



**TOMORROW
STEMS
FROM IOWA**

**Drake
UNIVERSITY**
SOUTH CENTRAL IOWA REGION
GOVERNOR'S STEM ADVISORY COUNCIL

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SC STEM Hub

Collier-Scripps Hall

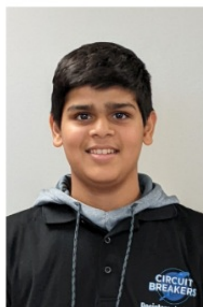
Office #214

2702 Forest Avenue

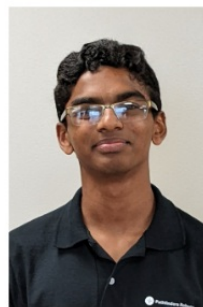
Des Moines, IA 50031



Circuit Breakers Close CSEd Celebrations



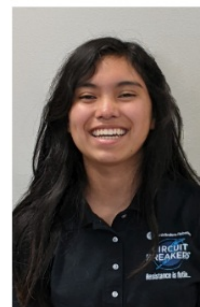
Ajinkya



Evin



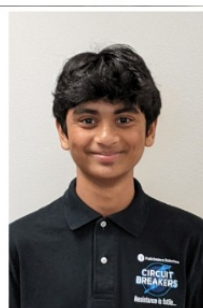
Kalya



Gabriella



Revanth



Samyu



Sree



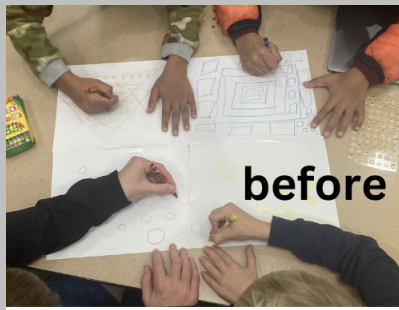
Toby



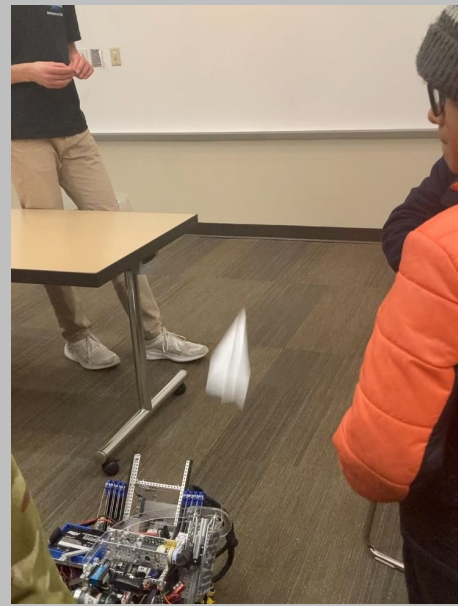
Circuit Breakers FTC Robotics Team hosted AI Family Night at the Waukee and Urbandale Libraries. Their workshops ended a week's worth of events.

Dr. Sarah Derry, SC STEM Hub Manager, led the statewide Iowa STEM charge and attended the Circuit Breaker's event with her family. "As technology becomes more embedded in our everyday lives, computer science skills are growing more important," said Derry. "Having Computer Science

(CS) knowledge makes all of us better users of technology. For example, understanding how a search engine comes up with the responses to your Google search can help you pick more efficient search terms."



Algorithm Art before and after.



Circuit Breakers demonstrated their robot launching a paper airplane.

#CSEdWeek 2024 Recap



Urbandale
Public
Library



Ankeny

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Jewels Academy



MICKLE CENTER
Business & Neighborhood Resources

Educators, students, and community partners across the South Central region hosted or participated in Computer Science Education events during the week of December 4-8. Events focused on in-person and virtual resources for kindergarteners through eighth graders.

"Early exposure to a wide array of Computer Science topics helps students

explore paths to various careers related to technology," said **Dr. Michelle E. Ruse**, District Chair Computer Science for DMACC. "Their passions can be sparked with CSEd Week Community Sessions where families can discover interests in the IT field while engaging in hands-on experiences with current IT faculty and students."

Partners Create Library of Resources

A special thank you to **Iowa Area Education Agencies** and **NewBoCo** for partnering with Iowa STEM to create AI Family Nights during CSEd Week. Each hub coordinated local events using the materials and processes the planning team created. And thanks to **Matthew Green** with Digital Moment for creating the AI Card Game.

"As an expanding field, CS skills will help give our kids a leg up on using technology to seek and solve problems of the future," said Dr. Sarah Derry. "Employers want that too. That's why so many partners come together to finance, create, and execute elements of CSEdWeek."

Family AI Night lives on at Iowa STEM's website. Click the button below for the following resources:

- 2023 Grade-Level Activities
- 2023 CSEd's Dashboard
- 2022 Grade-Level Links

Find CSEd Virtual Resources [HERE!](#)

Find CSEd Resources Any Time of the Year

AEA: Year-Round Resources



Erin Chute (pictured), Instructional Technology Consultant at Northwest AEA, worked on the steering committee. Iowa AEAs hosted registrations and created or vetted resources.

"The AEAs were happy to collaborate with the Governor's STEM Advisory Council and NewBoCo to provide the week's worth of engaging, high-quality computer science activities during this year's CS Ed Week," said Chute.

The purpose of this week is to spotlight this career and academic area. But, if

you're a classroom teacher, you likely need technology resources at various times of the year--that's where the AEAs come in.

"Across the state, AEA's provide hands-on support to districts and teachers in several academic areas including computer science education," noted Chute. "This includes district-wide computer science planning, grant support, professional development, instructional coaching, and more."

If you're not sure where to start when reaching out to your AEA, feel free to **email Erin Chute**. She'll get you connected with the right folks in your area.

Statewide Partners Provide CSEd Week Foundation



Our Frist Ever: Scale-Up Then & Now

THEN PRESCHOOL



NOW MIDDLE SCHOOL

Dawn Johnson, PreK Teacher at Kid's World in Centerville, invited Dr. Sarah Derry to visit her classroom several years to observe The Robot Project. Yesterday, one of her former preschoolers from that class, Mason, participated in his first robotics competition, making it all the way to the semi-finals.

The photos feature **Mason** from preschool and from the competition. "Preschool truly does lay the foundation for STEM learning!" said Johnston. "I am so grateful for the incredible materials and professional development sessions I have attended!"

C3 Robotics Uses Scale-Up in Upcoming Camp

Creating A Better Future



Scan here to Register

Robotics Camp Ages 8 – 14

Free for members
\$20 for non members



C3 Robotics is hosting Robotics Camps in partnership with the YMCA of Greater Des Moines. Each session will be led by C3 students and coaches. Participants will learn about programming concepts and terminology focused on an introduction to coding using Finch Robots and drag-and-drop Snap coding language. During the program, youth will have an opportunity to work with micro:bit controllers, motors, and sensors. FLL and FTC will be demonstrated. Parents are invited to join the last 15 minutes as participants reveal what they have learned.

All activities are intended for novice computer users with little or no experience.

Register at your local Y or at DMYMCA.org

Walnut Creek YMCA Dec. 28
Wellmark YMCA Dec. 29
Grubb YMCA Dec. 30
Waukee Family YMCA Jan. 2

10 a.m. to 12 p.m. at all locations



All Ability Levels Welcome!

C3 Robotics is the first FTC team sponsored by Tech Journey. This award-winning team excels in community outreach. All curricula, activities, and assignments are intended for novice computer users with little or no experience.

This winter break, C3 Robotics has teamed up with Des Moines YMCA to create a hands-on Robotics Camp. Led by students and coaches of C3 Robotics, participants will learn about programming concepts and terminology focused on an introduction to coding using Finch Robots and drag-and-drop Snap coding language. Attendees will work with micro:bit controllers, motors, and sensors. FLL and FTC teams will be on hand to demonstrate their competition-worthy robots.

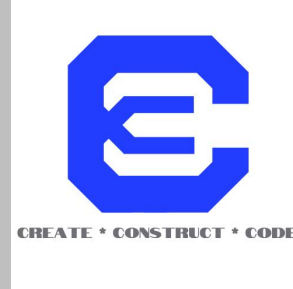
Register for C3 Robotics Camp

Iowa STEM Scale-Up Connection

C3 will be using materials obtained through Tech Journey's award from Iowa STEM's CodeJoy Scale-Up.

Tech Journey is a team sponsor, allowing the students access to facilities and equipment that enable them to offer workshops like this.

Coach **Smita Volz**, Analytics Senior Manager at Wells Fargo, coaches the C3 Robotics Team. By day, she works with cutting-edge technology and data analysis. Volz took a moment to talk with us about computer science.



Q: How are you using Scale-Up during the course of the camp?

A: The Scale-Up programs' Finch robots are the medium that we are teaching with both on the computer and in the real world. This connection between computers and real world gives these somewhat abstract computer programming concepts a grounding into the real world. The students start using computers to solve simple but tactile problems that can easily lead to a broader acceptance of STEAM related fields for their interests and future careers.

Q: Why is it important for students to get early exposure to computer science and technology?

A: Early exposure to computer science and technology is about helping students develop critical thinking, problem solving, collaboration, and technical skills for a wide range of STEM career opportunities and equipping them with essential skills and knowledge that are increasingly relevant in our interconnected and digital world.

If you're part of a similar organization that would benefit from Scale-Up, please note that the application opens January 8. Information will be updates here as the date nears: <https://iowastem.org/Scale-Up>.

Community Connection Update: C3 + Girl Scouts



Through a connection the SC STEM Hub helped make between C3 and a metro Girl Scout troop led by Brandi Miller, students from C3 have been working with several other troops to help more girls earn their robotics and coding badges. At the close of the year, the team will have worked with 10 total troops--that's over 100 girls.

This is an incredible example of a robotics team giving back to their community, and a perfect reminder at this time of year that so much good is happening all around us all the time.

Click & Scroll for the Original Newsletter Story

Scale-Up Opens Jan. 8: Note Two Changes

There are two changes to note if you plan to apply for Scale-Up (and we hope you do!).

1. You will need to **create a new profile at Iowagrants.gov website** beforehand. Approval takes up to 72 hours. Please look over the flyer below for a quick tutorial. Thanks to NW Manager **Mary Trent** for creating it.
2. Administrator approval has long been a required step in the procedure. In the past, applicants could provide the signature after submitting the application. This year, the **administrator signature step will be a part of the application before you can submit it**. We hope this makes it easier to a.) communicate with building leaders and b.) complete the process in a simple and timely way.

Visit Our New STEM Scale-Up Portal



[HTTP://IOWAGRANT.GOV](http://IOWAGRANT.GOV)



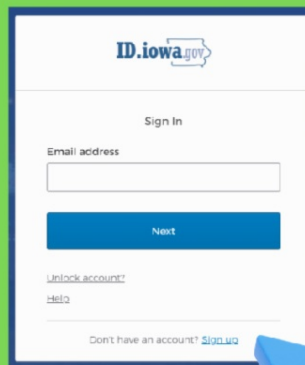
All users will need to create a New Account!
We urge you to do so NOW and not during Scale-Up Season
to make the transition easier.

 IowaGrants Users Click Here To Login

[Click Here to Access Single Sign On Tool](#)

Click Here

**Remember Your
Username & Password!**



Click on Sign Up

Any Questions, please contact your Regional Manager.

Here's a link for a PDF on how to register.

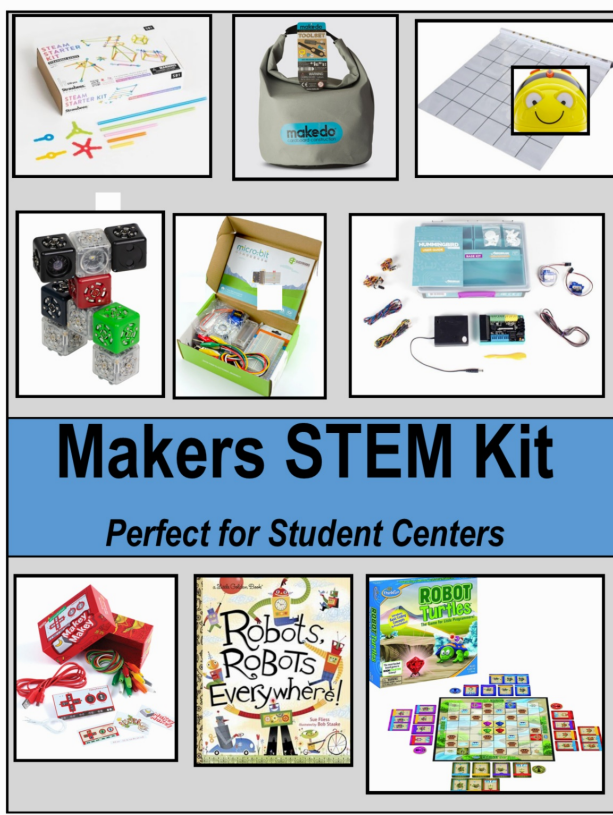
How to Utilize the Hub's Checkout Library

We have so many favorites, but
here's a fun kit if your centers
need a tech upgrade! Check out

the **Makers STEM Kit for Student Centers**. We put one of our favorite everything in this box.

- Strawbees
- Makedo Cardboard Construction
- 1 Bee-Bot + Mat
- 1 Cubelets Set
- 1 Makey-Makey
- 1 Hummingbird Base Kit
- 1 micro:bit
- 1 Robot Turtles Board Game
- 1 *Robots Robots Everywhere* story book

PS: Make sure your kiddos are ready to handle smaller, breakable pieces on their own.



[Click to View or Checkout Lending Materials](#)

IMMAWII STEM Fest & more: register now!

I'LL MAKE ME A WORLD IN IOWA

2024 Education Day



Hundreds of high & middle school students will gather from across Iowa to learn about African American Culture!
REGISTER YOUR STUDENTS TODAY!

Exciting Activities

Cultural & STEM Keynotes
Black History Oratory Competition*
Biz Pitch Student Entrepreneur Competition*
Dashboard Featuring STEM Speakers
College Readiness & Cultural Presentations
Student Black History Sharing

Winners receive cash prizes. Students register individually. See full details at WorldinIowa.org



REGISTER BY 1.12.24 at WorldinIowa.org

Register Now!

Registration for IMMAWII's Education Day is open, and we'll be hosting a STEM festival at the Horizon Events Center in West Des Moines once again this year. Other events include inspiring keynotes, Black History Game Show, BizPitch, workshops, a college fair, and more!

Who will be at this year's STEM Fest? Ten incredible exhibits (plus us)!

- Bridging the Gap
- Collins Aerospace
- Des Moines Public Library
- Disco Duckbots Robotics Team
- DMACC - Respiratory Therapy Program
- East Penn Mfg.
- Iowa Architectural Foundation
- ISU Extension & Outreach
- Jewels Academy
- Science Center of Iowa

- SC STEM Hub (Check-In Table)

Who should attend? Everyone! Host an all-school sign-up for those interested, consider student groups that focus on diversity and equity issues, draw together a group of student leaders or at-risk students, take your homeroom class--so many curricular and extra-curricular ties.

If you'd like more information on the event itself, please email Executive Director **Betty Andrews**. If you have an interest in being a part of the Iowa STEM Festival, please **email the hub**.

Thank you, SC Advisory Board Members



Impact Growing at the Rate of Iowa Department for the Blind's Ioponics Scale-Up!

Thanks to our board members for going above and beyond to provide connections, read applications, make decisions, exhibit at events, and so much more.

If you're interested in volunteering for K-12 STEM endeavors, please **email the Hub**.

2023-24 SC Advisory Board Members

Bridgette Andrews
Ashley Cook
Creighton Cox
Katrina Cummings
Sherry Ford
Major Jen
Mauree Haage
Jonathan Holmen
Mahesh Mathrubutham
Ronda McCarthy
Alison Mohr
Joe Murphy
Amber Pargmann
Scott Schultz
Laura Williams

Thanks to all of our past members who still serve Iowa kids in so many ways!

Our Holiday Wish? To See You!

Invite us for a visit!

We'd love to visit your class and see Scale-Up in

action. Why?

- It highlights your important work.
- Gives a starting point for other educators who might be considering a Scale-Up application.
- Provides a model for how you incorporated Scale-Up into your curriculum.
- It's just all-around inspiring to see the amazing ways educators and students spend their day.

Email the hub and we'll come up with a plan to visit! Now booking in spring! (P.S. we'll throw in some paper horns!)



Event Calendar

Upcoming Events

- December 28 -- C3 Robotics Camp, Walnut Creek YMCA
- December 29 -- C3 Robotics Camp, Wellmark YMCA
- December 30 -- C3 Robotics Camp, Grubb YMCA
- January 2 -- C3 Robotics Camps, Waukeg YMCA
- January 8 -- Scale-Up applications open
- January 11 -- Virtual CodeJoy Workshop Begins
- January 15 -- DUE: Applications for Linking Science, Mathematics & Literacy for ALL Learners
- January 12 -- DUE: Registration for IMMAWII Education Day
- January 17 -- DOE Math Standards Listening Meeting at Drake
- February 6 -- 14 DMACC Career Events Begin (see images/link below)
- February 9 -- I'll Make Me a World Education Day
- February 10 -- I'll Make Me a World Celebration Day
- February 27 -- Work-Based Learning Workshop, DMACC
- March 1 -- 2024 Latino Education Summit

Winter Dates Set

Not sure what you want to do for a future career? DMACC offers incredible opportunities for students looking to explore. Follow this link for details and registration:

<https://www.dmaccc.edu/workbasedlearning/events.html>

Career Exploration Days!

These events allow high school students, parents and educators to explore a career pathway by attending hands-on activity sessions and demonstrations. Connect to future careers, meet with professionals and learn about DMACC programs!

Event	Date	Location
Discover Healthcare Day! <i>Registration Coming Soon!</i>	Tuesday, February 6	DMACC - Urban Campus
Explore Manufacturing Day!	Wednesday, February 21	DMACC - Ankeny Campus
Explore Education Day!	Thursday, February 22	DMACC - Ankeny Campus
Explore IT Day!	Thursday, March 7	DMACC - West Campus
Explore Auto/Diesel Day! <i>Registration Coming Soon!</i>	Friday, March 22	DMACC - Ankeny Campus

Worksite Industry Tours!

These events are hosted by a business and are open to 11th-12th grade students. Students will meet with professionals to learn about the business and specific careers.

Event	Date	Location
Explore Healthcare Careers at MercyOne West! <i>Registration Coming Soon!</i>	Wednesday, February 22	MercyOne West Hospital - West Des Moines, IA
Explore Criminal Justice Careers at the Polk County Sheriff's Office!	Tuesday, March 5	Polk County Sheriff's Office - Des Moines, IA
Explore Broadcasting & Video Production Careers at Iowa PBS!	Friday, March 22	Iowa PBS - Johnston, IA
Explore Creative Arts Careers at Mittera!	Tuesday, April 9	Mittera - Des Moines, IA

Career Fairs!

These events host numerous business partners for students to connect with to gain a better understanding of their organization, positions hired, education and training needs, and what a day in the life looks like.

Event	Date	Location
Health & Public Service Career Fair!	Monday, February 26	DMACC - Ankeny Campus
IT Career Fair!	Tuesday, February 27	DMACC - Ankeny Campus
Business Career Fair!	Wednesday, February 28	DMACC - Ankeny Campus
Automotive Career Fair!	Thursday, February 29	DMACC - Ankeny Campus
Criminal Justice Career Fair!	Thursday, March 7	DMACC - Ankeny Campus

Visit our calendar for details and more events.

Email to subscribe to this newsletter.



South Central Iowa STEM | 2702 Forest Ave., Des Moines, IA 50311

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