a dry flour mix to make the cookie dough and a cinnamon-sugar mix to coating the dough balls before baking. The dough was quick and easy to prepare, and the cookies came out perfectly soft and chewy, with the edges just slightly crispy. The pumpkin spice flavor is

prominent but not overpowering, and the sugar coating adds a satisfying sweetness. These cookies feel like the essence of fall in every bite and are perfect for cozing up with a cup of tea or coffee and watching the leaves change.

Overall rating: 9/10

Purchase again? Yes!



Pumpkin & spice snickerdoodle cookie mix (Image Credits: [Trader Joe's](#))

Butternut Squash Mac and Cheese

A Trader Joe's cult classic, the frozen Butternut Squash Mac and Cheese is a solid fall item, if perhaps a little overhyped. What stands out the most in this dish is the cheese sauce, which is a blend of cheddar, gouda, parmesan, and of course, squash. It's a perfect balance of creamy and nutty, with a subtle sweetness from the squash that is not too overpowering. However, the noodles can be a bit problematic, sometimes remaining slightly undercooked and hard no matter how long you cook them for. Of the two cooking options (microwave or oven), I strongly suggest baking it in the oven, which does a better job at avoiding this issue and ensuring the noodles are cooked fully through.

Overall rating: 7/10

Purchase again? Yes, but only once per season to try it again.



Butternut squash mac & cheese (Image Credits: [Trader Joe's](#))

Savory Squash Pastry Bites

Out of all the fall items at Trader Joe's, the frozen Savory Squash Pastry Bites were a wonderful surprise and my personal favorite. These delectable bites combine a light, flaky puff pastry with a warm, savory filling of squash and ricotta cheese. The texture contrast between the crispy pastry and soft filling is a perfect balance. Whether you're looking for a hearty snack or something to impress at a fall gathering or Halloween party, these bites are sure to be a crowd-pleaser. I've already bought them multiple times and plan to keep stocking up while they're available!



Savory squash pastry bites (Image Credits: [Trader Joe's](#))

Overall rating: 10/10

Purchase again? Already have three times!



Book Recommendations For the Season of Spookiness and Fuzzy Socks

By: Julia Simpson

The Once and Future Witches by
Alix E. Harrow:

Witches + Women's Rights

It's 1893: magic is real but illegal, and women can't vote. Three estranged sisters living in New Salem, MA are unexpectedly drawn together again and wind up trying to fight for change on both fronts.

Do you like historical fiction that delves into social issues? How about fantasy that uses magic and supernatural elements as lenses to examine real-world societal systems? Are you in the mood for a fast-paced book rife with witchcraft, sisterhood, overcoming trauma, and pushing back against oppression? Want to head into election season feeling fired up to exercise the right that so many real-world heroes fought for? If so, this is the book for you!

Ninth House by Leigh Bardugo:

Witches + Women's Wrongs

Alex Stern can see ghosts, and all she has to show for it is a life of tragedy and trauma. At rock bottom, she's mysteriously offered a scholarship to Yale; a chance to turn her life around – for a price. For the ancient secret societies headquartered at Yale, Alex's rare ability to see ghosts is useful. Alex is quickly drawn into a high-stakes supernatural world while trying to juggle solving a suspicious homicide; navigating the old-money, cult-like politics of the secret

societies; and staying afloat in the crushing pressure of elite academia, all while leveraging her dangerous ability to see the dead.

Looking for some dark academia vibes just in time for spooky season? This is the book for you!

Can't Spell Treason Without Tea by
Rebecca Thorne:

Cozy Fantasy

Reyna is a palace guard to a tyrannical queen. It's a ruthless, thankless profession, and she's tired of it, but leaving would be treason. Kianthe is the most powerful mage in the Realm. Turns out, protecting people from threats both magical (dragons) and natural (weather) also requires diplomacy – including keeping her palace guard girlfriend a secret for the sake of international relations. They dream of running away together and opening a bookstore/tea shop in a remote mountain town – but they can't do that, right? Well, after Reyna gets stabbed on the job (again), priorities shift. *Why not* chase their dreams of domesticity? Who's going to stop them, when Kianthe can summon storms with a snap?

Looking for a book you can read with a hot cup of tea, *about* books and tea? This is the book for you!

The Long Way to a Small, Angry Planet by Becky Chambers:

Cozy Sci-Fi

The Galactic Commons is a vast, thriving network of human and alien governments. Like all governments, they need effective transportation systems – a trickier thing in space, where distances are measured in months instead of miles (without wormholes). Enter: the motley crew of

the *Wayfarer* spaceship, comprised of humans, aliens, and AI. The crew take a job traveling the long way to a far-off world to build a wormhole-gate that will connect it to the rest of GC space. They're a diverse group, stuck together for the journey. What makes someone choose such an isolated life? They've all got secrets, but there's not much space to hide when you're traveling through space.

Looking for a heart-warming road trip/found-family novel to read by the firelight (or moonlight, or starlight)? This is the book for you!



Book recommendations in order (Image Credits: Amazon)

Local Coffee Shop Fall Specialties

By: Hannah Mohr

I think we're all at the point in the semester when we just can't stare at the library walls or home desk any longer. Sometimes, a change of scenery is all it takes to ignite the

productivity you've been chasing – and what better way to do that than with a little fall treat to help get work done?

Here are a few of my favorite local places that have seating, great WiFi, and yummy fall specials right now.

Ancestor Coffee House & Creperie

2701 Horseshoe Pike. Palmyra, PA

My favorite drink here right now is the pumpkin roll latte, which I pair with a fresh cinnamon sugar crepe. They also have savory crepes if you're craving something a bit more substantial.



Fruit and Sunshine Crepe from Ancestor Coffee House & Creperie (Image Credits: [Amy M. on Yelp](#))

Copper Cup Coffee

1 W Main St. Mount Joy, PA



What's more motivating than being surrounded by the spirit of money while you work? (Vault room at Copper Cup Coffee – Image Credits: [Woody on Yelp](#))

If you aren't a coffee drinker, the blackberry fig tea-fresher at Copper Cup is so, so good. This location is in an old bank, and you can sit at a table in the vault for a real change of scenery!

Swatara Coffee Company

104 W Main Street, Annville, PA

Swatara has an extensive breakfast and sandwich menu with house made toppings such as house bacon jam – pretty great on the Bacon Jam Session sandwich if I do say so myself. Pair a sweet or savory treat with an iced, frozen, or hot seasonal drink (like the hot caramel macchiato latte)!



Some yummy-looking macarons and an artistically crafted coffee beverage from Swatara Coffee Co. (Image Credits: [Swatara Coffee Co.](#))

Englewood Roasting Co.

1219 West End Ave. Suite B.
Hershey, PA

Within walking distance from the College of Medicine, and with a 20% discount for those with a Penn State ID, there is a lot to like over here. And what isn't to love about a breakfast sandwich that includes brisket AND mac n cheese? Pair the sandwich with a robust seasonal tea

or choose from their plethora of syrup flavors to make your own fall treat.

St. Thomas Roasters

5951 Linglestown Road, Harrisburg, PA



The interior of St. Thomas Roasters feels like a vintage dream – perfect for a cozy day of reading or writing. (Image Credits: [Tripadvisor](#))

The inside feels like an antique living room and is so cozy, with the coffee roaster giving off the best smells in the corner. When it's warmer, there is even a patio with outlets outside! Grab a house-made fall drink or take home a bag of flavored coffee – with flavors like butter rum, cinnamon sticky bun, and classic pumpkin spice, you're sure to satisfy your autumnal sweet tooth.



Thank you for reading the Fall 2024 Edition of the Lion Ledger! If you have something you'd like to contribute to the next edition, email us at lionstalkscience@gmail.com

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