

South Central STEM Hub Newsletter

**GREATNESS
STEMS
FROM IOWANS**

Drake
UNIVERSITY

SOUTH CENTRAL IOWA REGION GOVERNOR'S STEM ADVISORY COUNCIL

STEM Happens

Apply now!

STEM

Science * Technology * Engineering * Math

2015-16 Scale-Ups

STEM for all! From youth groups to entire school districts, any informal or formal educator can apply for STEM Scale-Ups.

Applications Open: January 26, 2015
Applications Due: March 9, 2015

For more information, please visit www.iowastem.gov.


Apply today at www.iowastem.gov!


2015-16 Scale-Up Providers Include:

- A World in Motion
- CASE
- Defined STEM
- Engineering is Elementary
- FIRST Tech Challenge
- Hyperstream
- KidWind Renewable Energy
- SCI Pint Size Science
- PLTW Principles of Engineering
- PLTW Gateway to Technology

NEW!

- PLTW Computer Science and Software Engineering
- PLTW Launch
- ST Math
- Ten80 Education





Apply TODAY for 2015-16

Scale-Up Programs!

Click [HERE](http://www.iowastem.gov) to start your application or visit www.iowastem.gov.

All applications must be completed by **March 9, 2015 by 5:00 p.m.**

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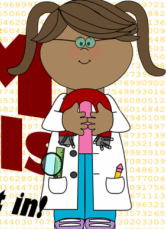
Upcoming STEM Festivals...

Ottumwa, Tama, Des Moines!

Free, open to the public.
Targeted to K-12 and their families.

STEM Festivals

They'll pull you right in!



Celebrate Pi Day at

If you have questions or need help, please email **Dr. Sarah Derry** at scstemhub@drake.edu.



I'll Make Me a World in Iowa's **Education Day**

Over 600 elementary, middle school and high school students gathered for I'll Make Me a World in Iowa's Education Day. This week-long festival is the largest celebration of African-American culture in the area. The SC STEM Hub worked with event organizer Betty Andrews to create a mini-festival for the day.

The Hub became involved in the festival upon the invitation of board member Mary Madison. She's active in a service organization called The Links Inc. Their national year-long goal is to introduce more kids to STEM.

"I think STEM Festivals and STEM career education can open doors for students who are already inquisitive, creative and capable of solving problems if given a chance," said Madison. "I think when African American Students think of STEM they think that's too hard or they don't know anyone working in those fields. It then becomes my responsibility and the responsibility of others like me to help enlarge their world view."

Exhibitors included the non-profit The Links Inc., Mercy College of Health

IHCC's STEM Festival!

Click [HERE](#) to register as an EXHIBITOR or VOLUNTEER.

Click [HERE](#) to register as an ATTENDEE.

WHERE: Rural Education Center
IHCC
525 Grandview Avenue
Ottumwa, IA 52501

DATE: March 14, 2015 (Pi Day!)
TIME: 10AM - 2PM

Questions? Contact Dr. Sarah Derry at scstemhub@drake.edu

Tama County **Family STEM Festival**

DATE: Sunday, March 22, 2015

TIME: 1:00-4:00 p.m.

WHERE: South Tama Elementary
1611 Country Club Drive
Tama, IA 52339

TO ATTEND: Just walk-in! It's for K-12th graders and their families.

Click [HERE](#) is you'd like to EXHIBIT!

CONTACT: Stefani Keller with questions: smkeller@uni.edu.

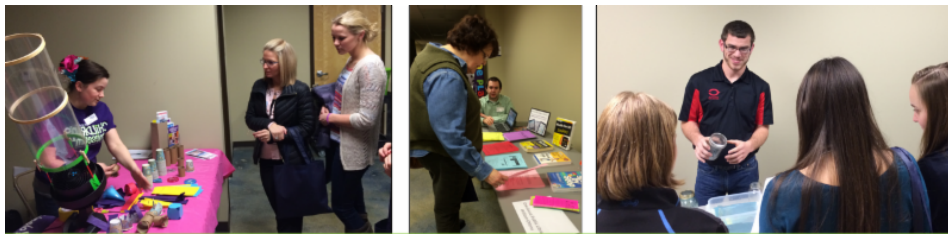
WEBSITE: Click [HERE](#) for more information.

Undergraduate Research Symposium and **Drake STEM Festival**

Click [HERE](#) to register as an EXHIBITOR or VOLUNTEER.

Sciences, DLR Group, Shive Hattery's CAPS program, and Dr. Nia Madison's AIDS research work. Exhibits included activities, demonstrations and discussions about how each of the areas related to STEM education.

The event was a success. "We saw students try [booth activities] over and over because they knew there was answer to the problem in there somewhere," said Madison. "They didn't doubt that they could find it."



William Penn University & SC STEM Hub's Educator Make-n-Take STEM Festival



William Penn University's Make-n-Take Night

William Penn and the SC STEM Hub hosted the area's first Educator Make-n-Take STEM Festival on the evening of January 27. Area teachers and youth leaders filled Penn Activity Center for some hands-on curriculum ideas that were classroom-ready to use.

Dr. Sarah Derry, SC STEM Hub Manager, noted the importance of such a festival. "When you give educators a tool, they impact every student they touch year after year. Events like this increase teacher confidence and competence to engage youth in great STEM activities."

The festival developed when Professor Breanne Garrett wanted to bring STEM to the William Penn campus. She hopes those who attended will gain at least one or more new idea that can be adapted to fit their learning needs and shared with students over the next few years.

Click [HERE](#) to register as an ATTENDEE.

WHERE: Olmsted Center
Drake University
1245 29th Street
Des Moines, IA 50311

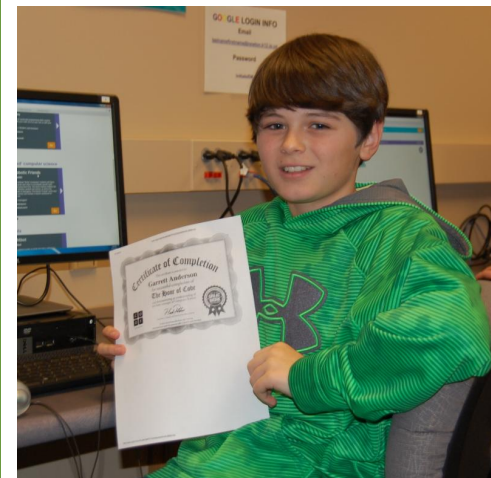
DATE: April 16
TIME: 3PM - 7PM

Targeted to grades 8-12+ and their families.

CONTACT: Dr. Sarah Derry at
scstemhub@drake.edu

REGISTER NOW!

SC STEM Hub Materials Available for Checkout!



Do Hour of Code anytime and at any place by checking out the Hub's class-set of tablets! "It's fun," says Chase from Aurora Heights in Newton, "and it's a challenge."

GOOD NEWS! The SC STEM Hub has

"Those students may be inspired by the activities to pursue an education and career geared toward STEM," says Garrett. "The state of Iowa needs them!"

STEM in the Classroom

Teacher-librarian spearheads Aurora Heights **Hour of Code Grant Award**



Iowa House Representative Dan Kelley, pictured by June Clute and holding the Google Award certificate, celebrated the event with Aurora Heights. "I've been a supporter of the STEM Initiative and will continue to support it," said Kelley, who was inspired by his nephew. "He's a digital native, and there's an advantage to teaching computer science to younger students."

Congratulations to Aurora Heights Intermediary School in Newton. The school won a \$4,000 Code Iowa Google Grant to use as needed to continue improving their coding and technology programs. The program was sponsored by Google through the Governor's STEM Initiative.

a library and any informal/formal Iowa educator can check out materials.

Items may be borrowed for 1-6 weeks, depending on the item. They can be picked up and returned to Drake University's School of Education.

THE FINE PRINT: Please replace any consumables you use. You're also responsible for any damaged items. Some kits require teacher training.

Click [HERE](#) for our inventory list.

Questions? Email Sarah Derry at: scstemhub@drake.edu

I AM STEM!



Jacob Aldrich founded and serves as President of Aurora Heights Technology Club.

Jacob Aldrich: Sharing His Technology Talents!

Jacob Aldrich is in the 6th grade at

On December 18, 2014, Aurora Heights celebrated with an all-school of Hour of Code.

The grant's applicant, teacher-librarian June Clute, embraces technology and is a self-proclaimed Google Girl. She's even a Certified Google Educator.

Last year, Clute coordinated an Hour of Code event, and it was very successful. "What an amazing opportunity to learn what computer programmers do," said Clute. "Computer science is important, and I think the younger kids get exposed to it, the better."

During Hour of Code, students sign on to websites, like Code Academy, and learn code through modules that are designed to look like games.

Briana, 4th grader, likes a module called Elsa and I, developed from the Frozen character. "It's fun to see how they designed the snowflakes," she said. "I really like the visuals on this program." Since this exposure to code, Briana has also coded on her own.

"I have seen kids get really excited as they work," said Clute. "It's interesting and creative and challenging. They're not afraid of technology, because it's always been par of their lives."

Clute is fortunate to have support of both her principal, Carol Faver, and Newton Superintendent Bob Callaghan. "This grant is very important," said Callaghan. "Our teachers are very interested in finding the best ways to integrate technology into instruction."

An enthusiastic 4th grader named Grace said, "If I was grown up, I would computer code everyday, if I could."

At the end of the hour, every student had completed at least one level of coding. Both Clute and Faver circulated around the room, congratulating students on their accomplishments. Each student took home a certificate that said which level he or she completed. Some were quite proud of their accomplishments.

The last words heard as fourth graders shuttled out the door for home: "Just five more



June Clute said that when she saw Code Iowa's Google application in her inbox, she knew it was the opportunity she'd been waiting for. "When I saw the grant, I decided to go for it!"

Aurora Heights Intermediate School in Newton, Iowa. He is a member of All-Star Band, NTAG and plays on a YMCA basketball team. But perhaps his legacy at the school will be its new technology club.

Jacob started the Aurora Heights Technology Club last year, after teacher-librarian June Clute hosted Hour of Code. "Everyone really liked learning code that day, and I just saw a need," said Jacob. The club has about 20 members and is growing.

Besides serving as club president, he's very active in STEM curricular opportunities. He is a student of the 7th grade Math Google Classroom, Digits - My Math Universe. Jacob also had the opportunity to attend the following STEM - NTAG activities: Atomic Candy, Egg Bungee Jump, Float My Clay Boat, House of Cards, Gumdrops Towers, Raindrop Raceway and At the Scene of the Crime.

Jacob thinks everyone can benefit from taking a STEM class or joining a STEM activity. The problem-solving and cooperative skills students learn in STEM classes can benefit them in other courses and careers. "Just think about the process of what you're learning," says Jacob.

In the future, Jacob would like to become a better programmer and hopes to have a career in computer programming. Someday, he'd like to work for Insomniac Games.

He does have a word of advice for those who are pursuing STEM dreams: "You need to have perseverance to achieve your goals."

Good advice for all of us.



minutes, please." Now that's a good day at school.

Want to learn how to code? Visit www.code.org, for a **FREE** online resource with materials and tutorials.

DMACC STEM Programs Grow

Visit any Iowa community college or university and you'll find a campus bustling with STEM opportunities and ideas. One element seems to be reshaping them all: a growing U.S. economy that hinges upon STEM-trained professionals. This is especially true at DMACC.

Imagine having multiple job offers upon graduation and earning \$60,000 your first year! That's the reality for two of DMACC's growing STEM programs: Wind Energy Technician and Robotics.

DMACC Professor and Industry & Technology Dean Scott Ocken says finding people who can do the math needed to succeed in their Robotics program can be difficult. One of his class's first math tasks is to cut a stringer for deck steps.

"Imagine if every math problem were customized to fit work," says Ocken. "We integrate and include applied math, and students aren't always used to that approach. Often, we can bridge the gap with a math tutor. We'll try to make it work."

With 25 percent of Iowa's electricity coming from wind, this growing field needs technicians. Dean Hoffmann, a DMACC-Ankeny Industrial Electro-Mechanical Technology professor, says that besides high curricular standards,

Build a Better Tomorrow...



Q: Why does DLR Group Architect Ken Hagen volunteer for STEM?

A: "I volunteer for STEM events to help all ages of children understand the architectural profession and how it relates to STEM initiatives and thought process. It is wonderful to see the spark of imagination when a connection is made and hopefully that starts the student down a creative path of self-discovery and inquisitiveness!"

Email
scstemhub@drake.edu
to learn how you can help!

Please join us!
Iowa Statewide STEM Summit

students must be able to carry 20 pounds of equipment to work spaces that are 300 feet above ground. Students train with harnesses and also learn first aid and rescue techniques.

For both programs, Ocken says DMACC gets a variety of applicants, many coming in with 4-year degrees, but wish to retrain for a specific career path. The best advice he can give students is to take higher-level math and science classes in high school.



Professor Dean Hoffman explains how wind turbines work. Fully trained and certified, professionals make upwards of \$80,000 a year.

Inspiring STEM

Building DMACC's STEM Powerhouse... Dr. Kari Hensen

Dr. Kari Hensen serves as the Associate Dean for Arts and Sciences at Des Moines Area Community College. In this role, she has the opportunity to ensure faculty have all the tools they need to deliver first-rate educational experiences that help students reach their personal and professional goals.

In addition to serving on the SC STEM Advisory Board, Dr. Hensen is the co-chair of the DMACC STEM Council and serves as the Campus Director for the IINSPIRE LSAMP NSF grant designed to increase the number of



Dynamic speakers, important updates and the future of STEM! The 2015 Statewide STEM Summit is only a few months away and the details of the event's activities and speakers are still being finalized. By registering for the FREE event below, you'll receive those updates as the conference draws closer.

DATE: Monday, March 30, 2015

TIME: 8:45 am - 4:30 pm

LOCATION: Community Choice Credit Union Convention Center (part of the Iowa Events Center complex)
833 5th Avenue, Des Moines, Iowa

Click [HERE](#) to register for FREE!





underrepresented students in STEM fields.

Dr. Hensen is interested in supporting and fostering STEM education because, in addition to strong written and oral communication skills, science, technology, math and science are foundational cross-disciplinary skills necessary for exploration and innovation. Ensuring that all students enhance their skills and interest in STEM fields is necessary to meet our future local, state and national workforce needs.

Of particular interest to Hensen is helping students conquer their fears of mathematics. "DMACC is a great place for students who

have not taken a math course for many years," says Hensen, "or for those who have not had a positive experience with math and want to remediate to find success in the field."

Dr. Hensen's personal interest in STEM began in college and graduate school when she collaborated with faculty on several research projects. For this reason, she works with a number of organizations to help match students with undergraduate research experiences to enhance their knowledge and passion in various disciplines.

She loves watching co-curricular experiences ignite students' interests and help open doors to professional opportunities. It is particularly true for helping undecided students identify career pathways. Some of her own co-curricular and leadership experiences as a undergraduate student contributed to her desire to work in higher education.



**DMACC is a great place
for students who have not
taken a math course for
many years, or for those
who have not had a
positive experience with
math and want to
remediate to find
success in the field.**

~Dr. Kari Hensen

Events

Add these dates to your calendar!

March 5 -- Blank Park Zoo Speaker, John Calvelli, Des Moines

March 6-7 -- FTC Iowa Championships, Iowa City

March 7 -- SCI Girls in Science Coffee and Careers
March 14 -- Pi Day STEM Festival, Ottumwa
March 26-28 -- FTC Regional Championship, Des Moines
March 28 -- STEAMfest, Oskaloosa
March 30 -- Tama Community STEM Festival
March 30 -- Iowa STEM Conference, Des Moines
April 16 -- Drake STEM Festival
April 16 -- Prometheus Awards, Des Moines
June 15 -- CASE Training, TBA

Spread the word about STEM EVENTS in your community!

Visit the [South Central STEM Calendar](#) to get details on these events and see LOTS more!

[To submit your STEM event, click here!](#)

[Forward this email](#)



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Try it FREE today.

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