

Top schools honored for their 'Bright Ideas' at 6th Annual San

Learn from elementary, middle and high school students and teachers making strides in science

Residents living around Petco Park are used to hearing loud cheers during baseball season. On March 22, 2014, they're more likely to hear explosions, laughter, applause and shouts of joy, as more than 25,000 children and their family members converge on the ballpark to experience science, technology, engineering and math (STEM) in an organic and highly interactive way, during the 6th annual San Diego Festival of Science & Engineering's EXPO Day.

Stepping out of the classroom and laboratory, and into the field — a ball field to be precise — businesses, educators, scientists and schools will set-up shop, to demonstrate the importance of STEM, its affect on everyday life and the need to get children engaged in STEM careers.

The ballpark will morph into an educational playground featuring science, technology, engineering and math in a massive celebration of everything STEM. Gone will be the baseball diamond, hotdog stands and peanut vendors. Instead, more than 125 creative and sensory stimulating exhibits will rise, to excite the mind and delight the spirit of children.

Featured EXPO Day exhibitors include the winners of the festival's 2014 Bright Idea Society Competition. Sponsored by the Kimmich Educational Foundation at the San Diego Foundation, the competition recognizes outstanding science

and engineering clubs at the elementary, middle and high school levels for their engaging STEM ideas created specifically for the EXPO. Applications were initially reviewed by the festival's education committee, which included San Diego City Council President Pro Tem Sherri Lightner. Then the top entries were sent to the Kimmich Educational Foundation whose members further reviewed the applications and selected the top three. Each of the schools received a \$500 stipend from the Kimmich Educational Foundation at the San Diego Foundation to fund the planning and exhibit of their projects on EXPO Day. The foundation also provided financial support to underwrite all of their EXPO booth fees.

"Anyone can create a bright idea; all it requires is a little encouragement," says Bill Kimmich, co-founder of the Kimmich Educational Foundation at the San Diego Foundation with his wife Shirley. "It is our hope that the Festival and the Bright Idea Society will provide the encouragement and the students will provide the bright ideas."

Supporters add it is imperative that we encourage natural curiosity in young people and at the same time, look to a future and the need for a STEM educated workforce. "Staying competitive as a city and as a nation means we have to encourage more kids to think about careers in science, technology, engineering and math (STEM),"



said San Diego City Council President Pro Tem Sherri Lightner. "What better way than this festival and expo to capture students' imaginations and show them that not only is being a scientist and engineer fun, but STEM-related careers can change the world for the better."

"It is vital for the San Diego community to highlight STEM initiatives and bring to light how impactful they can be on the youth throughout the county," says Antony Murigu, president, board of advisors, San Diego Financial Literacy Center. The organization provided the financial support to arrange for bus transportation for the Bright Idea Society students to get to EXPO Day. "The San Diego Financial Literacy Center powered by Debtwave is proud to support the San Diego Science and Engineering Festival and its educational platforms for students," continued Murigu.

"We are fortunate to have a number of K-12

schools in San Diego County involved in STEM education, which means a brighter future for all of us," says Sara Pagano, managing director, San Diego Festival of Science & Engineering. "The Bright Idea Society competition recognizes the creativity in teaching science concepts to our youth, and provides funding for the teams to bring their concept to life at EXPO Day for everyone to investigate and enjoy."

Whooo you might ask, won the K-6 top spot? That would be San Diego Unified School-District's STEAM club at Washington Elementary School. "The students have studied earth science, weather patterns, flight and space and even planted a garden at their school," said Rodger Ashworth, teacher, Washington Elementary STEAM Magnet. "The students, teachers and Little Italy community volunteers used their skills in math and engineering to design planter boxes on the south end of the campus."

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- **Young Scientists** (ages 3-5 + a parent)



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Diego Festival of Science & Engineering EXPO DAY



Using art as the medium, JCS students will introduce subjects including: rainforest destruction, genetically modified plants, acid rain the evolution of plants. Prior to leaving the exhibit, guests will have an opportunity to experience student created plant-related poetry, songs and literature.

Donning white lab coats, students from the Science Innovation Academy at Castle Park High School in the Sweetwater Union High School District, take on one of the most serious health issues of our time, cancer. Tackling a little known and rapidly-growing research area known as Oncofertility, they will explain to inquisitive EXPO science seekers the importance of preserving fertility in cancer patients who have to undergo radical cancer treatment therapy.

"Research in Oncofertility is still in its infancy and, although much has been learned, so much more needs to be uncovered," said Darci Kimball, teacher, Castle Park High School. "The Science Innovation Academy is a healthcare and technology pathway at Castle Park High School which provides students with opportunities for rigorous academics, career exploration through field trips and guest speakers, outreach to bring awareness to issues in the community, and to contribute

charitably to noble causes through service."

Visitors to Castle Park's exhibit at EXPO Day will become temporary pathologists as they study normal and cancerous cells and analyze DNA. Team members will also explain their research on the effects of environmental stressors and other human physiology on fertility.

The team has a close relationship with UC San Diego Medical School, which implemented the Oncofertility Consortium Saturday Academy several years ago. The academy brings young women from various high schools together during the summer to research fertility preservation in cancer patients. Kimball says after her experience during the summer of 2013 as a teacher mentor with the Saturday Academy, she was inspired to share it with her students at Castle Park.

"I saw a platform to bring students who may not necessarily know each other, but who share an end-goal of educating a public of all ages about a lesser-known field of research that has the potential of changing the course of many lives," Kimball says.

For more information on the San Diego Festival of Science & Engineering, the 2014 Bright Idea Society Competition or EXPO Day, visit www.sdscefestival.com.

The club's illuminating idea involves of all things, owl poop! Young scientists will engage visitors in an exploration of the diet, habitat and ecosystem of the barn owl. Students from the team will help visitors to the exhibit analyze owl pellets. Kids and parents will have an opportunity to compare and contrast the owl's skeleton to those of rodents, shrews, moles and other birds in a hands-on experience designed to entertain and enlighten. The STEAM team's goal, to help people understand how scientists can use this winged creature's life as a parallel for other animal habitats and ecosystems.

With a nod to the science of botany, Julian Charter School - San Diego Academy, won the middle school Bright Idea Award with, Photosynthesis Fiesta. "We have won for middle school two years in a row," said Jason Rogalski, teacher, Julian Charter School - San Diego Academy. "This is a great honor for our school. It validates

our work when an outside group awards it."

JCS students will help EXPO visitors understand the symbiotic relationship between art and science. This year, curious kids and their parents will learn how art can explain and enhance scientific research. Once they have stepped beyond the exhibit's leafy front door, visitors will become part of the interactive art installation. Walking past green painted walls designed to evoke plant cells, visitors — with the help of their imagination — will become energy carrying photons. As students will explain, the energy is stored in the cell as glucose... a plant food.

Rogalski said the JCS team can't wait to share what they've learned.

"The students are buzzing with enthusiasm," he says. "Many will attend an afterschool work session, and they continuously submit more ways to evolve our project. Their motivation has gone through the roof!"

Bank of America is honored to support the San Diego Festival of Science & Engineering

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