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# STEAM NEWSLETTER

THE OFFICIAL NEWSLETTER FOR THE ILLINOIS DEPARTMENT OF  
INNOVATION & TECHNOLOGY (DoIT) STEAM EDUCATION GROUP



## Summer Engagement Opportunities!

As we approach to the end of a school year, it may seem too fast to consider summer learning activities and yet additional opportunities for STEAM learning and professional development may be the spark you need to ignite new interests or strategies. The summer months may be a good chance for students and educators to enhance their knowledge, cultivate interests in STEAM domains, and obtain new skills and knowledge at summer events. This newsletter shares various opportunities for summer camps as well as professional development.

Join others interested in computer science for "[CS PD Week](#)," a 5-day learning experience centered on building prosperous K-12 computer science programs in every Illinois school district! This opportunity is scheduled July 17-21, 2023 at Bloomington Junior High School. During this first-of-its-kind event, new and experienced CS educators from across Illinois will:

- Engage with current curriculum from top CS providers (including Code.org)
- Build community during group meals and team-building activities
- Discover strategies for expanding access to rigorous, inclusive computer science learning

Attendees can choose one of six learning tracks aligned to specific roles at CS PD Week, with learning opportunities available for elementary, middle, and high school teachers, as well as administrators. CS PD Week is presented in partnership with the [Learning Technology Center](#), [Bloomington Normal STEM Initiative](#), [CS4IL](#), and the [Discovery Partners Institute \(DPI\)](#). Google is providing scholarships to 25 K-12 educators from Illinois to participate in IL CS PD Week, free of charge. This program aims to expand opportunities for underrepresented communities to learn and excel in computer science. [CS PD Week](#) will also provide scholarship opportunities.

The University of Illinois at Springfield will host [four academic summer camps](#) including sessions covering quantum computing, civic engagement, journalism, crime scene investigation, and artificial intelligence. Northern Illinois University will provide [various STEAM camp options](#) including areas such as coding, engineering, career exploration, video game design, nutrition science, films, and robotics. Southern Illinois University at Edwardsville will host [Odyssey Science Camp](#) for 2<sup>nd</sup> to 8<sup>th</sup> graders. Governors State University will host a [STEAM Camp](#) for students ages 11 to 16 focused on topics in science, the arts, career development, and life on a dynamic and modern college campus. The National Society for Black Engineers [Engineering Explorers Summer Camps](#) will introduce 4<sup>th</sup> - 12<sup>th</sup> graders to various disciplines of engineering and computer science.

# ***Let off some STEAM with these fun activities!***

• K - 4

[NASA Climate Kids | Meet the Greenhouse Gases!](#)

• 5 - 8

[TeachEngineering | Building Roller Coasters](#)

• 9 - 12

[aiEDU | Intro to AI](#)

## **Educator's Corner**

STEAM resources for in-person, hybrid, remote learning, and professional development

- [aiEDU | AI Project Dashboard](#)
- [DoDSTEM | STEM Careers](#)
- [ISTE | STEAM in Education](#)
- [Scratch | Activity Guides](#)
- [NIH | Climate Change and Human Health Lesson Plans](#)
- [NASA | Quesst Supersonic STEM Toolkit](#)
- [NASA | Citizen Science Projects](#)
- [NASA-JPL | Global Warming Demonstration](#)
- [TeachEngineering | Art in Engineering - Moving Art](#)
- [Think Geospatial | GIS for Education Resources](#)
- [Arts Education Partnership | ArtsEd Digest \(Newsletter\)](#)
- [Code.org | Find Your Local Workshop and Apply](#)
- [Google | How Google is celebrating World Quantum Day](#)
- [ISTE | Online Courses on Essential Topics for Educators](#)

# NEWS & EVENTS

## [NASA Solar Eclipse Partner Locations for 2023 and 2024](#)

“For a few minutes on April 8, 2024, millions of skywatchers across the United States will have the opportunity to see a total solar eclipse. It will be the last time a total solar eclipse crosses the U.S. for more than 20 years...

Can't wait for 2024? Another solar eclipse will be visible from the United States on Oct. 14, 2023. This eclipse – called an annular solar eclipse -- happens when the Moon passes between the Sun and Earth, but when it is at or near its farthest point from Earth.”



*Credits: NASA/Aubrey Gemignani*

## [Should educators worry about ChatGPT?](#)

“Educators need to help students understand and use artificial intelligence language tools in appropriate ways to prepare them for a future in which their use is commonplace,” says English and information sciences professor Ted Underwood ... “In short, these aren’t substitutes for human writing or human knowledge. They’re flexible tools for transforming language. We’ll need to learn how to use them, and it’s even possible that we’ll end up using them for analysis more than we do for writing.”



*Professor Ted Underwood, Photo by L. Brian Stauffer*

## [Experts say tornado season is getting longer. What does that mean for Illinois? | Illinois Public Media](#)

“There could be more storms like what Illinois saw last week in the future. It’s still not entirely clear what impact climate change is having on tornadoes, but the researchers who are investigating that link say tornado season is getting longer. The locations in our country that tend to see tornadoes are also changing. While Plains states are trending down in the number of tornadoes they see, the Midwest is seeing an upward trend.”



*National Weather Service*

# NEWS & EVENTS Cont.

**Tue. May 2 | 8:30 am - 2:30 pm | ROE 11, Charleston**



## **Drones in the Classroom**

“Come discover what it takes to bring drones into the classroom as a part of this hands-on workshop. Participants will have the chance to ask questions and learn about essential drone terminology, safety issues, legal concerns, operational requirements, and drone model options. Participants will also walk away a DJI Trello EDU drone of their own to make implementing their new-found drone knowledge even easier.”

**Sun. May 7 | 8:30 am - 9:30 am | MSI, Chicago**

## **Low-Sensory Mornings**



“Low-Sensory Mornings provide exclusive early access to MSI from 8:30 to 9:30 a.m., allowing you to explore with exhibits with modified lighting and sound. Your tickets also include Museum Entry for rest of the day, with most Museum experiences remaining in sensory-friendly mode until noon.”

**Wed. May 10 | State Capitol, Springfield**

## **Students for Innovation: Advocacy Day**



“This event is held at the Capitol building to ensure legislators and key stakeholders are aware of the innovative learning happening in the Illinois classroom and the need for funding. Students are selected through an application process to present in-person their innovative progress during a one-day event at the Illinois State Capitol in Springfield.”



# NEWS & EVENTS Cont.

**Thu. May 11 | 8:30 am - 11:30 am | Illinois Valley Community College, Oglesby**



## **AI and ChatGPT: An Introduction for Teachers**

“Throughout the workshop, participants will engage in hands-on activities and interactive discussions, allowing them to apply what they have learned in real-world scenarios. By the end of the workshop, participants will have a better understanding of how AI and ChatGPT3 can be used to enhance teaching and learning and will be equipped with the skills needed to integrate these tools into their own classrooms.”

**Fri. May 12, Sat. May 13 | 9 am - 9:30 am | Online**

## **Flights of Fancy Story Time: Suit Up for Launch with Shay by Sharon McDougle**



“Join us for a reading of ‘Suit Up for Launch with Shay’ and learn along with Shay about the spacesuits that astronauts wear to protect them in space. Afterwards, participate in a craft activity that has you imagining yourself in a spacesuit.”

**Application Due Sun. May 14 | Online**

## **Kibo Robot Programming Challenge**



“The Kibo Robot Programming Challenge (Kibo-RPC) is an educational program in which students will solve various problems by moving free-flying robots (Astrobee and Int-Ball) using their programming skills in a simulation environment and, in the final competition, in the Japanese Experiment Module (Kibo) aboard the International Space Station (ISS).”

# NEWS & EVENTS Cont.

**Mon. May 15, 8 am - Wed. May 31, 11:59 pm | Online**

## **May Playground / Assessment Strategies**



"It's of the utmost importance that educators provide varying ways for students to demonstrate competency and reflect on their learning using technology. This may mean using data from formative assessments or summative assessments to help create deeper richer learning experiences..."

Attendees will have from May 15 until May 31 to watch up to 6 pre-recorded sessions that range from 30 - 60 minutes long. At the end of each video, there will be a link for the PDHs."

**Application Due Mon. May 15**

## **Apply for a Downlink**



"In-flight education downlinks are opportunities for students and educators to **interact with astronauts** onboard the International Space Station. This opportunity is available to both formal and informal U.S.-based education organizations. Expedition 70 downlinks will tentatively occur between Sept 2023-Feb 2024."

**Tue. May 16 | 3:30 pm - 4:30 pm | Online**

## **Social Emotional Learning Monthly Check-In**



"During this 1-hour workshop, you'll have a chance to explore how you can foster social-emotional learning through a variety of simple, accessible, technology-driven solutions. Join us each month for a new topic, as well the chance to network and ultimately, help our students grow into healthy, well-adjusted adults."

# NEWS & EVENTS Cont.

**Thu. May 18 | 5 pm - 6:30 pm | NIU, DeKalb**

**Teen STEM Café: Bio Blitz: Exploring Our Ecosystem**



“Come discover local native plants, animals and other organisms as we walk the lagoon trails and take inventory. Bring your smartphone or favorite device as we’ll use the iNaturalist app to identify plants and animals nearby. We’ll wrap up our nature studies with a tour of the NIU Biology Labs, led by Lab Manager Linda Srygler. Stay for Pizza (sponsored by HyVee) at 6:15 pm in Swen Parson 146, NIU STEAM Classroom.”

**Sat. May 20 | 9 am - 12 pm | NIU, Oregon**

**STEM Café: Bison: Engineers of the Prairie Ecosystem**



“In 2014, bison were reintroduced to a 1,500-acre section of Nachusa Grasslands, a nature preserve in nearby Franklin Grove, IL. Since then, NIU Biology Professor Holly Jones has led a team of researchers studying the impact these large mammals have on the prairie ecosystem. Their impact is even more profound than the team anticipated. The bison affect, not only the prairie plants and nutrients, but also the entire food chain of the prairie ecosystem, including the behaviors of small prey mammals such as mice and voles.”

**Wed. May 24 | 7 pm - 8 pm | Online**

**Exploring the Moon and Mars: Learning to Work and Live in Space (Exploring Space Lecture)**



“Join Jacob Bleacher, NASA’s chief exploration scientist, to hear how NASA is preparing for the next decades of epic lunar science and exploration. The infrastructure it develops will provide the tools, habitation, mobility, and power for crew and robots, providing more access and longer stays at the Moon. Whenever possible, those elements will be designed to work at Mars for future human missions to the Red Planet as NASA designs the blueprint for exploring the solar system.”

# NEWS & EVENTS Cont.

**Tue. July 11 - Thu. July 13 | Online**



## **CSTA 2023 Annual Conference**

“CSTA's Annual Conference is a chance for computer science teachers to come together to find strength in their local community through networking events, engage with PD they actually want to attend, and to identify ways to impact students and teachers outside your classroom.

Our three-day virtual conference has over 150 sessions of education to broaden your knowledge of computer science education, inspirational keynotes and sessions to reinvigorate your passion for teaching, and countless moments of fun and connection along the way. If you are looking for new and exciting ways to engage with your students in your classroom, you don't want to miss out on this great experience.”

**Thu. July 13 | 8:30 am - 2:30 pm | ROE 26, Macomb**

## **Coding across the Curriculum with LEGO® Education**



“It's time to learn to code, one brick at a time! Join us for an interactive session focused on LEGO Education Learning System, including how it can be used to bring computer science learning to life in your classroom. Through this system, students learn to work collaboratively and solve problems creatively – all while “playing” with a familiar set of tools that are easy to manage. Come ready to get hands-on and discover the power of interactive learning through play at all ages.”

**July 17-21 | Bloomington Junior High School**

## **Computer Science PD Week**



“CS PD Week is a new initiative of the Learning Technology Center in partnership with Bloomington-Normal STEM, CS4IL, and Discovery Partners Institute. During CS PD Week, new and experienced CS educators will engage with current CS curriculum, build community, and learn strategies for expanding access to high-quality, rigorous, and inclusive computer science learning.” CS PD Week will also provide [scholarship opportunities](#).

# SUMMER CAMPS

UNIVERSITY OF  
**ILLINOIS**  
SPRINGFIELD

## UIS | Academic Summer Camps

**June 19-21 | 9:30 am - 12 pm | \$99**

### **Quantum Computing for Engineers of Tomorrow**

“In just three days, you can learn about the fundamentals of this emerging field, including quantum mechanics, circuits, algorithms, and programming with real quantum computing software like Qiskit and Quantum Inspire. Enroll now and start your journey towards becoming a quantum computing expert!”

**8:30-3:00 June 20, 9:00-3:00 June 21, and 9:00-12:00 June 22 | \$149**

### **Civic Engagement and Leadership: Big Problems, Big Ideas**

“This year’s theme is Big Problems, Big Ideas and is designed for incoming high school sophomores, juniors and seniors with a passion for policy, government, and public service! Students will visit the Illinois State Capitol and will meet with experts from the government and non-profit sectors.”

**July 12 - 13 | 9 am - 3 pm | \$129**

### **UIS Crime Scene Investigation**

“UIS Crime Scene Investigation is a two-day camp for high school students interested in science and discovery. The exciting world of crime scene simulation training will be explored through hands-on experience. Students will develop forensic skills in evidence collection, fingerprinting, blood analysis, and forensic interviewing, all while engaging in problem-based learning activities.”

**August 7 - 11 | 9 am - 3 pm | \$149**

### **Artificial Intelligence in Autonomous Vehicles STEM Camp**

“This is a week-long day camp for students entering 8th, 9th, or 10th grades. Participants will build a small robotic car complete with sensors. With artificial intelligence (AI), the car will learn to change how it responds to its environment. Participants will also learn about other fields which use AI today. Finally, through discussions with experts in the field, we will explore the legal, societal, and ethical challenges of AI.”

# SUMMER CAMPS Cont.

## NIU | STEAM Camps

“Our camps are led by a passionate, well-trained team who love to teach, laugh, and have fun. Join us for an epic summer adventure in a wide range of areas.”

### Grade 2 - 5

- Art Exploration

Monday, July 10 - Friday, July 14 | 1 pm - 4:30 pm | \$250

- STEAM Seekers Exploration

Monday, July 10 - Friday, July 14 | 1 pm - 4:30 pm | \$250

- Food Science with FoodMASTER

Monday, July 31 - Friday, August 4 | 1 pm - 4:30 pm | \$250



### Grade 6 - 9

- Survival Storytelling

Tuesday, July 18 - Friday, July 21 | Residential | \$550

- Nature Studies

Tuesday, July 18 - Friday, July 21 | Residential | \$550

- Minecraft and Storytelling

Monday, July 31 - Friday, August 4 | 9 am - 4 pm | \$475

### Grade 9 - 12

- Tech Careers: Coding/Robotics/Gaming/AI

Sunday, July 9 - Friday, July 14 | Residential | \$895

- Engineering Careers: Intro to Engineering and Sustainability

Sunday, July 9 - Friday, July 14 | Residential | \$895

- Film Camp

Sunday, July 16 - Friday, July 21 | Residential | \$895

- Video Game Design Careers

Sunday, July 23 - Friday, July 28 | Residential | TBD

- Engineering Careers: The Future of Engineering and Sustainable Technologies

Sunday, July 23 - Friday, July 28 | Residential | TBD

- Health Careers

Sunday, July 23 - Friday, July 28 | Residential | TBD

### Grade 11 and 12

- Food and Nutrition Science Career and College Prep Program

Sunday, July 9 - Friday, July 14 | Free

Sunday, July 16 - Friday, July 21 | Free

# SUMMER CAMPS Cont.

## [SIUE | Odyssey Science Camp](#)

### **Camp Information**

**Ages / Grade Levels:** Students entering grades 2-8

**When:** Monday - Friday, July 17 - 28, 9 am - 3 pm each day

**Where:** SIUE Campus, Science East Building

**Camp Fee:** \$375

**Contact:** Emily Wonnacott-Stanley [ewonnac@siue.edu](mailto:ewonnac@siue.edu)

“Odyssey Science Camp provides area youth an opportunity to experience the excitement of science firsthand. More than just an egg drop and slime party, our campers experience real scientific demonstrations and come away with a little more understanding about how their world works and the importance of critical thinking!

### **Odyssey 1-Explorers (Grades 2-3)**

Join us on a scientific adventure this summer! Campers will try hands on activities that bring concepts of science home to experienced scientists as well as lab novices.

### **Odyssey 2-Voyagers (Grades 3-4)**

Extend your stay and explore this planet we inhabit! Rocket launching, creating circuits and playing with science are the standards for the week.

### **Odyssey 3-Problem Solvers (Grades 4-5)**

This camp session is full of problems and we are counting on you to solve them! Every day there will be a challenge to solve with your engineering and math skills.

### **Odyssey 4-Science Detectives (Grades 5-6)**

Let's go to the lab and uncover what the evidence can tell us. Meet local LEOs and explore what science they use on the job every day.

### **Odyssey 5-Robots and Rovers (Grades 6-8)**

Do you want to build a robot? Do you want to make it move? Build robots, meet robots and learn about what automated systems we rely on every day.”



# SUMMER CAMPS Cont.



Governors State  
UNIVERSITY  
IN CHICAGO'S SOUTHLAND

## GSU | STEAM Camp 2023

### **Camp Information**

**Session One:** Monday - Friday, July 10 - 14 | 9 am - 3 pm

**Session Two:** Monday - Friday, July 17 - 21 | 9 am - 3 pm

**Session Three:** Monday - Friday, July 24 - 28 | 9 am - 3 pm

**Cost:** \$260

**STEAM Camp Plus** activities available Monday to Thursday, 3pm - 5 pm.  
Additional fee of \$60 per session, per camper applies.

**Location:** [Governors State University](#)

“Since 2014, Governors State University’s STEAM Camp has introduced campers ages **11 to 16** to current topics in science, the arts, career development and life on a dynamic and modern college campus. GSU’s STEAM Camp provides an exceptional opportunity for today’s students to become tomorrow’s innovators through extensive interaction with highly qualified faculty, business and industry volunteers and each other. Camp modules are taught by outstanding instructors and field practitioners, exceptional GSU students and alumni, and highly qualified volunteers from business and industry.

Activity tutorials, experiments, field activities, project-based learning, field trips, and presentation opportunities are organized on a fun and structured schedule, encouraging students to envision STEAM careers or greater knowledge of how STEAM might inform their lives. The hands-on nature of the camp activities challenge students to work together in a series of fun and thought-provoking individual, family, and team-based activities.”

## NSBE | Engineering Explorers Summer Camp

National Society of Black Engineers: “The Engineering Explorers Summer Camp is a week long experience that will introduce our 4th - 12th graders to various disciplines of engineering and computer science... **Registration for all of our camps will open in May 2023!**”



# STEAM Resource Spotlight

## **KQED | Free Media Resources for STEM**

“KQED serves educators and students nationwide by providing free, high-quality resources that strengthen media literacy skills, empower youth voice and encourage civil discourse.”



## **NASA | Resources for Formal Educators**

“If you are a K-14 teacher or formal educator, here you can find Landsat images and resources to help you teach about our changing Earth, the electromagnetic spectrum, the science and technology behind satellite data, and much more.



Landsat supports a fundamentally spatial approach to learning and thinking about the world. Spatial thinking is embedded in a multitude of disciplines, from natural resources management to disaster preparedness, disease epidemic prevention, and urban planning.”

## **aiEDU | AI Toolkits**

“aiEDU’s AI Toolkits are designed to support teachers, parents and other community champions to share the importance of artificial intelligence education and support its adoption in your learning spaces. In particular, it will highlight the critical need for AI in schools and its relation to our economic future.”



## **ReadWriteThink | Classroom Resources**

“Dive into a sea of resources, knowledge, and inspiration for all your literacy needs. With thousands of standards-based resources for teachers and students, you can be confident your students are getting the education they deserve.”



# The 'A' in STEAM

*"Arts foster scientific success" -Dr. Temple Grandin*

This series is dedicated to showing how art and creativity play a crucial role in our society on its own and even within the STEM fields. There's a great deal of artistry that goes into our favorite products and media we consume that make our lives easier, or at least a bit more enjoyable, and teach us valuable lessons about history.

## Smithsonian | Podcast: The Artist Critics Love to Hate

“LeRoy Neiman was a colorful man, both figuratively and literally. His handlebar mustache, long cigar, and sketchpad were fixtures at the sidelines of American pop culture: from boxing matches to jazz clubs and political conventions. His paintings, sketches, and prints papered the second half of the 20th



century, highlighting American icons in his colorful expressionist style. He was rich, famous, and adored by many Americans... but not the art critics.”

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## Use of artificial intelligence generates questions about the future of art

“Artificial intelligence is everywhere and part of our conversations about education, politics and social media. It's also a hot topic in the arts world as programs that generate art using AI are widely available to the public. But what goes into these programs, and the work that comes out, are heavily debated. Jeffrey Brown explores the influence of AI for our arts and culture series, CANVAS.”





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