

GREATNESS  
STEMS  
FROM IOWANS

Drake  
UNIVERSITY

SOUTH CENTRAL IOWA REGION GOVERNOR'S STEM ADVISORY COUNCIL

## State-wide Opportunities

# Regional Advisory Board Mega-Meeting



On November 17, regional STEM board members from across Iowa convened at Accumold in Ankeny. The group's goal was to share best practices and take new ideas back to the perspective regions.

Dr. Jeff Weld, Executive Director of the Governor's STEM Advisory Council, coordinated the day. "Each of the regional STEM advisory boards functions relatively autonomously, but on similar challenges and opportunities," said Weld. "Thus it just makes sense to bring them together across regional boundaries to 'cross pollinate' best practices."

Much of the time was spent in small group discussion. Tables centered around various roles and contributions that board members make to support the manager toward the success of regional STEM.

Outcomes included sharing of best practices in several areas:

- Communication back to each members' responsible entity. For example, higher education representatives with other institutions in the region.
- Volunteerism in support of regional STEM events
- Promotion of regional events, such as STEM BEST, Scale-Ups, STEM teacher award, festivals.

Board members will return to their monthly meetings with new ideas. If you'd like to attend a regional meeting, please contact the manager.

## In This Issue

[Regional Boards Convene](#)

[IHCC Partners Share Apprenticeship Programs](#)

[Children's Librarian Recommends the Best of STEM](#)

[King Elementary Academic Night](#)

[Meet Laura Williams](#)

[Upcoming Events](#)

[Contact the Hub](#)

[Meet Thierry Habinshuti](#)

[Kent Wins Innovation Award](#)

[Volunteer for STEM](#)

## Thanks for Making a Difference!

We just want to take a minute to THANK YOU for all the time you put into bringing STEM to Iowa students. Whether you're a student, teacher, parent, community leader, mentor, or industry/business professional, your efforts are changing lives.

With gratitude,  
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Twitter: @SC\_Iowa\_STEM



Instagram: sc\_iowa\_stem

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



## IHCC Partners Build

## I AM STEM!

# Apprenticeship Programs



The [Future Ready Iowa Alliance recommendations](#) include "Increase K-12 quality pre-apprenticeships, registered apprenticeships, internships and other employer-driven work-based learning programs that bridge to postsecondary opportunities." and includes leveraging examples like the Iowa Governor's STEM Advisory Council's STEM Businesses Engaging Student and Teachers (B.E.S.T.).



IHCC celebrated National Apprenticeship Week on November 15. With business partners from Musco Lighting, Cargill, John Deere and others on hand, the event heralded the benefits of such programming.

From the business side, apprentices help with recruitment and retention. According to the event brochure, "Approximately 91 percent of workers who complete a Registered Apprenticeship Program remain employed with the company where they completed the Registered Apprenticeship."

From the apprentice's viewpoint, there's a financial incentive, as participants are paid to learn. In Iowa, the average income of those who complete an internship and work in the field is \$60,820 a year.

There are challenges to crafting such a program. The overarching concern from business is the time it takes to establish a program. Indian Hills Community College--Otumwa Campus also puts money and time into such efforts, creating relevant coursework.

But perhaps the greatest challenge is helping parents, teachers and students see it as a respectable alternative to attending a 4-year college. Christian Ray, the Registered Apprenticeship POC for Iowa Works Region 15, had this advice when discussing such fast-track careers:

- Redefine success. Explore the job market, pay, and training requirements. Apprenticeship helps accelerate your skills to the job you want, and most apprenticeship programs do include college coursework.
- Lower your debt by avoiding college loans. Pre-apprenticeship programs offer career exploration with lower financial risk than a traditional 4-year school.

Four of the Iowa STEM B.E.S.T. models, Boone HS, Muscatine HS, Spencer HS, and Waukee APEX were awarded resources from Apprenticeship USA State Expansion grant through Iowa Workforce Development to develop their own Quality Pre-apprenticeship programs. Learn more at <https://iowastem.gov/STEMBEST>.

## Meet Thierry Habinshuti



The Hub first met Thierry Habinshuti when he signed up to host a special session at a fall festival. Since that day, we've come to know him as one of the most dedicated students on DMACC's Ankeny Campus and a true STEM-spiration!

Besides excelling in academic work, this proven campus leader holds two jobs and finds time to volunteer. "I eventually hope to become an engineer and help the community in any way that I could possibly can," said Habinshuti.

### Igniting Experience

Always interested in how the world worked, Habinshuti's first official involvement was with a high school Hyperstream Club (Hyperstream was an Iowa STEM Scale-Up). His team won first place in the multi-media challenge. During his senior year, he took on the app development challenge.

"My app development team was awesome! We came home with fourth place out 21 schools!"

### DMACC Leadership

Habinshuti is still using his app development skills to serve others. As President of DMACC's STEM Club, the group is currently working on a new mobile campus app. He hopes students in the group get a chance to practice their teamwork and problem-solving skills.

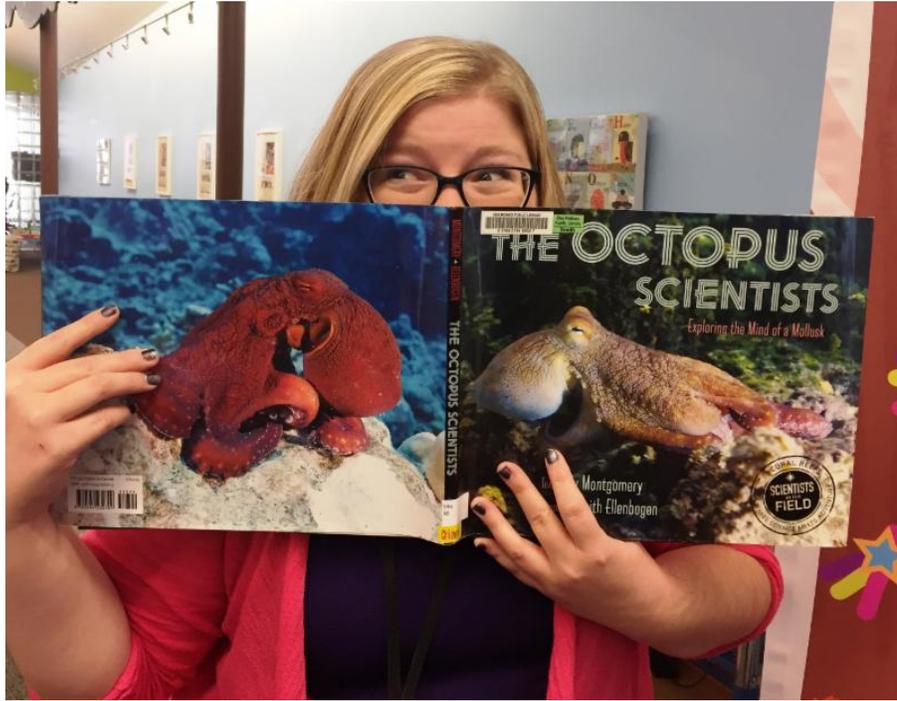
"I am very lucky to hold this position," said Habinshuti, "because I get to be a part of great things, like helping the community by volunteering with a project that will improve student lives."

### Beyond the Classroom

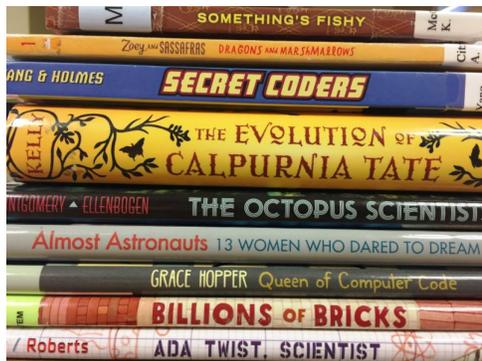
In addition to his studies and service, Habinshuti works at the campus bookstore and Leaning Tower of

For the Kids

# Children's Librarian Erica Eis Recommends STEM Reads



The Iowa Governor's STEM Advisory Council defines STEM as "...an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering and mathematics in contexts that make connections between school, community, work and the global enterprise enabling the development of STEM literacy and with it the ability to compete in the new economy." STEM books are bridges that link disciplines, and provide real-world context.



Here are Eis' current favorites. To get a closer look, visit the [blog](#)!

to read. Good STEM books allow kids to really enjoy and explore a topic, not just memorize concepts and facts."

Check out the Hub's blog for a [list of Eis' favorites](#). Her enthusiasm is contagious!

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Thanks to the Forest Avenue Library for promoting the Hub's blog via their bookmark invitation. If you have a special STEM book that you'd like to share, please email [lisa.morlock@drake.edu](mailto:lisa.morlock@drake.edu).

## King Elementary Makes STEM

Pizza. "I love what I do! I get to serve the students and community the right books and the right food!

A man of many surprises, Habinshuti also loves to draw and has won multiple awards for his work. "This year I was so blessed that two of my pieces were displayed at The Iowa State Fair Art Show.

### Words of Wisdom

The Hub asked what advice he might have for students who aren't sure they have the skills to take STEM classes or pursue related careers.

"You don't have to be a genius to do STEM-all you need is a little passion," says Habinshuti. "Effort is the key. I personally believe anyone can do STEM they just have to give it a shot and never give up on it."



Habinshuti with the DMACC STEM Club.

## Kent Wins Women in Innovation Award



Kent is a long-time friend of the STEM Hub, participating in local festivals and providing outreach for K-12 students. Pictured above, she's receiving her award. Photo courtesy of Chinar Kaul.

Deborah Kent, associate professor of mathematics at Drake University, won a state award for innovation in STEM education.

The Technology Association of Iowa named Kent the

# Fest Part of Academic Night



Dr. Sarah Derry provides a lesson in buoyancy in this sink-or-float scenario developed through the STEM Active Learning Community working group. "Two important things happen when schools incorporate hands-on STEM from the community into existing events," said Derry. "First, the school reaches families that might not seek out STEM experiences on their own. Second, it's an opportunity for students to engage in STEM activities with some of their most important advocates, their parents and guardians."

King Elementary School in Des Moines takes Academic Night to the next level! Organized by Community School Coordinator Julanda Taylor, the event was a way for the school to showcase student achievements in math and literacy, introduce fun math and literacy games that families can do at home, and engage the entire family in hands-on science activities. Taylor offers some insight on how to begin planning such an event.

Besides incorporating a mini-STEM festival, King also took the opportunity to provide their Half-Pints Poetry Team a performance platform. "The poetry team will be competing against other Des Moines Schools on December 5th," said Taylor, "so we wanted to give them the opportunity to practice performing in front of an audience."

The planning team consisted of 6 individuals, and Taylor estimated they spent 6-8 hours total planning the event. Tasks included:

- contacting community organizations to participate in the event
- contacting various community restaurants for gift card donations
- preparing the math and literacy activities for the night
- reaching out to families to advertise the event
- purchasing and cooking food for the event
- and other various tasks.

With all the effort that goes into such an event, Taylor hopes families are impressed with examples of their student's work, able to gain insight and understanding into the work done at school, and feel welcome in the building.

"This is one of many large family engagement events that we've held this fall/winter," said Taylor. "We are diligently working to build a safe supportive relationship with our families to let them know that they are always welcome and encouraged to enter the school at all times."

As schools consider ways to engage parents in conferences, concerts and academic events, consider making STEM part of the night.



Kent is picture with stand-out Drake student Chinar Kaul.

recipient of the 2017 Women of Innovation Awards in the category of Academic Innovation and Leadership during a ceremony on November 13.

She had been named one of five finalists in October, alongside educators from the Waukee, Des Moines, and Carroll public school districts, the University of Northern Iowa, and the Science Center of Iowa and Blank IMAX Dome Theater.

"Many of my mentors have impressed on me that the future of mathematics lies in the power of merging theory with modern technology," Kent said. "It was exciting to be included among the 2017 TAI Innovation awards for my recent academic work that incorporated computing tools in ways that respect the strengths of traditional thinking. It is my daily privilege to implement these ideas in classrooms at Drake."

Click here to read the [complete article](#) in Drake's online Newsroom. The article was provided by Aaron Jaco, assistant director of public relations.

## Volunteer for STEM!



Julie Hartzler's math education students present at DMACC-Ankeny's STEM Festival.

If you're a post-secondary teacher, consider volunteering your whole class! That's what instructors at William Penn's Breanne Garrett and DMACC-Ankeny's Julie Hartzler do! Students practice their teaching ideas on festival attendees, taking the very best of them into the classroom.

# Laura Williams

## Works as a Change Agent for Schools



Laura Williams works for the state as a 21st Century Learning Specialist and Science & Technology consultant. She assists school districts as they set and achieve goals in student learning. She is also a new member of the SC STEM Hub's Advisory Board.

"Simply put," she said, "I am a #changeagent to help ensure our students are future ready!"

Williams' interest in STEM started when she was in fifth grade during an invention convention. A teacher challenged the class to come up with an original solution to an ongoing problem. Williams took on the

theme of Reduce, Recycle, Reuse and built insulation from recycled pop cans.

"It was really fun to come up with a prototype," said Williams. "The local high school wood shop donated wood for my frame and then I collected old pop cans to fill the frame. I got to share my prototype at the city level competition...and I got to explore my passion." She's been hooked on STEM ever since!

Williams is most interested in creating real, authentic, applicable learning experiences. "Students need to see that the challenges we face and the problems we solve are interdisciplinary and not siloed-off subjects that traditional schools have modeled," said Williams. "For me that is what STEM education is all about—breaking down those silos while engaging students in work that matters and that is connected to our communities."

Williams works hard to integrate those silos on her continued journey to improve student learning.

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*Each month, the newsletter will feature a new member. If you'd like a list of all members, please visit our [website](#).*

"I volunteered with my Elementary Educators Math Class, teaching how to play fun classroom and at-home games," said DMACC student Natalie Stewart, pictured center. " I hope the kids understood how to use different math strategies with a game called Nim."

### How to play Nim:

1. Start with 20 counting chips.
2. Put them all together in a pile.
3. Alternate taking chips out of the pile, using 1, 2, or 3 counting chips.
4. Whoever gets the last chip loses, so come up with as many math strategies as you can to avoid getting that last chip.

"I think kids really enjoyed this game," added Stewart. "Some even came back to play more rounds!"



## Events

### Add these dates to your calendar!

- January 5 – Blank Park Zoo PD Workshops for Teachers
- January 8 – SC STEM Hub Advisory Meeting
- January 22 – Scale-Up Educator Applications Open
- January 26 – I'll Make Me a World in Iowa Education Day
- February 12 – SC STEM Advisory Board Meeting
- March 5 – Scale-Up Educator Applications Due
- March 12 – SC STEM Hub Advisory Meeting
- April 9 – SC STEM Hub Advisory Meeting

Spread the word about STEM EVENTS in your community!

Visit the [South Central STEM Calendar](#)

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

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