



## Reflection: Fifteen Years of Change & Innovation

Think back to 2000 when desktop computers were the norm, software and hardware were expensive and K–12 classrooms featured traditional row seating. That same year, the Krause Center for Innovation (KCI) began transforming teaching and learning for Silicon Valley educators and community members. In its 15-year history, the KCI has become Silicon Valley's first choice for the delivery of innovative educational technology training and meaningful professional development activities. To date, more than 15,000 local and international educators have benefitted from KCI programs and resources.

Long regarded as a regional hub that provides scalable learning programs and resources, the KCI continues its focus on student-centered learning, and science, technology, engineering and mathematics (STEM) instructional development.

Fast-forward to 2015 where most schools are Wi-Fi enabled, some school districts provide devices to all students, and the bring-your-own-device movement is gaining popularity. To further meet the needs of 21st century learners, the KCI's education partner, the Foothill-De Anza Community College District, is leading California's Open Education Initiative (OEI), which will further increase access to an extraordinary catalog of

college-level online courses. When launched, this new initiative will enable students—including professional educators—to take online classes at any of the state's 112 community colleges.

Later this month, I will proudly represent the KCI and advocate for the professional development needs of K–12 teachers as an invited online education panelist at a symposium hosted by MIT and Harvard universities. I will share the KCI's lessons learned from our storied 15 years, and report back with best practices presented by other experts.

*(continued on back cover)*

Regards,

Gay Krause, Executive Director  
Krause Center for Innovation  
Foothill College



# Microsoft/KCI 2015 Innovation Awards Applaud K-12 Innovative Instruction

The Krause Center for Innovation (KCI) honors the outstanding achievements of K-12 teachers and their students who are using technology to improve the quality of education in Silicon Valley. The KCI again partnered with Microsoft this year to recognize the achievements of forward-thinking teachers at the annual Microsoft/KCI Innovation Award reception, which was held at the Microsoft Corporation campus in Mountain View March 4. More than 100 guests attended the event, including KCI donors and supporters, educators and industry representatives.

Educators from across the Bay Area were invited to submit an innovative teacher-student collaborative project that fully integrates technology. Awards were based on the number of students and educators that each project served, the project's potential significance to Silicon Valley, and the project's creativity and ease of use. For 2015, the first-place entry received a \$5,000 cash award; second-place finalist, \$3,000; and third-place finalist, \$1,000.

"The projects submitted this year were truly innovative, and we appreciate that Microsoft recognizes and supports the valuable work teachers are doing to make education more relevant to capture the interest and the creativity of students," said KCI Executive Director Gay Krause.

The reception also featured remarks from Microsoft Corporate Vice President of Technology & Civic Engagement Dan'l Lewin, who discussed how innovation is central to the growth of Silicon Valley and efficiency in general. He reminded the audience that innovation is fun and brings joy to one's work life. In addition to underlining the intersection of technology and education as key for preparing students for the future, Lewin reinforced how following one's passion often leads to innovation.

The competitive Microsoft/KCI Innovation Awards honor exemplary, innovative technology projects and programs that benefit the Silicon Valley educational community. A panel of KCI educators and MERIT graduates judged projects, and a panel of leaders from Microsoft selected finalists. With three excellent projects in contention, the Microsoft team focused on the scalability of the projects for broader impact. Competition was tough this year! After much deliberation, the following finalists were chosen:

## **Grand Prize, \$5,000—*Makerspace*; Robert Pronovost, Lead STEM Coordinator; Ravenswood City School District (East Palo Alto)**

The Ravenswood STEM team worked with students to develop a Makerspace at every school site in the Ravenswood City School District. The rooms are equipped with technology and tools, as well as mentors who support students as they develop maker and programmer mindsets through self-directed projects. Students learn to write computer code using Code.org and Tynker. For fabrications, students use LittleBits for circuits; Makedo construction tools with cardboard for larger projects; and TinkerCAD and MakerBot 3-D to create



*Students, educators and high-tech professionals celebrated creativity at the Microsoft/KCI 2015 Innovation Awards.*

three-dimensional objects. Third graders Yuri Hernandez and Dante Munoz accompanied Pronovost for the grand prize presentation. Both students expressed excitement about their Makerspace experience. Asked how the program made her feel, Hernandez enthusiastically said "So happy!"

## **Second Place, \$3,000—*Shark Tank*; Barbara Wright, 6-7 Grade Teacher; Crittenden Middle School (Mountain View)**

Inspired by the *Shark Tank* TV show, 7<sup>th</sup> grade students pitch a medical invention to a panel of "sharks" from the community. Students research diseases online, brainstorm product ideas, sketch their ideas and create their pitches using Google docs, Prezi, Google Presentation and Powtoon.

## **Third Place, \$1,000—*Healthy Choices Week*; Cassandra Pereira, 9-12 Grade Teacher; Santa Teresa High School (San Jose)**

For this biannual project, students enrolled in the media studies program select an issue relevant to teens, conduct in-depth research and complete an iterative design process to develop a series of schoolwide video lessons and activities that promote awareness and positive change within the campus community. This year's topics focused on bullying, body image and stress.

In addition to its respected reputation for supporting innovation in local communities, the Microsoft Corporation develops, manufactures, licenses and supports a wide range of computer products and services. The world's largest software maker measured by revenues, Microsoft now partners with the KCI to support educational innovation in the Silicon Valley.

The call for submissions for the 2016 Microsoft/KCI Innovation Awards will be announced later this year. Learn more about the Microsoft/KCI Innovation Awards at [foothill.edu/kci](http://foothill.edu/kci).



# KCI Debuts New Coding Professional Development Course for K–5 Teachers

Just last month the KCI introduced its *Integrating Coding into the K-5 Classroom* course. Designed to help teachers learn the basics of computer coding and develop the confidence to begin launching computer science projects in their classrooms, the new class emphasizes integrating coding into existing math, science, art, history and language arts curricula.

This hands-on experience, using free programming languages like Scratch and Graph Paper Programming, gives teachers the tools and experience incorporating coding and programming into their classrooms. Teachers complete projects like moving simple robots through obstacles and create code to complete tasks. Using only short verbal commands, the teachers take on the role of their students as they perform a simple task or execute certain actions. The exercises are designed to understand the difficulty translating real problems into programs and how commands can be misinterpreted. As students work through the exercises, they improve problem-solving skills and learn how computers translate commands.

After the first class, one of the teacher-participants said, “I participated in the hour of code but I didn’t have a feel for how to use it in my

classroom. The KCI coding class gave real examples of how to use coding in fun and creative ways.” Another participant said, “This class was so great. I like how the instructor explained things using easy-to-understand examples, such as how a contractor and architect design a house and the different roles they play.”

Sheena Vaidyanathan, who is the coding class instructor, has taught computer science in California public schools for six years and has extensive experience with K–8 curriculum development and professional development. She holds undergraduate and graduate degrees in computer science, as well as the California Single-Subject Teaching Credential in Math. A former art teacher, Vaidyanathan says her art experience has helped her to see the beauty and patterns in math and coding.

Offered through the new Foothill College extension program, the coding course will be offered again during the college’s 2015 Summer Session; registration begins May 7. It’s easy to register for fee-based Foothill extension classes, which do not require formal enrollment in Foothill College. For extension registration instructions or more information, access [foothill.edu/extension](http://foothill.edu/extension).

## FAME 2015 Update

The KCI’s Faculty Academy for Mathematics Excellence (FAME) program recently received funding for its sixth year from the Silicon Valley Community Foundation and the House Family Foundation.

While FAME has always focused on improving teachers’ math content knowledge and building confidence using technology, last year the KCI shifted the program’s direction by partnering closely with school districts with the mutual goal of deepening FAME’s impact within districts.

As a result of the new partnership, four East Side San Jose districts focused on building strong math teaching skills and supporting Common Core implementation. This approach has proved successful and additional districts are joining the partnership. For 2015, Alum Rock, Berryessa, Franklin-McKinley, Evergreen, Oak Grove and East Side Union High school districts will send teachers to FAME. All of these districts are part of the East Side Alliance—which works closely with the Silicon Valley Education Foundation—to close the achievement gap and ensure that all students are college- and career-ready.

The FAME curriculum is built on the new Common Core State Standards and is designed to deepen teacher-participants’ math knowledge, expand their toolbox of mathematics instructional strategies and help them integrate technology into their teaching practice. Participants also develop hands-on projects for students, the goal of which is to give students better understanding of how math is related to real-world and work-related issues.

The KCI is fortunate that several members of FAME’s instructional team have returned for the 2015 program, including Cristina Bustamante, a teacher from Ocala Middle School in the Alum Rock District

and a FAME and MERIT graduate, who returns as the program director. Additionally, the Santa Clara County Office of Education (SCCOE) continues its longtime partnership with the KCI on FAME, and SCCOE math coordinators will be part of the instructional team.

Sumi Sukumar, a new addition to the FAME instructional team, will fill the higher education role on the team. An adjunct math instructor at Foothill College, Sukumar is working with the KCI to transform the FAME program, which currently meets on-campus, into a blended learning experience, so that FAME is more scalable and will reach more teachers.

Visitors are welcome to drop in for a first-hand look at the FAME program, which runs July 17–31 at the KCI at Foothill College in Los Altos Hills. To arrange parking and visitor credentials, e-mail KCI Executive Director Gay Krause at [KrauseGay@foothill.edu](mailto:KrauseGay@foothill.edu).



# MERIT Teachers on the Move: Cassandra Pereira

People often assume that younger teachers must be tech experts—completely comfortable using technology in their classrooms. After all, they’ve grown up using technology. They’d never dream of leaving the house without a smart phone, and they juggle devices with ease. However, after watching younger teachers experience the KCI’s Making Education Relevant & Interactive through Technology (MERIT) program, a different picture emerges. Even the tech-adroit find MERIT to be a transformative experience.

Media Journalism Advisor Cassandra Pereira, from Santa Teresa High School in San Jose, is a great example of how MERIT can take a technology-competent teacher to the next level. Pereira became familiar with the KCI by taking a number of its FASTtech courses such as Photoshop, Flash and WordPress. She then discovered MERIT and participated in the 2012 program. “MERIT made a huge impact on my teaching style,” she says. “I’ve always been a tech-friendly teacher, but before MERIT, my approach was somewhat scattered and shallow. MERIT taught me how to integrate technology into my teaching on a deeper and more holistic level, as well as how to use it to take my teaching beyond what would have been possible without technology.”

Of course, the primary benefit of MERIT training is that it increases educators’ skills and confidence to transform the learning environment for K–12 students. “My students have benefitted immensely from this pedagogical transformation,” Pereira says. “They are able to do incredible and wonderful things that they would never have thought possible. Their confidence in their abilities as well as their sense of empowerment and agency in our modern world has skyrocketed.” By employing MERIT training, Pereira and her students have won awards at the California Student Media Festival and the Santa Clara County Public Health Office’s Viral Video Contest, raising \$7,000 for the Santa Teresa media program.

Pereira has also garnered a number of awards since completing the MERIT program. She was awarded the CreaTV San Jose Media Access Project grant twice, which lends \$50,000 worth of video equipment to Santa Teresa High School for two years. She also received a Mason-McDuffie Education Foundation grant based on a nomination from her principal, and she scored an honorable mention in the teacher trailblazer and creative director categories awarded by the Digital Innovation Learning Awards. Most recently, she was named third-place recipient of the Microsoft/KCI Innovation Award.

In addition to the impressive list of awards and accomplishments, she has broadened her role at Santa Teresa, as well as her career. “One of the biggest takeaways from MERIT is that it’s not enough to go to conferences and professional development activities. We must also give back to the EdTech community. This was a big leap for me because I don’t like presenting and I’m much less comfortable teaching adults than I am teenagers. Still, I jumped into it, and I’m now working on some projects with the KCI, including being a MERIT instructor and starting as the Mini MERIT program director this summer.”



Cassandra Pereira

Beyond working with the KCI, Pereira is now the professional development coordinator for her school site, as well as the small learning communities coordinator. In this role, she focuses on developing a special cohort of incoming freshmen who focus on cross-curricular and project-based learning with an emphasis on 21<sup>st</sup> century competencies and community involvement. She also serves as the Western Association of Schools & Colleges coordinator for her school. WASC is the accrediting agency for K–12 schools and non-degree-granting postsecondary institutions.

When asked what her MERIT experience and new technology education skills mean for her students, she says “My involvement with MERIT has made a huge impact on my students. Not only are they growing and developing their technical skills and 21<sup>st</sup> century competencies at an incredible rate, they are also beginning to see how all of these skills and abilities will integrate into their futures and empower them to live and work in a global society. They are growing up stronger, better and more able to participate in the world of the future. It is an honor to be involved in their journey, and I cannot thank the KCI enough for enabling me to better prepare them for success.”

To apply for the next MERIT program or register for quarterly FASTtech classes, access [foothill.edu/KCI](http://foothill.edu/KCI).

# New Design-Thinking Program

## KCI Partners with Tech Museum

One of the key goals of the KCI is to develop new programs that complement new technologies that can further support educational innovation. To that end, the KCI and the Tech Museum of Innovation have partnered to offer a 30-hour professional learning program that guides educators through the design-thinking process. A problem-solving strategy developed by the Stanford University product design department and formalized by the Stanford d.school, the process incorporates design-thinking principles and technology, including 3-D printing. With a focus on science, technology, engineering, arts and math (STEAM), the pilot program for 3–6 grade teachers launches this month at the newly renovated Maker Space at the Tech Museum in San Jose.

Some K-12 schools offer students STEAM explorations only in the form of periodic field trips to museums, which have little long-term impact. More intensive hands-on STEAM explorations and design-thinking skills enhance students' English, math and thinking skills, motivate students to learn, and can contribute to a positive school environment.

Research shows that innovators spend 50 percent more time on discovery activities such as questioning, observing, associating and experimenting than individuals with no track record for innovation.

Design-thinking projects integrate these discovery activities and encourage the development of innovation skills.

A number of schools are creating maker spaces. However, professional development is needed for teachers so they can effectively guide students to take full advantage of these new learning spaces. The design-thinking program will provide an approach for teachers to incorporate creative, technology-rich projects for students in any curricular area.

Strategies detailing how the design-thinking process supports Common Core State Standards and Next Generation Science Standards will also be covered.

Teachers who are participating in the inaugural program have been encouraged to sign up as teams so that they can continue to work together throughout the course. The goal is to help teachers gain confidence in developing innovative project-based lessons and integrate design-based learning into their teaching methodologies.

The development and launch of the KCI's design-thinking program has been underwritten by a generous grant. For more information on this program, e-mail Liane Freeman at [freemanliane@foothill.edu](mailto:freemanliane@foothill.edu).

## MERIT 2015 Update

Competition was stiff this year for the coveted invitation to participate in the KCI's popular Making Education Relevant & Interactive through Technology (MERIT) program. The cohort for the summer 2015 program includes just 45 Bay Area teachers who were selected from more than 100 well-qualified applicants.

MERIT has a new director this year, as Diane Main hands the reins to Roni Habib. A graduate of MERIT 2009, Habib has been part of the MERIT instructional team for several years, and was the assistant director in 2013. Since completing the MERIT program, he has become a Google Apps for Education certified trainer and Google certified teacher, and completed Leading Edge Certification of Online Teaching. He also leads professional development workshops in his district and is the educational technology coordinator for Gunn High School (Palo Alto). He also teaches positive psychology classes.

Habib is excited to bring two new elements to the MERIT program: mindfulness/emotional intelligence training and the design-thinking process (a technique employed by many Silicon Valley companies for effective product development; read the related article above).

When asked how these new elements support MERIT's core philosophy, he says, "MERIT is dedicated to making education relevant and interactive for our students. This process begins with an innovative teaching-and-learning approach. Innovation requires being present, collaborating with others, being creative and having

confidence to take risks. Emotional intelligence training provides the basis upon which these skills can be built. Furthermore, design thinking puts these skills into action. It involves empathizing with people, ideating and prototyping—all of which are active, inquiry-lead ways of learning."

Habib has also established a connection with a principal from India, whom Habib met while participating on a panel at the Google Education Symposium. As a result, the principal is sending five teachers to participate in MERIT. By sharing their perspective and experience, the international teacher-participants will enrich the MERIT experience for local teachers.

Habib's goal for the MERIT program is to empower teachers to become the best versions of themselves personally and professionally so that they can model—not just teach—risk taking, creativity, collaboration and presence.

Visitors are welcome to drop in for a first-hand look at the MERIT program, which runs July 6–17 at the KCI at Foothill College in Los Altos Hills. To arrange parking and visitor credentials, e-mail KCI Executive Director Gay Krause at [KrauseGay@foothill.edu](mailto:KrauseGay@foothill.edu).



*Roni Habib, new MERIT program director, works with teachers during MERIT 2014.*



## Reflection: Fifteen Years of Change & Innovation *(Continued from page 1)*

The key trends accelerating educational technology adoption in schools are exciting and impactful. Educational researchers widely agree that the role of teachers is rapidly evolving; especially as student-centered learning and flipped classroom models become more accepted. Blended learning models are also being deployed in schools and will reach maximum impact in three to five years. The KCI has anticipated this trend and is developing its first blended offering, the Faculty Academy for Mathematics Excellence (FAME) program, with implementation expected by Winter 2016.

From creating digital strategies with students to guiding student-centered learning to complying with assessment and reporting requirements, K-12 teachers are increasingly expected to be adept at a variety of technology-based approaches for content delivery and collaborative student support. Additionally, educators must incorporate the new *Smarter-Balanced Assessment*, which measures student outcomes of the Common Core State Standards in Math & English Language Arts, into their classroom curriculum. The new assessment requires computerized testing, which further encourages the use of digital resources by students and their teachers.

The KCI continues to be on the forefront of technological and educational transformation, and we know that change will continue. Wherever these trends will take us, we know that the KCI's commitment is to serve as a powerful change agent for educators, including supporting their continued growth and transformation. To that end, we continue to refine the KCI's *Professional Learning Growth Plan*, and are beginning to seek funding to spread our best practices, content, technology and pedagogy throughout California.

## Register Online for KCI Classes

It's easy to register for KCI classes. A variety of online and on-campus classes are offered each quarter. Register early for best course selection; classes will fill quickly. Review the class schedule and registration instructions at [foothill.edu/KCI](http://foothill.edu/KCI).

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