

# newscience

NEWS FOR MEMBERS, PHILANTHROPIC PARTNERS AND FRIENDS OF THE SAINT LOUIS SCIENCE CENTER

FALL 2024

## The FOOD ISSUE

Featuring  
Chef Kore



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## Connect with curiosity.

Dear Friends of the Saint Louis Science Center,

Welcome to our Fall issue of *NewScience*, which we are calling “The Food Issue.” Science can be seen across so many areas of our world and community, and throughout this edition of the magazine we have a number of stories looking at how even our food can reveal STEM in our daily lives.

As you know, the Science Center is our region's destination to explore the Wonder of Why. On page 13 explore the wonder of fermentation and discover the science of how this process helps make items like yogurt, wine, cheese and more. In this issue, you can also learn how the educators in our GROW gallery are creating new varieties of peppers using traditional plant breeding methods, highlighting the ways science and agriculture connect.

In Science Today, the Science Center's Executive Chef, Kore Wilbert, serves up a look at molecular gastronomy—a branch of food science which focuses on the physical, biological and chemical reactions that arise when cooking, incorporating tools from the science lab and new techniques in the preparation, transformation and presentation of food.

Our Donor Spotlight on page 28 highlights Margie and Ed Imo, founders of the iconic St. Louis pizza company and longstanding members of our Einstein Society, and their history of support for the work we do. If you too are inspired by their generous commitment to the Science Center, the Einstein Society is a wonderful way to make an impact and support accessible STEM learning for our region.

Even our YES Teens have been exploring the intersection of STEM and food. On a recent visit to the local headquarters of Nestlé Purina, our teens learned about what it takes to design healthy pet food and the various STEM careers involved in doing so. Read about their trip on page 30.

Of course, in addition to so many great food-related stories, you'll also find numerous reasons to come visit the Science Center and experience something new, from Makerspace workshops and OMNIMAX® Theater films to events like Science Spooktacular, a new food-themed SciFest, First Fridays and much more.

As always, thank you to our Science Center members, philanthropic partners and supporters, and St. Louis community for making our mission to inspire everyone to be curious and engaged in science possible.

We hope this issue of *NewScience* works up your appetite for discovery. After all, if you're hungry to learn something new, there's always a seat at the table here at your Science Center.



Sincerely,

Todd Bastean  
President and CEO

**To inspire everyone to be curious and engaged in science.** Mission of the Saint Louis Science Center

Connect with us for updates,  
special events and fun science.



Smithsonian Affiliate  
Membership Program



## Fall Hours

Thursday–Saturday: 9:30am–4:30pm

Sunday: 11:00am–4:30pm

Monday: 9:30am–4:30pm

Open until 5:30pm Saturday, August 31  
and Sunday, September 1

Closing at 3:00pm Thursday, September 5

Open until 8:00pm Friday, October 25  
& Saturday, October 26

Open until 5:30pm Friday, November 29  
& Saturday, November 30

Open until 9:00pm on First Fridays

### Contact

314.289.4400 | [slsc.org](http://slsc.org)

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### Membership

Services & Sales: 314.289.4414

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### Events

Host your next private event at the Saint Louis Science Center. Services and catering provided by Saint Louis Science Center Events. For information: 314.286.4667.

### Accessibility

Complimentary wheelchairs and strollers are available in the lobby. Motorized scooters are available for a rental fee. Personal Hearing Assistance Devices are available at the OMNIMAX® Theater and Planetarium. Captiview caption devices are available for all OMNIMAX® films.

### Official Partners

The Saint Louis Science Center gratefully acknowledges the support of our Official Partners.



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### 20 Join Us

Find out about our upcoming First Fridays and OMNIMAX® films, plus, Spooktacular returns this October!

### 23 Community

Look back at our Summer STEM Explorers camp here at the Science Center, and read about how our Community Science team brings STEM to the community with Summertime Science and STEMtastic Camp.

### 29 Partnership & Support

Meet longstanding supporters Margie and Ed Imo in our Donor Spotlight, register to play in our upcoming 11<sup>th</sup> annual golf tournament, and read about the YES Program's recent visit to learn about STEM at Nestlé Purina's St. Louis headquarters.

Cover photo by: Tyler Small



# UPCOMING MEMBER EVENTS

## MARK YOUR CALENDARS!

SUNDAY, SEPTEMBER 8 | 11:00AM-2:00PM

### Grandparents' Day Member Lounge

*Reservations Available Now*

Few people are more special than grandparents, and we're ready to celebrate them! Join us for the Grandparents' Day Member Lounge where we will create an atmosphere of gratitude and love for some of our favorite people! We will be offering crafts, treats and some good old-fashioned science fun.

THURSDAY, SEPTEMBER 26 | 6:00PM-8:00PM

### Special Member Event: GROW Night with Cardinals Kids Club

*Reservations Available August 29*

Explore the science behind one of the most important parts of life: food! Members will enjoy a special opportunity to experience the beauty of GROW—hang out with our chickens, play at the Water Works station or check out our latest agricultural exhibits. This event is appropriate for all ages but is specifically designed for children! It is held in collaboration with Cardinals Kids Club.

THURSDAY, OCTOBER 10 | 5:30PM & 7:00PM

### OMNIMAX® Member Preview: Train Time

*Reservations Available September 12*

Members see it first! Join us for a members-only preview of our upcoming OMNIMAX documentary, *Train Time*, an eye-popping, music-infused journey across America. Giant diesels, spectacular terrain, tens of thousands of miles of track—and millions of pounds of freight that can't wait. Popcorn and beverages will be available.

SAVE THE DATE | MONDAY, DECEMBER 9  
Holiday Member Appreciation Night



# SUE

## THE T. REX EXPERIENCE



### SCIENCE CENTER SUPPORTERS ENJOY SPECIAL VIP RECEPTION FOR *SUE: The T. rex Experience*



This summer, Saint Louis Science Center friends and supporters had the chance to meet SUE, the most complete, best preserved *Tyrannosaurus rex* ever found, during a special VIP reception celebrating the opening of the traveling special exhibition, *SUE: The T. rex Experience*.



130 guests attended, enjoying cocktails and hors d'oeuvres, exploring the exciting special exhibition, mingling with fellow supporters and engaging with members of the Science Center team and STEM partners from Saint Louis University and Washington University in St. Louis. The evening offered a close-up look at how philanthropic support helps bring STEM learning to St. Louis through the Science Center's mission to inspire everyone to be curious and engaged in science.

In *SUE: The T. rex Experience*, guests take a journey through Hell Creek, SUE's home and one of the most well-documented communities from the age of dinosaurs, getting to know SUE as an individual that lived a challenging and dangerous life but survived to old age against the odds.

Through the exhibition's STEM experiences, guests learn more about the prehistoric world and the creatures, like SUE, who lived there. These experiences include full-scale casts of SUE and a *Triceratops*, a multimedia light show that highlighting sections and details of the SUE skeleton, scents and sounds from the period, and an exploration of both how the fossil was unearthed and how scientists continue to make discoveries about it.

The VIP event also offered guests the opportunity to explore updates to the Life Science Lab Atrium, which were completed earlier this year. Science Center team members and Saint Louis University partners behind the updates provided insight into the process.

In the Atrium, guests explore connections between nature and medicine, as well as how scientists can look to nature to advance healthcare.



# Institutional Advancement Spotlight:

## Meet Our Newest IA Team Members



### Nate Pedigo

#### Senior Director of Corporate & Foundation Relations

Nate Pedigo, an ardent St. Louis enthusiast, joined the Science Center in April 2024 as the Senior Director of Corporate & Foundation Relations. With a PhD in Historical Studies, Nate began his career teaching in university classrooms and working in French national archives. In 2015, he transitioned to nonprofit development and has since held senior roles at Webster University, the St. Louis Area Foodbank and Food Lifeline in Seattle.

Pedigo says, "I'm incredibly excited to have joined this vibrant team. The city and region are at an important inflection point, with both established and emerging STEM industries expanding rapidly. The Saint Louis Science Center is crucial in making sure that everyone in our community sees these emerging STEM opportunities and feels empowered to be part of this exciting future."

Pedigo's work at the Science Center focuses on partnerships with charitable companies and private foundations. He explains, "I see philanthropy not as a transaction, but as an extraordinary opportunity for people to join a collective mission, find a civic home and make the world a better place, and I'm grateful for the opportunity to do this work in St. Louis and with everyone at the Science Center."

Originally from Cape Girardeau, Missouri, Pedigo enjoys attending live music events and occasionally writing and recording his own. He and wife, Tacy, love cycling around the city and can often be found wrangling their two rescue dogs in Tower Grove Park.



### Erin Vlasaty

#### Grants Manager

Erin Vlasaty accidentally entered the world of advancement by way of the theater. An avid thespian, she produced, performed and directed with several local community theater companies before dedicating her time at each of these companies to establishing new revenue streams through fundraising. The rest, as they say, is history.

A native St. Louisan, Vlasaty is now a seasoned grant professional with more than 18 years of experience supporting some of the city's most celebrated arts and educational institutions. These organizations include the Saint Louis Art Fair, Shakespeare Festival St. Louis, Lift For Life Gym, Dance St. Louis, Saint Louis Fashion Fund and Girl Scouts of Eastern Missouri.

"I am passionate about St. Louis as a premier destination to live, work and play," says Vlasaty. "This city has so much to offer its residents and visitors, and it has been my privilege to work for institutions that contribute to that kind of wonder. I look forward to embracing the culture of curiosity the Science Center inspires and working with its excellent staff to share with the community all that the institution has to offer."

Vlasaty holds a Bachelor of Arts in English Literature from Sweet Briar College in Virginia.



## Noël Schiber

### Major Gifts Officer

Noël Schiber started her institutional advancement career nearly three decades ago as an intern in the Saint Louis Science Center's membership office.

She returned to the Science Center in April 2024 as a Major Gifts Officer, part of a dynamic team focused on building relationships and elevating resources to advance the Science Center's mission and strategic plan.

"The Science Center is a regional gem and a place that has been at the center of so many wonderful experiences for me and my family," says Schiber. "I'm thrilled to be at the forefront of engaging people and partners who are passionate about raising the bar on STEM education and making science accessible and relatable to everyone."

Schiber honed her skills and experience in roles at the Missouri History Museum, SIUE School of Nursing, Foundation for Barnes-Jewish Hospital, Washington University School of Medicine and Boys Hope Girls Hope. She is also a Certified Fund Raising Executive (CFRE) and chairs the Strategic Initiatives Committee for the Association of Donor Relations Professionals.

A lifelong Metro East resident, Schiber earned her Bachelor of Arts in Communication from Saint Louis University and a Master of Public Administration from Southern Illinois University at Edwardsville. Her husband, Dave, spent eight years working in the galleries and community science for the Science Center and now volunteers at the museum when he's not leading hikes and programs at The Nature Institute in Godfrey, Illinois.



## Gina Baker

### Major Gifts Officer

Gina Baker joined the Institutional Advancement team in May 2024 as a Major Gifts Officer. Prior to the Science Center, she spent eight years in philanthropy at the Saint Louis Art Museum, first in Major Giving, then in Individual Gifts.

"The Zoo Museum District is such a treasure in our city. I'm grateful to have the opportunity to experience another museum in this organization that makes our city so unique. We are fortunate to be a part of this important framework supported not only by citizens and taxpayers, but by members and donors, too," says Baker.

"I am thrilled to be part of this team, and I'm looking forward to creating meaningful experiences for members to help them further engage in the institution they believe in. The Science Center is doing such great work in the community and the region to elevate STEM education and encourage curiosity. The possibilities are exciting and profound."

A native St. Louisan, Baker has a bachelor's degree from Webster University in Art History. She has fond memories of visiting the Science Center as a child with her dad, a current member, who has always encouraged the support of St. Louis cultural institutions.

# Understanding Molecular Gastronomy: Cooking from Within

## STEM EXPERT SPOTLIGHT



**Kore Wilbert** is a St. Louis native and is currently the Executive Chef at the Saint Louis Science Center. He began cooking at a young age and was fascinated by the flavors and different combinations that could be created. Wilbert attended the L'École Culinaire and, upon graduation, completed his studies in Manori, Italy under the tutelage of Chef Donatello Guiseppe. He received a cooking certification from the Villa Romana. Wilbert has been featured in *Ladue News*, *Taste Magazine*, and *The Riverfront Times* for his abilities and achievements. In 2016, Wilbert beat out some of the area's top chefs in the Taste of St. Louis "Battle Royale." He was featured in *Sauce Magazine* that same year and was nominated to be included in their "Rising Stars" list. Wilbert says, "I love to cook, so I cook with love." He is a father of five and loves to create in the kitchen with his children Kiyomi, Luka, Kace, Xena and Xoe.

## Cooking is science.

Whenever we cook, we have an idea of how we want our dishes to turn out. When we follow recipes and use various cooking techniques, we are causing scientific reactions that create new chemical states. Molecular gastronomy is a branch of food science that focuses on the physical, biological and chemical reactions that arise when cooking. Molecular gastronomy, or progressive cuisine, is a movement that incorporates tools from the science lab and new techniques in the preparation, transformation and presentation of food. It basically is the study of molecules as they relate to the chemical and physical processes of cooking. Understanding the methods and procedures we use to manipulate an ingredient's chemical state aids our journey. Every process, step or procedure we follow has hidden mechanisms that affect the outcome of the ingredient or dish. Through molecular gastronomy, these processes and outcomes are introduced, harnessed and further manipulated to create exciting, flavorful and artistic results that we wouldn't be able to achieve otherwise.

### Practical Uses

Searing a steak over high heat, baking a loaf of bread, and transforming liquids into solids or solids into vapor are just a few examples of how we use and manipulate scientific processes in cooking. Looking at cooking from a scientific standpoint helps us further understand and explore unfamiliar areas of food science. Understanding scientific principles, processes and reactions when applied to cooking can open a whole new world of flavor combinations, textures and ideas.

These ideas are only recently becoming widely used in restaurants and homes. Applying these concepts to cooking techniques helps expand our abilities and creativity as cooks. Once we understand the tools and ingredients needed to create the outcome we desire, we can then begin to use them in various components of our dishes and menu development.

### Gastronomy IRL

Experimenting and exploring within this branch of food science has never been easier. The more we experiment, the more knowledge we gain, or as Aristotle said, "The more we know, the more we do." Every ingredient has its own chemical and biological makeup. Becoming familiar with these chemical compounds and understanding the reactions that occur when we are introduced to various methods or procedures also expands our abilities and artistry. Every cooking method or procedure we use causes a reaction with our ingredients. The manipulation of these reactions is where the art and science of cooking become more than just fun experiments. These manipulations become a part of our culinary thinking—and a part of us. In turn, understanding these manipulations changes the way we look at ingredients when conceptualizing a dish. Looking at the way ingredients taste together is how we know what we want to eat.

Manipulating the way ingredients interact with others texturally, visually and aromatically can greatly heighten and enhance our dishes and dining experiences. This is the reason why molecular gastronomy is becoming more and more relevant in the culinary world.



## 10 Molecular Gastronomy Techniques:

**Spherification:** The technique in which we can create “squishy” orbs resembling caviar eggs or pearls. This uses calcium lactate and sodium alginate to create a gel when combined. One common use for this is popping boba or bubble tea.

**Emulsification:** The technique in which “air bubbles” are created and held with soy lecithin that dissolve in your mouth.

**Flash Freezing:** This technique uses liquid nitrogen to freeze ingredients instantly. This is useful because nitrogen creates small ice crystals when freezing, creating a smoother mouth feel when making ice cream and other frozen desserts. Here at the Science Center, we use flash freezing in exciting ways.

**Smoking:** Poly Science has created a “gun” that can be loaded with dry herbs or wood chips to infuse anything with smoke. When this gun is used with a smoking dome and the food is covered securely, you can smoke anything from proteins to your favorite cocktail.

**Transformation:** Using maltodextrin, you can turn high fatty liquids (like bacon fat) into powders. You can then use the powder to “season” things with that flavor. Bacon popcorn, anyone?

**Sous Vide:** The technique in which you vacuum seal a product and submerge the bag in water. Using an emersion circulator that regulates the water’s temperature, you can perfectly cook anything to any temperature you desire. Applying this technique to a steak, then searing it right out of the bag, is called “reverse searing” and is widely used in restaurants and at home. Never overcook your steak again!

**Transglutaminase (or Meat Glue):** An enzyme used to bind proteins like beef, chicken or fish. Ever wondered how the nugget becomes a nugget?

**Gelification:** Using ingredients such as agar-agar or carrageenan, you can transform liquids or liquified foods into gels. This technique is typically used in the creation of noodles made into interesting shapes.

**Incorporation of Edible Paper:** “Paper” made from potato starch can be used to make pockets in which you can add almost any ingredient, like meats or vegetables. The interesting thing about this “paper” is that it’s transparent. Ravioli can be taken to a whole new level.

**Deconstruction:** This technique takes the main parts of a dish and separates them, making them more interactive to our guests and expanding flavor profiles to new heights.

**Because of the growing popularity of molecular gastronomy, there are many books, recipes and tutorials now accessible for us to explore.**

## Flash-Frozen Ice Cream

In a stainless-steel bowl, combine:

16 oz heavy cream

4 oz half and half

4 oz sugar

2 oz whole milk

2 oz vanilla extract

Slowly adding in 16oz of liquid nitrogen while whisking will create a very smooth and tasty version of vanilla ice cream.

**Note:** Working with liquid nitrogen can be dangerous. Safety gear must be worn, and safety precautions must be taken.



# What's Makerspace Making?



Ever popped into Makerspace and sent parachutes sailing with the Float and Fly, or built an amazing device or vehicle with the Rigamajig building sets? These activities greet guests as they first enter the gallery. But there's so much more to learn and do and enjoy!

Makerspace is an interactive space where multi-generational groups can create and learn skills using a variety of tools and materials. Guests can use their own creativity as they explore science, technology and engineering principles. In a nutshell, Makerspace is the place to play, build, imagine, adapt, modify, work together and have fun.

## WELCOME TO THE MAKERSPACE CLASSROOM!

The Makerspace Classroom is home to more focused, smaller group learning throughout the year. The Science Center team uses the classroom to expand the hands-on education already happening in Makerspace.

The main events in the Makerspace Classroom are the free workshops offered from 1:30-3:30pm every day. These workshops, hosted by team members and limited to 4-8 guests at a time, provide a more intimate setting for guests to learn. The Makerspace team plans its workshop activities on a rotating schedule so that the experience is always evolving and changing.

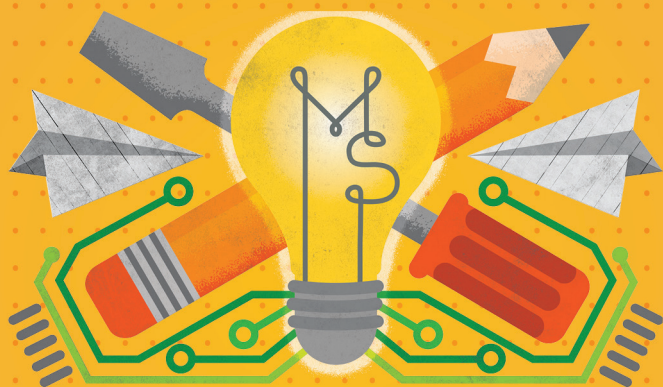
Guests who visit the classroom this fall will have the opportunity to:

- + Build their own dinosaur with recycled materials
- + Explore the world of building Mars rovers with LEGO® Technic bricks
- + Make Multimedia Crazy Collages



Daily workshops are first come, first served. Stop by the Classroom to learn more!

In addition to these daily workshops, the team also uses the Classroom for tabletop experiences throughout the day. You will often find team members working with guests on many different skills and projects. These activities are more flexible and change on a regular basis to enhance the Makerspace Gallery as a whole.



# MAKERSPACE

## EXPLORE THE MAKER GARAGE: A BEHIND-THE-SCENES HUB OF INNOVATION

Within the bustling Makerspace Gallery lies the Maker Garage, a specialized workshop where creativity and technology intersect. This area is staffed by gallery team members who use advanced machinery to create educational projects designed to teach guests different techniques, skills and technologies.

The Maker Garage is equipped with:

- + **Six 3D Printers:**  
These devices transform digital designs into tangible objects, showcasing the power of additive manufacturing.
- + **A Laser Cutter:**  
This tool allows for precise cutting and engraving, ideal for creating intricate designs.
- + **A Drill Press:**  
Perfect for making accurate holes in a range of materials.
- + **A Band Saw:**  
Used for cutting curves and detailed shapes in wood and other materials.
- + **A Table Mounted Belt Sander:**  
Essential for smoothing and finishing projects to perfection.

While the Maker Garage itself is not open to guests, its impact is felt throughout the Makerspace Gallery. Projects created in the Garage, like Two-Person Pinball, are displayed and used in interactive exhibits, allowing guests to engage with the finished products and learn from the processes behind them. Depending on the project, various interactive elements, such as 3D-printed dinosaur bones, may be set out for guests to explore, offering hands-on experiences that demystify the technologies and techniques used.

The Maker Garage is a cornerstone of the Science Center's commitment to hands-on education and innovation. Through the projects developed here, the team aims to inspire and empower guests, providing a deeper understanding of the tools and technologies that shape our world.



## Field Trip Fun

### For Groups Large and Small!

The Saint Louis Science Center offers paid experiences that provide teachers and students the opportunity to make classroom concepts come to life in new ways.

Whether you have a group of fewer than 30 or up to 120 students, our team has prepared educational activities that provide engaging and impactful ways to reinforce STEM concepts. These activities are tailored to suit the size of your group as well as the curricula of students of various ages.

Small groups of 10-30 students can tour GROW and dive into biology and life sciences, or visit Makerspace to build a classroom-sized Rube Goldberg machine or create their own Scribble Bots.

For larger groups, several Energy Stage show options provide a safe environment to witness science demonstrations that are difficult or not safe to do at home or in the classroom. Options include The Science of Sound, Boiling Hot/Boiling Cold or Stormy Weather.

Of course, a trip to the James S. McDonnell Planetarium for a Star Show or the OMNIMAX® to watch one of our educational documentaries are always fantastic choices for large or small field group visits.

To learn more about our offerings for groups visiting the Science Center, head on over to [slsc.org/groups](https://slsc.org/groups). We would love to help you choose the best group options for your students!



# Meet the Team: Dr. Becky Thompson

## CHIEF SCIENCE AND EDUCATION OFFICER

Dr. Becky Thompson joins us with a wealth of experience in science education and public engagement. Most recently, she served as the Head of Education and Public Engagement and Interim Head of Conferences and Events for the Fermilab in Batavia, IL. She has also served as Head of Public Engagement for the American Physical Society (APS). Thompson authored the *Spectra: The Original Laser Superhero* comic book series and *Fire, Ice, and Physics: The Science of Game of Thrones*. She holds a Ph.D. and an A.B. in Physics.

### Tell us about yourself.

My mom was an elementary school principal, and my dad was a nuclear engineer, so I always joke I hit the mark right between the two. I grew up outside Annapolis, Maryland, in Severna Park and had a truly inspirational physics teacher in high school. He made me want to keep learning. I attended Bryn Mawr College for my undergraduate degree. It is a women's college, and I really valued the environment as a woman in STEM. In graduate school at UT Austin, I studied the buckling pattern at the edges of daffodils. There, I realized that while I loved research, I really loved connecting people to science and showing them that science is everywhere. Next, I joined the APS, where I got to reach so many people doing everything from classroom experiments to writing comic books. Fermilab was wonderful in a different way. There is nothing like seeing the look on someone's face when they see a working particle accelerator. It was a challenge figuring out how to connect the public with high energy physics, but that made succeeding very rewarding. Outside work, I'm an avid knitter, triathlete and open water swimmer.

### Why is informal STEM learning important? How do science museums help get people into STEM?

Science centers are bridges between the public and science in such fun and engaging ways. STEM is the foundation on which our world operates, and even if people might not fully understand STEM topics, they can appreciate their world and how it works. Looking up at the stars in a planetarium, getting up close with fossils, sitting in a real combine: these experiences can not only inspire kids to lean into STEM learning, but can also help adults better understand and appreciate the STEM all around them. This kind of intergenerational learning—adults and kids learning together— is so important.



### What do you hope to accomplish in your new position leading the Science and Education team?

I am so thrilled to lead the Science and Education team here at the Science Center, where so many amazing things are happening. I look forward to continuing to align the work we do with the Science Center's wonderful Strategic Plan. One thing that made me want to work here was the emphasis on The Wonder of Why. Curiosity is a fundamental part of how science works, and I am excited to help create experiences that inspire curiosity and wonder.

### What do you enjoy "geeking out" about?

My goddaughter calls her everyday science questions "Aunt Becky questions." I've explained mirrors, whirlpools, microwaves, glowing pickles and more. My husband calls my impromptu lectures on science topics "BecX" talks. Some of my favorites are about science in pop culture. In addition to my book on the science of *Game of Thrones*, I've given (real) talks on the physics of *Frozen* and the science of *Wonder Woman* vs. *Captain Marvel*. *Frozen* is full of fun physics; it even uses the word "fractals" in a song! In terms of fandoms, I'd have to say *The X-Files* is my biggest. Scully was a huge inspiration for me— such a well-developed character and a great scientist. I also love *Our Flag Means Death* and, of course, *Doctor Who*. The Tenth Doctor is my Doctor.

# The **WONDER** of... Fermentation



## WHAT IS IT?

Fermentation is a process where a substance is broken down or “digested” by bacteria, yeasts or other microorganisms. As the microbes digest sugars or other products, the gases and other substances they excrete can create rising dough, holes in Swiss cheese and the acidic nature and flavors of sauerkraut, vinegar and alcohol. The fermentation process produces food and beverage products like bread, yogurt, beer, wine, cheese, kimchee, sauerkraut, chocolate, kombucha and more.

## DID YOU KNOW?

Besides being a source of many food products, fermentation helped civilizations thrive as a way to keep food from spoiling without refrigeration. The fermentation process can actually kill unwanted bacteria that can cause spoilage and illness so, if people had extra fresh food, they could preserve it for later. This meant that when food wasn't as readily available, there would still be something to eat.



**David Deaton**, owner of Steampunk Brew Works, has been making fermented items since 1988. He uses his expertise not only to support Steampunk Brew Works, but also to help others make their own beer, wine, cider, mead, spirits, kombucha, cheese and bread.

## EXAMPLES:

Milk, especially unpasteurized milk, can spoil quickly, but by using a fermentation process, it can be transformed into cheese. Softer cheeses like cheddar can be preserved for a couple of months, and hard cheeses such as parmesan can be preserved for a couple of years, keeping the nutrients found in milk safe for longer use.

Grains that have been ground or converted into bread will only last a few days before they begin to mold. Grains converted into beer can last several months to several years depending on the type of beer. Beer was, and still is, a way to gain some of the nutritional value from the grain.

## OTHER APPLICATIONS OF FERMENTATION:

To make vinegar or kombucha, a double fermentation process is used. Yeast is used to first convert sugars into a form of alcohol called ethanol. Apple cider vinegar, for example, starts with sugar from apple juice. A certain kind of bacteria (*Acetobacter*) is then used to convert ethanol into acetic acid. Water is added to the acetic acid to make the acid content 5-6%, which is the apple cider vinegar you can then purchase at a store.

Beyond food preservation, alcohol produced through fermentation can be distilled down to make disinfectants or fuel. One bacterium, *Clostridium pasteurianum*, ferments glucose into butyrate, acetate, carbon dioxide and hydrogen gas. The hydrogen gas can be used as a fuel.

## Cultivating Friendships in



The GROW team is always ready to talk about plants, and sometimes a chat in GROW can result in a new friendship.

Read on to learn about the friendships we've been cultivating in our community.



After losing many of GROW's Phenomenal variety lavender plants to extreme freezes, the team was happy to hear that **Battlefield Lavender** in Centralia, MO, currently grows 16 different cultivars, or plant varieties created by selective breeding. Battlefield Lavender generously donated a hardier variety called Hidcote Giant, which can grow to nearly four feet when mature.



**Grow Gear**, a hydroponic grow supply store in South City in the process of a merger with **The Garden Shop**, has donated hydroponic nutrients, different soils and growing media, and most recently, a new tent to provide plants in the GROW Pavilion with an optimal growing environment.

In the tent, guests can see how our GROW educators are creating new varieties of peppers through traditional plant breeding methods, as well as showcasing transgenic crops, or crops that are modified to have desired traits from one plant species put into another.

The tent contains a Brazilian starfish pepper crossed with a purple bell pepper, as well as a white ghost pepper crossed with a sweet banana pepper, each cross-bred traditionally in hopes of creating an entirely new pepper.

Alongside the peppers is the transgenic purple tomato, the first genetically modified crop to be sold directly to home gardeners. The purple tomato was created using bacteria to insert a portion of DNA from an edible flower called a snapdragon into the tomato's DNA, resulting in the ripened tomato's deep purple color and the fruit's much higher antioxidant content.



The plots around our combine are home to a new PheNode, generously donated to GROW by ag-tech startup **Agrela**.

Plant phenotyping is an emerging science that explores the link between a crop's genotype (genetic makeup) and the environment by measuring growing conditions and analyzing observable plant characteristics (or phenotypes), such as height, biomass, leaf shape and more.

Assessments of plant phenotypes in the field can be labor-intensive and inefficient. Precision technology products like this PheNode can help automate the data collection process using wireless sensors to monitor and record field conditions such as wind speed, temperature, humidity, air pressure, light gradients and the temperature and moisture of soil. Cameras allow growers to keep an eye on their fields remotely and respond more efficiently to various conditions (for example, applying pesticide immediately after petal drop in a fruit orchard).



In turn, the GROW team has donated some of its own products, contributing herbs such as lavender, basil, mint, lavender and rosemary, as well as fruits like sour cherries, currants and elderberries, to **Stiil 630 Distillery** for use as potential flavorings for new gin products.

*Every program, initiative and success in GROW is backed by a network of supporters. We extend our sincere thanks to our principal GROW donors: **CASE IH, the Missouri Farm Bureau and the Illinois Farm Bureau.***



The USS Abraham Lincoln (CVN 72), where the Chow Boss serves thousands of meals every day.

# MEET THE CHOW BOSS

## Food for 5,000

Ever wondered how to feed 5,000 people in the middle of the ocean?

Chief Warrant Officer Four Morio Hall, a New Orleans native, knows how it's done. Hall enlisted in the United States Navy in 1996 and served as a Culinary Specialist Senior Chief Petty Officer before commissioning as a Naval Supply Corps officer in 2016. Currently, he serves aboard the USS Abraham Lincoln (CVN 72) as the Food Service Officer, AKA the "chow boss."

### What does the chow boss do?

My role as Food Service Officer aboard a U.S. Navy nuclear-powered aircraft carrier is leading over 260 sailors and Marines across seven shipboard dining facilities to prepare and serve over 15,000 nutritious meals daily for nearly 5,000 embarked personnel. I am also accountable for the \$5 million food subsistence inventory, encompassing over 580 food line items.



Chief Warrant Officer Four Morio Hall (Chow Boss) working in one of the galleys on the USS Abraham Lincoln (CVN 72).

### How does one become a chow boss?

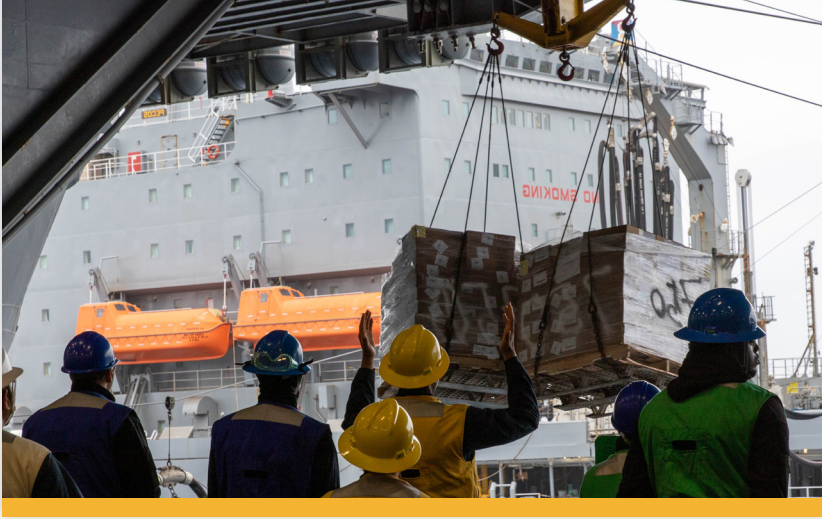
Growing up in New Orleans, I naturally gravitated to food production. Food was an important element of my childhood that always brought positive, lasting family memories. When I enlisted, I qualified for cooking and I jumped at the opportunity. That decision allowed me to climb the ranks from an E-1 to an E-8 Senior Chief Petty Officer. Seeking a challenge, I applied for a commission as a naval officer and was selected to be Navy Chief Warrant Officer Two in the Supply Corps. Food Service Officer is my designator specialty, allowing me to remain in the food service business.

### What do you love about being the chow boss?

The most fulfilling aspect of my role is impacting everyone on board with each meal. Sailors often say that morale on ships is driven by the quality of food, which motivates me to provide them with the best culinary experience possible. When sailors have long, hard days, my team can turn their frowns around with a wholesome, hot, nutritious meal. As a result, my team's passion and efforts have not gone unnoticed.

In 2024, our team received the prestigious Captain Edward F. Ney Award in the Aircraft Carrier category and was the first to earn consecutive Ney Award nominations for afloat food service excellence in 2023 and 2024. This award is presented to the best food service division as judged across the entire fleet of 11 U.S. Navy aircraft carriers.





Pallets of food arriving onboard via a connected replenishment (CONREP) process using connecting wires (a food zipline), a process that takes 3-6 hours.

### How does food at an industrial scale at sea work?

At maximum food capacity, our subsistence endurance levels range from 30 days of fresh produce (lettuce, apples, oranges) to 45 days of frozen items (chicken, beef, seafood) or 60 days of dry items (cereal, coffee, pasta, rice). Dining facility teams break out the food from the storerooms, refrigerators and freezers the day prior to ensure readiness for the next day. Then they prepare and serve the meals.

An important advantage of the U.S. Navy compared to other navies is our ability to sustain at sea. We can submit a request for food and a replenishment ship delivers it: a global food delivery service. Once the replenishment ships rendezvous with the aircraft carrier, they send the items over via connected replenishment (CONREP) or vertical replenishment (VERTREP). CONREP means both ships sail alongside each other while connecting wires to send pallets of provisions across, like a zipline for food. VERTREP is an alternate method used while two ships are in close vicinity; pallets wrapped in cargo nets are attached to hooks to allow helicopters to move the food. My sailors then store the food and start the process all over.

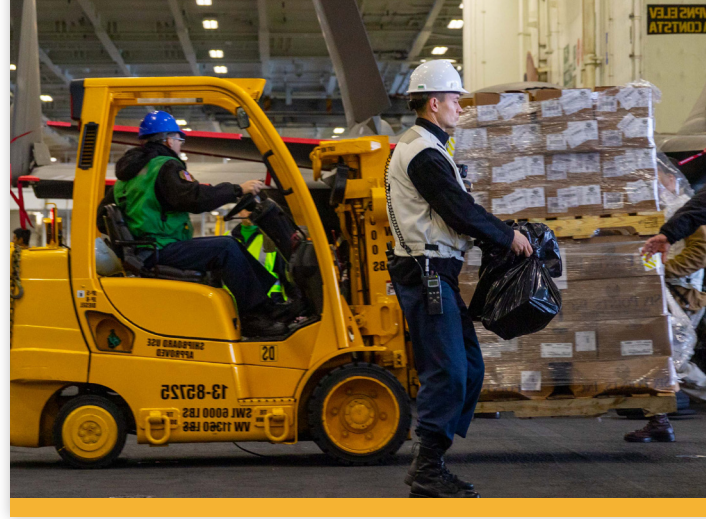
### What are the challenges involved in being chow boss?

Though worldwide logistics remains the Navy's enduring advantage, it leads to the most challenging aspect of being a Food Service Officer! Depending on our location, available items may vary from the Navy's usual menu, meaning I cannot always maintain the usual menu while deployed, resulting in food that may not be as popular with the crew. Conversely, it leads to menu items that become a hit, but I cannot order the ingredients when we return to our home port of San Diego.

Throughout my Navy career, I have been challenged for the better and given the opportunity to grow, learn, lead and excel. I am fortunate to continue in a rewarding shipboard environment aboard the mighty USS Abraham Lincoln (CVN 72).

### What's a typical chow boss day?

A typical day out to sea is very demanding. Early mornings are the norm to ensure breakfast and bakeshop pastries are ready. Throughout the day, I walk all seven dining areas aboard the ship conducting serving line food samples, sanitation inspections and equipment status checks, plus responding to customer feedback. Administrative duties—inventory, budget, personnel—lead to late nights. An average day runs 14-16 hours, but ultimately, long days are driven by the passion to deliver the best meals to our sailors.



Movement and storage of large amounts of over 580 food line items are parts of managing the food supply for nearly 5,000 people working and living on an aircraft carrier.

## A NEW SCIFEST IS COMING!



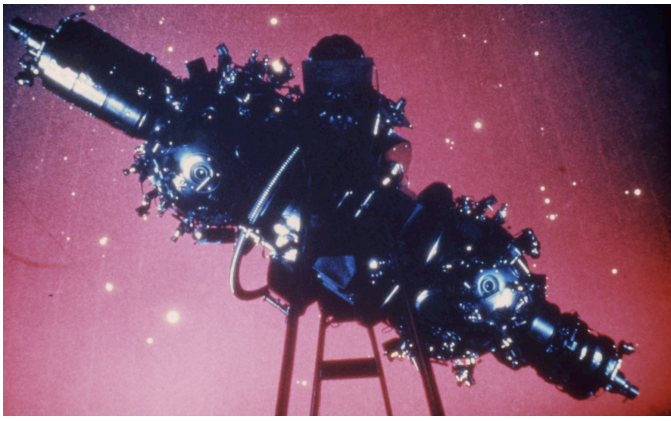
### Sci-FEAST

SATURDAY, NOVEMBER 9 | 9:30AM-4:30PM

Explore and enjoy our free, all-day event all about food! Engage with STEM experts in food science, agriculture, health and nutrition, diet and exercise science, animal science and more. Participate in a wide range of activities, see cooking demonstrations and experience the science of food!

See the latest news about SciFest at [slsc.org/scifest](https://slsc.org/scifest).

Thank you, **Nestlé Purina**, for your generous sponsorship of Sci-FEAST. Our events are as impactful as our partnerships, and we are fortunate to have such dedicated supporters in Nestlé Purina. Their commitment to fostering community engagement and STEM education significantly strengthens our mission to inspire everyone to be curious and engaged in science. Learn more about Nestlé Purina and their ongoing support for the YES Program on [page 30](#).



# Looking Up —and Back

*Did you know the first planetariums opened 100 years ago? We reached out to our first Planetarium Director, Charles Schweighauser, to tell us a bit about our own origins.*

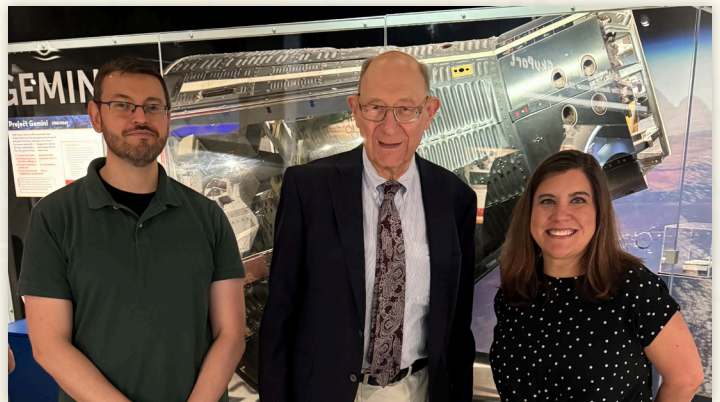
**CS:** The Saint Louis Planetarium, as it was originally known, was owned and operated by the City of St. Louis. It was built with a \$1.2 million bond issue voted by the citizens of St. Louis in 1955. A site was chosen in Forest Park where the newly demolished mounted police station had been. I was honored to be appointed Director of the Planetarium the day before my 25th birthday, and I began my duties with the Planetarium in September of 1961.

Building construction was less than 50% completed; the distinctive concrete shell, a hyperbola of revolution, had yet to be poured. Hellmuth, Obata and Kassabaum were the architects, and Gamble Construction Company was the contractor. Both companies were based in St. Louis. The contract for the Planetarium's projector was awarded to GOTO Optical Manufacturing Company of Tokyo, Japan. Of the several companies who bid, only GOTO agreed to meet the specifications as written by Carl Kisslinger and Mike Witunski, both of whom were scientists and members of the Planetarium Commission, a voluntary advisory group. There was incredible enthusiasm for the Planetarium in the St. Louis area prior to opening. To meet public expectations, we opened the building on three spring Sunday afternoons.

There were no programs, but guests could walk throughout the building, including the Star Chamber, where the GOTO projector and open control panel were on display. Our state-of-the-art sound system played appropriate background music. Planetarium technicians and scientific staff were in the Star Chamber to answer questions from the hundreds of people who browsed the facility.

Overwhelming is the only way to describe the Planetarium's opening on April 16, 1963. Hundreds of people lined up to see a program in the Star Chamber, a situation that continued throughout the spring and summer. In addition to the 16 regularly scheduled programs in the Star Chamber, we hired three extra lecturers and had to give two to three extra programs almost every day to accommodate the constant overflow of guests. This presented challenges for the staff as we continued to develop top-quality programs for the Star Chamber.

At opening, our exhibit areas had few exhibits, but we added more sophisticated, entertaining exhibits as time and money permitted, including a Foucault Pendulum, a working seismograph and a Mercury spacecraft that had orbited the Earth. In the summer of 1964, NASA installed a space exploration exhibit with an estimated value of several hundred million dollars that included a Thor rocket mounted vertically next to the Planetarium and a Gemini spacecraft that had also orbited the Earth. This exhibit attracted tens of thousands of people; we had no way of counting them unless they paid their way into the building, and many did, to see the NASA exhibits inside, or attend a program in the Star Chamber.



*Pictured (L to R): Donor Engagement and Communications Coordinator Michael Wense; founding Planetarium director Charles Schweighauser; Managing Director of Marketing and Communications Mindy Peirce*

SEPTEMBER 17

## Partial Lunar Eclipse

St. Louis will experience a partial lunar eclipse from 7:41pm-11:47pm, with maximum eclipse at 9:44pm. We will experience a much better total lunar eclipse in March 2025.

OCTOBER 12-13

## Close Approach of Comet C/2023 A3

Will Comet C/2023 A3 become visible to the unaided eye? If it survives its close approach to the Sun, the best viewing in the early evening sky will be mid-October. For updates on the comet and other celestial events, visit [slsc.org/types/night-sky-updates/](https://slsc.org/types/night-sky-updates/).

The Planetarium's activities greatly expanded from April 1963 to December 1965. For example, at the request of Mr. James S. McDonnell, I planned additional projects to be funded by a gift of \$400,000 from the McDonnell Foundation, including a school program in the Star Chamber, public education programs in the Planetarium's classrooms and the McDonnell Lectures.

Some outstanding memories I have are of the McDonnell Lectures. Internationally known astronomers gave lectures for the public and interacted with the Planetarium staff.

### Lecturers included:

- + Harlow Shapley, a native Missourian, Chair of the Harvard Astronomy Department and a leading astronomer of the first half of the 20th century
- + James Van Allen, of the Van Allen Radiation Belts fame;
- + Gerard Kuiper, of the Kuiper Belt fame
- + Allan Sandage, a leading observational cosmologist of the second half of the 20th century
- + Harold Urey, Nobel Prize winner

Further, our astronomer and I taught two introductory astronomy courses at the Planetarium for Washington University, Saint Louis University and the University of Missouri at Saint Louis. The Mark Twain Institute, a summer enrichment program for especially able secondary school students, also used the Star Chamber.

We hired part-time teachers and started formal education courses for adults and children. The school program began in the fall of 1964 for students from both city and county school districts. I ran the school program and gave the morning lectures on Tuesdays through Fridays.

In sum, the Planetarium evolved from public Star Chamber programs into a broad-gauged educational institution serving all facets of the St. Louis area population with a multiplicity of opportunities to learn about the astronomical universe.

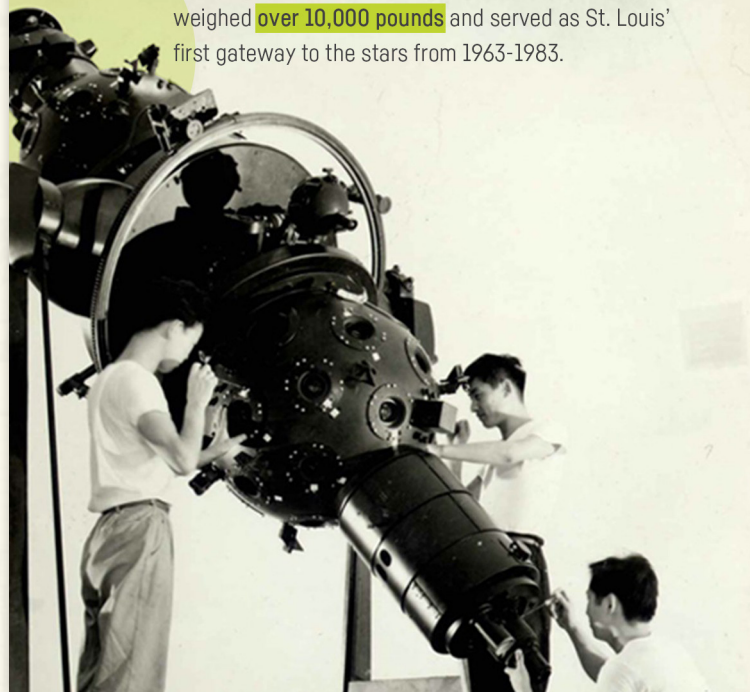
Because most people live in excessively-lit urban areas, the night sky does not exist for them; only our Sun and Moon are routinely accessible. Planetariums are the only source of visual contact with the astronomical universe that most people have. Planetariums provide fun, enjoyment, emotional stimulation and visual and aural delight. Planetariums should also be a center of education; audiences must know not only that they enjoyed the Star Chamber, but also that they learned

something that will be the source of further contemplation about how science works, as well as learning about planets, stars, galaxies and the origin and evolution of the universe. Scientific explanations of cultural mythologies, such as Galileo's persecution by the Italian Inquisition and subsequent proofs that the Sun is the center of only the solar system, are readily demonstrated in a planetarium Star Chamber.

How have planetariums in general and the McDonnell Planetarium in particular changed the world? One program in the Star Chamber, properly and enthusiastically presented; one course for children thoughtfully carried out; one guest lecturer of international reputation who interacts with the audience. These early activities at the McDonnell Planetarium went a long way toward informing and stimulating the several hundred thousand visitors from the St. Louis region and beyond about the wonders of the universe. People are having more fun, are more alert and are culturally richer because of the McDonnell Planetarium.

### DID YOU KNOW?

The James S. McDonnell Planetarium opened with a prototype **GOTO L-1 'Saturn'** Star Projector at the heart of the original Star Chamber. This amazing machine weighed **over 10,000 pounds** and served as St. Louis' first gateway to the stars from 1963-1983.



**OCTOBER 20-21**

### Orionid Meteor Shower Peak

The annual Orionid meteor shower is produced by debris left from Halley's Comet. Unfortunately, a bright waning gibbous moon will likely spoil the show in 2024.

**NOVEMBER 11**

### Lunar Occultation of Neptune

A lunar occultation occurs when the moon passes in front of a more distant celestial object as viewed from Earth. The moon will occult Neptune from 7:50pm-9:04pm in St. Louis; however, a telescope is needed to see Neptune.

JAMES S. MCDONNELL PLANETARIUM



See a  
Star Show!

Just like the real sky, the Planetarium's most popular live Star Show—*The Sky Tonight*—changes every day!

The *Sky Tonight* is a traditional Planetarium Star Show that takes audiences on a tour of the current night sky visible in St. Louis. In this program, guests can expect to learn everything from the basics of backyard stargazing to the latest discoveries in astronomy. As the sky changes throughout the year, Planetarium Educators keep the show up to date by focusing on the stars, constellations and deep sky objects currently visible overhead.

"We have guests who come back week after week, or month after month, to see what's new," said Planetarium Manager Will Snyder. "*The Sky Tonight* is my favorite show to perform because it allows the most freedom to share current events and new discoveries with our audiences."

Unlike a static movie, the live format of Star Shows, including *The Sky Tonight*, ensures that you can have a unique experience with every visit. Planetarium Educators often include discoveries and new images from space telescopes in their programs the same day they are released to the public. The *Sky Tonight* is also the perfect show if you want to learn how to view an upcoming meteor shower, lunar eclipse or any celestial event.

Even if you've seen it before, *The Sky Tonight* promises to be a different show every time! For more information on our current Planetarium Star Shows, visit [slsc.org/planetarium-shows](https://slsc.org/planetarium-shows).

THIS FALL AT THE  
**OMNIMAX® Theater**

Member Preview October 10



**Train Time** | OPENS OCTOBER 11

*Train Time* propels audiences through the rugged beauty and vastness of the American landscape, revealing the brutal challenges of railroading, as well as secrets of the art and science of running the greatest trains.



**Cities of the Future** | NOW SHOWING

*Cities of the Future* invites you to step into the future and discover the exciting innovations engineers are working on right now to help meet the challenges of a changing world.

*Cities of the Future* is produced in association with the American Society of Civil Engineers.



**Blue Whales** | NOW SHOWING

*Blue Whales: Return of the Giants* takes viewers on the journey of a lifetime to explore the world of the magnificent blue whale, a species rebounding from the brink of extinction.

# FIRST FRIDAY

Our 2024 First Friday season is going strong!  
Spend a few evenings this fall geeking out  
at the Science Center.



## SEPTEMBER 6 | *Star Wars*

Be honest: who hasn't tried to snatch their remote with the Force at least once? Spend the evening with us exploring this genre-defining franchise as we bring "a galaxy far, far away" to our own backyard! Whether you're a Jedi or a Sith, entertained you will be!

## OCTOBER 4 | *Barbie*

Our job is just...Science Center, but YOURS is to come celebrate this lauded film and the doll that has inspired millions! Let's dive into the toy box and pick out the stories of Barbie's past and future. What does it take to make a successful and cherished toy? How are Barbie and similar toys inspiring children in science and science-related careers today?

## NOVEMBER 1 | *The Martian*

Did you know Matt Damon has been stuck on alien planets twice in his Hollywood career? Luckily, in *The Martian* his character Mark Watney has some incredible STEM skills that he uses to survive and escape the Red Planet. We'll rocket through the film's incredible science and look at what real astronauts might face as we get closer to future crewed Mars missions! While you're here, be sure to check out the full-scale replicas of NASA's *Perseverance* Mars Rover and the *Ingenuity* helicopter. You might even find Mark's small robotic companion, *Sojourner*!

Save the date for **Friday, December 6** for our final First Friday of the year: *Lord of the Rings*!

## Scientists On Stage

On June 28, the Science Center hosted its first Sally's Night, a program begun by the National Air and Space Museum that focuses on the impact of women in STEM to commemorate the accomplishments of Dr. Sally Ride, America's first woman (and the world's first-known LGBTQ+) astronaut. Presenters included UMSL Egyptologist Dr. Anne Austin; Dr. Brigette Davis, a social epidemiologist with the St. Louis Integrated Health Network; and our own Chief Science and Education Officer Dr. Becky Thompson (see [page 12](#)).

Then on July 1, we welcomed aerospace engineer and stunt pilot Chuck Coleman, who spoke to guests in the OMNIMAX® Theater about training actors for flight scenes in *Top Gun: Maverick*, converting combat-ready aircraft (like the F/A-18 on display on the Planetarium grounds) into those used by the U.S. Navy Blue Angels demonstration squadron and much more.

Thank you to these four special guests for their time and enthusiasm!





OCTOBER 25-27

# Science

# Spooktacular



## Get ready to get spooky!

We'll be open until 8:00pm on Friday, October 25 and Saturday, October 26, and this year we're incorporating all-new special events for adults, for families and even for toddlers to Science Spooktacular! Stay tuned for more information coming soon.

Visit [slsc.org/spooktacular](https://slsc.org/spooktacular) to learn more!



## THE T.REX EXPERIENCE

### Meet SUE in the Lou before it's extinct.

*SUE: The T. rex Experience* leaves September 15.

You won't want to miss your opportunity to experience this multi-sensory experience of the world's most complete, best preserved *Tyrannosaurus rex*. During your visit, you will see the cast of the giant *T. rex* coming in at over 40 feet long, hear its thrilling battles with a *Triceratops*, feel its roar and smell its putrid breath. Learn what it was like to live SUE's challenging and dangerous life. Plus, discover *T. rex* preservation methods, scientific updates and dinosaur knowledge gleaned through the examination of the excavated SUE fossil. SUE can't wait to eat—er, meet—you soon!



# Making a Statement

In May 2024, the Saint Louis Science Center published a new webpage showcasing a revamped Sustainability Statement along with future goals and current actions. Written with input from multiple departments, the statement reflects efforts to include sustainability in our work with the community, with our guests, and throughout the Science Center campus.

As we continue in our work, we are using our core values to help guide us. For example, the value of Playful and Curious inspires us to ask, “What creative and fun solutions to the status quo can we imagine?” We encourage our members and guests to follow along with us on our journey and to find ways to include sustainable thinking, planning and action in some areas of your life and work.

## Saint Louis Science Center Sustainability Statement

*The Saint Louis Science Center recognizes the need to preserve a livable planet. As a science-based institution, we have a unique responsibility to model sustainability best practices and empower our guests and community to make sustainable choices.*

*“As a science-based institution, we have a unique responsibility to model sustainability best practices and empower our guests and community to make sustainable choices.”*

Learn more at [slsc.org/sustainability](https://slsc.org/sustainability).

## Shop Sustainable!

We're happy to announce that our gift shops carry items from the **Wearspensible** product line. This collection is entirely traceable “from seed to sew,” meaning every stage of the process is reviewed and audited for environmental, social and cultural impact. Wearspensible products are also Fair Labor Certified, so audited procedures and methods are in place to ensure safe and fair labor standards while also actively improving conditions in the supply chain. The t-shirt material is non-GMO, plastic-free, 100% organic cotton and GOTS (Global Organic Textile Standard) certified. The GOTS certification ensures established standards along the supply chain, covering both environmental and labor conditions in textile and apparel production that uses organically produced raw materials.



2024

# SUMMER STEM EXPLORERS



Summer 2024 found full-day camp back in session at the Saint Louis Science Center. This year our camp team welcomed 434 campers, ages 5-9, over seven weeks of the summer. It was the first year since 2019 that the Science Center offered camp for the full day, and adding an aftercare option also made it much easier for families who need longer care opportunities.

Campers kicked off their morning each day at the Energy Stage with science demos, songs, morning yoga or even a short dance to get ready for a day of science fun. The camp counselors brought energy and dedication to their interactions with campers.

Emily Lemonds, Manager of Early Childhood, Camps and School Engagement, put together five different themes for the campers this year. "I wanted to ensure that campers who attended for more than one week had the opportunity to engage in a variety of science topics," she explained. There's No Place Like Space, Engineering Adventures, Dinosaur Discoveries, Earth Explorers and a week with a little bit of everything called Sensational Science gave campers unique ways to learn more about STEM.

"It is such a joy to see kids light up when they make a connection to an idea or concept and find their own ways to explore it," Lemonds enthused.

The programming includes hands-on demos, art activities, story times, Science Center exploration and occasions to problem solve in groups and on their own. Lemonds added, "We also make sure the groups have time to bond and incorporate community building as part of camp." Forming these relationships and learning to work and play with new kids provides valuable skills. Campers leave with good memories of camp, new friends and plenty of handmade keepsakes like terrariums, their own space bears and galaxy bracelets to help them remember their time here and what they learned.

We are grateful to all the families who sent their kids to camp this year. Not only is it a good experience for the kids, but the team at the Science Center has a great time getting to know and work with these kids over the days or weeks they are here. "It is fun to see the same faces for a whole week. One of my favorite parts is seeing their excitement and feeling of belonging to the Science Center grow," said Maddie Earnest, Associate Director of Galleries. "The kids become so familiar with the Science Center and develop a sense of belonging here, and belonging in science, that we hope they hold on to for years to come."







## Two YES Teens Advance to the 2024 NFTE National Youth Entrepreneurship Challenge

After successfully competing in the 2024 quarterfinal and semifinal pitch competitions, Raahi Pachbhai and Sayana Scott, two teens in the Science Center's Youth Exploring Science (YES) Program, participated in the Network for Teaching Entrepreneurship (NFTE) Midwest regional challenge. Taking place in Chicago in late May, the Midwest Youth Entrepreneurship Challenge Finals saw students meet to pitch their business ideas for the chance to win seed money and a spot to compete in the NFTE National Youth Entrepreneurship Challenge national finals later this year.

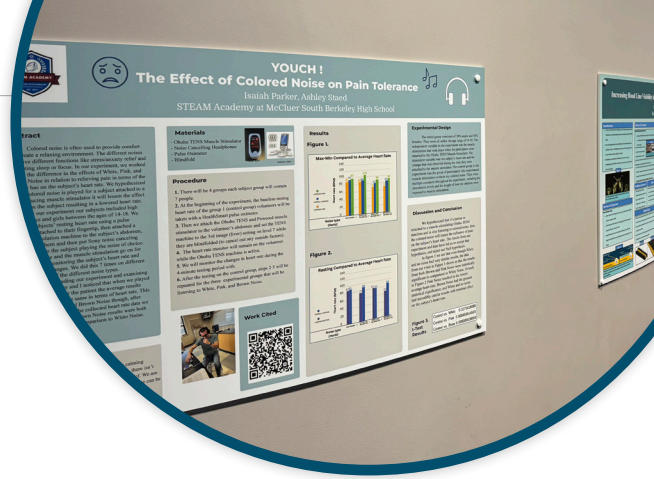
In Chicago, YES Teen Raahi Pachbhai and students from across the Midwest region presented their businesses in a *Shark Tank*-style pitch competition to a panel of expert judges. The judges selected first, second and third place winners to receive cash prizes, and Pachbhai won 2nd place with her business, Lights On. A charitable nonprofit dedicated to inclusivity for people with physical disabilities, Lights On creates high-quality, adaptive clothing and prosthetics, ensuring both functionality and durability. Pachbhai won \$1,000 to help start her business.

As part of the Fast Pitch People's Choice Award, the audience also selected YES Teen Sayana Scott as a runner up for her business, Naturals. Scott received a \$100 prize.

Next, Pachbhai and Scott will head to New York City to compete for the National Champion title when the NFTE National Youth Entrepreneurship Challenge national finals take place on October 10.

An educational nonprofit, NFTE focuses on bringing the power of entrepreneurship to youth in low-income communities. For many years, the YES Program's Entrepreneurship STEM focus area has included participation in the annual NFTE competition as part of a curriculum helping YES Teens build their own businesses and hone their entrepreneurial skills, from planning their business to pitching ideas.

**Congratulations again to Raahi Pachbhai and Sayana Scott. The Science Center is rooting for you at Nationals!**



## Local Students Receive Inaugural Saint Louis Science Center Science Communicator Awards at the STEMSTL Project Lead the Way Showcase

This Spring, the Saint Louis Science Center was proud to welcome back the STEMSTL Project Lead the Way (PLTW) Showcase and high school seniors exhibiting capstone projects in engineering and biomedical science. The Science Center also presented the inaugural Science Communicator Award to three outstanding student projects.

The Science Communicator Award evaluated the capstone projects using **three categories**:

**Look:** Does the submission look like an exhibit, and is it displayed clearly in an eye-catching way?

**Language:** Does the submission articulate the science and engineering concepts at play in a way that is easy to understand?

**Link:** Does the submission tie into important concepts the Science Center has identified as being core to our mission and strategic plan?

The three winning students included Aeden Owens for his project creating an HHO Generator and sharing the science behind splitting water molecules to create hydrogen gas; Blake Roach for innovating on painted lane-lines to increase visibility in rainy road conditions; and Isaiah Parker and Ashley Stead for their project evaluating the human physiological response to different colored noise.

All three winning projects exemplify outstanding science communication. The Science Center was proud to help share these projects, and we look forward to seeing more from these STEM-sational students.



## From Launching Rockets to Building Bridges, Summertime Science Once Again Welcomes St. Louis to Connect with STEM

Each year, the Science Center’s Community Science department and Youth Exploring Science (YES) Program connect St. Louis community members with STEM learning through Summertime Science. In this annual summer camp, young learners and adult supervisors from the Science Center’s network of community partner organizations come to the Taylor Community Science Resource Center to discover their curiosity for science by participating in hands-on STEM projects led by our newest cohort of YES Teens.

This year, during the camp’s run from June 10 through July 25, 64 first-year YES Teens led activities like making rockets using balloons and straws and building bridges, introducing the campers to STEM topics like aerospace, flight, outer space, engineering and more.

In addition to exposing the campers to STEM learning, Summertime Science provides the newest teens in the four-year YES Program their first opportunity to engage with the community by leading classes that teach the campers about STEM.

After a series of Saturday sessions learning the activities and building key soft skills like leadership, communication and teamwork, the YES Teens instruct the campers to help facilitate their projects and spark their interest in science and technology.

To learn more about the YES Program, visit [slsc.org/yes](http://slsc.org/yes).



This year’s Summertime Science served **more than 1,020 children** with STEM learning.



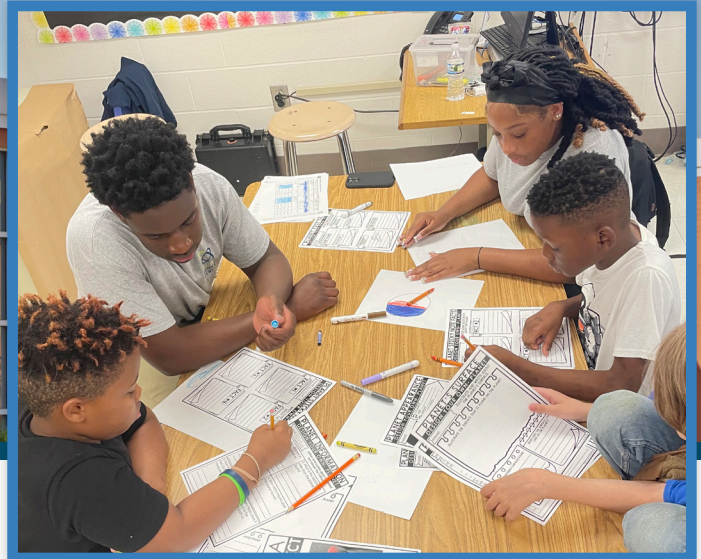
## STEMtastic Camp Returns, Bringing Science Learning to the Ferguson-Florissant and Riverview Gardens School Districts

The Saint Louis Science Center's STEMtastic Camp returned for another summer of bringing STEM learning to the St. Louis community.

Now in its fourth year and thanks to the generous support of Boeing, STEMtastic Camp saw members of the Science Center's Community Science department and teens from the Science Center's YES Program visit schools in the Riverview Gardens and Ferguson-Florissant School Districts. There, they facilitated science projects, art explorations and team building activities through the camp's three weeks of programming.

Approximately **85 students** participated in this year's STEMtastic Camp. The campers took part in lessons and hands-on projects around coding, engineering design, astronomy and aerospace engineering.

Highlights included programming Sphero BOLT™ robots using a block coding language, building 10-foot-long marble roller coasters and designing habitable planets.



Thank you to Boeing for their generous support of the Science Center's mission and programs like Youth Exploring Science!

### Want to support impactful STEM learning programs like YES?

Make a gift to the Science Center's Curiosity Fund at [slsc.org/donate](https://slsc.org/donate) or turn to [page 29](#) to discover how joining the Science Center's Einstein Society helps support our STEM education programs. Your support makes our mission possible!



DONOR SPOTLIGHT:

# Margie & Ed Imo

As the founders of Imo's Pizza—the iconic St. Louis pizza company—in 1964, Margie and Ed Imo have both witnessed and been a part of the city's history. As the Imos were opening their first location, St. Louis was watching the Arch being built, witnessing the Cardinals winning the World Series and enjoying a new planetarium, which had just opened the year prior and would go on to be part of the Saint Louis Science Center.

Over the course of more than three decades, Margie and Ed have been part of the Science Center's efforts to bring informal, hands-on STEM learning to the St. Louis region, having supported the institution through both membership and philanthropic support.

"We have always thought we were so fortunate to have a world-class facility nearby during the years we were raising our six children," Margie says. "We lived in the Hill neighborhood, and we were able to visit often to experience the Science Center and its exhibits."

In particular, Margie recalls experiences like *Titanic: The Artifact Exhibit* and the OMNIMAX® Theater. "The OMNIMAX remains a favorite," she explains. "The films take you away on wonderful adventures and teach you so much about the world."

Today, Margie and Ed get to relive the excitement of the Science Center through the youngest members of their family. "Our 20 grandchildren now enjoy all the activities," says Margie, "especially the Discovery Room and the hands-on exhibits."

**Their desire to support the Science Center stems from seeing the organization serve the people who call St. Louis home.**

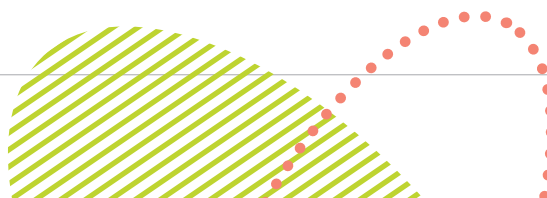
"Ed and I are proud to support this wonderful institution," Margie says, "because it is such a benefit to the St. Louis community who have so generously supported our business during the past 60 years."

Since first becoming members of the Science Center in 1989, they have consistently been supporters of the Science Center's mission. Throughout the years, they have generously contributed to multiple fundraising campaigns, including the Bridge to the Future and Transform Tomorrow campaigns, and have been longstanding members of the Science Center's Einstein Society.

Having a business so close to the Science Center campus, Margie recalls hearing customers talk about trips to the Science Center. "We would hear comments from adults and children about how much they enjoyed the activities after visits and field trips," she says.

Even today, the Imos have not stopped noticing the Science Center's evolution. "We have watched the Science Center expand over the years," Margie says, "always with something new to educate and enjoy."

**Thank you to Margie and Ed Imo for their generous support!**



# SciFest



## Play & Creativity Expo

Over 200 STEM professionals, artists, innovators and entrepreneurs gathered for the day to engage with over 4,700 visitors and guests at SciFest: Play and Creativity Expo on Saturday, July 13.

From making and launching paper rockets to folding colorful origami creations, from touching space rocks to creating mini motors, there was something for everyone at this all-day free event connecting creativity and STEM concepts and innovation.

A FIRST Robotics Hall and a *Star Wars* Imperial Base provided unique immersive environments for all ages. New SciFest partners including the U.S. Navy, Donald Danforth Plant Science Center, Make Rope, Ashling & Co, U.S. Air Force 15 Weather Operational Squadron, and Energy, Environment, and Chemical Engineering at Wash U, St. Louis Blues and more added new experiences to this SciFest expo.

We look forward to the next free SciFest event, Sci-FEAST, on Saturday, November 9<sup>th</sup>.

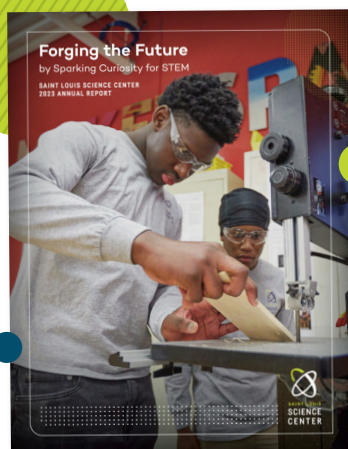
JOIN THE  
**Einstein Society**  
and help us inspire everyone to be  
curious and engaged in science.

The Science Center's Einstein Society helps support our mission and provide accessible STEM learning for the St. Louis region.

Become an Einstein Society member and help sustain our open, accessible STEM programs, galleries and experiences, including impactful programs like Youth Exploring Science (YES), new initiatives like our STL for All membership program and more.

Enjoy access to exclusive VIP events, as well as special recognition in Science Center publications like *NewScience* and our annual report. Plus, enjoy the benefits of Science Center membership with your support or waive membership benefits for a 100% tax-deductible contribution.

Join or learn more at [slsc.org/einstein-society](https://slsc.org/einstein-society).



## Your support makes an impact by making our mission possible.

See how your support for our mission **to inspire everyone to be curious and engaged in science** makes an impact.

Whether you're a Science Center member, donor or simply a friend of our organization, your support helps make STEM learning accessible in our region.

Discover the impactful work your support has made possible in the Science Center's 2023 Annual Report and explore the diverse audiences we serve in our latest *Opening Minds to Science* report.

Visit [slsc.org/reports](https://slsc.org/reports) to learn more.



## At the Nestlé Purina Headquarters, Teens in the YES Program Have a Paw-Some Time Connecting with STEM

In early June, teens in the Science Center's Youth Exploring Science (YES) Program made a special afternoon trip to Nestlé Purina's St. Louis headquarters to learn about the wide variety of STEM careers available there, meet professionals and explore how STEM plays a role at the company, and take a moment to make some furry new friends at the Nestlé Purina campus dog park.

As part of the four-year YES Program, participating teens are routinely exposed to STEM careers and professionals to help illuminate the wide variety of opportunities available and help prepare the teens for the in-demand STEM careers of the future. Ten YES Teens attended the trip to Nestlé Purina, where they learned about what it takes to design healthy pet food and the various roles involved in doing so, including veterinarians, palatability and nutrition researchers, technology experts and even a staff archivist and librarian.

The YES Teens participated in a walking tour of the campus, where they learned about Nestlé Purina's history in St. Louis, details about the business and the career opportunities available. As part of the tour, the teens stopped by the on-campus dog park to meet more Nestlé Purina team members (and their pets). Later, Dr. Kimberly May, a veterinarian at Nestlé Purina, met with the YES Teens inside the Purina Institute, an exhibit area on the company's history of innovation and the science of pet care. The teens took time to explore 3D models of molecules and tissue types to learn about how they can be affected by food, used interactive displays to learn about how various vitamins and minerals affect body systems and more.

*We are thrilled to have Nestlé Purina's generous and renewed support of the Science Center's Youth Exploring Science Program. Our programs succeed because of partnerships like these, and we are fortunate to have such dedicated partners in Nestlé Purina, whose commitment to fostering youth education and development greatly enhances our mission to empower and inspire the next generation of scientists and innovators. Thank you, Nestlé Purina, for being an essential part of our journey.*





## Support STEM Education and the Mission of the Saint Louis Science Center with our 11<sup>th</sup> Annual Golf Tournament.

Tuesday, October 1, 2024 | 8:30am–4:30pm  
Norman K. Probst Golf Course in Forest Park

There's still time to register! Participate in the Science Center's 11<sup>th</sup> Annual Golf Tournament in support of our Curiosity Fund, one of the financial engines powering our impactful STEM programming at the Science Center and throughout the St. Louis community. Our annual golf tournament is a wonderful opportunity to partner with the Science Center to make an impact on open, accessible STEM learning by supporting our mission **to inspire everyone to be curious and engaged in science.**

Help us continue inspiring people of all ages at the Science Center and throughout the St. Louis region by registering for a fun-filled day at our 11<sup>th</sup> Annual Golf Tournament.

### Want to Play?

Registration closes Tuesday, September 24!  
Register to play at [slsc.org/golf](https://slsc.org/golf) or contact **Christine Cox**, manager of sponsorship and promotions, at [christine.cox@slsc.org](mailto:christine.cox@slsc.org) or 314.289.4499.

**\$175 per person | Entry fee includes:**

- + 18 holes of golf with cart, lunch and beverages
- + Tournament t-shirt
- + Skills competitions
- + Raffle drawings
- + Outdoor awards reception & cocktail hour

Thank you to our returning sponsors!



Sponsor now at [donations.slsc.org/sponsorship](https://donations.slsc.org/sponsorship).

List current as of July 23, 2024.



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