

South Central STEM Hub Newsletter

GREATNESS
STEMS
FROM IOWANS

Drake
UNIVERSITY

SOUTH CENTRAL IOWA REGION GOVERNOR'S STEM ADVISORY COUNCIL

State-wide Opportunities

Register TODAY! 2018 Future Ready Iowa Summit



The photo is from a panel of STEM BEST school administrators who spoke to a full house at the 2017 event. This year promises to be even bigger.

We hope you can join us for an inspiring day when leaders from all sectors meet to discuss Iowa's future.

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Scale-Ups DUE March 5 Apply NOW!



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Facebook: South Central Region



Twitter: @SC_Iowa_STEM



Instagram: [sc_iowa_stem](#)

Event Calendar:
Visit the SC STEM Hub's calendar!

WHEN: Tuesday, April 3, 2018
 WHERE: Community Choice Credit Union Convention Center, Des Moines
 WHO: It is open to the public.
 COST: \$50 for adults; no cost for students.

REGISTER NOW!

The summit will bring together leaders from business and industry, education, nonprofits, elected officials, students and others to amplify the public conversation about transforming education and the workforce, with a focus on expanding work-based learning and computer science instruction.

Speakers include:

- Mary Andringa, Vermeer's board chair;
- Brandon Busteed, Gallup's executive director of education and workforce development;
- Governors Asa Hutchinson of Arkansas and John Hickenlooper of Colorado;
- Hadi Partovi, Code.org's CEO; and
- Jeff Weld, the White House Office of Science and Technology Policy's senior policy advisor for STEM education.

The agenda also features a showcase of work-based learning exhibits, table talks, networking opportunities and breakout sessions.

The all-day summit will be held on Tuesday, April 3, 2018, at Community Choice Credit Union Convention Center in Des Moines. It is open to the public. The cost is \$50 for adults. There is no cost for students.

To register on February 1, visit:
www.iowaSTEM.gov/FutureReadyIowaSummit

STEM Happens

Showalter Shines with STEM Teacher Award

Thanks to the SC STEM Regional Advisory Board Members for volunteering their time!

- BOARD PRESIDENT:
Robert Volp - West Des Moines
- John Arbuckle - Urbandale
- Mary Bontrager - Cumming
- Breanne Garrett - Ottumwa
- Mauree Haage - Oskaloosa
- Dr. Kari Hensen - Ankeny
- Jonathon Holmen - Ankeny
- Ronda McCarthy - Des Moines
- Tyler Myerholtz - Des Moines
- Amber Pargmann - Ottumwa
- Dr. Steven Sieck - Grinnell
- Stacey Singleton - Johnston
- Becky Wigeland - Indianola
- Laura Williams - Mt. Pleasant

STEM Festival Highlights

IMMAW Education Day



Over 1300 students engaged in IMMAW's Education Day. SCI's Jolie Pelds created a human circuit to illuminate a light.



Rockwell Collins' Adriana Johnson taught festival goers how to program a company



Dr. Holly Showalter accepts the 2018 I.O.W.A. STEM Teacher award for South Central Iowa.

On Monday, January 27, Dr. Holly Showalter became the South Central Regional 2018 I.O.W.A. STEM Teacher of the Year. Showalter teaches Medical and Bioscience Research at Waukee Community Schools' APEX Program.

Dr. Cindi McDonald, Waukee Superintendent, spoke at the ceremony: "Holly's enthusiasm for bringing all of the STEM areas to life is obvious in all that she does."

Showalter had eight different individuals nominate her for the award. "I was really excited to be nominated, especially by students," she said.

It's Showalter's enthusiasm that touches her student's lives. "She is knowledgeable and humble," said junior Emalee Andrews. "I've learned a lot about the medical field from her, and she's always positive and kind."

Showalter created the course she's become famous for, and she has grown the program by partnering with universities, businesses and other agencies to help high school students gain real-world experience. "Within the class, she gives us a problem, and we figure out things ourselves," said Nupur Udipi, senior.

drone. Thirteen organizations and businesses exhibited.



Participants created mini robots with Jewels Academy founder and engineer Kim Wayne. Thanks to all of our presenters for bringing incredible projects.



Mollie McMahon and Jason Wicker of Dupont Pioneer's Young Professional's Network provided a hands-on look at feeding the world. If you'd like to be considered for next year, please contact the Hub.

IPTV: Girls In STEM Day

Sponsored by Kemin Industries, the I.O.W.A. STEM Teacher Award is given to six educators around the state. Winners receive \$1500 for personal use and \$1500 for classroom use. Those awarded display innovative methods, outstanding passion, worldly relationships, and engaging academics.

Showalter's expertise, combined with her caring demeanor, makes her the perfect recipient such an award.



Dr. Holly Showalter accepts the award from Gov. Kim Reynolds. Photo from Waukee Community School District.



The SC STEM Hub facilitated the windmill challenge as part of IPTV's Girls in STEM event.

STEM Day at the Capitol



Drake student Margaret Clapham, Advisory Board Member Mauree Hagge, STEM Youth Advisory Board member and Hoover HS student Brigid Toothman, and Dr. Sarah Derry greet legislators at the SC STEM Hub's exhibit.

SCI: Girls in Science Day



Sarah presenting math challenges for problem-solvers of any age.



Dr. Sarah Derry teamed up with NC Hub Manager Dr. Kelly Bergman for the SCI event.

On February 14, Valentine's Day, Governor Kim Reynolds, along with several hundred other STEM enthusiasts, attended Iowa's annual STEM Day at the Capitol. Sponsored by the STEM Advisory Council, the event gave legislators, as well as the general public, an idea of how STEM funding benefits students.

With over 30 exhibitors, projects included hands-on, interactive, and student-focused learning innovations from across the state.

In an opening speech, Reynolds noted Iowa's goal of 70 percent of those in the workforce having post-secondary training by 2025. Reynolds said STEM is essential in "transforming Iowa's future by transforming what students learn in the classroom to life in Iowa."



Margaret Clapham, Drake Chemistry Club Co-President, volunteers in classrooms around central Iowa. She demonstrated at STEM Day at the Capitol.

Libby Nelson, General Council and Vice President for Kemin Industries, was on-hand to award I.O.W.A's STEM teachers of the year, which included the South Central region's very own Dr. Holly Showalter. "Teachers are the spark of curious students," Nelson noted in her speech.

South Central's legislative representative Amy Sinclair said, "Students who participate in STEM score higher on standardized tests and are more likely to choose STEM fields." She also mentioned the gender gap is beginning to close, "Women are pursuing those degrees, also."

Kevin Koester, another South Central representative, closed the comments by saying, "I want to thank those of you who work on this initiative, on Valentine's Day and everyday."

STEM BEST Spotlight

Ankeny Schools Share Paper & Process Backbone for BEST

Scale-Up Applications Now Open



Click [HERE](#) to begin!

Formal and informal educators can apply for Scale-Ups.

DUE: March 5, 2018 at 5 p.m.

Awardees will be notified in late March. Professional development training begins in June and continues through October.

Contact Dr. Sarah Derry with at scstemhub@drake.edu with questions or visit the [Iowa's STEM website](#).

I AM STEM!

Meet Kiera MacPherson



Ankeny Community School District is one of this year's STEM BEST recipients, but plans for their innovative ORBIS program have been in the works for the past two years. Dr. Jill Ulrich, the program's creator and director, is launching a soft roll-out this year that incorporates authentic project-based experiences. Projects are based on the needs of local businesses and organizations. Students are matched by interests and skills.

The program features **two unique facets**. The **first** is the range of access points students are given. Projects can be incorporated into classes, worked on outside of class time for an elective credit, or taken during the school day as a credit.

The **second** unique facet is that Ulrich has given the program a solid backbone by having processes and paperwork in place. Best of all, the district is happy to share what they've learned with other schools who wish to replicate or create their own version of it.

Ulrich has sound **advice** for others venturing down this path:

- Walk with teachers who are doing innovative things within their own classroom.
- Dedicate staff to the project. Next year, along with a director, the district will hire two ORBIS teachers.
- Build excitement by creating a task force for a year, dedicating staff to run it, implementing in phases, and finding the right teachers to lead it.

If you have questions or would like more information on ORBIS, please contact Ulrich at jill.ulrich@ankenyschools.org.

If you'd like more information about STEM BEST, please contact Dr. Sarah Derry at scstemhub@drake.edu.



An honor student in STEM, Kiera MacPherson hopes to teach math and/or chemistry upon graduation.

For as long as Kiera MacPherson can remember, she's always liked math and solving problems. "My friends and I used to race in second grade to see who could finish a page of multiplication problems first."

It wasn't until she got to high school that she found her second interest: chemistry. "The idea of mixing chemicals and watching reactions was just too much fun in my mind to pass up."

Now a student at William Penn University, she plans to pick up both curricular endorsements.

For this STEM enthusiast, the call to teach came early. "I have always liked to help my classmates or younger students with their homework. Something about helping people reach that moment of understanding has always been exciting for me."

Inspiring STEM

Breanne Garrett:

Passionate about Reshaping Mathematics and STEM Education



Garrett's talent for teaching math is evident as she works with a wide-range of students, including those who are fortunate enough to meet her at area STEM festivals. Her passion for the subject inspires their confidence and interest.

Breanne Garrett, a William Penn University Assistant Teaching Professor of Mathematics, is one of the South Central Advisory Board's newest members. Along with teaching a wide range of math courses, she also advises students, supervises pre-service secondary math teachers, and assists in variety of other duties.

Beginning her career as a high school math teacher, Garrett has evolved as a state STEM leader. The Hub first met her while partnering to host a festival at the university. She's passionate about her subject area. "Mathematics has often been viewed as a subject that has little to do with real life," said Garrett. "That is so false! STEM education helps prove this."

In addition to her studies, MacPherson is on volleyball scholarship. She's also an officer for the university's chapter of the Alpha Lambda Delta Honor Society, which coordinates campus and community events.

And, somehow, she still finds time to tutor! She officially works for the university's Student Success Center and helps out local high school students. Unofficially, she coaches teammates and classmates whenever they need her.

MacPherson advice mirrors what great coaches have said for years-- put in the work! "Problem solving takes time and practice, so just stick with it. The more problems you see and try to solve, the better you will get at developing your own process for breaking down information and using it successfully."

She suggests looking at real life situations and thinking through the best options. Then, applying those same strategies to a class. "Building your own way of thinking and handling information is just as important when it comes to STEM as finding the right answer in real life."

This future teacher is already sharing an important life lesson.

**Available for Checkout:
EiE Magnet Kit**



Garrett strives to provide an educational setting that is hands-on, exploratory, and cross-curricular; builds intuition and a toolbox of strategies; and allows students to be creative. "I believe the future is full of opportunities for people who have a solid STEM background," said Garrett.

Her interest in STEM developed at a young age, and she cites her grandfather as the greatest STEM influence in her life. "I am a slightly stubborn person!" said Garrett. "So I was always up for a challenge and ready to prove that I could do anything that I set my

mind to."

Her grandfather encouraged her to tinker with things, like making a kite from a trash bag and straws and using plastic-coated wire to design her own Topsy Tail hair device.

"I loved to learn," said Garrett, "but I didn't care for school. I ended up as a math educator because I wanted to make school mathematics more interesting to students." As a teacher of teachers, festival exhibitor, and SC board member, Garrett is shaping the way students of all ages feel about math and the cross-curricular use of STEM principles.

Each month, the newsletter will feature a new member. If you'd like to learn more about our advisory board, please visit our [website](#).

Events

Add these dates to your calendar!

March 2 -- SE Regional Conference for Pre-Service Teachers
 March 2-3 -- Blank Park Zoo PD Workshop for Teachers
 March 5 -- Scale-Up Educator Applications Due
 March 12 -- SC STEM Hub Advisory Meeting
 March 30 -- SE Regional Diversity in STEM Conference
 April 3 -- Future Ready Iowa Conference
 April 9 -- SC STEM Hub Advisory Meeting
 April 26 -- STEM at Principal Park Festival
 May 14 -- SC STEM Hub Advisory Meeting

Spread the word about STEM EVENTS in your community!



Engineering is Elementary provides a curriculum notebook and kits for educator use. One of our newest additions is a unit called The Attraction is Obvious: Designing Maglev Systems. Here are the details:

- Grades 1-5
- 4 Lessons
- 8-10 Hours
- Addresses transportation engineering

It's great for formal or informal educators and can be chunked into smaller increments of time. According to EiE's website, "Students will send magnets sailing, help magnets hover, and poke around magnetic fields."

If you have questions, would like to see the kit, or would like to check it out, please email the hub at scstemhub@drake.edu.

STEM Volunteers are PAN-TASTIC!



Visit the [South Central STEM Calendar](#)

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



One More Thing... STEM Challenge

Q: What math pattern is represented by all the items in this photo?

The first to email the correct answer to lisa.morlock@drake.edu wins a t-shirt!

PS: To all the rest, thanks for making it to the bottom of our newsletter. We love our readers!



Ask every RANDOM PANDA you see and he will tell you the same thing: it's a joy to volunteer! Thanks to Drake University Dr. Chris Porter's math class for creating four incredible IMMAW STEM activities, including the popular Virtual Reality experience.

1. Contact your local schools.
2. Reach out to community organizations, like Science Center of Iowa, Blank Park Zoo, or Des Moines Botanical Garden.
3. Host STEM students at your workplace.
4. Be a contest judge for a day at a LEGO Robotics or Hyperstream competition.
5. Read a STEM book to an elementary class.
6. Don't want to leave the house? Read a STEM book and share your thoughts on the Hub's blog.

Whatever your skill set, it's needed somewhere in Iowa! Contact the Hub to find a place for you.



6/26/2018

Plan NOW for Your Future STEM Success! -- SC STEM Regional Newsletter

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